

SIEMENS



# 3VA Molded Case Circuit Breakers

Totally Integrated Power – SENTRON

Edition  
10/2014

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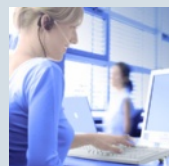
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Expert advice on technical questions with a wide range of demand-optimized services for all our products and systems.

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# 3VA Molded Case Circuit Breakers

Totally Integrated Power – SENTRON



## Catalog 3VA Molded Case Circuit Breakers · 10/2014

Supersedes:  
Catalog April 2014

Refer to the Industry Mall for current updates of  
this catalog:

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The products contained in this catalog can also be found  
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The products and systems described in  
this catalog are manufactured/distributed  
under application of a certified quality  
management system in accordance with  
EN ISO 9001:2008.

Introduction

1

3VA1 Molded Case Circuit Breakers  
up to 160 A, TM, 400 V, up to 70 kA

2

3VA2 Molded Case Circuit Breakers  
up to 630 A, ETU, 400/690 V, up to 150 kA

3

Accessories and Spare Parts

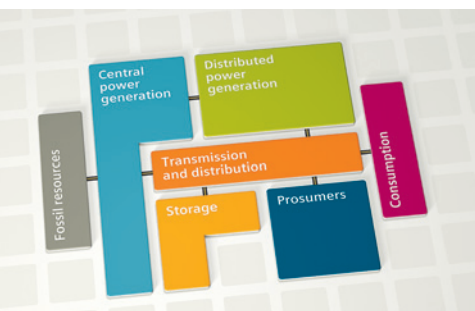
4

Appendix

5



## Totally Integrated Power We bring power to the point – safely and reliably.



Comprehensive answers for power distribution in complex energy systems – from Siemens

Efficient, reliable, safe: These are the demands placed on electrification and especially power distribution. And our answer – for all application areas of the energy system – is Totally Integrated Power (TIP). It's based on our comprehensive range of products, systems, and solutions for low and medium voltage, rounded out by our support throughout the entire lifecycle – from planning with our own software tools to installation, operation, and services.

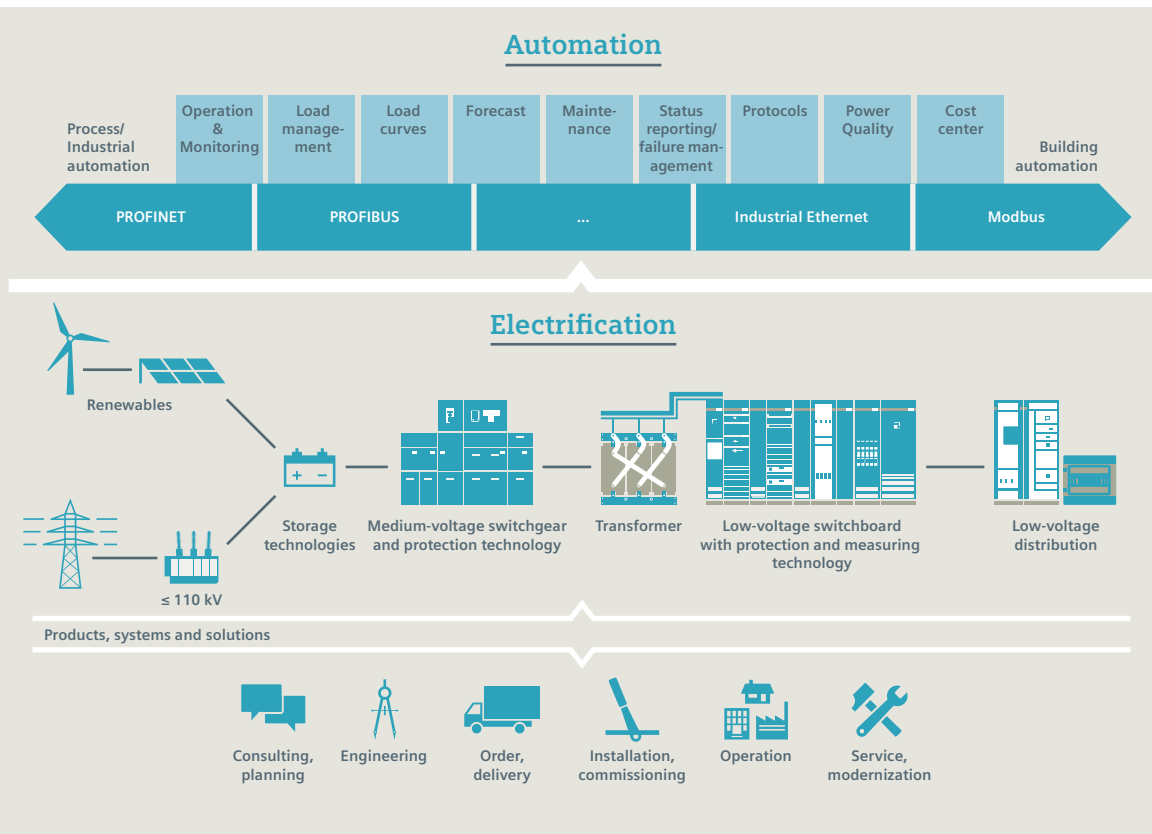
Smart interfaces allow linking to industrial or building automation, making it possible to fully exploit all the optimization potential of an integrated solution. This is how we provide our customers around the world with answers to their challenges. With highly efficient, reliable, and safe power distribution, we lay the foundation for sustainable infrastructure and cities, buildings, and industrial plants. We bring power to the point – wherever and whenever it is needed.

More information: [www.siemens.com/tip](http://www.siemens.com/tip)

# Totally Integrated Power offers more:

- **Consistency:**  
For simplified plant engineering and commissioning as well as smooth integration into automation solutions for building or production processes
- **One-stop-shop:**  
A reliable partner with a complete portfolio for the entire process and lifecycle – from the initial idea to after-sales service
- **Safety:**  
A comprehensive range of protection components for personnel safety and line and fire protection, safety by means of type testing
- **Reliability:**  
A reliable partner who works with customers to develop long-lasting solutions that meet the highest quality standards
- **Efficiency:**  
Bringing power to the point means greater plant availability and maximum energy efficiency in power distribution
- **Flexibility:**  
End-to-end consistency and modular design of Totally Integrated Power for any desired expansions and adaptation to future requirements
- **Advanced technology:**  
Reliable power distribution especially for applications in which supply is critical, continuous refinement of the technology

## Challenges are our speciality





### The right one for everyone

Our portfolio includes switchboards, distribution boards, protection, switching, measuring and monitoring devices, switches and socket outlets. All over the world, the universality, modularity and intelligence of our components and systems give you innumerable benefits – all the time they are in use. With products developed according to the respective international standards, we offer forward-looking design with innovative functions while ensuring the highest quality standards worldwide.

### Sustainability in focus

As a worldwide leader in the provision of high-quality, standard-compliant products and systems for low-voltage power distribution, we contribute to the sustainable and responsible handling of electrical energy. With our integrated portfolio which ranges from power supply and distribution, through short-circuit and overload protection through to power monitoring, we support the implementation of environmentally friendly energy concepts based on wind power, photovoltaics, intelligent buildings and electromobility.



# Universal, safe and intelligent power distribution

Whether in industrial plants, in infrastructure or in buildings: every technical plant depends on the reliable supply of electricity. Our products provide a safe, reliable and efficient electrical infrastructure at the medium and low-voltage levels. Our components reliably protect against accidents, faults and fires caused by electrical installations and allow consumers to utilize electrical power in a sustainable, responsible manner.

We are happy to help you with comprehensive support from the initial information gathering stage through to operation.

## Everything for power distribution

Consistent solutions are required for electrical power distribution in buildings. Our answer is Totally Integrated Power (TIP). TIP stands for innovative products, systems and software tools which ensure the safe and reliable distribution of electric power. They are supplemented by circuit breakers and modules with communication capability which connect the power distribution system to the building automation or industrial automation solutions. These in turn can be linked to a comprehensive energy management system which contributes to optimizing the consumption of electricity, hence lowering the costs of operation.

## Excellent support

As a competent and reliable partner, we also offer you comprehensive support – from the initial information gathering stage, through planning, configuring and ordering up to commissioning, operation and technical support. We know the needs of your working environment and your daily business. This enables us to offer you flexible and high quality support, allowing you to concentrate on your customers and their needs.

# Planning Efficiency

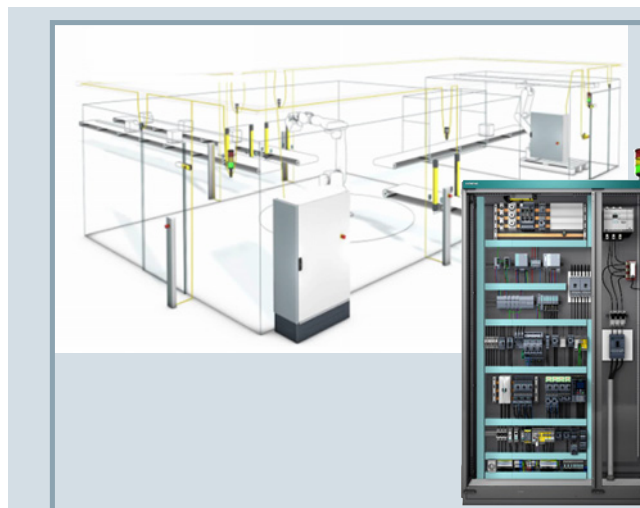
## Overview

With Planning Efficiency, Siemens supplies answers to typical questions that often present themselves in electrical planning:

- What is the appropriate product for my application?
- Where can I find product data?
- How can I make processes more efficient and save more time?

The entire electronic support offered by Siemens is merged under Planning Efficiency. At each phase of the project, on-line functions make the everyday work of the planners easier and more efficient. Planning Efficiency focuses on optimizing the control cabinet configuration among other things.

Especially in this early phase, up to 80% of time and costs can be saved.



In order to supply the planners with all they need and to simplify the modern electrical planning of every aspect of the control cabinet configuration, the electrical support of Planning Efficiency focuses on four benefits:

- Finding the right product faster using intuitive product selection
- Time savings of up to 80 % with universal product data for your CAE and CAD systems
- User-friendly compilation of project-specific documentation
- Comprehensive support – at any time, whatever your location





## Process phases

At each phase of the process, Siemens provides comprehensive online functions free of charge.

This ensures that all the necessary information and product data is available around the clock at any location worldwide.



### Configurators for products and systems

With just a few mouse clicks, you will find yourself guided by the configurator to a suitable product or system. Simply enter the relevant parameters and select your individual solution.

#### CAx Download Manager

The CAx Download Manager can supply you with all the necessary CAx file types for the products of your choice for use in all common CAE and CAD systems. The data contained in the files is continuously updated. The whole process involves only four selection steps and is free of charge. All the files you select will then be compiled into a zip file and made available for you to download for further use. This results in a time saving of up to 80% because, thanks to the universal manufacturer data for all common CAE and CAD systems, manual acquisition of data is eliminated.

#### My Documentation Manager

To provide support when creating the plant documentation, we have developed a manual configurator. My Documentation Manager enables you to assemble the standard-compliant plant documentation individually with just a few clicks of the mouse. Simply select the required sections from the existing manuals of the installed Siemens products.

#### EPLAN Electric P8 Macro - a big plus for EPLAN users

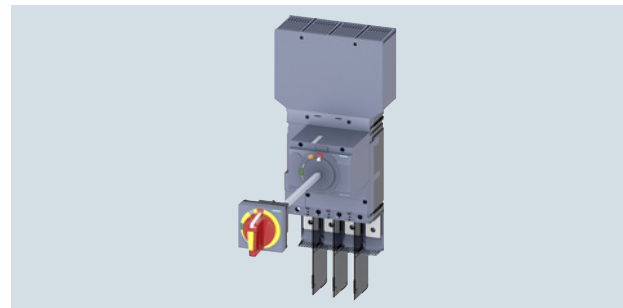
Using the EPLAN Electric P8 Macro in .edz exchange format (EPLAN Data Archived Zipped) the overall time required for data integration can be further reduced. With just a few clicks, the data types for any number of article numbers can be imported and combined. In this way, it is possible for the installed Siemens products to be displayed across different pages of the circuit diagram quickly and easily.

#### At a glance

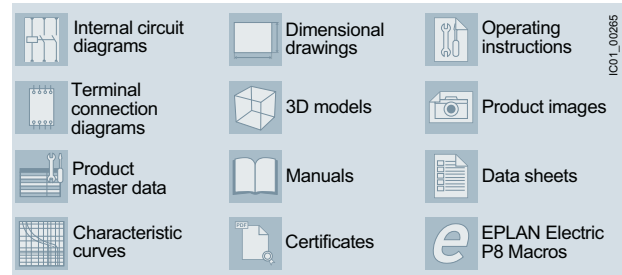
Without Planning Efficiency a lot of time would often be lost due to manual data transmission. Now you are able to concentrate on the essentials. All necessary information and product data is provided by Siemens for easy retrieval.

This makes the control cabinet configuration process more efficient and simplifies your everyday work.

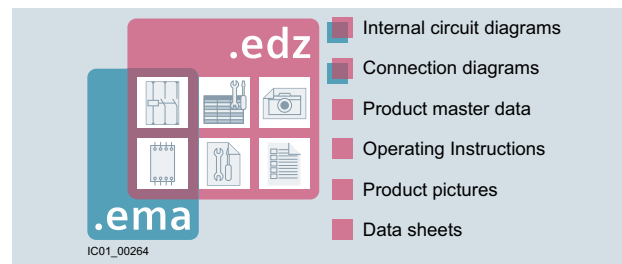
For more information see [www.siemens.com/planning-efficiency](http://www.siemens.com/planning-efficiency).



The configurator supplies the appropriate 3D models and dimension drawings for the control cabinet construction diagram.



The CAx Download-Manager makes 11 universal data types available, as well as the EPLAN Electric P8 macro.



The EPLAN Electric P8 macro in .edz exchange format offers even more compared to the .ema exchange format.



Find out more about Planning Efficiency in our informative videos

# Technical Support

The Technical Support for low-voltage power distribution and electrical installation technology assists you with all your technical queries about our products and systems – both before and after delivery.

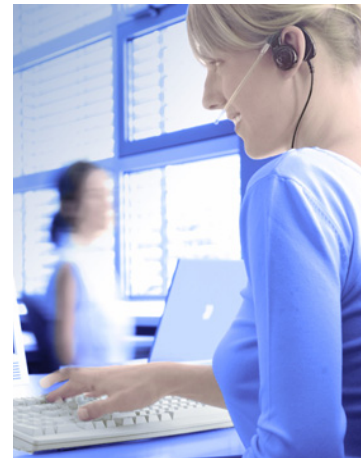
Still have questions?

Our experts will help you with competent specialist support



Competent and fast specialist support with:

- Product selection
- Old/new conversion
- Competitor conversion
- Special versions
- Special requirements
- Commissioning
- Issues during operation



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Get all the information you need – with just one click



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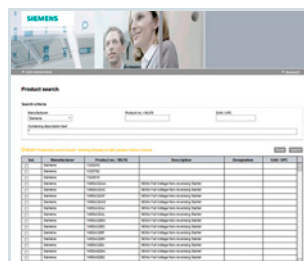
In Product Support you will find FAQs, manuals, certificates, applications and tools, etc.



**Support Request – the quickest route to the experts**

[www.siemens.com/lowvoltage/technical-support](http://www.siemens.com/lowvoltage/technical-support)

You can put your question directly to our Technical Support team using the Support Request Form in Online Support.



**Conversion tool – the easy and efficient way of finding successor products**

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- Global support for external and internal customers as well as regional support

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**SIEMENS** 3VA2

**The 3VA molded case circuit breaker**

**SENTRON**  
protection, switching, measuring and monitoring devices

**SIVACON**  
Power Distribution Boards and Busbar Trunking Systems

**ALPHA**  
Distribution Systems and Terminal Blocks

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Get comprehensive and specific information about our products using our 3D animations, trailers and technical information.

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**Always at your service – every step of the way**  
We offer comprehensive support, from planning and configuration to operation.

I201\_19079

# At home in many applications

Whether in industrial plants, infrastructure or buildings – our new 3VA molded case circuit breakers offer safe, flexible and efficient application options for low-voltage power distribution.





Molded case circuit breaker for line, personnel, and fire protection inside the building



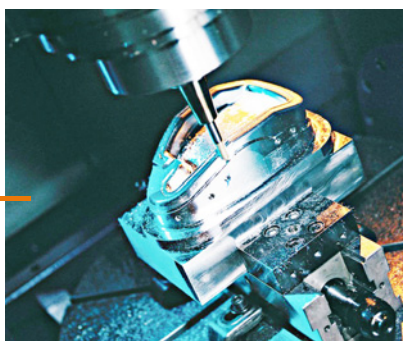
Molded case circuit breaker as main switch with remote switching function



Molded case circuit breaker for protecting industrial plants with door mounted rotary operator



Molded case circuit breaker for line protection in the main power distribution system of buildings



Switch disconnecter with side mounted operator as incoming circuit breaker, main switch, or isolating switch in machine engineering.

# A complete system designed with you in mind

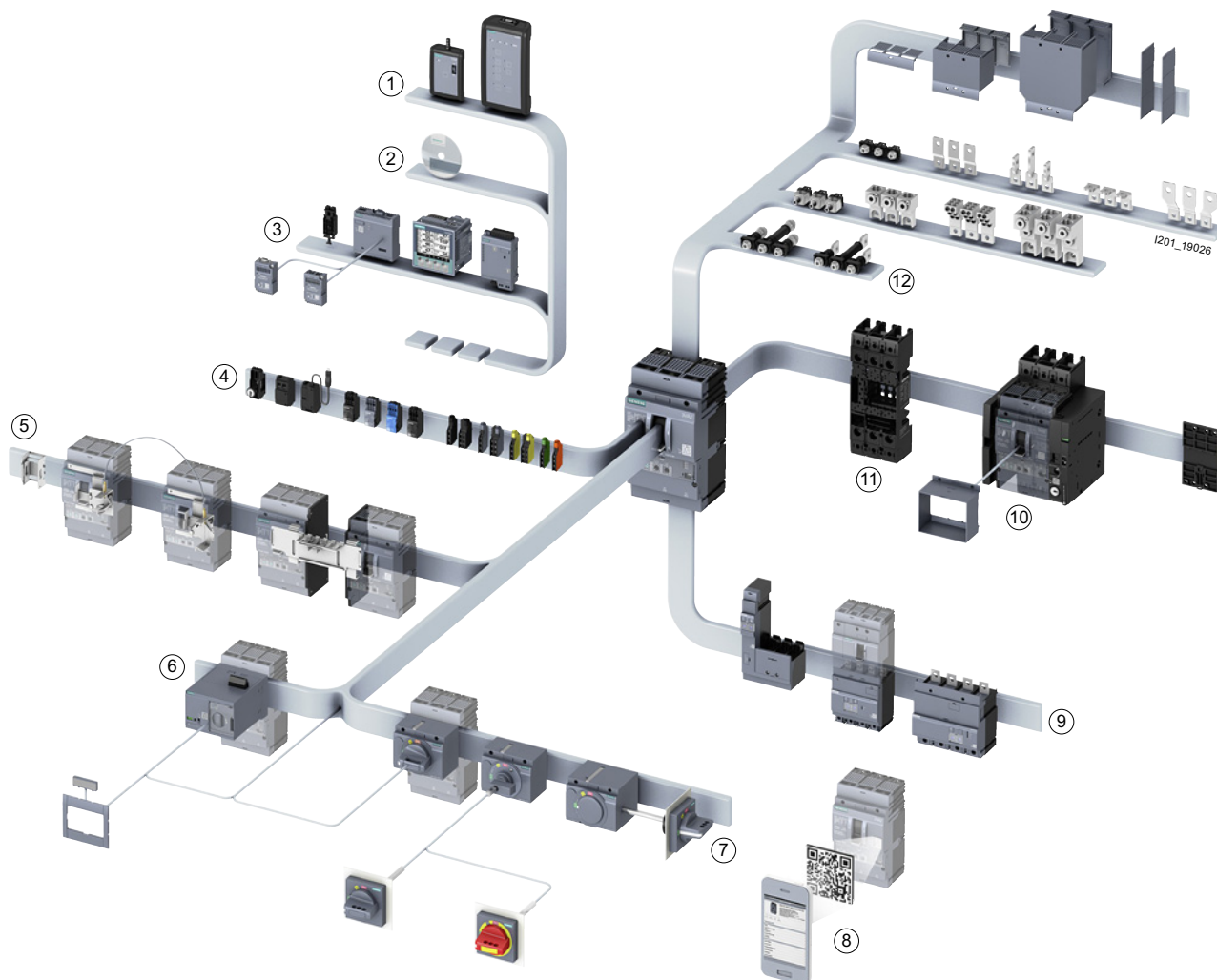


The 3VA molded case circuit breaker is a well thought-out, modular and highly variable system which is specifically designed to provide optimum support in every process step – from engineering to daily operation of the electrical power distribution system.

The 3VA molded case circuit breaker – a complete system designed with you in mind. It offers high flexibility, efficiency and safety – and enables you to

- Find solutions – independently of individual requirements
- Minimize efforts – from planning to installation and maintenance
- Increase transparency – across all energy-relevant data
- Ensure system availability – preventively and reliably

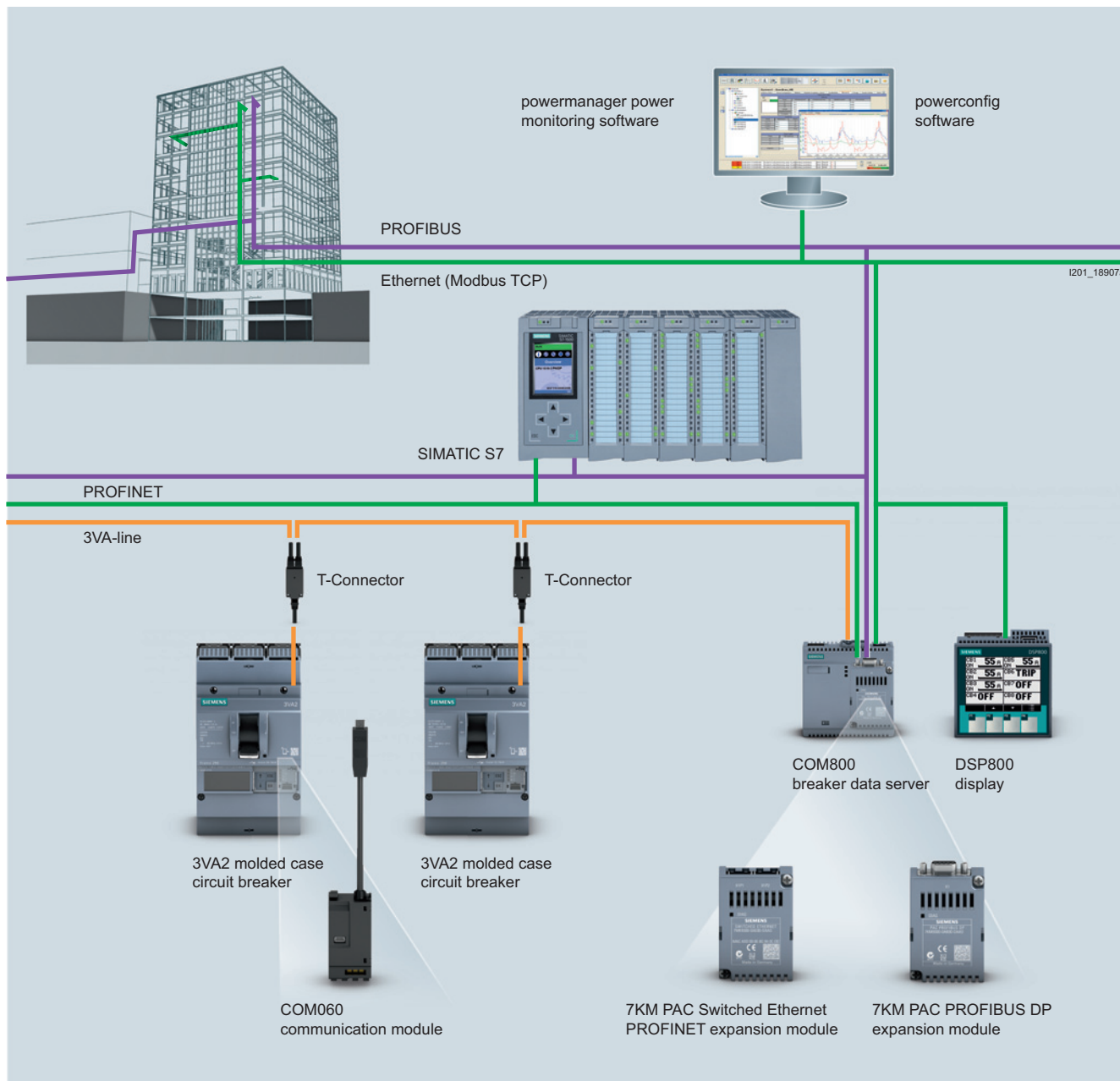
# Wide range of accessories for flexible use



- |                            |                            |
|----------------------------|----------------------------|
| ① Test devices             | ⑦ Manual operators         |
| ② powerconfig software     | ⑧ Knowledge Manager        |
| ③ Communication            | ⑨ Residual current devices |
| ④ Internal accessories     | ⑩ Draw-out technology      |
| ⑤ Locking and interlocking | ⑪ Plug-in technology       |
| ⑥ Motor operator           | ⑫ Connection technology    |

The 3VA molded case circuit breakers from the portfolio of SENTRON protection, switching, measuring and monitoring devices ensure the reliable protection of people and property as integral components of efficient power distribution systems. With a wide range of accessories they can be adapted flexibly, quickly and easily to individual requirements.

# High transparency thanks to flexible communication options



The communication-capable 3VA molded case circuit breakers can be connected to higher-level management systems by means of various bus systems.

Similarly, the communication of status, error and alarm messages is possible via internal auxiliary switches – for efficient operation and optimum system monitoring.

In addition, the Electronic Trip Unit (ETU) of the 8-series can measure voltage, power and energy and forward the values by means of communication modules according to requirements.



# Highlights



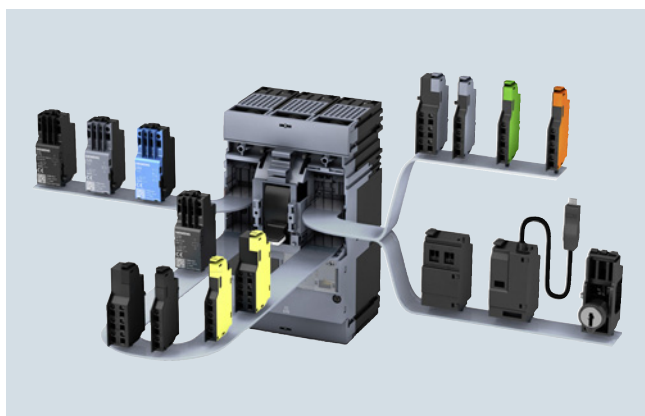
Integrated data collection

The ETUs of the 8-series collect and transmit energy data – similar to the 7KM PAC measuring devices.



Modern design

The elegant appearance and intuitive handling are immediately convincing.



More functionality through variable internal accessories

An extensive range of internal accessories is available for the 3VA molded case circuit breakers: many different functions are possible with the numerous auxiliary switches and alarm switches.



Elegant and safe

As an option, the manual operators can be equipped with an illumination kit – for clear indication of the switching position in all visibility conditions.



Clear indication

The circuit breaker position in the draw-out unit is colored and immediately recognizable.



Knowledge Manager

Technical information about installation, parameterization or maintenance can be called up directly from the system by QR code on a smartphone.

# Notes

# Introduction



## 3VA Molded Case Circuit Breakers

1/2

General data

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

#### Overview

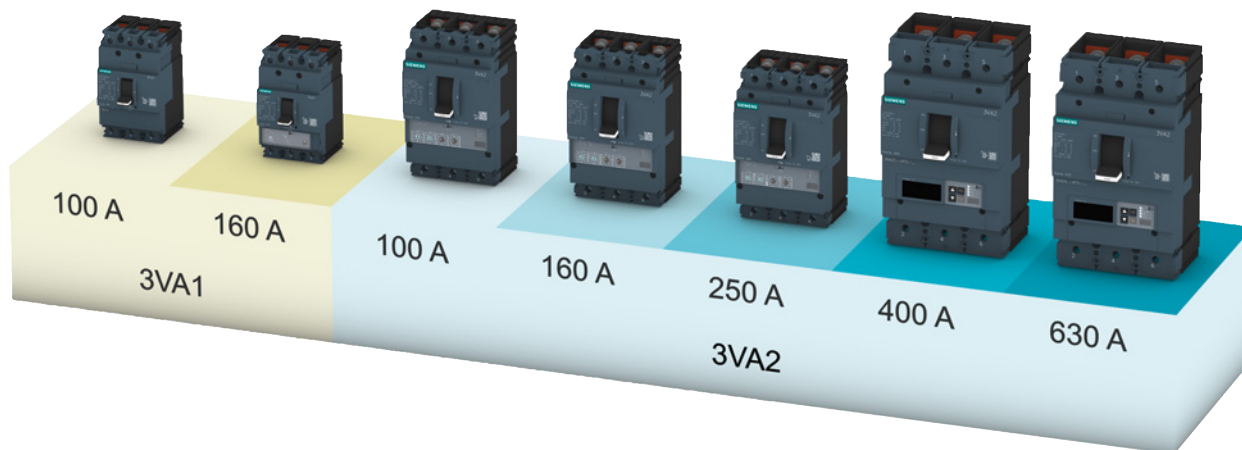
##### Sizes

The integrated 3VA portfolio consists of two different series of molded case circuit breakers in five different rated operational current versions (sizes).

The new 3VA molded case circuit breakers set new standards in flexibility and the variety of modular accessories available. Standardized accessories suitable for use with several sizes of circuit breaker from all the 3VA ranges help to cut costs and save time.

The new 3VA1 molded case circuit breakers are available in 1 to 4-pole versions (3VA1 160 A) or in 3 and 4-pole versions (3VA1 100 A). The new 3VA2 molded case circuit breakers are available in 3 and 4-pole versions.

The circuit breakers are available with rated operational currents ranging from 16 A to 630 A and rated voltages up to 690 V, depending on the series and size.



##### **3VA1 molded case circuit breakers**

The new 3VA1 molded case circuit breakers reliably perform all the tasks required for line protection.

##### Features

The key features of the 3VA1 series are:

- Compact design
- Depending on size: 1-pole to 4-pole versions
- Depending on size: breaking capacities of 16 kA ... 70 kA at 415 V, 3 or 4-pole breakers and 36 kA at 240 V, 1-pole breakers
- Fixed-mounted, plug-in version
- Thermal-magnetic trip units
- AC/DC applications
- No derating up to +50 °C
- Modular and easy-to-fit internal accessories with diverse functions
- Uniform accessories platform across all 3VA molded case circuit breakers

##### Compact dimensions

Thanks to a mounting depth of 70 mm and a cover size of 45 mm, the 3VA1 molded case circuit breakers of sizes 100 A and 160 A are predestined for protecting cables and lines in the plant area, especially for the electrical installation area. For these applications, there is also a wide range of accessories available such as adapters for installation on standard mounting rails, as well as residual current devices (RCD310 and RCD510) that can be side-mounted.

##### Thermal-magnetic trip unit

A thermal-magnetic principle trip unit is the basic trip unit for providing overload and short-circuit protection. This has been developed for implementing economical, cost-efficient installations up to 160 A. It is suitable for use in three-phase networks, AC networks, 400 Hz applications, and with DC currents.

**3VA2 molded case circuit breakers**

The new 3VA2 molded case circuit breakers reliably perform all the tasks required for line and generator protection.

This series is designed for applications with increased requirements:

- Increased breaking capacity
- Very good selective protection
- Integrated metering function
- Connection to a fieldbus communication system

Features

The most important features of the 3VA2 series are:

- Compact dimensions
- 3 and 4-pole versions
- Four breaking capacity classes from 55 kA to 150 kA
- Fixed-mounting, plug-in technology, draw-out technology
- Depending on size: selective protection response in rated operational current interval 1 : 2.5
- Electronic Trip Units
- Retrofittable communication for ETU 5-series and 8-series
- Depending on the ETU: integrated metering function
- AC applications
- No derating up to +50 °C
- Modular and easy-to-fit internal accessories with diverse functions
- Uniform accessories platform across all 3VA molded case circuit breakers

Compact dimensions with function expansions

In addition to its expanded functionality, the 3VA2 molded case circuit breaker also comes with compact dimensions for fixed mounting, as a plug-in version and a draw-out version.

A cover size of 70 mm for the door cutout and a complete selection of breaking capacity classes from 55 kA to 150 kA at 415 V AC provide the necessary flexibility for planning.

Despite its compact size, the circuit breaker offers the following benefits:

- Extremely high breaking capacity
- Extremely good selectivity
- Electronic trip units, versions with and without integrated metering function and optimal fieldbus communication interface

Selective contact system

With its contact system, the 3VA2 molded case circuit breaker is designed for fast selectivity tripping. The selective contact system ensures the following:

- Dynamic instantaneous short-circuit range
- High breaking capacity
- Selective protection response of the molded case circuit breakers in relation to each other
- Selective protection response of the molded case circuit breakers in relation to other protection devices such as downstream low-voltage fuses, etc.

Electronic Trip Units (ETUs)

The current sensor of the 3VA2 comprises an iron-cored transformer for the internal power supply and a Rogowski coil for precise current measurement. Each transformer can be optimized accordingly for its specific task. Thanks to the high accuracy of current measurement, the 3VA2 molded case circuit breaker is suitable for power/energy measurement. In addition, finer adjustment of ground fault current monitoring is possible.

The Electronic Trip Units (ETUs) provide the following protection functions:

- Overload protection L ("L" = Long-time delay)
- Short-time delayed short-circuit protection S ("S" = Short-time delay) for time-selective response in case of a short-circuit
- Instantaneous short-circuit protection I ("I" = Instantaneous)
- Protection of the neutral conductor against overload and short-circuit ("N" = Neutral)
- Protection against residual currents to ground ("G" = Ground fault)

Energy management and communication

The Electronic Trip Units (ETUs) provide the following energy management and communication functions:

- Metering functions
- Communication
- Flexible, local, digital inputs and outputs via the EFB300 external function box
- Software commissioning support with powerconfig
- Testing and archiving with the TD300 and TD500 test devices (with powerconfig)

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

1



Type	3VA10	3VA11		
Number of poles	3, 4	1	2	3, 4

#### 3VA1 molded case circuit breakers for line protection, standard applications

##### Electrical characteristics according to IEC 60947-2

Size		100 A	160 A	160 A	160 A
Rated operational current $I_n$ at 50 °C ambient temperature	A	16 ... 100	16 ... 160	16 ... 160	16 ... 160
Rated operational voltage $U_e$ AC 50/60 Hz	V	690	415	415	690
Rated insulation voltage $U_i$	V	800	500	500	800
Rated impulse withstand voltage $U_{imp}$	kV	8	8	8	8
Use in IT networks		✓	✓	✓	✓
Frequency	Hz	0 ... 400	0 ... 400	0 ... 400	0 ... 400

##### Breaking capacity

###### Extremely low breaking capacity B B

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	25 / 25	--	--	--
380 - 415 V AC / 50 Hz	kA	16 / 16	--	--	--
690 V AC / 50 Hz	kA	5 / 5	--	--	--

###### Low breaking capacity N N

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	36 / 36	25 / 25	36 / 36	36 / 36
380 - 415 V AC / 50 Hz	kA	25 / 25	5 / 5	25 / 25	25 / 25
690 V AC / 50 Hz	kA	5 / 5	--	--	7 / 5

###### Standard breaking capacity S S

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	55 / 55	36 / 36	55 / 55	55 / 55
380 - 415 V AC / 50 Hz	kA	36 / 36	6 / 6	36 / 36	36 / 36
690 V AC / 50 Hz	kA	7 / 5	--	--	7 / 5

###### Medium breaking capacity M M

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	--	--	--	85 / 85
380 - 415 V AC / 50 Hz	kA	--	--	--	55 / 55
690 V AC / 50 Hz	kA	--	--	--	10 / 5

###### High breaking capacity H H

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	--	--	--	100 / 100
380 - 415 V AC / 50 Hz	kA	--	--	--	70 / 70
690 V AC / 50 Hz	kA	--	--	--	10 / 5

###### Very high breaking capacity C C

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	--	--	--	--
380 - 415 V AC / 50 Hz	kA	--	--	--	--
690 V AC / 50 Hz	kA	--	--	--	--

###### Extremely high breaking capacity L L

Breaking capacity $I_{cu} / I_{cs}$ rms value according to IEC 60947-2					
220 - 240 V AC / 50 Hz	kA	--	--	--	--
380 - 415 V AC / 50 Hz	kA	--	--	--	--
690 V AC / 50 Hz	kA	--	--	--	--

✓ Available

-- Not available



3VA20	3VA21	3VA22	3VA23	3VA24
3, 4	3, 4	3, 4	3, 4	3, 4

### 3VA2 molded case circuit breakers for line protection, selectivity applications

100 A	160 A	250 A	400 A	630 A
25 ... 100	25 ... 160	160 ... 250	250 ... 400	400 ... 630
690	690	690	690	690
800	800	800	800	800
8	8	8	8	8
✓	✓	✓	✓	✓
50 ... 60	50 ... 60	50 ... 60	50 ... 60	50 ... 60

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85 / 85	85 / 85	85 / 85	85 / 85	85 / 85
55 / 55	55 / 55	55 / 55	55 / 55	55 / 55
2 / 2	2.5 / 2.5	3 / 3	5 / 5	6 / 6

110 / 110	110 / 110	110 / 110	110 / 110	110 / 110
85 / 85	85 / 85	85 / 85	85 / 85	85 / 85
2 / 2	2.5 / 2.5	3 / 3	5 / 5	6 / 6

150 / 150	150 / 150	150 / 150	150 / 150	150 / 150
110 / 110	110 / 110	110 / 110	110 / 110	110 / 110
2 / 2	2.5 / 2.5	3 / 3	5 / 5	6 / 6

200 / 200	200 / 200	200 / 200	200 / 200	200 / 200
150 / 150	150 / 150	150 / 150	150 / 150	150 / 150
24 / 18	24 / 18	24 / 18	On request	On request

# Introduction

## 3VA Molded Case Circuit Breakers

### General data

1



Type	3VA10	3VA11	3VA11	3VA11
------	-------	-------	-------	-------

#### 3VA1 molded case circuit breakers for line protection, standard applications

##### Service life (make-break operations)

Mechanical		15000	15000	15000	15000
Electrical	380 ... 415 V	8000	8000	8000	8000
Trip units	FTFM	TM210	✓	✓	✓
	ATFM	TM220	--	--	✓
	ATAM	TM240	--	--	✓
	LI	ETU320	--	--	--
	LIG	ETU330	--	--	--
	LSI	ETU350	--	--	--
	LSI	ETU550/ETU850	--	--	--
	LSIG	ETU560/ETU860	--	--	--

##### Switch disconnectors

##### Electrical characteristics according to IEC 60947-3

Number of poles					3, 4
Rated operational current $I_n$ at 50 °C ambient temperature	A	--	--	--	63 ... 160
Rated operational voltage $U_e$ AC 50/60 Hz	V	--	--	--	690
Rated operational voltage $U_e$ DC	V	--	--	--	500 (3p)/600 (4p)
Rated short-circuit making capacity $I_{cm}$ with up-stream circuit breaker	kA	--	--	--	70 kA at 415 V
Permissible rated short-time current $I_{cw}$	±1s kA	--	--	--	2

##### Dimensions

	A	mm	76.2 (3p)/101.6 (4p)	25.4	50.8	76.2 (3p)/101.6 (4p)
	B	mm	130	130	130	130
	C	mm	70	70	70	70
	D	mm	88	88	88	88
Weight	1-pole	Box terminal	kg	--	0.39	--
	1-pole	Lug terminal	kg	--	0.35	--
	2-pole	Box terminal	kg	--	--	0.68
	2-pole	Lug terminal	kg	--	--	0.60
	3-pole	Box terminal	kg	1.02	--	--
	3-pole	Lug terminal	kg	0.90	--	--
	4-pole	Box terminal	kg	1.31	--	--
	4-pole	Lug terminal	kg	1.15	--	--

##### General information

Standards and specifications	IEC 60947-2	IEC 60947-2	IEC 60947-2	IEC 60947-2
Utilization category according to IEC 60947-2	A	A	A	A
Power and infeed direction	Top and bottom	Top and bottom	Top and bottom	Top and bottom
Standard connection system	Lug terminal Box terminal	Lug terminal Box terminal	Lug terminal Box terminal	Lug terminal Box terminal
Isolating features according to IEC 60947	✓	✓	✓	✓

✓ Available

-- Not available





3VA20

3VA21

3VA22

3VA23

3VA24

### 3VA2 molded case circuit breakers for line protection, selectivity applications

3VA20	3VA21	3VA22	3VA23	3VA24
20000	20000	20000	15000	15000
12000	12000	10000	6000	4000
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
✓	✓	✓	✓	✓
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
105 (3p)/140 (4p) 181 86 107	105 (3p)/140 (4p) 181 86 107	105 (3p)/140 (4p) 181 86 107	138 (3p)/184 (4p) 248 110 137	138 (3p)/184 (4p) 248 110 137
--	--	--	--	--
--	--	--	--	--
--	--	--	--	--
2.44	2.44	--	--	--
2.29	2.29	2.41	4.3	4.3
3.14	3.14	--	--	--
2.94	2.94	3.09	4.8	4.8
IEC 60947-2 A	IEC 60947-2 A	IEC 60947-2 A	IEC 60947-2 A	IEC 60947-2 A/B <sup>1)</sup>
Top and bottom	Top and bottom	Top and bottom	Top and bottom	Top and bottom
Lug terminal Box terminal	Lug terminal Box terminal	Lug terminal	Lug terminal	Lug terminal
✓	✓	✓	✓	✓

<sup>1)</sup> Utilization category B only for 400 A and 500 A and the trip units of the ETU5 and ETU8 series

## Introduction

### 3VA Molded Case Circuit Breakers

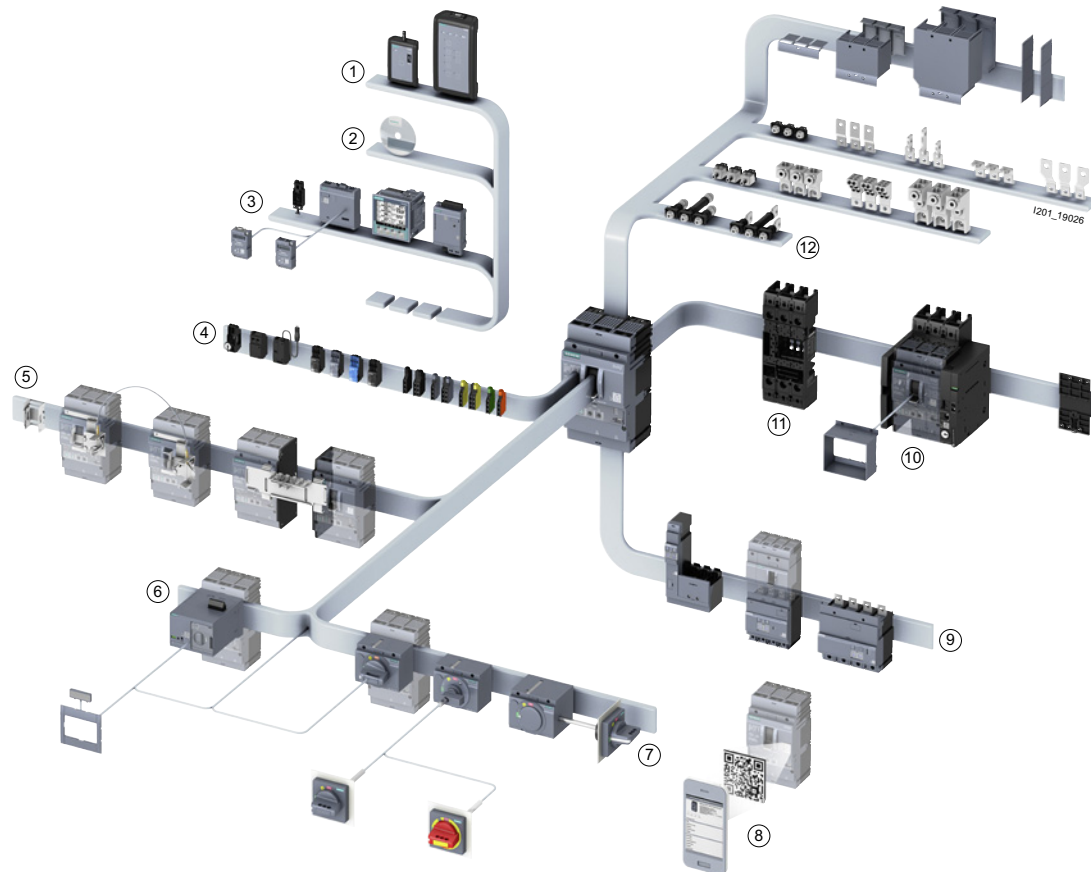
#### General data

#### Molded case circuit breakers and accessories in the system

The new 3VA molded case circuit breakers come with a large portfolio of internal and external accessories which can be installed flexibly in any size of circuit breaker (depending on the type of accessory).

The table below shows the molded case circuit breakers in or on which the accessories can be installed, and the sizes covered by the same accessory component:

Accessories	Molded case circuit breakers						
	3VA1		3VA2				
	100	160	100	160	250	400	630
Auxiliary switches and alarm switches							
Auxiliary releases							
Connection technology							
Plug-in technology							
Draw-out technology							
Front mounted rotary operator							
Door mounted rotary operator							
Side wall mounted rotary operator							
Motor operator							
Locking and interlocking							
Residual current device, mounted on the side							
Residual current device, mounted underneath							
Communications interface							
EFB300							
TD300 and TD500							
Masking frame							
DIN rail adapter							



- |                            |                            |
|----------------------------|----------------------------|
| ① Test devices             | ⑦ Manual operators         |
| ② powerconfig software     | ⑧ Knowledge Manager        |
| ③ Communication            | ⑨ Residual current devices |
| ④ Internal accessories     | ⑩ Draw-out technology      |
| ⑤ Locking and interlocking | ⑪ Plug-in technology       |
| ⑥ Motor operator           | ⑫ Connection technology    |

**Design****Integrated system**

The 3VA molded case circuit breakers set new standards, not only regarding technical features and functional scope, but design ergonomics too.

When it comes to operation, functionality and installation, the new 3VA series is a fully integrated system. This principle is embodied in the basic units and in all internal and external accessories.

The benefits offered by the internal and external accessories available for the 3VA molded case circuit breakers are:

- Standardized methods of operation
- Standardized functionality
- Standardized installation procedures
- Standardized accessories from 100 A to 630 A (e.g. auxiliary switches, auxiliary releases, etc.)

Installation variants

3VA molded case circuit breakers are available in the following installation variants:

**The right circuit breaker for all installation conditions**

The new series of molded case circuit breakers can be equipped with additional components enabling them to be installed as fully functional switches in any location, a feature which affords maximum flexibility to system planners.

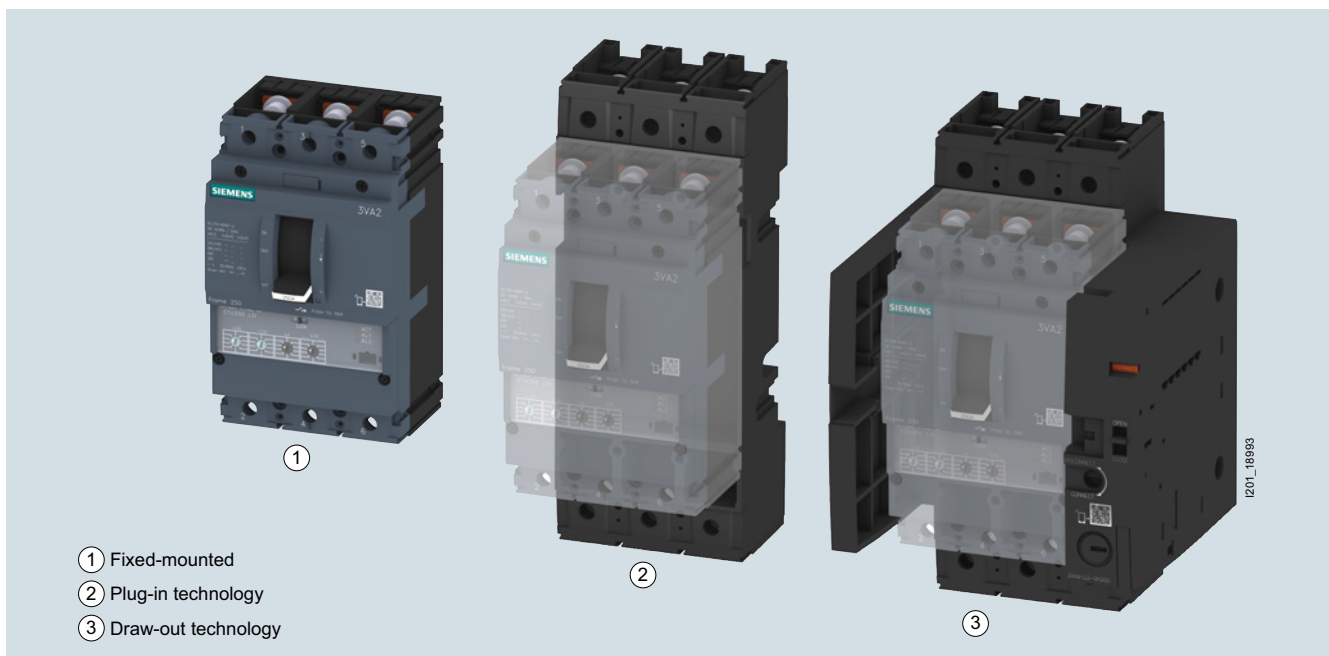
The following components can be used to suit the installation location:

- Handle
- Front mounted rotary operator
- Side wall mounted rotary operator
- Door mounted rotary operator
- Motor operator

When the 3VA molded case circuit breaker is in the OFF position, it reliably disconnects all current paths of the circuit in accordance with IEC 60947-2 and IEC 60204-1 (VDE 0113). In the event of overvoltage between input and output, the reduced clearances prevent leakage currents at the surface and ensure that the dielectric strength is not degraded.

The main switch functionality is not diminished by installation of the following accessories:

- Motor operator
- Manual operator
- Residual current device



All versions offer the full range of functions, e.g. they can be equipped with every kind of accessory. In addition, the last two variants are designed to allow speedy breaker replacement for maintenance purposes or visual indication of the electrical isolation in the main circuit.

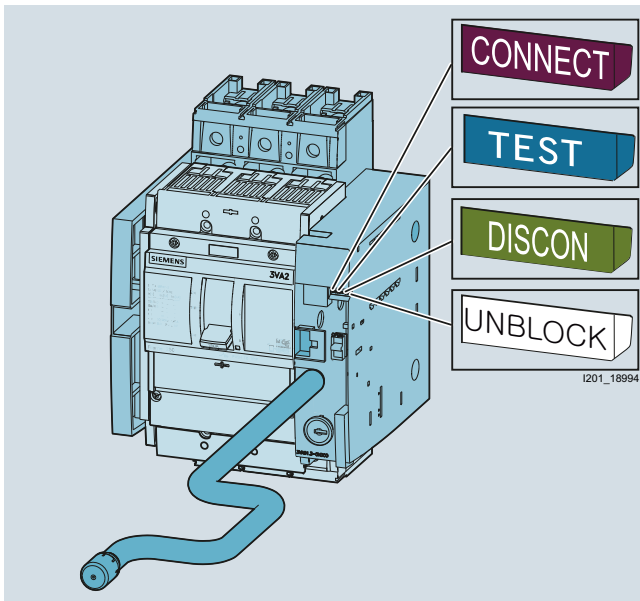
## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

##### Indication of switching positions in the draw-out unit

The picture below illustrates the colors used to indicate the switching position in the draw-out unit:



The switching position is indicated in a window of the draw-out unit and is clearly color-coded, enabling immediate identification of the current switching position of the molded case circuit breaker.

The draw-out unit has four switching positions:

- **CONNECT:**

The molded case circuit breaker is connected to the main circuit.

- **TEST:**

In the TEST position, the main contacts of the molded case circuit breaker are not connected to the main circuit, but only to the auxiliary circuit. It is therefore possible to check that the auxiliary circuit is functioning properly when the main circuit is open.

- **DISCONNECT:**

The molded case circuit breaker is not connected to the main circuit or to the auxiliary circuit either.

- **UNBLOCK:**

The molded case circuit breaker is not in any of the 3 defined, fixed positions listed above. UNBLOCK is displayed while the breaker is being operated by rotating the crank handle.

##### Motor operator for remote control

3VA molded case circuit breakers can also be controlled remotely. Whether the circuit breaker is controlled from "just" the other side of the closed cubicle door, or the breaker is switched on via a control room, operator panel, etc., is irrelevant.

Motor operators are available as accessories for remote control of the circuit breakers.

##### Ergonomic design of circuit breakers, control levers and control elements

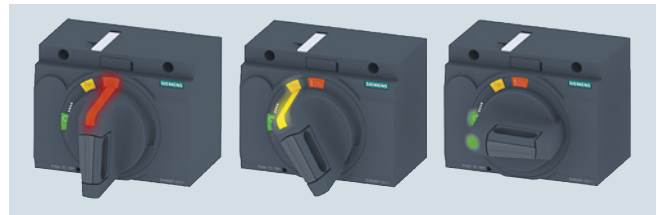


Clear status indication

The possible switching positions of manual rotary operators are listed below:

- ON – Red marking
- TRIP – Yellow marking
- OFF – Green marking

The handle clearly engages in one of these positions depending on the status of the molded case circuit breaker. The switching positions are color-coded so that you can identify the status of the circuit breaker at a glance.



Active illumination

You can retrofit an active illumination kit to manual rotary operators. The illuminated indicator in the rotary handle signals the relevant switching position in the colors red, yellow and green. This provides clear visualization of the switching position on-site under poor lighting conditions.

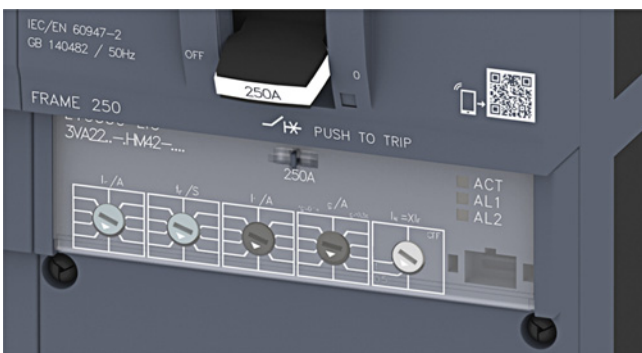
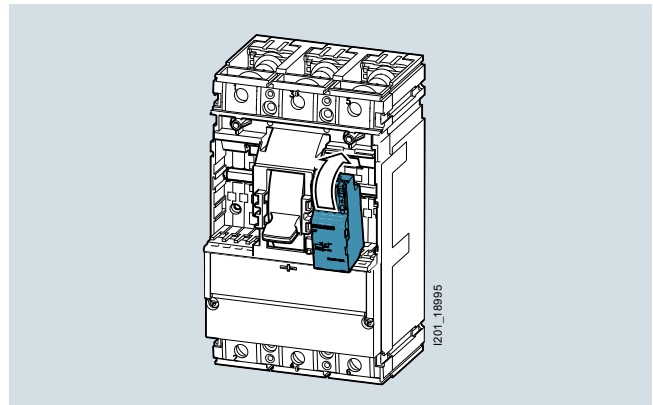


Ergonomic control lever

With its large contact area, the ergonomic control lever is designed to assist manual operation of the circuit breaker. The white strip around the edge of the lever makes it easy to identify in conditions of poor visibility. The additional rated operational current information stamped on the white strip also significantly eases identification of the circuit breaker when it is one of many breakers in a large switchboard installation.

### Broad range of accessories




The internal accessories (e.g. alarm and auxiliary switches, auxiliary releases, etc.) all belong to one family and can be installed on any size of 3VA1 or 3VA2 circuit breaker. The accessories are designed for quick and easy installation. The components are coded by color and design to ensure that they are always installed at the correct position in the circuit breaker.



Color-coded control elements

The control elements on the thermal-magnetic and electronic trip units are color-coded.

The separate color of each control element indicates that it performs a specific function, helping you to make the required settings quickly.

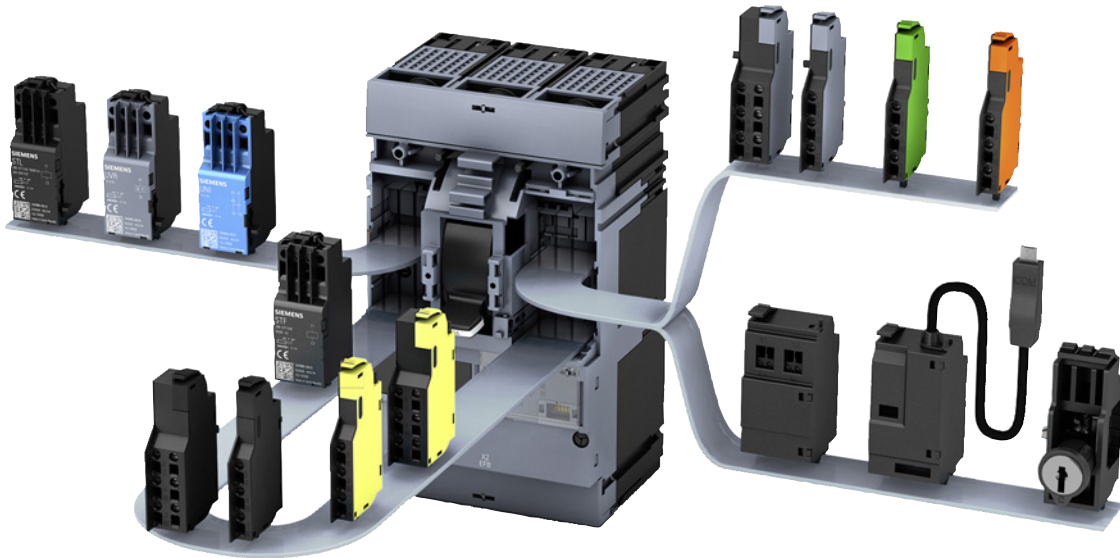
Color		Function
	Petrol	Overload protection
	Black	Short-circuit protection, ground fault protection
	Gray	Protection of the neutral conductor

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

##### Color coding of accessories



A color coding system has been used to clearly identify the specific functions of individual accessories:

Color	Auxiliary switches and alarm switches	Auxiliary releases
Black	Auxiliary switch AUX	<ul style="list-style-type: none"> <li>• Shunt trip left STL</li> <li>• Shunt trip flexible STF</li> </ul>
Gray	Leading changeover switch LCS	<ul style="list-style-type: none"> <li>• Undervoltage release UVR</li> <li>• Undervoltage release with leading NO contacts UVR (LNO)</li> </ul>
Yellow	Trip alarm switch TAS	--
Orange	Short circuit alarm switch SAS	--
Green	Electrical alarm switch EAS	--
Blue	--	Universal release UNI

The cylinder lock and communication accessories shown next to the internal accessories are explained in the chapters "Locking and interlocking" and "Communication and test/commissioning devices".

##### Fast assembly of motor operators

The motor operators have been designed for quick and easy assembly and disassembly. This makes for quick and easy access to the internal accessories.



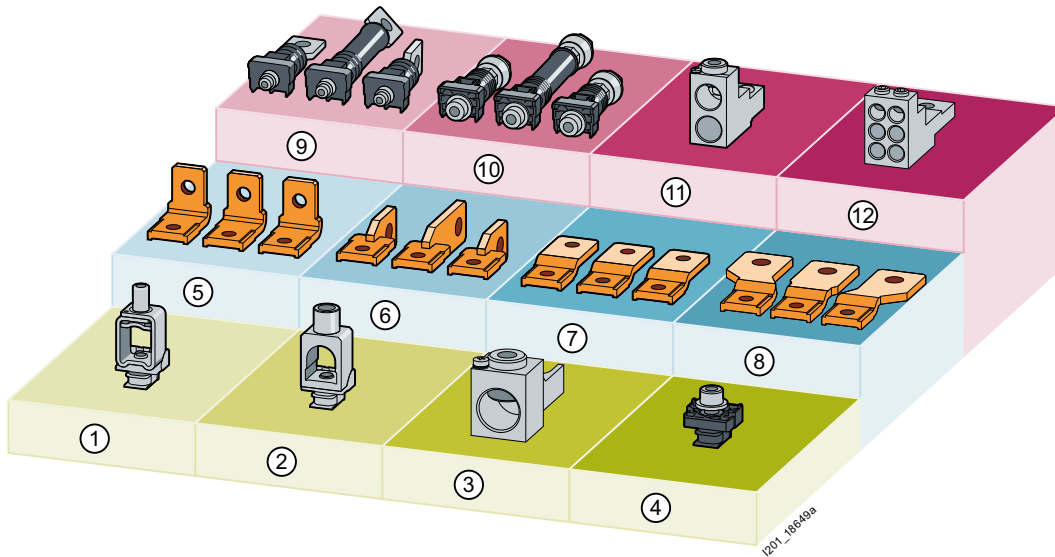
### Connection technology

A large selection of connection systems is available for the new series of 3VA molded case circuit breakers.

The supported cable cross-sections are based on the size of the molded case circuit breaker and the cable terminals used. The terminals are fitted either internally or externally to the molded case circuit breaker.

The connection technology is easy to integrate in the new series of 3VA molded case circuit breakers.

With it you can implement various front and rear main conductor connections for the molded case circuit breakers in all types of installation (fixed-mounted, plug-in and draw-out).



- |                                      |  |
|--------------------------------------|--|
| ① Box terminal                       | ⑦ Front connection bars extended           |
| ② Circular conductor terminal        | ⑧ Front connection bars broadened          |
| ③ Circular conductor terminal, large | ⑨ Rear terminal flat                       |
| ④ Lug terminal                       | ⑩ Rear connecting studs                    |
| ⑤ Lug terminal, right-angled         | ⑪ Circular conductor terminal for 2 cables |
| ⑥ Front connection bars edgewise     | ⑫ Circular conductor terminal for 6 cables |

# Introduction

## 3VA Molded Case Circuit Breakers

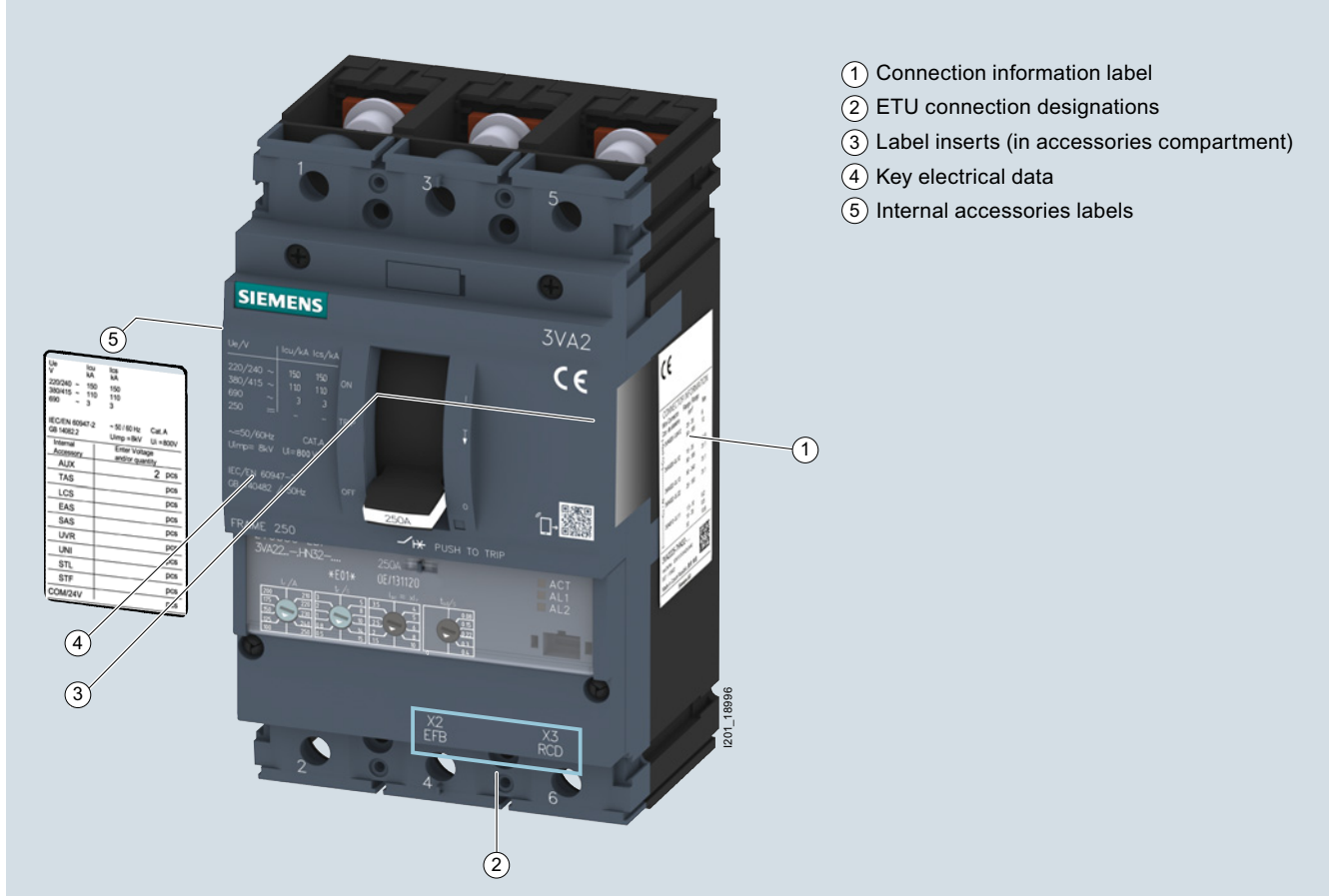
1

### General data

#### Technical details

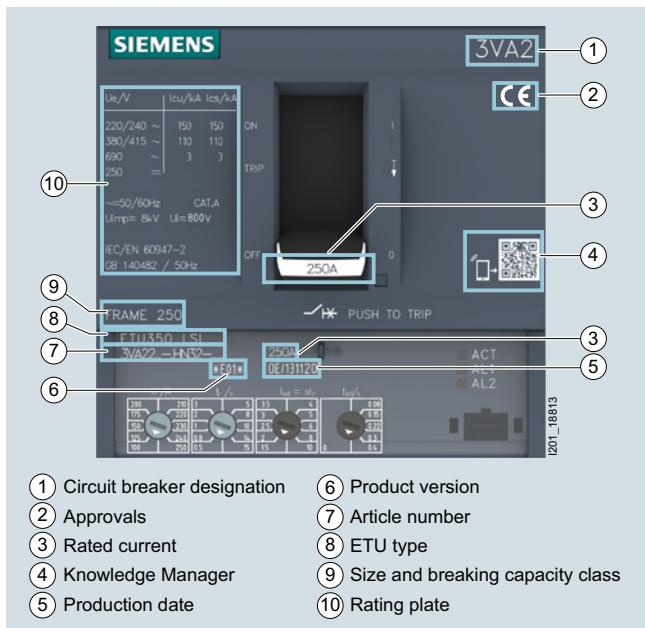
##### Circuit breaker identification

Each 3VA molded case circuit breaker has labels displaying all the important technical information, enabling unique identification:



- ① Connection information label
- ② ETU connection designations
- ③ Label inserts (in accessories compartment)
- ④ Key electrical data
- ⑤ Internal accessories labels

Breaker labeling



- ① Circuit breaker designation
- ② Approvals
- ③ Rated current
- ④ Knowledge Manager
- ⑤ Production date
- ⑥ Product version
- ⑦ Article number
- ⑧ ETU type
- ⑨ Size and breaking capacity class
- ⑩ Rating plate

Front: Labeling

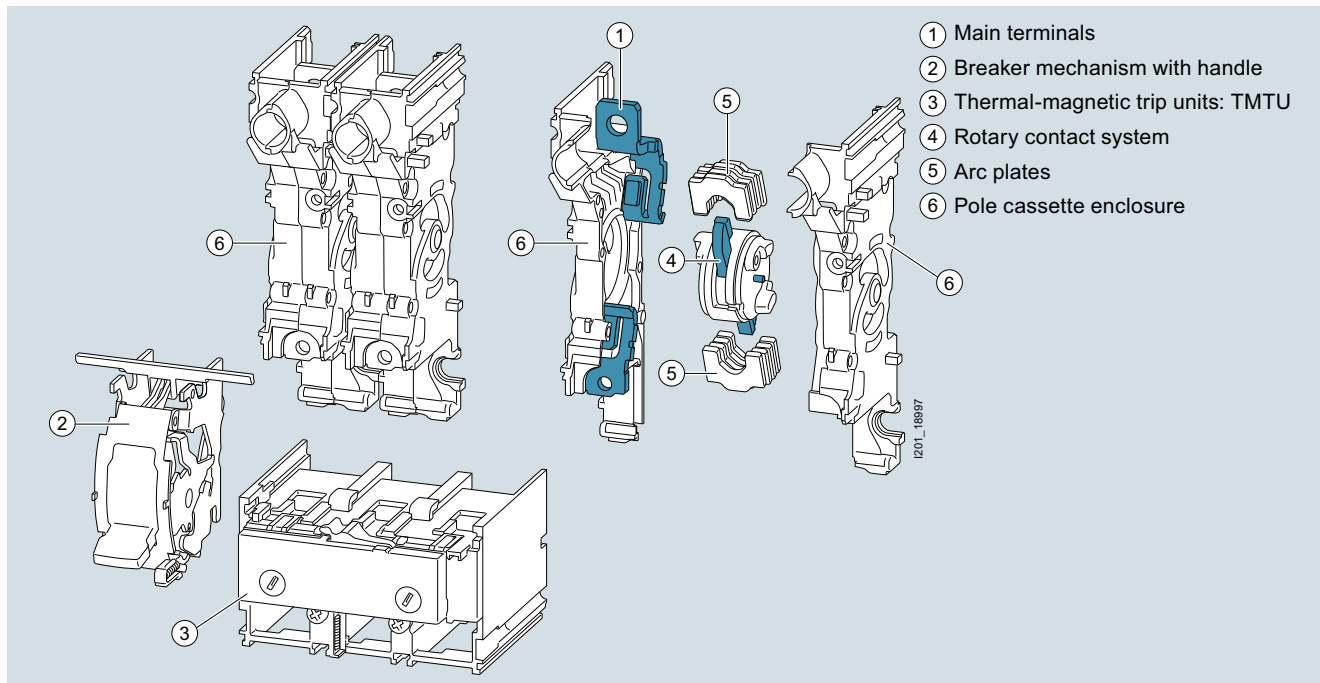
#### Knowledge Manager

By reading out the QR code using a smartphone and the "Knowledge Manager" app, it is possible to view key product information via the Internet at any time.

Siemens provides the app free of charge.

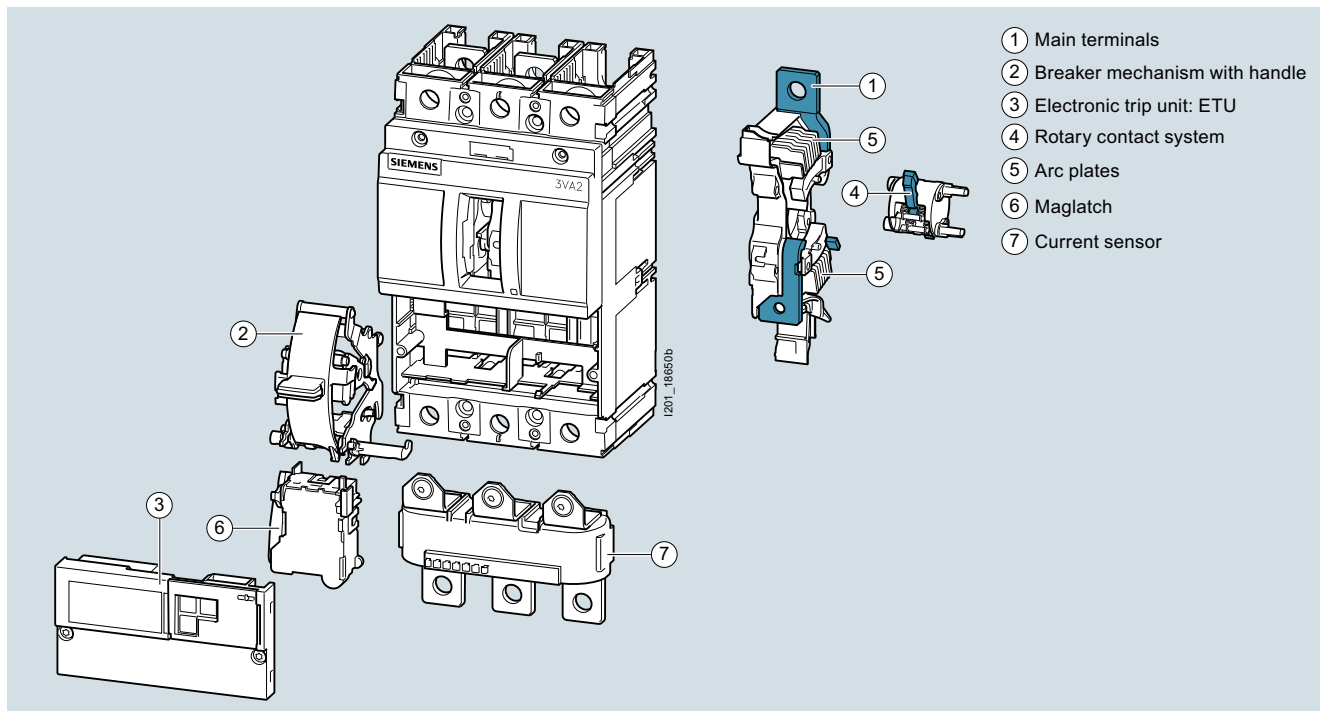


Design and components – 3VA1



Design of the 3VA1 molded case circuit breaker

Design and components – 3VA2



Design of the 3VA2 molded case circuit breaker

## Introduction

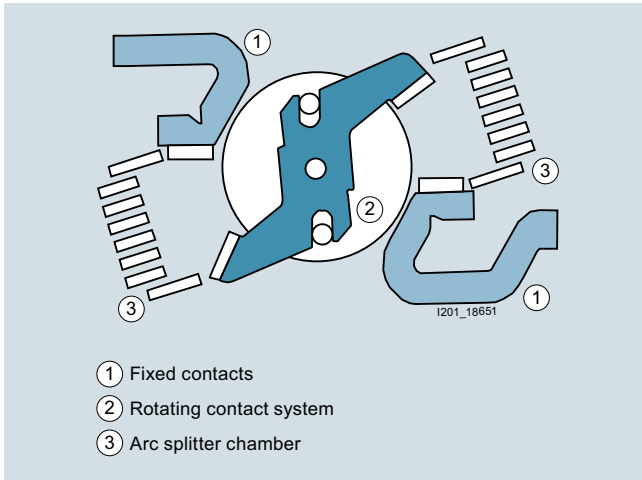
### 3VA Molded Case Circuit Breakers

1

#### General data

##### Current limitation

To achieve excellent current limiting, the 3VA molded case circuit breakers are equipped with a double-rotatory contact system that opens dynamically on its own above the specified disengaging currents on the principle of magnetic repulsion before the expected peak value of the short-circuit current is reached. These limits have been coordinated and optimized to suit the overall device characteristics. This substantially reduces the thermal and mechanical loading on the molded case circuit breaker.



The switching pole cassettes of the 3VA molded case circuit breakers are optimized for high breaking capacity, and their double-rotary contact system design enables extremely good current limiting thanks to the very fast build-up of peak arc voltage generated at both contacts in the event of a short-circuit. This results in significant limitation of the let-through energy  $I^2t$  and the expected let-through current  $I_{SC}$ .

##### Breaking capacity

The rated ultimate short-circuit breaking capacity  $I_{CU}$  is the maximum value of the short-circuit current which the protective device is capable of disconnecting in accordance with regulations. Up to this value, the protective device is also allowed to be used in a network.

The new 3VA molded case circuit breakers are available with identical external dimensions but various breaking capacity classes according to size and rated operational current range.

- Breaking capacity of the 3VA1 series, 2- to 4-pole at 415 V AC

Breaking capacity Class / $I_{CU}$	Size		
	3VA1 100 A 3- and 4-pole	3VA1 160 A 2-pole	3VA1 160 A 3- and 4-pole
B 16 kA	✓	✓	--
N 25 kA	✓	✓	✓
S 36 kA	✓	✓	✓
M 55 kA	--	--	✓
H 70 kA	--	--	✓

- Breaking capacity class of the 3VA1 series, 1-pole at 240 V AC

Breaking capacity Class / $I_{CU}$	Size
	3VA1 160 A 1-pole
B 25 kA	✓
N 36 kA	✓

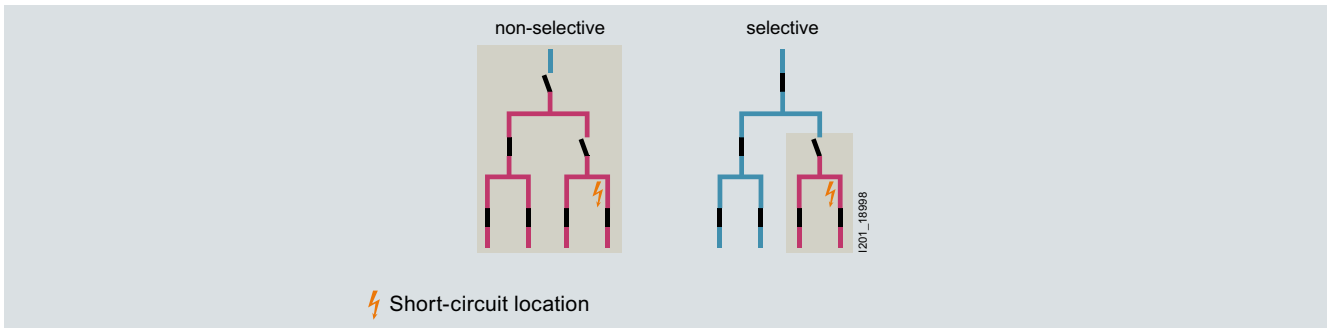
- Breaking capacity class of the 3VA2 series at 415 V AC

Breaking capacity Class / $I_{CU}$	Size				
	3VA2 100 A	3VA2 160 A	3VA2 250 A	3VA2 400 A	3VA2 630 A
M 55 kA	✓	✓	✓	✓	✓
H 85 kA	✓	✓	✓	✓	✓
C 110 kA	✓	✓	✓	✓	✓
L 150 kA	✓	✓	✓	✓	✓

## Selectivity

Switching devices connected in series, e.g. molded case circuit breakers and fuses, work in a coordinated manner to ensure that switching devices are tripped successively. The closest, up-stream switching device before the location of the short-circuit must trip. The other switching devices on the same current run do not trip. The purpose of selectivity is to minimize the effects of a fault in terms of its duration and the area affected by the fault.

Selectivity is achieved when the circuit breakers are matched to each other by means of selection, configuring and trip settings in such a way that, in the event of a fault, only the breaker closest to the location of the fault trips.



### Full selectivity

There is an increasing demand for full selectivity in order to safeguard continuity of service by power distribution systems.

A power system is said to be fully selective if only the protective device located upstream of the fault location when viewed in the direction of energy flow, i.e. from the infeed to the load, trips in the event of a fault.

Full selectivity always refers to the short-circuit current occurring at the installation point.

### Partial selectivity

A system is said to be partially selective when selective tripping in response to a system fault is not ensured up to the maximum ultimate short-circuit breaking capacity  $I_{CU}$  of the switching devices. Selectivity is then ensured only up to a certain  $I_S$  current value (ultimate selectivity value). If the calculated prospective short-circuit current at the installation point of the downstream protective device is lower than the ultimate selectivity value specified for the switchgear assembly, then it is still possible to describe the system as fully selective.

If the values determined by the short-circuit current calculation (e.g. according to IEC/EN 60909, DIN VDE 0102) at the installation point of the downstream circuit breaker lie below the selectivity limit current listed in the respective table for the selected combination, selectivity is assured for all possible short-circuits at the installation point.

If the calculated short-circuit current at the installation point is higher than the selectivity limit current, selective tripping by the downstream circuit breaker is only assured up to the value listed in the table. A judgment must be made as to whether the value can be considered to be sufficient because the probability of the maximum short-circuit occurring is low, for example. Otherwise, a circuit breaker combination should be chosen whose selectivity limit lies above the maximum short-circuit current.

### Selectivity with 3VA2 molded case circuit breakers

Series 3VA2 circuit breakers are designed to deliver excellent selective tripping combined with optimum current limiting and outstanding breaking capacity.

3VA2 molded case circuit breakers have been specifically designed to meet the following requirements:

- System-wide, high selectivity with a rated operational current interval of 1 : 2.5 up to the miniature circuit breaker
- Selectivity in combination with high current limiting and high breaking capacity
- Cost-effective design / configuring of selective power distribution systems

These molded case circuit breaker requirements are achieved in engineering terms as follows:

- Double-rotary contact system for highly dynamic opening response
- Coordinated electronic trip units
- Dynamic selectivity

Depending on use of molded case circuit breakers with a rated operational current differential in a ratio of at least 1 : 2.5 and selection of suitable breaking capacity classes, you can achieve selective tripping of the area of the installation directly affected by the fault up to the maximum ultimate short-circuit breaking capacity.

You can find information on selectivity values for the 3VA2 molded case circuit breakers on the Internet under the link for the 3VA documentation ([www.siemens.com/3VA-documentation](http://www.siemens.com/3VA-documentation)).

### Electronic trip units and fast trip units

As a protective device, the molded case circuit breaker is required to clear electrical faults in the system. For this purpose, series 3VA2 circuit breakers are equipped with intelligent electronic trip units which can be combined with metering functions. The tripping characteristic of the electronic trip units can be finely and flexibly adjusted. In the event of short circuits, a fast trip unit also responds according to the arc power from the arc chute. This selective trip unit ensures that major short circuits are cleared more quickly, while at the same time ensuring that medium short circuits are interrupted selectively.

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

##### Standards and guidelines

The standards fulfilled by the 3VA molded case circuit breakers include:

- IEC / EN 60947-1
- IEC / EN 60947-2
- IEC / EN 60947-2, Appendix B, H and M
- IEC / EN 60947-3
- IEC / EN 60947-6-1

##### Electromagnetic compatibility

The 3VA molded case circuit breakers meet the requirements of the following standards:

- CISPR11, Class A and Class B
- IEC / EN 60947-1, Appendix S
- IEC / EN 60947-2, Appendix B, F, J and N

The 3VA molded case circuit breakers are adequately resistant to the following factors:

- Electrostatic charge
- Electrostatic discharge
- Electromagnetic waves, e.g. from transmission systems, mobile phones, radio telephone sets and radar systems
- Overvoltage, e.g. caused by lightning
- Voltage surges

##### Certificates

You can find information on the available certification (CE, UL, CSA, FM, marine approvals) on the Internet ([www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)).

In the Entry List you can use the certificate type (general product approval, explosion protection, test certificates, shipbuilding, etc.) as a filter criterion.

##### Ambient conditions

- Pollution degree:  
Operation of the 3VA1 and 3VA2 molded case circuit breakers is approved in accordance with IEC / EN 60947-1 and IEC / EN 60664-1 for pollution degree 3.
- Ambient temperature:  
- 3VA molded case circuit breakers are used at ambient temperatures from -25 °C to +70 °C. At temperatures above +50 °C there are reductions in the rated operational current (derating).  
- The permissible storage temperature in original Siemens packaging lies between -25 °C and +80 °C.
- Special climatic requirements:  
The 3VA molded case circuit breakers can also be used in severe operating conditions.

*Severe conditions for storage, transport and stationary use:*  
The molded case circuit breakers have passed the relevant special tests according to IEC / EN 60947-1, Appendix Q for use in Class E.

This class covers the areas MC3 + CC2 + SC1:

- Ambient temperature
- Humidity
- Vibration environment
- Shock environment

These ambient conditions can be referred to as "Open deck, damp and cold atmosphere without salt spray" or "Difficult, non-marine conditions".

The following standards-related criteria are complied with:

- IEC / EN 60068-2-2 "Bd" and IEC / EN 60068-2-1 "Ab":  
Temperature range: -25 °C ... +70 °C
- IEC / EN 60068-2-30 "Db":  
Humid heat up to 55 °C and air humidity up to 95 %
- IEC / EN 60068-2-6 "Fc"  
Vibration test
- IEC / EN 60068-2-27 "Ea"  
Shock resistance test

Between the tests of compliance with the standards and at the end of the tests, the usability of the devices is assured with the "Verification of operation characteristics".

- Vibration resistance and shock resistance:  
- 3VA molded case circuit breakers are insensitive to vibrations and meet the requirements relating to mechanical and electromechanical vibration strength according to IEC / EN 60068 and the specifications of the shipbuilding societies.  
- The circuit breakers resist impacts without tripping of up to 10 g and are tested to withstand their operating conditions without damage, with shock impact according to IEC / EN 60068-2-27 "Ea" with 150 m/s<sup>2</sup>/11 ms.
- Installation altitudes:  
- When 3VA1 and 3VA2 molded case circuit breakers are used at up to 2000 m above sea level, the rated data will not change.  
- An installation altitude above 2000 m can lead to higher temperatures at the switching devices. The decreased air density can significantly reduce heat dissipation, in turn reducing rated operational voltage, rated uninterrupted current and short-circuit values.

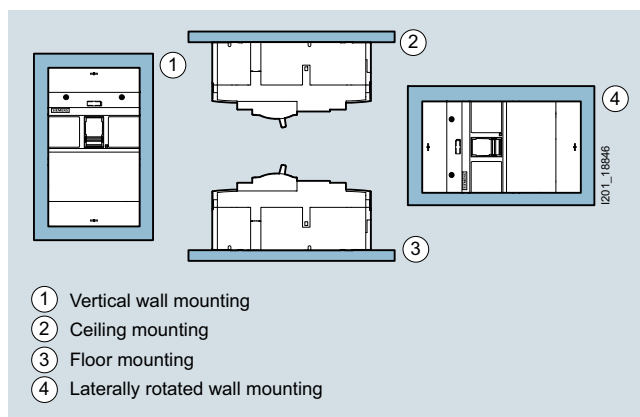
Refer to the table below for the calculation factor for determining the key values:

	Height			
	2000 m	3000 m	4000 m	5000 m
Breaking capacity $I_{cu} / I_{cs}$	1.00	0.90	0.80	0.70
Operating voltage $U_{max}$	1.00	0.90	0.80	0.70
Operating current $I_{max}^{1)}$	1.00	0.96	0.92	0.88
Current setting $I_r^{2)}$	1.00	1.02	1.04	1.06

1) At maximum ambient temperature 50 °C

2) Thermal-magnetic trip units only

##### Permissible mounting positions



Positions in which the 3VA molded case circuit breakers are allowed to be installed

### Further mounting positions, and mounting positions with accessories

The following table shows the possible variations on the mounting positions, as well as mounting positions with accessories:

	Wall mounting vertical upright	horizontal right	horizontal left	vertical rotated	Ceiling mounting suspended	Floor mounting recumbent
	 I201_19049	 I201_19051	 I201_19053	 I201_19055	 I201_19056	 I201_19057
	 I201_19050	 I201_19052	 I201_19054			

### 3VA1 molded case circuit breakers

Basic circuit breaker (with internal accessories)	✓	✓	✓	--	✓	✓
On DIN rail (with internal accessories)	✓	✓	✓	--		✓

### 3VA2 molded case circuit breakers

Basic circuit breaker (with internal accessories)	✓	✓	✓	✓	✓	✓
---	---	---	---	---	---	---

### 3VA1 molded case circuit breakers (3 and 4-pole) and 3VA2 with accessories

Connecting and interlocking	✓	✓	✓	✓ <sup>1)</sup>	✓	✓
Plug-in and draw-out technology	✓	✓	✓	--	--	--
MO320 motor operator	✓	✓	✓	--	up to 250 A	✓
MO320 motor operator and plug-in/draw-out technology	✓	✓	✓	--	--	✓
Front mounted rotary operator	✓	✓	✓	✓ <sup>1)</sup>	✓	✓
Door mounted rotary operator	✓	✓	✓	✓ <sup>1)</sup>	✓	✓
Side wall mounted rotary operator	✓	✓	✓	✓ <sup>1)</sup>	✓	✓
Loadside RCD basic type A (RCD310, RCD510)	✓	✓	✓	--	✓	✓
Loadside RCD basic type A (RCD320, RCD520)	On request					
Loadside RCD advanced type A (RCD820)	✓	✓	✓	✓ <sup>1)</sup>	✓	✓
Modular RCD type A (MRCD)	On request					
3-pole on 60 mm busbar system (with internal accessories)	✓	--	--	--	--	--

<sup>1)</sup> 3VA2 molded case circuit breakers only

## Introduction

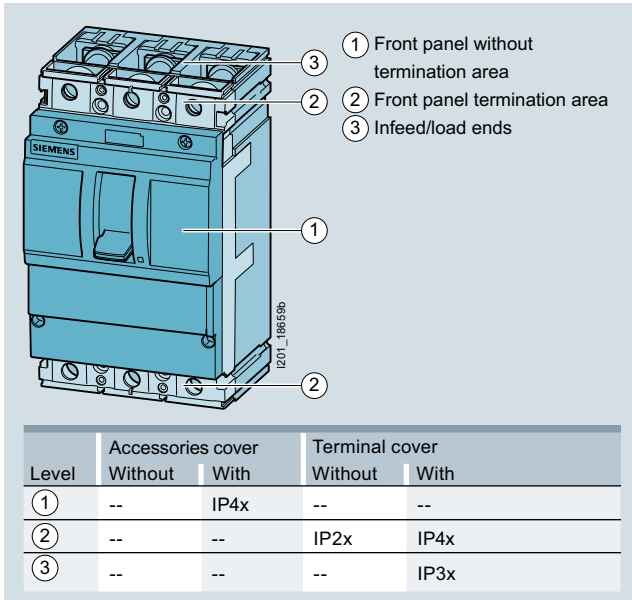
### 3VA Molded Case Circuit Breakers

1

#### General data

##### Degrees of protection

3VA molded case circuit breakers comply with the following degrees of protection as defined by IEC 60529 and IEC 60947-1, Appendix C:



Degree of protection IP40 is achieved when a 3VA molded case circuit breaker is installed in a switchboard with a door cutout of Level 3 with ETU. The units can be upgraded to comply with higher degrees of protection up to IP65 by installation of the following components:





























- Door mounted rotary operator
- Side wall mounted rotary operator

##### Environmental protection

The 3VA1 and 3VA2 molded case circuit breakers meet the specifications of the European Environment Guideline 2002/95/EC RoHS (Restriction of the use of certain hazardous substances in electrical and electronic equipment). As little impact on the environment as possible was emphasized in their development and production.

**Protection system**

## Description of functions

	Thermal-magnetic TM 2-series	Electronic ETU 3-series	Electronic with display ETU 5-series	Electronic with display and metering function ETU 8-series
<b>Protection</b>				
Trip units	 I/A 100A I/A I201_19004 TM210, TM220, TM240 line protection	 I/A t/s I <sub>Δ</sub> ×I <sub>Δ</sub> t <sub>Δ</sub> /s I <sub>Δ</sub> ×I <sub>Δ</sub> I201_18828 ETU320, ETU330, ETU350 line protection	 I/A t/s I <sub>Δ</sub> ×I <sub>Δ</sub> t <sub>Δ</sub> /s I <sub>Δ</sub> ×I <sub>Δ</sub> I201_18480 ETU550, ETU560 line protection	 I/A t/s I <sub>Δ</sub> ×I <sub>Δ</sub> t <sub>Δ</sub> /s I <sub>Δ</sub> ×I <sub>Δ</sub> I201_18482 ETU850, ETU860 line protection
<b>Integrated functions</b>				
Parameterizing	 Setting and reading the parameters in A	 Setting and reading the parameters in A and s	 • Setting and reading the parameters via display and communication • Fine setting of the parameters • Reading the measured values	 • Setting and reading the parameters via display and communication • Fine setting of the parameters • Reading the measured values
Status display	--	 ACT AL1 AL2 Indicating the ETU status via LEDs	 ACT COM AL1 AL2 Indicating the ETU status via LEDs	 ACT COM AL1 AL2 Indicating the ETU status via LEDs
Interface	--	 Interface for test devices	 Interface for test devices	 Interface for test devices
Metering function	--	--	--	Metering function integrated
<b>Optional expansions</b>				
--	--	--	 24 V module for continuous power supply (also without primary current through the molded case circuit breaker)	 24 V module for continuous power supply (also without primary current through the molded case circuit breaker)
--	 EFB300 external function box for connecting to the ETU	 EFB300 external function box for connecting to the ETU	 EFB300 external function box for connecting to the ETU	
--	--	 COM060 communication module	 COM060 communication module	
--	--	 COM800/COM100 breaker data server Interface to • PROFIBUS • PROFINET • Ethernet (Modbus TCP)	 COM800/COM100 breaker data server Interface to • PROFIBUS • PROFINET • Ethernet (Modbus TCP)	
--	--	 DSP800 external display for installing in the cubicle door	 DSP800 external display for installing in the cubicle door	
--	 TD300/TD500 test device	 TD300/TD500 test device	 TD300/TD500 test device	

## Introduction

### 3VA Molded Case Circuit Breakers

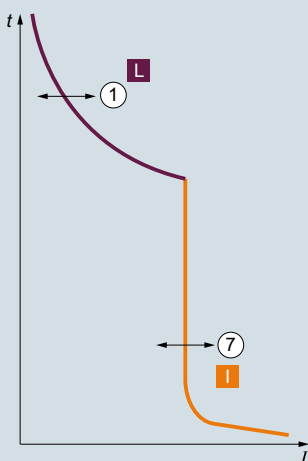
#### General data

##### Characteristic curves

To design a low-voltage switchboard installation in accordance with the valid rules, the system planner needs to dimension the protection settings of the molded case circuit breakers.

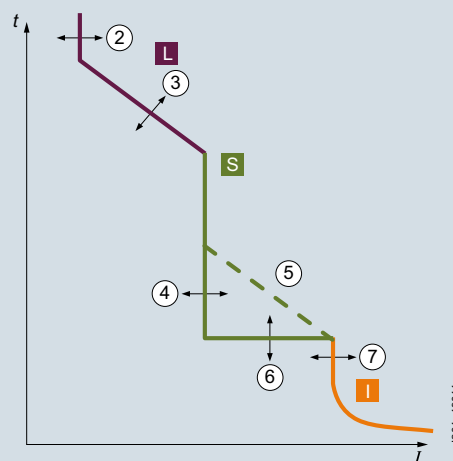
The settings selected for the trip unit of a molded case circuit breaker depend on the type of equipment to be protected, e.g. switchboard and applications. Tripping characteristics up to a tripping time of  $\geq 1$  ms are represented graphically. In order to simplify the coordination of different protection devices, the current is specified as a multiple of the current setting value and the time is specified in seconds.

Low-voltage circuit breaker with TM trip unit



- ① Response threshold of the long-time delayed protection, thermal
- ② Response threshold of the long-time delayed protection
- ③ Delay of the long-time delayed protection
- ④ Response threshold of the short-time delayed protection
- ⑤  $I^2t$ -Characteristic ON/OFF of the short-time delayed protection

Low-voltage circuit breaker with ETU



- ⑥ Delay of the short-time delayed protection
- ⑦ Response threshold of the instantaneous protection
- L Overload range
- S Short-time delayed short-circuit protection
- I Instantaneous short-circuit protection

Tripping characteristics

##### Guide to setting the tripping characteristic

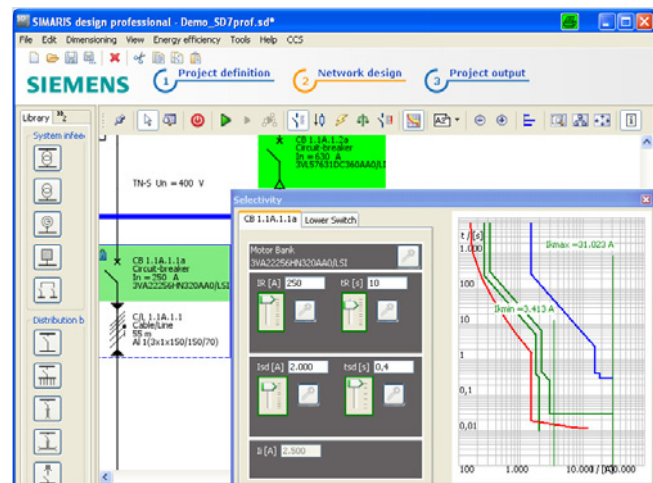
The settings selected for the trip unit of a molded case circuit breaker depend on the technical environment (e.g. switchboard and applications) and the type of equipment to be protected. The task of calculating and dimensioning the protection settings in accordance with the valid rules is the responsibility of the system planner.

SIMARIS design:

The Siemens SIMARIS software tool is a fast, simple and reliable tool for calculating and dimensioning networks in accordance with the valid rules.

For further information about SIMARIS design, please visit:

[www.siemens.com/simarisdg](http://www.siemens.com/simarisdg)





Basic rules for setting the different trip parameters:

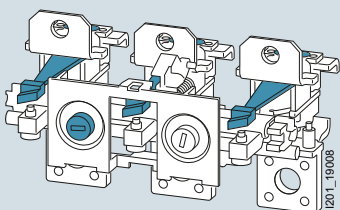
	Parameter	Buttons	Effect on characteristic curve	Brief description	Cause	Example
L	$I_r$			Operating current of the overload protection: ETU $I_r = 0.4 \dots 1 \times I_N$ TMTU $I_r = 0.7 \dots 1 \times I_N$ Absolute values in A	Optimization of the overload range by setting to the operational current of the circuit to be protected	Overload range from 300 A
	$t_r$			Delay time (or time-lag class) in the overload range. The set time is the tripping time at $6 \times I_r$	Improved selectivity in the overload range in switchboard with several grade levels	The tripping time of $t_r = 10$ s applies to $6 \times I_r$ in this case $6 \times 300 \text{ A} = 1800 \text{ A}$
S	$I_{sd}$			Operating current of the short-time delayed short-circuit protection	Limitation of the short-circuit range in which the current has to be switched off more quickly but possibly with a slight time delay	At $I_r = 300 \text{ A}$ and $I_{sd} = 5$ : Tripping at 1500 A following delay $t_{sd}$
	$t_{sd}$			Delay time of the short-time delayed short-circuit protection	Improved selectivity in the overload range in switchboard with several grade levels	$t_{sd} = 0.15 \text{ s}$ : Tripping after 0.15 seconds for current values between $I_r$ and $I_{sd}$
I	$I_i$			Operating current of the instantaneous short-circuit protection	Limitation of the short-circuit range in which the impermissibly high current has to be switched off as quickly as possible	At $I_i = 2000 \text{ A}$ instantaneous tripping for currents of $> 2000 \text{ A}$
N	$I_N$			Operating current of the neutral conductor protection function	Protection of the neutral conductor for overcurrent and short-circuit	At $I_N = \text{ON}$ , $I_N = 0.5 \times I_r$ and $I_r = 300 \text{ A}$ , overload from 150 A in the neutral conductor, instantaneous tripping at 2000 A
G	$I_g + t_g$			Operating current of the ground-fault protection function and delay time to tripping	Line protection	At ground-fault currents from $I_g = 50 \text{ A}$ : tripping after time $t_g = 0.1$

### Thermal-magnetic trip unit

A thermal-magnetic trip unit consists of a thermal trip unit for protecting against overload, and a magnetic trip unit for protecting against short circuits. Both trip unit components are series-connected.

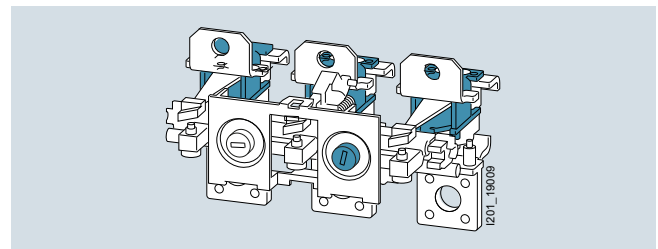
#### Thermal trip unit (L)

The thermal trip unit consists of a temperature-dependent bi-metal that heats up as a result of the flow of current. This means the trip is current-dependent. The temperature rise in the bimetal strip depends not only on the current magnitude, but also on the ambient temperature of the molded case circuit breaker. All current values specified for thermal-magnetic trip units of 3VA circuit breakers refer to an ambient temperature of  $+50 \text{ }^\circ\text{C}$ .



#### Magnetic trip unit with short-circuit protection (I)

The magnetic trip unit with short-circuit protection comprises a yoke mounting through which a current path runs, and a flap armature that is kept at a distance from the yoke mounting by a tension spring.



If a short-circuit current flows along the current path, the magnetic field thus generated causes the flap armature to be moved towards the yoke mounting against the opposite force of the tension spring. The tripping time is almost current-independent and instantaneous. The flap armature releases the breaker mechanism and thus opens the switching contacts. Immediately after trip, the flap armature is moved back to its starting position by the restoring force of the tension spring.

## Introduction

### 3VA Molded Case Circuit Breakers

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#### General data

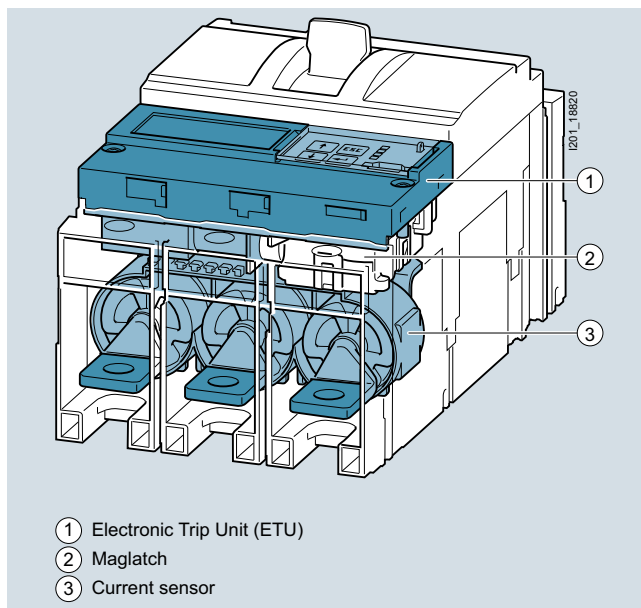
##### Application cases and trip unit types

The table below illustrates the applications for which different types of thermal-magnetic trip units can be used:

	TM210 FTFM	TM220 ATFM	TM240 ATAM
<b>Protection</b>			
Line protection	✓	✓	✓
<b>Version available with</b>			
1-pole and 2-pole breakers	✓	--	--
3-pole breaker	✓	✓	✓
4-pole breaker	✓	✓	✓
<b>Available protection parameters</b>			
$I_r$ adjustable	--	✓	✓
$I_i$ adjustable	--	--	✓
$I_r$ fixed	✓	--	--
$I_i$ fixed	✓	✓	--
$I_N^{1)}$	✓	✓	✓

1) 3VA10 only without N protection  
 3VA11 without, 50 % or 100 % N protection  
 50 % N protection  $\geq I_n$  100 A and only in size 160 A

#### Electronic Trip Unit

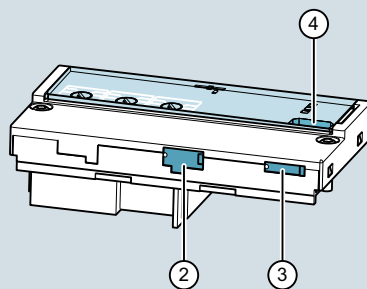


- ① Electronic Trip Unit (ETU)
- ② Maglatch
- ③ Current sensor

Connections on the ETU

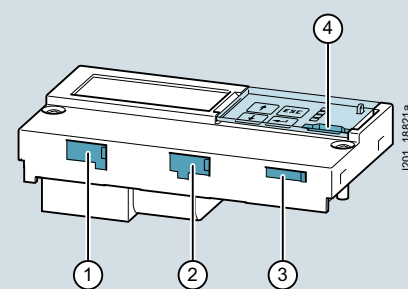
#### Connections

ETU 3-series:



- ① Interface for external neutral current transformer for N conductor
- ② Interface for connection of an EFB300 external function box

ETU 5-series and 8-series:



- ③ Interface for connection of an RCD820 residual current device
- ④ Connection for TD300 and TD500 test devices

## Protection functions

	ETU320 LI	ETU330 LIG	ETU350 LSI	ETU550 LSI	ETU560 LSIG	ETU850 LSI	ETU860 LSIG
<b>Protection</b>							
Line protection	✓	✓	✓	✓	✓	✓	✓
Generator protection	✓	✓	✓	✓	✓	✓	✓
<b>Version available with</b>							
3-pole without external neutral conductor transformer	✓	✓	✓	--	--	--	--
3-pole with external neutral conductor transformer	--	--	--	✓	✓	✓	✓
4-pole with protected neutral conductor	✓	✓	✓	✓	✓	✓	✓
<b>Available protection parameters</b>							
Waveform	$I^2t$	$I^2t$	$I^2t$	$I^2t$	$I^2t$	$I^2t$	$I^2t$
$I_r$	✓	✓	✓	✓	✓	✓	✓
$t_r$ at $6 \times I_r$	✓	✓	✓	✓	✓	✓	✓
Thermal image	✓	✓	✓	✓	✓	✓	✓
Thermal image can be switched on/off	--	--	--	✓	✓	✓	✓
$I_{sd}$	--	--	✓	✓	✓	✓	✓
$t_{sd}$ at $8 \times I_r$	--	--	✓	✓	✓	✓	✓
Characteristic in S range: $I^2t_{sd}$	--	--	✓	✓	✓	✓	✓
Characteristic in S range: selectable $I^2t_{sd} / t_{sd}$	--	--	--	✓	✓	✓	✓
$I_i$	✓	✓	✓	✓	✓	✓	✓
$I_N^{1)}$	✓	✓	✓	✓	✓	✓	✓
$I_g$	--	✓	--	--	✓	--	✓
$t_g$ at $2 \times I_g$	--	✓	--	--	✓	--	✓
Characteristic in G range: $I^2t_g$	--	--	--	--	✓	--	✓
Characteristic in G range: selectable $I^2t_g / t_g$	--	--	--	--	✓	--	✓
Ground-fault alarm function	--	--	--	--	✓	--	✓
ZSI	✓	✓	✓	✓	✓	✓	✓
<b>Features and options</b>							
Setting by rotary switch	✓	✓	✓	--	--	--	--
Setting by ETU display	--	--	--	✓	✓	✓	✓
Data shown on ETU display	--	--	--	✓	✓	✓	✓
Metering function	--	--	--	--	--	✓	✓
Communication option	--	--	--	✓	✓	✓	✓
Front interface	✓	✓	✓	✓	✓	✓	✓

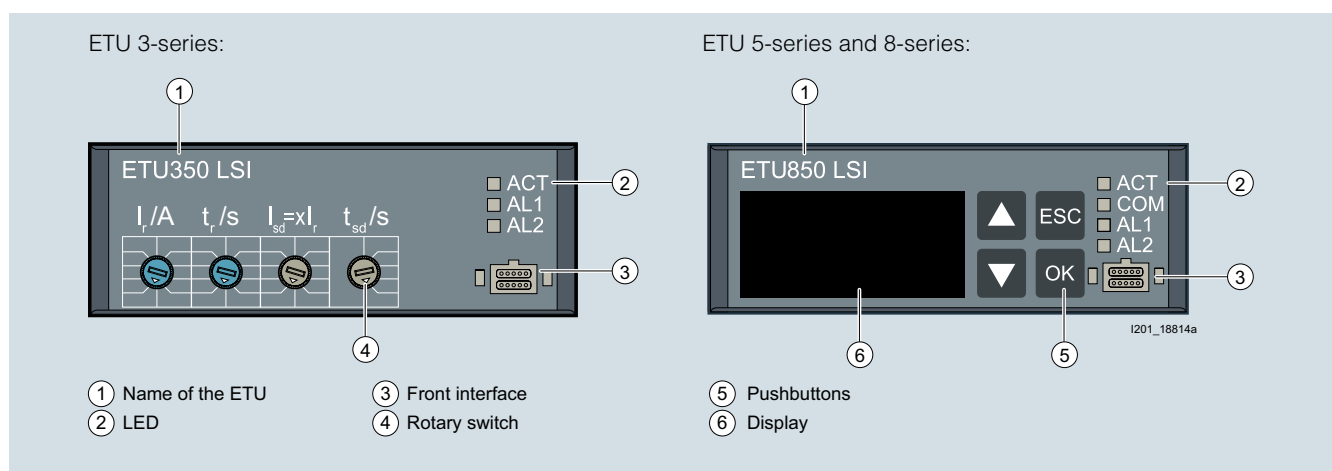
<sup>1)</sup> Available in a version with external current transformer for N conductor or 4-pole breaker

✓ Available

-- Not available

## Operator controls

The following figure shows the available ETU types of the 3VA2 molded case circuit breakers. You can decide which ETU to install according to the area of application.





## Introduction

### 3VA Molded Case Circuit Breakers

#### General data







- LED displays  
The following table explains what the LED displays mean:

LED	Meaning	Description
 ACT	Off	Current flow in the main current path is less than 20 % $I_n$ .
 ACT	Flashing	ETU 8-series: Missing 24 V DC external power supply for metering function.
 ACT	On	ETU ready, current flow greater than 20 % $I_n$ .
 COM	Off	No communication with a COM800/COM100 via COM060.
 COM	Flashing	Flashing after switching on indicates that an internal COM060 communication module has been detected. After connection to this module is established, the LED will either go out (no external communication) or come on (see meaning).
 COM	On	Active communication to the COM800/COM100 breaker data server.
 ACT	On	Current flow between 90 % and 105 % $I_r$ .
 AL1	On	
 AL2	Off	
 ACT	On	Current flow greater than 105 % $I_r$ .
 AL1	On	
 AL2	On	
 ACT	On	Overheating alarm
 AL1	Flashing	
 AL2	Flashing	
 ACT	Flashing	Internal fault on ETU
 COM	Flashing	
 AL1	Flashing	
 AL2	Flashing	





- Electronic Trip Units of ETU 3-series:  
The trip units of the ETU 3-series have rotary switches.
- Display of the Electronic Trip Units of ETU 5-series and 8-series:  
The trip units of the ETU 5-series and 8-series have an LCD display. The displayed values are refreshed once per second.



The following table explains what the symbols in the display mean:

Symbol	Meaning
	If this symbol is activated, the indicated value is a measured value.
	This symbol is shown when the first alarm threshold for this measured value was exceeded.
	This symbol is shown when the second alarm threshold for this measured value was exceeded.
	Display in parameter edit mode. The value can be adjusted with the arrow buttons.
	If TRIP is shown, the display indicates the information from the previous tripping.
	Naming of the displayed value.

The following table explains what functions are performed by the buttons next to the display:

Symbol	Meaning
	Goes back to the previous screen page. Increases a parameter in parameter edit mode.
	Goes forward to the next screen page. Decreases a parameter in parameter edit mode.
	Goes to parameter edit mode when a parameter is displayed. Confirms a parameter in parameter edit mode.
	Goes to the standard display. Discards a parameter in parameter edit mode.

## Introduction


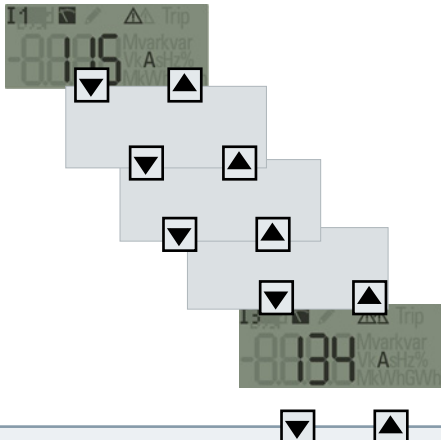
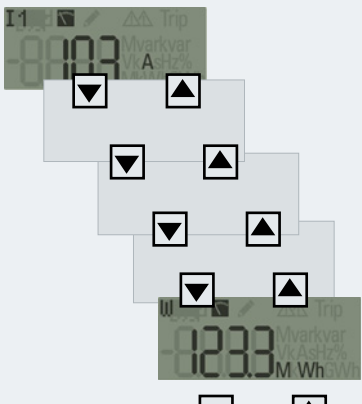
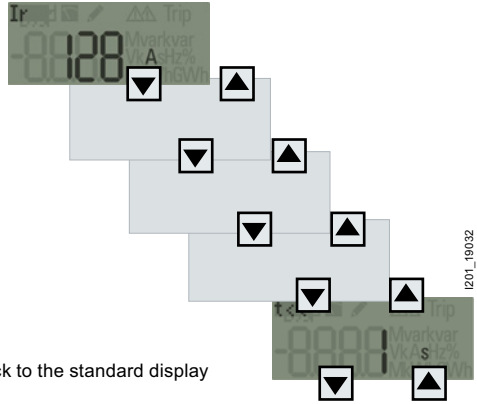
### 3VA Molded Case Circuit Breakers

1

#### General data

- Displays on ETU 5-series and 8-series  
The basic structure comprises the following displays:
  - Standard display
  - Alarm display
  - Measured value display
  - Parameter display

If no selection is made within an adjustable time period, the standard display will appear.

<p><b>Standard display</b></p> <p>Shows the highest current in one of the three phases. After timeout or ESC</p>	<p>Default</p> 
<p><b>Alarm display</b></p> <p>Up to five alarm displays are available. They are only displayed if an alarm is active, otherwise, they are skipped.</p>	
<p><b>Measured value display</b></p> <p>Depending on the ETU type, the measured values available are displayed.</p>	
<p><b>Parameter display</b></p> <p>Displays the available parameters in succession. Click (OK) in display mode, to change to edit mode</p>	 <p>back to the standard display</p>

i201\_19032

## Standard display



## Alarm display



Active alarms are displayed consecutively in screens AV1 ... AV5. If no alarms are active, these screens are concealed.

## Measured value display

The table below explains the measured value display:

Number	Screen	Measured value	Description	ETU550	ETU560	ETU850	ETU860
MV 1		$I_1$	Instantaneous current $I_1$	✓	✓	✓	✓
MV 2		$I_2$	Instantaneous current $I_2$	✓	✓	✓	✓
MV 3		$I_3$	Instantaneous current $I_3$	✓	✓	✓	✓
MV 4		$I_N$	Instantaneous current in neutral conductor	✓	✓	✓	✓
MV 5		$I_g$	Instantaneous residual current to ground	--	✓	--	✓
MV 6		$U_{12}$	Instantaneous voltage $U_1 - U_2$	--	--	✓	✓
MV 7		$U_{23}$	Instantaneous voltage $U_2 - U_3$	--	--	✓	✓
MV 8		$U_{31}$	Instantaneous voltage $U_3 - U_1$	--	--	✓	✓
MV 9		f	Instantaneous frequency	--	--	✓	✓
MV 10		P	Instantaneous active power (total)	--	--	✓	✓
MV 11		Q	Instantaneous reactive power (total)	--	--	✓	✓
MV 12		PF	Instantaneous power factor	--	--	✓	✓
MV 13		W	Active energy	--	--	✓	✓




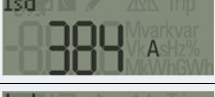

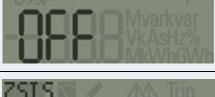


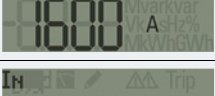
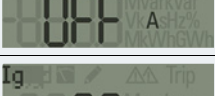
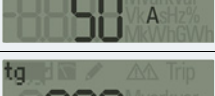
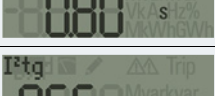
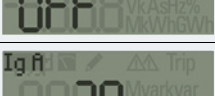

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

#### Parameter display

The table below explains the parameter display:

Number	Screen	Parameter	Description	ETU550	ETU560	ETU850	ETU860
PV 1		$I_r$	Overload protection Current	✓	✓	✓	✓
PV 2		$t_r$	Overload protection Delay time	✓	✓	✓	✓
PV 4		ThM	Thermal image	✓	✓	✓	✓
PV 5		$I_{sd}$	Short-time delayed short-circuit protection	✓	✓	✓	✓
PV 6		$t_{sd}$	Short-time delayed short-circuit current delay time	✓	✓	✓	✓
PV 7		$I^2_{tsd}$	Characteristic curve in S range	✓	✓	✓	✓
PV 8a		ZSI S	Zone selective interlocking	✓	✓	✓	✓
PV 8b		ZSI G	Zone selective interlocking in the event of a ground fault	--	✓	--	✓
PV 9		$I_i$	Instantaneous short-circuit protection Current	✓	✓	✓	✓
PV 10		$I_N$	Overload protection in the neutral conductor	✓ <sup>1)</sup>	✓ <sup>1)</sup>	✓ <sup>1)</sup>	✓ <sup>1)</sup>
PV 11		$I_g$	Ground-fault protection Current	--	✓	--	✓
PV 12		$t_g$	Ground-fault protection Delay time	--	✓	--	✓
PV 13		$I^2_{tg}$	Characteristic curve for ground-fault protection	--	✓	--	✓
PV 14		$I_{gA}$	Ground fault alarm current	--	✓	--	✓

<sup>1)</sup> Applies to 4-pole molded case circuit breakers and 3-pole molded case circuit breakers with connected external neutral conductor current transformer



• Setting and changing parameters

1. Use the arrow keys to navigate to the correct display.
2. Press the <OK> button.

Edit mode is active. Activation is confirmed by display of "pencil" symbol.



3. Use the arrow keys to adjust the parameter setting.
4. Confirm the setting with the <OK> button, or cancel the operation with <ESC>.

The setting is accepted with <OK>. The parameter display now appears.

• "Tripped" display

After the ETU has initiated a trip, the "Tripped" display automatically appears:



This screen can be identified by the word "Trip" which is displayed in the top, right-hand corner. The displayed current value shows the current at the moment of tripping.

Press <ESC> to exit the display.

The additional information contained in the "Tripped" display is explained in the table below:

Number	Display in the title	Meaning	Unit
TV1	LT	Tripped by overload protection	A
TV2	ST	Tripped by short-time delayed short-circuit protection	A
TV3	Inst	Tripped by instantaneous short-circuit protection	A, kA
TV4	N	Tripped by overload in the neutral conductor	A
TV5	GF	Tripped by ground-fault protection	A
TV6	Temp	Tripped by overheating	%
TV12	RCD trip	Tripped by RCD820 residual current device	%

• Diagnostics display

When a TD500 test device is connected, you can use it to initiate a test. The following screen appears when a TD500 is connected. The bar flashes at a frequency of 0.5 Hz.



The bar travels from left to right while testing is in progress. The test ends with a tripping operation.

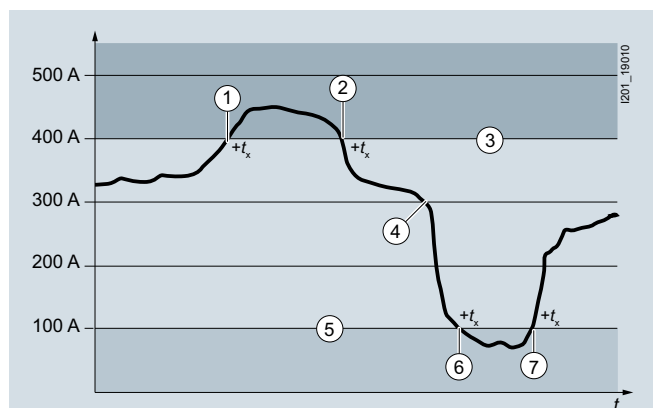
• Activation limits

The table below shows the activation limits for the ETUs:

Current in one of the three phases	Meaning for the ETU
0 ... 20 % $I_n$	The ETU is not active.
20 ... 25 % $I_n$	The ETU is active, and the display and backlighting are off.

Load acceptance and load shedding – load management

3VA molded case circuit breakers equipped with an ETU 3-series or higher series provide two current thresholds for the purpose of implementing a local load management function. Load shedding is the upper threshold, and load acceptance the lower threshold.



- ① Incoming alarm "load shedding"
- ② Outgoing alarm "load shedding"
- ③ Parameter load shedding 400 A
- ④ Current in one phase
- ⑤ Parameter load acceptance 100 A
- ⑥ Incoming alarm "load acceptance"
- ⑦ Outgoing alarm "load acceptance"

Note:

**No tripping operation**

Tripping is never initiated as a result of the current value crossing the upper or lower thresholds.

If the current in one phase exceeds the parameter setting for "load shedding", an incoming alarm "load shedding" is generated. Only when the current in all three phases drops below this threshold is an outgoing alarm "load shedding" generated.

The incoming and outgoing alarms can be output via an optional external expansion module and transferred via the communication function.

The opposite applies for the load acceptance threshold. If the current in all three phases drops below the parameter setting, an incoming alarm "load acceptance" is generated. If only one of the three currents exceeds the parameter setting, an outgoing alarm "load acceptance" is generated.

To prevent these alarms being generated by brief current peaks and troughs, they can be delayed by the time  $t_x$  from 1 s to 15 s.

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

##### Measuring with a Rogowski coil

The Rogowski coil is a toroidal coil without a ferromagnetic core. It is used as a component in electronic measuring devices to measure alternating current.

Advantages of the current sensor:

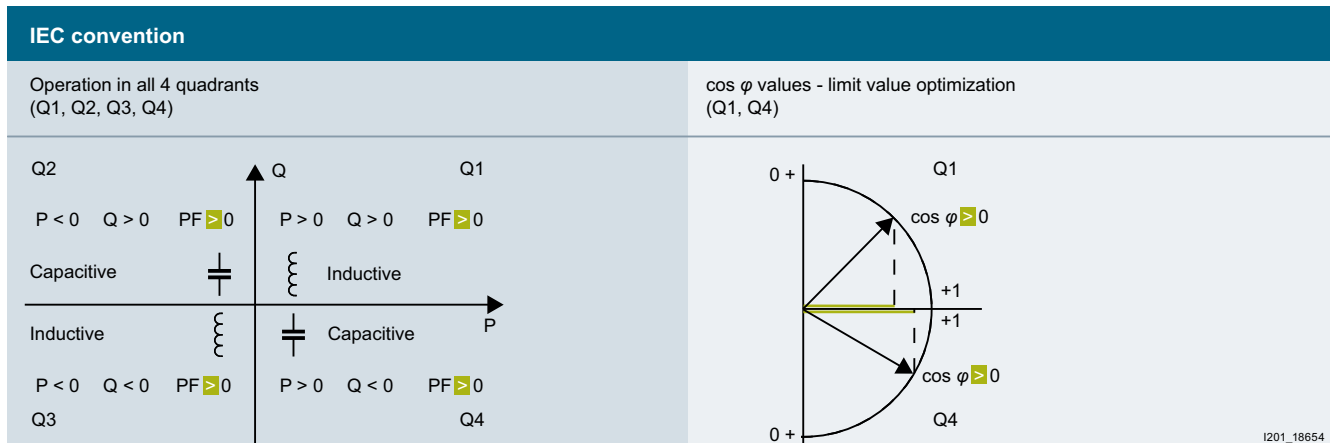
- Each transformer can be optimized for its task and operating points
  - Transformers for power generation
  - Transformers for measurement
- Higher accuracy of current measurement and therefore higher accuracy for ground-fault currents

A power measurement is made possible by the more exact and more linear measurement of the current together with the integrated voltage tap in the molded case circuit breaker.

Accuracy levels of the specified measured values of the 8-series ETU, including the integrated current sensors:

Measured value	Accuracy
Current	1 % in the range from 0.2 ... 1.2 $I_n$
Voltage	1 % in the range from 80 ... 800 V
Active power, active energy	Class 2 in accordance with IEC 61557-12

Interpretation of measured values:



PF Power factor

Measured current and voltage values are always positive.

The "normal" direction of energy flow of the 3VA molded case circuit breaker is top down (can also be adjusted using the power-config software), corresponding to operation in quadrants Q1 and Q4. If the molded case circuit breaker is supplied from below, it is operated in quadrants Q2 and Q3.

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### Application

3VA molded case circuit breakers can be deployed in various fields where they perform a variety of different protection tasks.

The following table shows the areas in which the 3VA molded case circuit breakers are used – sorted according to breaking capacity:

	Buildings				Industry	
<b>Molded case circuit breakers</b>	3VA1	3VA1, 3VA2	3VA1, 3VA2	3VA1, 3VA2	3VA1, 3VA2	3VA1, 3VA2
<b>Breaking capacity</b>	Up to 25 kA	Up to 55 kA	Up to 85 kA	Up to 150 kA	Up to 110 kA	Up to 150 kA
<b>Segments</b>	Residential buildings	Commercial buildings	Infrastructure	Industrial buildings	Functional shell	Factory automation/ process automation
<b>Examples</b>						
	<ul style="list-style-type: none"> <li>• Single high-rise building in the form of a residential building</li> <li>• Building complexes</li> <li>• Residential buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Office blocks</li> <li>• Banks</li> <li>• Hotels</li> <li>• Bowling alleys</li> <li>• Cinemas</li> <li>• Shopping malls</li> <li>• Hospitals</li> <li>• Universities and schools</li> </ul>	<ul style="list-style-type: none"> <li>• Airports</li> <li>• Railway stations</li> <li>• Sports stadiums</li> <li>• Arenas</li> <li>• Port facilities</li> <li>• Trade fairs and exhibitions</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial parks</li> <li>• Warehouses</li> <li>• Logistics centers</li> </ul>	<ul style="list-style-type: none"> <li>• Paper industry</li> <li>• Computer centers</li> <li>• Oil and gas industry</li> <li>• Food and beverages industry</li> </ul>	<ul style="list-style-type: none"> <li>• Presses</li> <li>• Electroplating</li> <li>• Rolling mills</li> <li>• Mills</li> <li>• Agitators and blending plants</li> <li>• Production lines</li> </ul>

3VA molded case circuit breakers are used in a variety of functions, as shown in the table below:

	3VA1	3VA2
Line protection	✓	✓
Switch disconnectors in keeping with the design of a molded case circuit breaker acc. to IEC 60947-3	✓	--
Standard applications to 70 kA and thermal-magnetic trip units	✓	--
Generator protection	--	✓
High breaking capacity	--	✓
Selectivity	--	✓
Communication	--	✓

Molded case circuit breakers are primarily designed for the following functions:

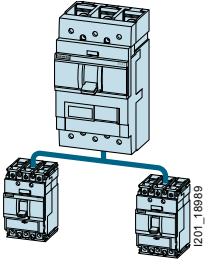
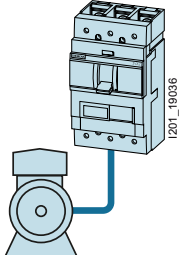
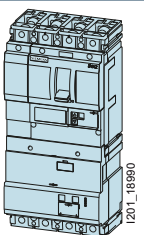
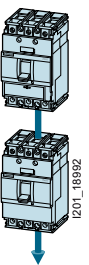
- Subdistribution systems
- Industrial distribution systems
- Final distribution systems
- On-site isolation
- Use in machines

## Introduction

### 3VA Molded Case Circuit Breakers

#### General data

#### Detailed information about applications and possible uses

Application	3VA1	3VA2	Description
<b>Line protection</b> 	✓	✓	The trip units for line protection are designed to provide overload and short-circuit protection for: <ul style="list-style-type: none"> <li>• Cables</li> <li>• Lines</li> <li>• Non motorized loads</li> </ul>
<b>Generator protection</b> 	--	✓	The setting values of the trip units are matched to protecting generators.
<b>Residual current protection</b> 	✓	✓	Residual current protective devices afford fault protection (formerly referred to as: protection in case of indirect contact) and supplementary protection (formerly referred to as: protection in case of direct contact) in low-voltage systems in the event of the basic insulation failing or live parts being touched. Their task is to prevent or reduce injury to personnel or livestock, or damage to property.
<b>Switch disconnectors</b> 	✓	--	Switch disconnectors are deployed: <ul style="list-style-type: none"> <li>• As main control switches</li> <li>• For on/off switching</li> <li>• For disconnection of loads</li> <li>• As switch disconnectors without overload and short-circuit protection</li> </ul> The switch disconnectors correspond to IEC / EN 60947-3.

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA



2/2	Line protection
2/24	Switch disconnectors
2/25	Dimensional drawings

### NEW

Direct reference to the products in the Industry Mall from the selection and ordering data tables:

Article No.  
[www.siemens.com/  
 product? Article No.](http://www.siemens.com/product?Article No.)

3KD2832-0NE10-0

Paper catalog:  
 To get more  
 product information  
 enter the Web  
 address plus  
 Article No.



PDF catalog:  
 Get more product information  
 with just a mouse click.

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

### Selection and ordering data

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

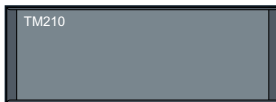
**$I_{cu}$  up to 25 kA at 240 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

N

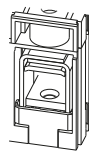
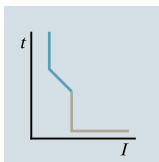
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 1-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



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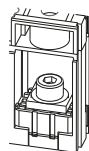


#### Line protection, 1-pole, TM210 FTFM

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

#### Connection with box terminal

3VA11	Rated current $I_n$ (A)	Overload setting $I_r$ (A)	Short-circuit setting $I_i$ (A)	Article No.
3VA11	16	16	320	3VA1196-3ED16-0AA0
	20	20	320	3VA1120-3ED16-0AA0
	25	25	320	3VA1125-3ED16-0AA0
	32	32	320	3VA1132-3ED16-0AA0
	40	40	400	3VA1140-3ED16-0AA0
	50	50	500	3VA1150-3ED16-0AA0
	63	63	630	3VA1163-3ED16-0AA0
	80	80	800	3VA1180-3ED16-0AA0
	100	100	1000	3VA1110-3ED16-0AA0
	125	125	1250	3VA1112-3ED16-0AA0
	160	160	1600	3VA1116-3ED16-0AA0



#### Connection with lug terminal

3VA11	Rated current $I_n$ (A)	Overload setting $I_r$ (A)	Short-circuit setting $I_i$ (A)	Article No.
3VA11	16	16	320	3VA1196-3ED12-0AA0
	20	20	320	3VA1120-3ED12-0AA0
	25	25	320	3VA1125-3ED12-0AA0
	32	32	320	3VA1132-3ED12-0AA0
	40	40	400	3VA1140-3ED12-0AA0
	50	50	500	3VA1150-3ED12-0AA0
	63	63	630	3VA1163-3ED12-0AA0
	80	80	800	3VA1180-3ED12-0AA0
	100	100	1000	3VA1110-3ED12-0AA0
	125	125	1250	3VA1112-3ED12-0AA0
	160	160	1600	3VA1116-3ED12-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	<b><math>I_{cu}</math> to 36 kA at 240 V, standard breaking capacity S</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">S</span> See "Overview", p. 1/6 and 1/7
$I_n$		Article No. <span style="float: right;">Basic price per PU</span> <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/product?Article.No.</a>
A		

**Line protection, 1-pole, TM210 FTFM**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_s$ 

Connection with box terminal	
16	3VA1196-4ED16-0AA0
20	3VA1120-4ED16-0AA0
25	3VA1125-4ED16-0AA0
32	3VA1132-4ED16-0AA0
40	3VA1140-4ED16-0AA0
50	3VA1150-4ED16-0AA0
63	3VA1163-4ED16-0AA0
80	3VA1180-4ED16-0AA0
100	3VA1110-4ED16-0AA0
125	3VA1112-4ED16-0AA0
160	3VA1116-4ED16-0AA0
Connection with lug terminal	
16	3VA1196-4ED12-0AA0
20	3VA1120-4ED12-0AA0
25	3VA1125-4ED12-0AA0
32	3VA1132-4ED12-0AA0
40	3VA1140-4ED12-0AA0
50	3VA1150-4ED12-0AA0
63	3VA1163-4ED12-0AA0
80	3VA1180-4ED12-0AA0
100	3VA1110-4ED12-0AA0
125	3VA1112-4ED12-0AA0
160	3VA1116-4ED12-0AA0

2

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

$I_n$

A

Current setting of the inverse-time delayed overload protection "L"  
 $I_r$

A

Operating current of the instantaneous short-circuit protection "I"  
 $I_i$

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

(N)

Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

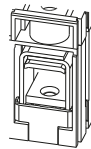
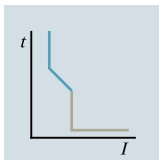
### 2-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



1201\_19027

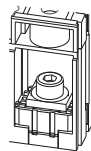
#### Line protection, 2-pole, TM210 FTFM

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$



#### Connection with box terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
3VA11	16	16	320	3VA1196-3ED26-0AA0
	20	20	320	3VA1120-3ED26-0AA0
	25	25	320	3VA1125-3ED26-0AA0
	32	32	320	3VA1132-3ED26-0AA0
	40	40	400	3VA1140-3ED26-0AA0
	50	50	500	3VA1150-3ED26-0AA0
	63	63	630	3VA1163-3ED26-0AA0
	80	80	800	3VA1180-3ED26-0AA0
	100	100	1000	3VA1110-3ED26-0AA0
	125	125	1250	3VA1112-3ED26-0AA0
	160	160	1600	3VA1116-3ED26-0AA0



#### Connection with lug terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
3VA11	16	16	320	3VA1196-3ED22-0AA0
	20	20	320	3VA1120-3ED22-0AA0
	25	25	320	3VA1125-3ED22-0AA0
	32	32	320	3VA1132-3ED22-0AA0
	40	40	400	3VA1140-3ED22-0AA0
	50	50	500	3VA1150-3ED22-0AA0
	63	63	630	3VA1163-3ED22-0AA0
	80	80	800	3VA1180-3ED22-0AA0
	100	100	1000	3VA1110-3ED22-0AA0
	125	125	1250	3VA1112-3ED22-0AA0
	160	160	1600	3VA1116-3ED22-0AA0



## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	<b><math>I_{cu}</math> to 36 kA at 415 V, standard breaking capacity S</b> See "Overview", p. 1/6 and 1/7	(S)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU
A			

### Line protection, 2-pole, TM210 FTFM

With fixed overload protection  $I_f$  and fixed short-circuit protection  $I_f$ 

#### Connection with box terminal

16	3VA1196-4ED26-0AA0
20	3VA1120-4ED26-0AA0
25	3VA1125-4ED26-0AA0
32	3VA1132-4ED26-0AA0
40	3VA1140-4ED26-0AA0
50	3VA1150-4ED26-0AA0
63	3VA1163-4ED26-0AA0
80	3VA1180-4ED26-0AA0
100	3VA1110-4ED26-0AA0
125	3VA1112-4ED26-0AA0
160	3VA1116-4ED26-0AA0

#### Connection with lug terminal

16	3VA1196-4ED22-0AA0
20	3VA1120-4ED22-0AA0
25	3VA1125-4ED22-0AA0
32	3VA1132-4ED22-0AA0
40	3VA1140-4ED22-0AA0
50	3VA1150-4ED22-0AA0
63	3VA1163-4ED22-0AA0
80	3VA1180-4ED22-0AA0
100	3VA1110-4ED22-0AA0
125	3VA1112-4ED22-0AA0
160	3VA1116-4ED22-0AA0

2

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

$I_n$

A

Current setting of the inverse-time delayed overload protection "L"

$I_r$

A

Operating current of the instantaneous short-circuit protection "I"

$I_i$

A

DT

**$I_{cu}$  up to 16 kA at 415 V, very low breaking capacity B**  
See "Overview", p. 1/6 and 1/7

(B)

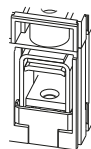
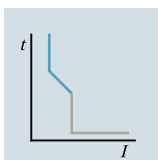
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 3-pole, fixed-mounted, 3VA10, up to 100 A Thermal-magnetic trip unit



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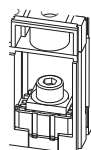


#### Line protection, TM210 FTFM

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$

##### Connection with box terminal

3VA10	$I_n$	$I_r$	$I_i$	Article No.
3VA10	16	16	320	3VA1096-2ED36-0AA0
	20	20	320	3VA1020-2ED36-0AA0
	25	25	320	3VA1025-2ED36-0AA0
	32	32	320	3VA1032-2ED36-0AA0
3VA10	40	40	400	3VA1040-2ED36-0AA0
	50	50	500	3VA1050-2ED36-0AA0
	63	63	630	3VA1063-2ED36-0AA0
	80	80	800	3VA1080-2ED36-0AA0
	100	100	1000	3VA1010-2ED36-0AA0



##### Connection with lug terminal

3VA10	$I_n$	$I_r$	$I_i$	Article No.
3VA10	16	16	320	3VA1096-2ED32-0AA0
	20	20	320	3VA1020-2ED32-0AA0
	25	25	320	3VA1025-2ED32-0AA0
	32	32	320	3VA1032-2ED32-0AA0
3VA10	40	40	400	3VA1040-2ED32-0AA0
	50	50	500	3VA1050-2ED32-0AA0
	63	63	630	3VA1063-2ED32-0AA0
	80	80	800	3VA1080-2ED32-0AA0
	100	100	1000	3VA1010-2ED32-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 25 kA at 415 V, low breaking capacity N See "Overview", p. 1/6 and 1/7	(N)	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S See "Overview", p. 1/6 and 1/7	(S)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A						

**Line protection, TM210 FTFM**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ **Connection with box terminal**

16	<a href="#">3VA1096-3ED36-0AA0</a>	<a href="#">3VA1096-4ED36-0AA0</a>
20	<a href="#">3VA1020-3ED36-0AA0</a>	<a href="#">3VA1020-4ED36-0AA0</a>
25	<a href="#">3VA1025-3ED36-0AA0</a>	<a href="#">3VA1025-4ED36-0AA0</a>
32	<a href="#">3VA1032-3ED36-0AA0</a>	<a href="#">3VA1032-4ED36-0AA0</a>
40	<a href="#">3VA1040-3ED36-0AA0</a>	<a href="#">3VA1040-4ED36-0AA0</a>
50	<a href="#">3VA1050-3ED36-0AA0</a>	<a href="#">3VA1050-4ED36-0AA0</a>
63	<a href="#">3VA1063-3ED36-0AA0</a>	<a href="#">3VA1063-4ED36-0AA0</a>
80	<a href="#">3VA1080-3ED36-0AA0</a>	<a href="#">3VA1080-4ED36-0AA0</a>
100	<a href="#">3VA1010-3ED36-0AA0</a>	<a href="#">3VA1010-4ED36-0AA0</a>

**Connection with lug terminal**

16	<a href="#">3VA1096-3ED32-0AA0</a>	<a href="#">3VA1096-4ED32-0AA0</a>
20	<a href="#">3VA1020-3ED32-0AA0</a>	<a href="#">3VA1020-4ED32-0AA0</a>
25	<a href="#">3VA1025-3ED32-0AA0</a>	<a href="#">3VA1025-4ED32-0AA0</a>
32	<a href="#">3VA1032-3ED32-0AA0</a>	<a href="#">3VA1032-4ED32-0AA0</a>
40	<a href="#">3VA1040-3ED32-0AA0</a>	<a href="#">3VA1040-4ED32-0AA0</a>
50	<a href="#">3VA1050-3ED32-0AA0</a>	<a href="#">3VA1050-4ED32-0AA0</a>
63	<a href="#">3VA1063-3ED32-0AA0</a>	<a href="#">3VA1063-4ED32-0AA0</a>
80	<a href="#">3VA1080-3ED32-0AA0</a>	<a href="#">3VA1080-4ED32-0AA0</a>
100	<a href="#">3VA1010-3ED32-0AA0</a>	<a href="#">3VA1010-4ED32-0AA0</a>

2

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

N

Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 3-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



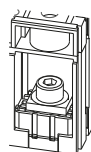
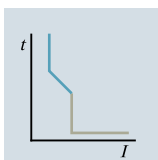
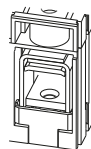
I201\_19027

#### Line protection, TM210 FTFM

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	16	16	320	<a href="#">3VA1196-3ED36-0AA0</a>
	20	20	320	<a href="#">3VA1120-3ED36-0AA0</a>
	25	25	320	<a href="#">3VA1125-3ED36-0AA0</a>
	32	32	320	<a href="#">3VA1132-3ED36-0AA0</a>
	40	40	400	<a href="#">3VA1140-3ED36-0AA0</a>
	50	50	500	<a href="#">3VA1150-3ED36-0AA0</a>
	63	63	630	<a href="#">3VA1163-3ED36-0AA0</a>
	80	80	800	<a href="#">3VA1180-3ED36-0AA0</a>
	100	100	1000	<a href="#">3VA1110-3ED36-0AA0</a>
	125	125	1250	<a href="#">3VA1112-3ED36-0AA0</a>
160	160	1600	<a href="#">3VA1116-3ED36-0AA0</a>	



##### Connection with lug terminal

3VA11	16	16	320	<a href="#">3VA1196-3ED32-0AA0</a>
	20	20	320	<a href="#">3VA1120-3ED32-0AA0</a>
	25	25	320	<a href="#">3VA1125-3ED32-0AA0</a>
	32	32	320	<a href="#">3VA1132-3ED32-0AA0</a>
	40	40	400	<a href="#">3VA1140-3ED32-0AA0</a>
	50	50	500	<a href="#">3VA1150-3ED32-0AA0</a>
	63	63	630	<a href="#">3VA1163-3ED32-0AA0</a>
	80	80	800	<a href="#">3VA1180-3ED32-0AA0</a>
	100	100	1000	<a href="#">3VA1110-3ED32-0AA0</a>
	125	125	1250	<a href="#">3VA1112-3ED32-0AA0</a>
160	160	1600	<a href="#">3VA1116-3ED32-0AA0</a>	



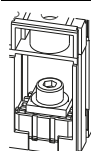
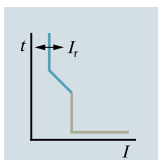
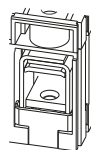
I201\_19028

#### Line protection, TM220 ATFM

With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	16	11 ... 16	320	<a href="#">3VA1196-3EE36-0AA0</a>
	20	14 ... 20	320	<a href="#">3VA1120-3EE36-0AA0</a>
	25	18 ... 25	320	<a href="#">3VA1125-3EE36-0AA0</a>
	32	22 ... 32	320	<a href="#">3VA1132-3EE36-0AA0</a>
	40	28 ... 40	400	<a href="#">3VA1140-3EE36-0AA0</a>
	50	35 ... 50	500	<a href="#">3VA1150-3EE36-0AA0</a>
	63	44 ... 63	630	<a href="#">3VA1163-3EE36-0AA0</a>
	80	56 ... 80	800	<a href="#">3VA1180-3EE36-0AA0</a>
	100	70 ... 100	1000	<a href="#">3VA1110-3EE36-0AA0</a>
	125	88 ... 125	1250	<a href="#">3VA1112-3EE36-0AA0</a>
160	112 ... 160	1600	<a href="#">3VA1116-3EE36-0AA0</a>	



##### Connection with lug terminal

3VA11	16	11 ... 16	320	<a href="#">3VA1196-3EE32-0AA0</a>
	20	14 ... 20	320	<a href="#">3VA1120-3EE32-0AA0</a>
	25	18 ... 25	320	<a href="#">3VA1125-3EE32-0AA0</a>
	32	22 ... 32	320	<a href="#">3VA1132-3EE32-0AA0</a>
	40	28 ... 40	400	<a href="#">3VA1140-3EE32-0AA0</a>
	50	35 ... 50	500	<a href="#">3VA1150-3EE32-0AA0</a>
	63	44 ... 63	630	<a href="#">3VA1163-3EE32-0AA0</a>
	80	56 ... 80	800	<a href="#">3VA1180-3EE32-0AA0</a>
	100	70 ... 100	1000	<a href="#">3VA1110-3EE32-0AA0</a>
	125	88 ... 125	1250	<a href="#">3VA1112-3EE32-0AA0</a>
160	112 ... 160	1600	<a href="#">3VA1116-3EE32-0AA0</a>	

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">S</span>	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">M</span>	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span>
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/product?Article No.</a> Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/product?Article No.</a> Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/product?Article No.</a> Basic price per PU
A						

**Line protection, TM210 FTFM**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

16	3VA1196-4ED36-0AA0	3VA1196-5ED36-0AA0	3VA1196-6ED36-0AA0
20	3VA1120-4ED36-0AA0	3VA1120-5ED36-0AA0	3VA1120-6ED36-0AA0
25	3VA1125-4ED36-0AA0	3VA1125-5ED36-0AA0	3VA1125-6ED36-0AA0
32	3VA1132-4ED36-0AA0	3VA1132-5ED36-0AA0	3VA1132-6ED36-0AA0
40	3VA1140-4ED36-0AA0	3VA1140-5ED36-0AA0	3VA1140-6ED36-0AA0
50	3VA1150-4ED36-0AA0	3VA1150-5ED36-0AA0	3VA1150-6ED36-0AA0
63	3VA1163-4ED36-0AA0	3VA1163-5ED36-0AA0	3VA1163-6ED36-0AA0
80	3VA1180-4ED36-0AA0	3VA1180-5ED36-0AA0	3VA1180-6ED36-0AA0
100	3VA1110-4ED36-0AA0	3VA1110-5ED36-0AA0	3VA1110-6ED36-0AA0
125	3VA1112-4ED36-0AA0	3VA1112-5ED36-0AA0	3VA1112-6ED36-0AA0
160	3VA1116-4ED36-0AA0	3VA1116-5ED36-0AA0	3VA1116-6ED36-0AA0

## Connection with lug terminal

16	3VA1196-4ED32-0AA0	3VA1196-5ED32-0AA0	3VA1196-6ED32-0AA0
20	3VA1120-4ED32-0AA0	3VA1120-5ED32-0AA0	3VA1120-6ED32-0AA0
25	3VA1125-4ED32-0AA0	3VA1125-5ED32-0AA0	3VA1125-6ED32-0AA0
32	3VA1132-4ED32-0AA0	3VA1132-5ED32-0AA0	3VA1132-6ED32-0AA0
40	3VA1140-4ED32-0AA0	3VA1140-5ED32-0AA0	3VA1140-6ED32-0AA0
50	3VA1150-4ED32-0AA0	3VA1150-5ED32-0AA0	3VA1150-6ED32-0AA0
63	3VA1163-4ED32-0AA0	3VA1163-5ED32-0AA0	3VA1163-6ED32-0AA0
80	3VA1180-4ED32-0AA0	3VA1180-5ED32-0AA0	3VA1180-6ED32-0AA0
100	3VA1110-4ED32-0AA0	3VA1110-5ED32-0AA0	3VA1110-6ED32-0AA0
125	3VA1112-4ED32-0AA0	3VA1112-5ED32-0AA0	3VA1112-6ED32-0AA0
160	3VA1116-4ED32-0AA0	3VA1116-5ED32-0AA0	3VA1116-6ED32-0AA0

**Line protection, TM220 ATFM**With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

16	3VA1196-4EE36-0AA0	3VA1196-5EE36-0AA0	3VA1196-6EE36-0AA0
20	3VA1120-4EE36-0AA0	3VA1120-5EE36-0AA0	3VA1120-6EE36-0AA0
25	3VA1125-4EE36-0AA0	3VA1125-5EE36-0AA0	3VA1125-6EE36-0AA0
32	3VA1132-4EE36-0AA0	3VA1132-5EE36-0AA0	3VA1132-6EE36-0AA0
40	3VA1140-4EE36-0AA0	3VA1140-5EE36-0AA0	3VA1140-6EE36-0AA0
50	3VA1150-4EE36-0AA0	3VA1150-5EE36-0AA0	3VA1150-6EE36-0AA0
63	3VA1163-4EE36-0AA0	3VA1163-5EE36-0AA0	3VA1163-6EE36-0AA0
80	3VA1180-4EE36-0AA0	3VA1180-5EE36-0AA0	3VA1180-6EE36-0AA0
100	3VA1110-4EE36-0AA0	3VA1110-5EE36-0AA0	3VA1110-6EE36-0AA0
125	3VA1112-4EE36-0AA0	3VA1112-5EE36-0AA0	3VA1112-6EE36-0AA0
160	3VA1116-4EE36-0AA0	3VA1116-5EE36-0AA0	3VA1116-6EE36-0AA0

## Connection with lug terminal

16	3VA1196-4EE32-0AA0	3VA1196-5EE32-0AA0	3VA1196-6EE32-0AA0
20	3VA1120-4EE32-0AA0	3VA1120-5EE32-0AA0	3VA1120-6EE32-0AA0
25	3VA1125-4EE32-0AA0	3VA1125-5EE32-0AA0	3VA1125-6EE32-0AA0
32	3VA1132-4EE32-0AA0	3VA1132-5EE32-0AA0	3VA1132-6EE32-0AA0
40	3VA1140-4EE32-0AA0	3VA1140-5EE32-0AA0	3VA1140-6EE32-0AA0
50	3VA1150-4EE32-0AA0	3VA1150-5EE32-0AA0	3VA1150-6EE32-0AA0
63	3VA1163-4EE32-0AA0	3VA1163-5EE32-0AA0	3VA1163-6EE32-0AA0
80	3VA1180-4EE32-0AA0	3VA1180-5EE32-0AA0	3VA1180-6EE32-0AA0
100	3VA1110-4EE32-0AA0	3VA1110-5EE32-0AA0	3VA1110-6EE32-0AA0
125	3VA1112-4EE32-0AA0	3VA1112-5EE32-0AA0	3VA1112-6EE32-0AA0
160	3VA1116-4EE32-0AA0	3VA1116-5EE32-0AA0	3VA1116-6EE32-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

N

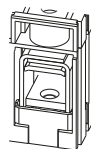
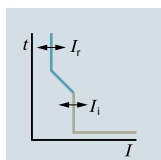
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price  
per PU

### 3-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



1201\_19035



#### Line protection, TM240 ATAM

With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

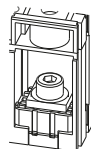
##### Connection with box terminal

3VA11	16	20	25	32	40	50	63	80	100	125	160
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 800	500 ... 1000	625 ... 1250	800 ... 1600

3VA1196-3EF36-0AA0  
3VA1120-3EF36-0AA0  
3VA1125-3EF36-0AA0  
3VA1132-3EF36-0AA0

3VA1140-3EF36-0AA0  
3VA1150-3EF36-0AA0  
3VA1163-3EF36-0AA0  
3VA1180-3EF36-0AA0

3VA1110-3EF36-0AA0  
3VA1112-3EF36-0AA0  
3VA1116-3EF36-0AA0



##### Connection with lug terminal

3VA11	16	20	25	32	40	50	63	80	100	125	160
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 800	500 ... 1000	625 ... 1250	800 ... 1600

3VA1196-3EF32-0AA0  
3VA1120-3EF32-0AA0  
3VA1125-3EF32-0AA0  
3VA1132-3EF32-0AA0

3VA1140-3EF32-0AA0  
3VA1150-3EF32-0AA0  
3VA1163-3EF32-0AA0  
3VA1180-3EF32-0AA0

3VA1110-3EF32-0AA0  
3VA1112-3EF32-0AA0  
3VA1116-3EF32-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">S</span>	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">M</span>	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span>
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>
A		Basic price per PU		Basic price per PU		Basic price per PU

### Line protection, TM240 ATAM

With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

#### Connection with box terminal

16	<a href="#">3VA1196-4EF36-0AA0</a>	<a href="#">3VA1196-5EF36-0AA0</a>	<a href="#">3VA1196-6EF36-0AA0</a>
20	<a href="#">3VA1120-4EF36-0AA0</a>	<a href="#">3VA1120-5EF36-0AA0</a>	<a href="#">3VA1120-6EF36-0AA0</a>
25	<a href="#">3VA1125-4EF36-0AA0</a>	<a href="#">3VA1125-5EF36-0AA0</a>	<a href="#">3VA1125-6EF36-0AA0</a>
32	<a href="#">3VA1132-4EF36-0AA0</a>	<a href="#">3VA1132-5EF36-0AA0</a>	<a href="#">3VA1132-6EF36-0AA0</a>
40	<a href="#">3VA1140-4EF36-0AA0</a>	<a href="#">3VA1140-5EF36-0AA0</a>	<a href="#">3VA1140-6EF36-0AA0</a>
50	<a href="#">3VA1150-4EF36-0AA0</a>	<a href="#">3VA1150-5EF36-0AA0</a>	<a href="#">3VA1150-6EF36-0AA0</a>
63	<a href="#">3VA1163-4EF36-0AA0</a>	<a href="#">3VA1163-5EF36-0AA0</a>	<a href="#">3VA1163-6EF36-0AA0</a>
80	<a href="#">3VA1180-4EF36-0AA0</a>	<a href="#">3VA1180-5EF36-0AA0</a>	<a href="#">3VA1180-6EF36-0AA0</a>
100	<a href="#">3VA1110-4EF36-0AA0</a>	<a href="#">3VA1110-5EF36-0AA0</a>	<a href="#">3VA1110-6EF36-0AA0</a>
125	<a href="#">3VA1112-4EF36-0AA0</a>	<a href="#">3VA1112-5EF36-0AA0</a>	<a href="#">3VA1112-6EF36-0AA0</a>
160	<a href="#">3VA1116-4EF36-0AA0</a>	<a href="#">3VA1116-5EF36-0AA0</a>	<a href="#">3VA1116-6EF36-0AA0</a>

#### Connection with lug terminal

16	<a href="#">3VA1196-4EF32-0AA0</a>	<a href="#">3VA1196-5EF32-0AA0</a>	<a href="#">3VA1196-6EF32-0AA0</a>
20	<a href="#">3VA1120-4EF32-0AA0</a>	<a href="#">3VA1120-5EF32-0AA0</a>	<a href="#">3VA1120-6EF32-0AA0</a>
25	<a href="#">3VA1125-4EF32-0AA0</a>	<a href="#">3VA1125-5EF32-0AA0</a>	<a href="#">3VA1125-6EF32-0AA0</a>
32	<a href="#">3VA1132-4EF32-0AA0</a>	<a href="#">3VA1132-5EF32-0AA0</a>	<a href="#">3VA1132-6EF32-0AA0</a>
40	<a href="#">3VA1140-4EF32-0AA0</a>	<a href="#">3VA1140-5EF32-0AA0</a>	<a href="#">3VA1140-6EF32-0AA0</a>
50	<a href="#">3VA1150-4EF32-0AA0</a>	<a href="#">3VA1150-5EF32-0AA0</a>	<a href="#">3VA1150-6EF32-0AA0</a>
63	<a href="#">3VA1163-4EF32-0AA0</a>	<a href="#">3VA1163-5EF32-0AA0</a>	<a href="#">3VA1163-6EF32-0AA0</a>
80	<a href="#">3VA1180-4EF32-0AA0</a>	<a href="#">3VA1180-5EF32-0AA0</a>	<a href="#">3VA1180-6EF32-0AA0</a>
100	<a href="#">3VA1110-4EF32-0AA0</a>	<a href="#">3VA1110-5EF32-0AA0</a>	<a href="#">3VA1110-6EF32-0AA0</a>
125	<a href="#">3VA1112-4EF32-0AA0</a>	<a href="#">3VA1112-5EF32-0AA0</a>	<a href="#">3VA1112-6EF32-0AA0</a>
160	<a href="#">3VA1116-4EF32-0AA0</a>	<a href="#">3VA1116-5EF32-0AA0</a>	<a href="#">3VA1116-6EF32-0AA0</a>

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

$I_n$

A

Current setting of the inverse-time delayed overload protection "L"

$I_r$

A

Operating current of the instantaneous short-circuit protection "I"

$I_i$

A

DT

**$I_{cu}$  up to 16 kA at 415 V, very low breaking capacity B**  
See "Overview", p. 1/6 and 1/7

(B)

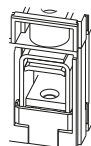
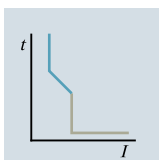
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 4-pole, fixed-mounted, 3VA10, up to 100 A Thermal-magnetic trip unit



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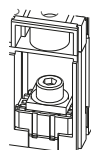


#### Line protection, TM210 FTFM, without neutral conductor protection

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$

##### Connection with box terminal

3VA10	$I_n$	$I_r$	$I_i$	Article No.
3VA10	16	16	320	3VA1096-2ED46-0AA0
	20	20	320	3VA1020-2ED46-0AA0
	25	25	320	3VA1025-2ED46-0AA0
	32	32	320	3VA1032-2ED46-0AA0
3VA10	40	40	400	3VA1040-2ED46-0AA0
	50	50	500	3VA1050-2ED46-0AA0
	63	63	630	3VA1063-2ED46-0AA0
	80	80	800	3VA1080-2ED46-0AA0
	100	100	1000	3VA1010-2ED46-0AA0



##### Connection with lug terminal

3VA10	$I_n$	$I_r$	$I_i$	Article No.
3VA10	16	16	320	3VA1096-2ED42-0AA0
	20	20	320	3VA1020-2ED42-0AA0
	25	25	320	3VA1025-2ED42-0AA0
	32	32	320	3VA1032-2ED42-0AA0
3VA10	40	40	400	3VA1040-2ED42-0AA0
	50	50	500	3VA1050-2ED42-0AA0
	63	63	630	3VA1063-2ED42-0AA0
	80	80	800	3VA1080-2ED42-0AA0
	100	100	1000	3VA1010-2ED42-0AA0



## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 25 kA at 415 V, low breaking capacity N See "Overview", p. 1/6 and 1/7	(N)	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S See "Overview", p. 1/6 and 1/7	(S)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A						

**Line protection, TM210 FTFM, without neutral conductor protection**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ **Connection with box terminal**

16	3VA1096-3ED46-0AA0	3VA1096-4ED46-0AA0
20	3VA1020-3ED46-0AA0	3VA1020-4ED46-0AA0
25	3VA1025-3ED46-0AA0	3VA1025-4ED46-0AA0
32	3VA1032-3ED46-0AA0	3VA1032-4ED46-0AA0
40	3VA1040-3ED46-0AA0	3VA1040-4ED46-0AA0
50	3VA1050-3ED46-0AA0	3VA1050-4ED46-0AA0
63	3VA1063-3ED46-0AA0	3VA1063-4ED46-0AA0
80	3VA1080-3ED46-0AA0	3VA1080-4ED46-0AA0
100	3VA1010-3ED46-0AA0	3VA1010-4ED46-0AA0

**Connection with lug terminal**

16	3VA1096-3ED42-0AA0	3VA1096-4ED42-0AA0
20	3VA1020-3ED42-0AA0	3VA1020-4ED42-0AA0
25	3VA1025-3ED42-0AA0	3VA1025-4ED42-0AA0
32	3VA1032-3ED42-0AA0	3VA1032-4ED42-0AA0
40	3VA1040-3ED42-0AA0	3VA1040-4ED42-0AA0
50	3VA1050-3ED42-0AA0	3VA1050-4ED42-0AA0
63	3VA1063-3ED42-0AA0	3VA1063-4ED42-0AA0
80	3VA1080-3ED42-0AA0	3VA1080-4ED42-0AA0
100	3VA1010-3ED42-0AA0	3VA1010-4ED42-0AA0

2

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**

See "Overview", p. 1/6 and 1/7

(N)

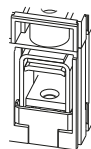
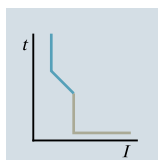
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 4-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



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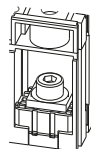


#### Line protection, TM210 FTFM, without neutral conductor protection

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	16	320	3VA1196-3ED46-0AA0
	20	20	320	3VA1120-3ED46-0AA0
	25	25	320	3VA1125-3ED46-0AA0
	32	32	320	3VA1132-3ED46-0AA0
40	40	40	400	3VA1140-3ED46-0AA0
	50	50	500	3VA1150-3ED46-0AA0
	63	63	630	3VA1163-3ED46-0AA0
	80	80	800	3VA1180-3ED46-0AA0
100	100	100	1000	3VA1110-3ED46-0AA0
	125	125	1250	3VA1112-3ED46-0AA0
	160	160	1600	3VA1116-3ED46-0AA0

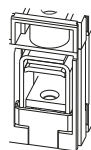
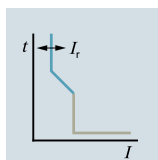


##### Connection with lug terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	16	320	3VA1196-3ED42-0AA0
	20	20	320	3VA1120-3ED42-0AA0
	25	25	320	3VA1125-3ED42-0AA0
	32	32	320	3VA1132-3ED42-0AA0
40	40	40	400	3VA1140-3ED42-0AA0
	50	50	500	3VA1150-3ED42-0AA0
	63	63	630	3VA1163-3ED42-0AA0
	80	80	800	3VA1180-3ED42-0AA0
100	100	100	1000	3VA1110-3ED42-0AA0
	125	125	1250	3VA1112-3ED42-0AA0
	160	160	1600	3VA1116-3ED42-0AA0



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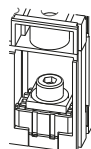


#### Line protection, TM210 FTFM, 50 % neutral conductor protection

With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
100	100	100	1000	3VA1110-3FD46-0AA0
	125	125	1250	3VA1112-3FD46-0AA0
	160	160	1600	3VA1116-3FD46-0AA0



##### Connection with lug terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
100	100	100	1000	3VA1110-3FD42-0AA0
	125	125	1250	3VA1112-3FD42-0AA0
	160	160	1600	3VA1116-3FD42-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">S</span>	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">M</span>	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span>
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>
A		Basic price per PU		Basic price per PU		Basic price per PU

**Line protection, TM210 FTFM, without neutral conductor protection**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

16	3VA1196-4ED46-0AA0	3VA1196-5ED46-0AA0	3VA1196-6ED46-0AA0
20	3VA1120-4ED46-0AA0	3VA1120-5ED46-0AA0	3VA1120-6ED46-0AA0
25	3VA1125-4ED46-0AA0	3VA1125-5ED46-0AA0	3VA1125-6ED46-0AA0
32	3VA1132-4ED46-0AA0	3VA1132-5ED46-0AA0	3VA1132-6ED46-0AA0
40	3VA1140-4ED46-0AA0	3VA1140-5ED46-0AA0	3VA1140-6ED46-0AA0
50	3VA1150-4ED46-0AA0	3VA1150-5ED46-0AA0	3VA1150-6ED46-0AA0
63	3VA1163-4ED46-0AA0	3VA1163-5ED46-0AA0	3VA1163-6ED46-0AA0
80	3VA1180-4ED46-0AA0	3VA1180-5ED46-0AA0	3VA1180-6ED46-0AA0
100	3VA1110-4ED46-0AA0	3VA1110-5ED46-0AA0	3VA1110-6ED46-0AA0
125	3VA1112-4ED46-0AA0	3VA1112-5ED46-0AA0	3VA1112-6ED46-0AA0
160	3VA1116-4ED46-0AA0	3VA1116-5ED46-0AA0	3VA1116-6ED46-0AA0

## Connection with lug terminal

16	3VA1196-4ED42-0AA0	3VA1196-5ED42-0AA0	3VA1196-6ED42-0AA0
20	3VA1120-4ED42-0AA0	3VA1120-5ED42-0AA0	3VA1120-6ED42-0AA0
25	3VA1125-4ED42-0AA0	3VA1125-5ED42-0AA0	3VA1125-6ED42-0AA0
32	3VA1132-4ED42-0AA0	3VA1132-5ED42-0AA0	3VA1132-6ED42-0AA0
40	3VA1140-4ED42-0AA0	3VA1140-5ED42-0AA0	3VA1140-6ED42-0AA0
50	3VA1150-4ED42-0AA0	3VA1150-5ED42-0AA0	3VA1150-6ED42-0AA0
63	3VA1163-4ED42-0AA0	3VA1163-5ED42-0AA0	3VA1163-6ED42-0AA0
80	3VA1180-4ED42-0AA0	3VA1180-5ED42-0AA0	3VA1180-6ED42-0AA0
100	3VA1110-4ED42-0AA0	3VA1110-5ED42-0AA0	3VA1110-6ED42-0AA0
125	3VA1112-4ED42-0AA0	3VA1112-5ED42-0AA0	3VA1112-6ED42-0AA0
160	3VA1116-4ED42-0AA0	3VA1116-5ED42-0AA0	3VA1116-6ED42-0AA0

**Line protection, TM210 FTFM, 50 % neutral conductor protection**With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

100	3VA1110-4FD46-0AA0	3VA1110-5FD46-0AA0	3VA1110-6FD46-0AA0
125	3VA1112-4FD46-0AA0	3VA1112-5FD46-0AA0	3VA1112-6FD46-0AA0
160	3VA1116-4FD46-0AA0	3VA1116-5FD46-0AA0	3VA1116-6FD46-0AA0

## Connection with lug terminal

100	3VA1110-4FD42-0AA0	3VA1110-5FD42-0AA0	3VA1110-6FD42-0AA0
125	3VA1112-4FD42-0AA0	3VA1112-5FD42-0AA0	3VA1112-6FD42-0AA0
160	3VA1116-4FD42-0AA0	3VA1116-5FD42-0AA0	3VA1116-6FD42-0AA0

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N  
See "Overview", p. 1/6 and 1/7

(N)

Article No.  
[www.siemens.com/product?Article.No.](http://www.siemens.com/product?Article.No.)

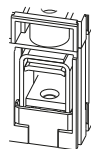
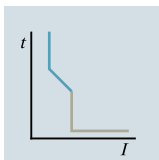
Basic price per PU

### 4-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit

2



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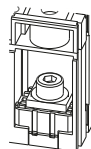


#### Line protection, TM210 FTFM, 100 % neutral conductor protection

With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

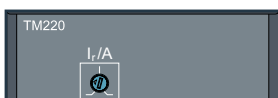
##### Connection with box terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	16	320	3VA1196-3GD46-0AA0
	20	20	320	3VA1120-3GD46-0AA0
	25	25	320	3VA1125-3GD46-0AA0
	32	32	320	3VA1132-3GD46-0AA0
40	40	40	400	3VA1140-3GD46-0AA0
	50	50	500	3VA1150-3GD46-0AA0
	63	63	630	3VA1163-3GD46-0AA0
	80	80	800	3VA1180-3GD46-0AA0
100	100	100	1000	3VA1110-3GD46-0AA0
	125	125	1250	3VA1112-3GD46-0AA0
	160	160	1600	3VA1116-3GD46-0AA0

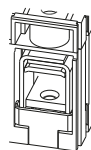
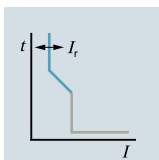


##### Connection with lug terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	16	320	3VA1196-3GD42-0AA0
	20	20	320	3VA1120-3GD42-0AA0
	25	25	320	3VA1125-3GD42-0AA0
	32	32	320	3VA1132-3GD42-0AA0
40	40	40	400	3VA1140-3GD42-0AA0
	50	50	500	3VA1150-3GD42-0AA0
	63	63	630	3VA1163-3GD42-0AA0
	80	80	800	3VA1180-3GD42-0AA0
100	100	100	1000	3VA1110-3GD42-0AA0
	125	125	1250	3VA1112-3GD42-0AA0
	160	160	1600	3VA1116-3GD42-0AA0



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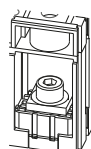


#### Line protection, TM220 ATFM, without neutral conductor protection

With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	11 ... 16	320	3VA1196-3EE46-0AA0
	20	14 ... 20	320	3VA1120-3EE46-0AA0
	25	18 ... 25	320	3VA1125-3EE46-0AA0
	32	22 ... 32	320	3VA1132-3EE46-0AA0
40	40	28 ... 40	400	3VA1140-3EE46-0AA0
	50	35 ... 50	500	3VA1150-3EE46-0AA0
	63	44 ... 63	630	3VA1163-3EE46-0AA0
	80	56 ... 80	800	3VA1180-3EE46-0AA0
100	100	70 ... 100	1000	3VA1110-3EE46-0AA0
	125	88 ... 125	1250	3VA1112-3EE46-0AA0
	160	112 ... 160	1600	3VA1116-3EE46-0AA0



##### Connection with lug terminal

3VA11	$I_n$	$I_r$	$I_i$	Article No.
16	16	11 ... 16	320	3VA1196-3EE42-0AA0
	20	14 ... 20	320	3VA1120-3EE42-0AA0
	25	18 ... 25	320	3VA1125-3EE42-0AA0
	32	22 ... 32	320	3VA1132-3EE42-0AA0
40	40	28 ... 40	400	3VA1140-3EE42-0AA0
	50	35 ... 50	500	3VA1150-3EE42-0AA0
	63	44 ... 63	630	3VA1163-3EE42-0AA0
	80	56 ... 80	800	3VA1180-3EE42-0AA0
100	100	70 ... 100	1000	3VA1110-3EE42-0AA0
	125	88 ... 125	1250	3VA1112-3EE42-0AA0
	160	112 ... 160	1600	3VA1116-3EE42-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S See "Overview", p. 1/6 and 1/7	(S)	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M See "Overview", p. 1/6 and 1/7	(M)	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

**Line protection, TM210 FTFM, 100 % neutral conductor protection**With fixed overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

16	<a href="#">3VA1196-4GD46-0AA0</a>	<a href="#">3VA1196-5GD46-0AA0</a>	<a href="#">3VA1196-6GD46-0AA0</a>
20	<a href="#">3VA1120-4GD46-0AA0</a>	<a href="#">3VA1120-5GD46-0AA0</a>	<a href="#">3VA1120-6GD46-0AA0</a>
25	<a href="#">3VA1125-4GD46-0AA0</a>	<a href="#">3VA1125-5GD46-0AA0</a>	<a href="#">3VA1125-6GD46-0AA0</a>
32	<a href="#">3VA1132-4GD46-0AA0</a>	<a href="#">3VA1132-5GD46-0AA0</a>	<a href="#">3VA1132-6GD46-0AA0</a>
40	<a href="#">3VA1140-4GD46-0AA0</a>	<a href="#">3VA1140-5GD46-0AA0</a>	<a href="#">3VA1140-6GD46-0AA0</a>
50	<a href="#">3VA1150-4GD46-0AA0</a>	<a href="#">3VA1150-5GD46-0AA0</a>	<a href="#">3VA1150-6GD46-0AA0</a>
63	<a href="#">3VA1163-4GD46-0AA0</a>	<a href="#">3VA1163-5GD46-0AA0</a>	<a href="#">3VA1163-6GD46-0AA0</a>
80	<a href="#">3VA1180-4GD46-0AA0</a>	<a href="#">3VA1180-5GD46-0AA0</a>	<a href="#">3VA1180-6GD46-0AA0</a>
100	<a href="#">3VA1110-4GD46-0AA0</a>	<a href="#">3VA1110-5GD46-0AA0</a>	<a href="#">3VA1110-6GD46-0AA0</a>
125	<a href="#">3VA1112-4GD46-0AA0</a>	<a href="#">3VA1112-5GD46-0AA0</a>	<a href="#">3VA1112-6GD46-0AA0</a>
160	<a href="#">3VA1116-4GD46-0AA0</a>	<a href="#">3VA1116-5GD46-0AA0</a>	<a href="#">3VA1116-6GD46-0AA0</a>

## Connection with lug terminal

16	<a href="#">3VA1196-4GD42-0AA0</a>	<a href="#">3VA1196-5GD42-0AA0</a>	<a href="#">3VA1196-6GD42-0AA0</a>
20	<a href="#">3VA1120-4GD42-0AA0</a>	<a href="#">3VA1120-5GD42-0AA0</a>	<a href="#">3VA1120-6GD42-0AA0</a>
25	<a href="#">3VA1125-4GD42-0AA0</a>	<a href="#">3VA1125-5GD42-0AA0</a>	<a href="#">3VA1125-6GD42-0AA0</a>
32	<a href="#">3VA1132-4GD42-0AA0</a>	<a href="#">3VA1132-5GD42-0AA0</a>	<a href="#">3VA1132-6GD42-0AA0</a>
40	<a href="#">3VA1140-4GD42-0AA0</a>	<a href="#">3VA1140-5GD42-0AA0</a>	<a href="#">3VA1140-6GD42-0AA0</a>
50	<a href="#">3VA1150-4GD42-0AA0</a>	<a href="#">3VA1150-5GD42-0AA0</a>	<a href="#">3VA1150-6GD42-0AA0</a>
63	<a href="#">3VA1163-4GD42-0AA0</a>	<a href="#">3VA1163-5GD42-0AA0</a>	<a href="#">3VA1163-6GD42-0AA0</a>
80	<a href="#">3VA1180-4GD42-0AA0</a>	<a href="#">3VA1180-5GD42-0AA0</a>	<a href="#">3VA1180-6GD42-0AA0</a>
100	<a href="#">3VA1110-4GD42-0AA0</a>	<a href="#">3VA1110-5GD42-0AA0</a>	<a href="#">3VA1110-6GD42-0AA0</a>
125	<a href="#">3VA1112-4GD42-0AA0</a>	<a href="#">3VA1112-5GD42-0AA0</a>	<a href="#">3VA1112-6GD42-0AA0</a>
160	<a href="#">3VA1116-4GD42-0AA0</a>	<a href="#">3VA1116-5GD42-0AA0</a>	<a href="#">3VA1116-6GD42-0AA0</a>

**Line protection, TM220 ATFM, without neutral conductor protection**With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

## Connection with box terminal

16	<a href="#">3VA1196-4EE46-0AA0</a>	<a href="#">3VA1196-5EE46-0AA0</a>	<a href="#">3VA1196-6EE46-0AA0</a>
20	<a href="#">3VA1120-4EE46-0AA0</a>	<a href="#">3VA1120-5EE46-0AA0</a>	<a href="#">3VA1120-6EE46-0AA0</a>
25	<a href="#">3VA1125-4EE46-0AA0</a>	<a href="#">3VA1125-5EE46-0AA0</a>	<a href="#">3VA1125-6EE46-0AA0</a>
32	<a href="#">3VA1132-4EE46-0AA0</a>	<a href="#">3VA1132-5EE46-0AA0</a>	<a href="#">3VA1132-6EE46-0AA0</a>
40	<a href="#">3VA1140-4EE46-0AA0</a>	<a href="#">3VA1140-5EE46-0AA0</a>	<a href="#">3VA1140-6EE46-0AA0</a>
50	<a href="#">3VA1150-4EE46-0AA0</a>	<a href="#">3VA1150-5EE46-0AA0</a>	<a href="#">3VA1150-6EE46-0AA0</a>
63	<a href="#">3VA1163-4EE46-0AA0</a>	<a href="#">3VA1163-5EE46-0AA0</a>	<a href="#">3VA1163-6EE46-0AA0</a>
80	<a href="#">3VA1180-4EE46-0AA0</a>	<a href="#">3VA1180-5EE46-0AA0</a>	<a href="#">3VA1180-6EE46-0AA0</a>
100	<a href="#">3VA1110-4EE46-0AA0</a>	<a href="#">3VA1110-5EE46-0AA0</a>	<a href="#">3VA1110-6EE46-0AA0</a>
125	<a href="#">3VA1112-4EE46-0AA0</a>	<a href="#">3VA1112-5EE46-0AA0</a>	<a href="#">3VA1112-6EE46-0AA0</a>
160	<a href="#">3VA1116-4EE46-0AA0</a>	<a href="#">3VA1116-5EE46-0AA0</a>	<a href="#">3VA1116-6EE46-0AA0</a>

## Connection with lug terminal

16	<a href="#">3VA1196-4EE42-0AA0</a>	<a href="#">3VA1196-5EE42-0AA0</a>	<a href="#">3VA1196-6EE42-0AA0</a>
20	<a href="#">3VA1120-4EE42-0AA0</a>	<a href="#">3VA1120-5EE42-0AA0</a>	<a href="#">3VA1120-6EE42-0AA0</a>
25	<a href="#">3VA1125-4EE42-0AA0</a>	<a href="#">3VA1125-5EE42-0AA0</a>	<a href="#">3VA1125-6EE42-0AA0</a>
32	<a href="#">3VA1132-4EE42-0AA0</a>	<a href="#">3VA1132-5EE42-0AA0</a>	<a href="#">3VA1132-6EE42-0AA0</a>
40	<a href="#">3VA1140-4EE42-0AA0</a>	<a href="#">3VA1140-5EE42-0AA0</a>	<a href="#">3VA1140-6EE42-0AA0</a>
50	<a href="#">3VA1150-4EE42-0AA0</a>	<a href="#">3VA1150-5EE42-0AA0</a>	<a href="#">3VA1150-6EE42-0AA0</a>
63	<a href="#">3VA1163-4EE42-0AA0</a>	<a href="#">3VA1163-5EE42-0AA0</a>	<a href="#">3VA1163-6EE42-0AA0</a>
80	<a href="#">3VA1180-4EE42-0AA0</a>	<a href="#">3VA1180-5EE42-0AA0</a>	<a href="#">3VA1180-6EE42-0AA0</a>
100	<a href="#">3VA1110-4EE42-0AA0</a>	<a href="#">3VA1110-5EE42-0AA0</a>	<a href="#">3VA1110-6EE42-0AA0</a>
125	<a href="#">3VA1112-4EE42-0AA0</a>	<a href="#">3VA1112-5EE42-0AA0</a>	<a href="#">3VA1112-6EE42-0AA0</a>
160	<a href="#">3VA1116-4EE42-0AA0</a>	<a href="#">3VA1116-5EE42-0AA0</a>	<a href="#">3VA1116-6EE42-0AA0</a>

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**

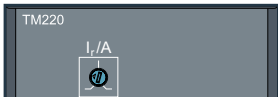
See "Overview", p. 1/6 and 1/7

(N)

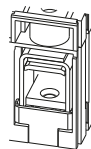
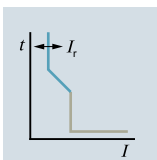
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 4-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



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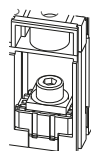
#### Line protection, TM220 ATFM, 50 % neutral conductor protection

With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	Rated current $I_n$ (A)	Overload protection $I_r$ (A)	Short-circuit protection $I_i$ (A)
	100	70 ... 100	1000
	125	88 ... 125	1250
	160	112 ... 160	1600

[3VA1110-3FE46-0AA0](#)  
[3VA1112-3FE46-0AA0](#)  
[3VA1116-3FE46-0AA0](#)



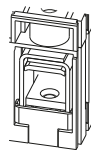
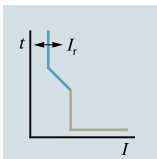
##### Connection with lug terminal

3VA11	Rated current $I_n$ (A)	Overload protection $I_r$ (A)	Short-circuit protection $I_i$ (A)
	100	70 ... 100	1000
	125	88 ... 125	1250
	160	112 ... 160	1600

[3VA1110-3FE42-0AA0](#)  
[3VA1112-3FE42-0AA0](#)  
[3VA1116-3FE42-0AA0](#)



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#### Line protection, TM220 ATFM, 100 % neutral conductor protection

With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

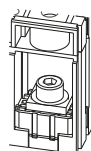
##### Connection with box terminal

3VA11	Rated current $I_n$ (A)	Overload protection $I_r$ (A)	Short-circuit protection $I_i$ (A)
	16	11 ... 16	320
	20	14 ... 20	320
	25	18 ... 25	320
	32	22 ... 32	320
	40	28 ... 40	400
	50	35 ... 50	500
	63	44 ... 63	630
	80	56 ... 80	800
	100	70 ... 100	1000
	125	88 ... 125	1250
	160	112 ... 160	1600

[3VA1196-3GE46-0AA0](#)  
[3VA1120-3GE46-0AA0](#)  
[3VA1125-3GE46-0AA0](#)  
[3VA1132-3GE46-0AA0](#)

[3VA1140-3GE46-0AA0](#)  
[3VA1150-3GE46-0AA0](#)  
[3VA1163-3GE46-0AA0](#)  
[3VA1180-3GE46-0AA0](#)

[3VA1110-3GE46-0AA0](#)  
[3VA1112-3GE46-0AA0](#)  
[3VA1116-3GE46-0AA0](#)



##### Connection with lug terminal

3VA11	Rated current $I_n$ (A)	Overload protection $I_r$ (A)	Short-circuit protection $I_i$ (A)
	16	11 ... 16	320
	20	14 ... 20	320
	25	18 ... 25	320
	32	22 ... 32	320
	40	28 ... 40	400
	50	35 ... 50	500
	63	44 ... 63	630
	80	56 ... 80	800
	100	70 ... 100	1000
	125	88 ... 125	1250
	160	112 ... 160	1600

[3VA1196-3GE42-0AA0](#)  
[3VA1120-3GE42-0AA0](#)  
[3VA1125-3GE42-0AA0](#)  
[3VA1132-3GE42-0AA0](#)

[3VA1140-3GE42-0AA0](#)  
[3VA1150-3GE42-0AA0](#)  
[3VA1163-3GE42-0AA0](#)  
[3VA1180-3GE42-0AA0](#)

[3VA1110-3GE42-0AA0](#)  
[3VA1112-3GE42-0AA0](#)  
[3VA1116-3GE42-0AA0](#)

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S See "Overview", p. 1/6 and 1/7	(S)	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M See "Overview", p. 1/6 and 1/7	(M)	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

**Line protection, TM220 ATFM, 50 % neutral conductor protection**With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

	Connection with box terminal		
100	3VA1110-4FE46-0AA0	3VA1110-5FE46-0AA0	3VA1110-6FE46-0AA0
125	3VA1112-4FE46-0AA0	3VA1112-5FE46-0AA0	3VA1112-6FE46-0AA0
160	3VA1116-4FE46-0AA0	3VA1116-5FE46-0AA0	3VA1116-6FE46-0AA0
	Connection with lug terminal		
100	3VA1110-4FE42-0AA0	3VA1110-5FE42-0AA0	3VA1110-6FE42-0AA0
125	3VA1112-4FE42-0AA0	3VA1112-5FE42-0AA0	3VA1112-6FE42-0AA0
160	3VA1116-4FE42-0AA0	3VA1116-5FE42-0AA0	3VA1116-6FE42-0AA0

**Line protection, TM220 ATFM, 100 % neutral conductor protection**With adjustable overload protection  $I_r$  and fixed short-circuit protection  $I_i$ 

	Connection with box terminal		
16	3VA1196-4GE46-0AA0	3VA1196-5GE46-0AA0	3VA1196-6GE46-0AA0
20	3VA1120-4GE46-0AA0	3VA1120-5GE46-0AA0	3VA1120-6GE46-0AA0
25	3VA1125-4GE46-0AA0	3VA1125-5GE46-0AA0	3VA1125-6GE46-0AA0
32	3VA1132-4GE46-0AA0	3VA1132-5GE46-0AA0	3VA1132-6GE46-0AA0
40	3VA1140-4GE46-0AA0	3VA1140-5GE46-0AA0	3VA1140-6GE46-0AA0
50	3VA1150-4GE46-0AA0	3VA1150-5GE46-0AA0	3VA1150-6GE46-0AA0
63	3VA1163-4GE46-0AA0	3VA1163-5GE46-0AA0	3VA1163-6GE46-0AA0
80	3VA1180-4GE46-0AA0	3VA1180-5GE46-0AA0	3VA1180-6GE46-0AA0
100	3VA1110-4GE46-0AA0	3VA1110-5GE46-0AA0	3VA1110-6GE46-0AA0
125	3VA1112-4GE46-0AA0	3VA1112-5GE46-0AA0	3VA1112-6GE46-0AA0
160	3VA1116-4GE46-0AA0	3VA1116-5GE46-0AA0	3VA1116-6GE46-0AA0
	Connection with lug terminal		
16	3VA1196-4GE42-0AA0	3VA1196-5GE42-0AA0	3VA1196-6GE42-0AA0
20	3VA1120-4GE42-0AA0	3VA1120-5GE42-0AA0	3VA1120-6GE42-0AA0
25	3VA1125-4GE42-0AA0	3VA1125-5GE42-0AA0	3VA1125-6GE42-0AA0
32	3VA1132-4GE42-0AA0	3VA1132-5GE42-0AA0	3VA1132-6GE42-0AA0
40	3VA1140-4GE42-0AA0	3VA1140-5GE42-0AA0	3VA1140-6GE42-0AA0
50	3VA1150-4GE42-0AA0	3VA1150-5GE42-0AA0	3VA1150-6GE42-0AA0
63	3VA1163-4GE42-0AA0	3VA1163-5GE42-0AA0	3VA1163-6GE42-0AA0
80	3VA1180-4GE42-0AA0	3VA1180-5GE42-0AA0	3VA1180-6GE42-0AA0
100	3VA1110-4GE42-0AA0	3VA1110-5GE42-0AA0	3VA1110-6GE42-0AA0
125	3VA1112-4GE42-0AA0	3VA1112-5GE42-0AA0	3VA1112-6GE42-0AA0
160	3VA1116-4GE42-0AA0	3VA1116-5GE42-0AA0	3VA1116-6GE42-0AA0

# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

(N)

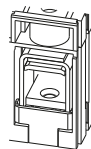
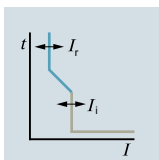
Article No.  
[www.siemens.com/product?ArticleNo.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU

### 4-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



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#### Line protection, TM240 ATAM, without neutral conductor protection

With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

##### Connection with box terminal

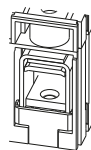
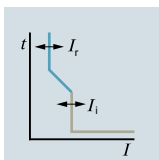
3VA11	16	20	25	32	40	50	63	80	100	125	160	
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160	
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 1000	500 ... 1000	625 ... 1250	800 ... 1600	
	<a href="#">3VA1196-3EF46-0AA0</a>	<a href="#">3VA1120-3EF46-0AA0</a>	<a href="#">3VA1125-3EF46-0AA0</a>	<a href="#">3VA1132-3EF46-0AA0</a>	<a href="#">3VA1140-3EF46-0AA0</a>	<a href="#">3VA1150-3EF46-0AA0</a>	<a href="#">3VA1163-3EF46-0AA0</a>	<a href="#">3VA1180-3EF46-0AA0</a>	<a href="#">3VA1110-3EF46-0AA0</a>	<a href="#">3VA1112-3EF46-0AA0</a>	<a href="#">3VA1116-3EF46-0AA0</a>	

##### Connection with lug terminal

3VA11	16	20	25	32	40	50	63	80	100	125	160	
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160	
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 1000	500 ... 1000	625 ... 1250	800 ... 1600	
	<a href="#">3VA1196-3EF42-0AA0</a>	<a href="#">3VA1120-3EF42-0AA0</a>	<a href="#">3VA1125-3EF42-0AA0</a>	<a href="#">3VA1132-3EF42-0AA0</a>	<a href="#">3VA1140-3EF42-0AA0</a>	<a href="#">3VA1150-3EF42-0AA0</a>	<a href="#">3VA1163-3EF42-0AA0</a>	<a href="#">3VA1180-3EF42-0AA0</a>	<a href="#">3VA1110-3EF42-0AA0</a>	<a href="#">3VA1112-3EF42-0AA0</a>	<a href="#">3VA1116-3EF42-0AA0</a>	



I201\_19035



#### Line protection, TM240 ATAM, 50 % neutral conductor protection

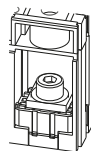
With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

##### Connection with box terminal

3VA11	100	125	160	
	70 ... 100	88 ... 125	112 ... 160	
	500 ... 1000	625 ... 1250	800 ... 1600	
	<a href="#">3VA1110-3FF46-0AA0</a>	<a href="#">3VA1112-3FF46-0AA0</a>	<a href="#">3VA1116-3FF46-0AA0</a>	

##### Connection with lug terminal

3VA11	100	125	160	
	70 ... 100	88 ... 125	112 ... 160	
	500 ... 1000	625 ... 1250	800 ... 1600	
	<a href="#">3VA1110-3FF42-0AA0</a>	<a href="#">3VA1112-3FF42-0AA0</a>	<a href="#">3VA1116-3FF42-0AA0</a>	





## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ to 36 kA at 415 V, standard breaking capacity S See "Overview", p. 1/6 and 1/7	(S)	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M See "Overview", p. 1/6 and 1/7	(M)	DT	$I_{cu}$ up to 70 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

**Line protection, TM240 ATAM, without neutral conductor protection**With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

## Connection with box terminal

16	3VA1196-4EF46-0AA0	3VA1196-5EF46-0AA0	3VA1196-6EF46-0AA0
20	3VA1120-4EF46-0AA0	3VA1120-5EF46-0AA0	3VA1120-6EF46-0AA0
25	3VA1125-4EF46-0AA0	3VA1125-5EF46-0AA0	3VA1125-6EF46-0AA0
32	3VA1132-4EF46-0AA0	3VA1132-5EF46-0AA0	3VA1132-6EF46-0AA0
40	3VA1140-4EF46-0AA0	3VA1140-5EF46-0AA0	3VA1140-6EF46-0AA0
50	3VA1150-4EF46-0AA0	3VA1150-5EF46-0AA0	3VA1150-6EF46-0AA0
63	3VA1163-4EF46-0AA0	3VA1163-5EF46-0AA0	3VA1163-6EF46-0AA0
80	3VA1180-4EF46-0AA0	3VA1180-5EF46-0AA0	3VA1180-6EF46-0AA0
100	3VA1110-4EF46-0AA0	3VA1110-5EF46-0AA0	3VA1110-6EF46-0AA0
125	3VA1112-4EF46-0AA0	3VA1112-5EF46-0AA0	3VA1112-6EF46-0AA0
160	3VA1116-4EF46-0AA0	3VA1116-5EF46-0AA0	3VA1116-6EF46-0AA0

## Connection with lug terminal

16	3VA1196-4EF42-0AA0	3VA1196-5EF42-0AA0	3VA1196-6EF42-0AA0
20	3VA1120-4EF42-0AA0	3VA1120-5EF42-0AA0	3VA1120-6EF42-0AA0
25	3VA1125-4EF42-0AA0	3VA1125-5EF42-0AA0	3VA1125-6EF42-0AA0
32	3VA1132-4EF42-0AA0	3VA1132-5EF42-0AA0	3VA1132-6EF42-0AA0
40	3VA1140-4EF42-0AA0	3VA1140-5EF42-0AA0	3VA1140-6EF42-0AA0
50	3VA1150-4EF42-0AA0	3VA1150-5EF42-0AA0	3VA1150-6EF42-0AA0
63	3VA1163-4EF42-0AA0	3VA1163-5EF42-0AA0	3VA1163-6EF42-0AA0
80	3VA1180-4EF42-0AA0	3VA1180-5EF42-0AA0	3VA1180-6EF42-0AA0
100	3VA1110-4EF42-0AA0	3VA1110-5EF42-0AA0	3VA1110-6EF42-0AA0
125	3VA1112-4EF42-0AA0	3VA1112-5EF42-0AA0	3VA1112-6EF42-0AA0
160	3VA1116-4EF42-0AA0	3VA1116-5EF42-0AA0	3VA1116-6EF42-0AA0

**Line protection, TM240 ATAM, 50 % neutral conductor protection**With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

## Connection with box terminal

100	3VA1110-4FF46-0AA0	3VA1110-5FF46-0AA0	3VA1110-6FF46-0AA0
125	3VA1112-4FF46-0AA0	3VA1112-5FF46-0AA0	3VA1112-6FF46-0AA0
160	3VA1116-4FF46-0AA0	3VA1116-5FF46-0AA0	3VA1116-6FF46-0AA0

## Connection with lug terminal

100	3VA1110-4FF42-0AA0	3VA1110-5FF42-0AA0	3VA1110-6FF42-0AA0
125	3VA1112-4FF42-0AA0	3VA1112-5FF42-0AA0	3VA1112-6FF42-0AA0
160	3VA1116-4FF42-0AA0	3VA1116-5FF42-0AA0	3VA1116-6FF42-0AA0

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current

 $I_n$ 

A

Current setting of the inverse-time delayed overload protection "L"

 $I_r$ 

A

Operating current of the instantaneous short-circuit protection "I"

 $I_i$ 

A

DT

**$I_{cu}$  up to 25 kA at 415 V, low breaking capacity N**  
See "Overview", p. 1/6 and 1/7

N

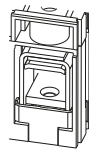
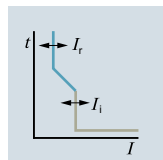
Article No.  
[www.siemens.com/product?Article No.](http://www.siemens.com/product?ArticleNo.)

Basic price  
per PU

### 4-pole, fixed-mounted, 3VA11, up to 160 A Thermal-magnetic trip unit



1201\_19035



#### Line protection, TM240 ATAM, 100 % neutral conductor protection

With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$

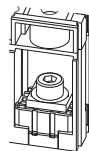
##### Connection with box terminal

3VA11	16	20	25	32	40	50	63	80	100	125	160
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 800	500 ... 1000	625 ... 1250	800 ... 1600

[3VA1196-3GF46-0AA0](#)  
[3VA1120-3GF46-0AA0](#)  
[3VA1125-3GF46-0AA0](#)  
[3VA1132-3GF46-0AA0](#)

[3VA1140-3GF46-0AA0](#)  
[3VA1150-3GF46-0AA0](#)  
[3VA1163-3GF46-0AA0](#)  
[3VA1180-3GF46-0AA0](#)

[3VA1110-3GF46-0AA0](#)  
[3VA1112-3GF46-0AA0](#)  
[3VA1116-3GF46-0AA0](#)



##### Connection with lug terminal

3VA11	16	20	25	32	40	50	63	80	100	125	160
	11 ... 16	14 ... 20	18 ... 25	22 ... 32	28 ... 40	35 ... 50	44 ... 63	56 ... 80	70 ... 100	88 ... 125	112 ... 160
	165 ... 320	165 ... 320	165 ... 320	165 ... 320	200 ... 400	250 ... 500	315 ... 630	400 ... 800	500 ... 1000	625 ... 1250	800 ... 1600

[3VA1196-3GF42-0AA0](#)  
[3VA1120-3GF42-0AA0](#)  
[3VA1125-3GF42-0AA0](#)  
[3VA1132-3GF42-0AA0](#)

[3VA1140-3GF42-0AA0](#)  
[3VA1150-3GF42-0AA0](#)  
[3VA1163-3GF42-0AA0](#)  
[3VA1180-3GF42-0AA0](#)

[3VA1110-3GF42-0AA0](#)  
[3VA1112-3GF42-0AA0](#)  
[3VA1116-3GF42-0AA0](#)

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

	DT	<b><math>I_{cu}</math> to 36 kA at 415 V, standard breaking capacity S</b> <span style="float: right;">(S)</span> <small>See "Overview", p. 1/6 and 1/7</small>		DT	<b><math>I_{cu}</math> up to 55 kA at 415 V, medium breaking capacity M</b> <span style="float: right;">(M)</span> <small>See "Overview", p. 1/6 and 1/7</small>		DT	<b><math>I_{cu}</math> up to 70 kA at 415 V, high breaking capacity H</b> <span style="float: right;">(H)</span> <small>See "Overview", p. 1/6 and 1/7</small>	
Rated current		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
$I_n$									
A									

### Line protection, TM240 ATAM, 100 % neutral conductor protection

With adjustable overload protection  $I_r$  and adjustable short-circuit protection  $I_i$ 

#### Connection with box terminal

16	<a href="#">3VA1196-4GF46-0AA0</a>	<a href="#">3VA1196-5GF46-0AA0</a>	<a href="#">3VA1196-6GF46-0AA0</a>
20	<a href="#">3VA1120-4GF46-0AA0</a>	<a href="#">3VA1120-5GF46-0AA0</a>	<a href="#">3VA1120-6GF46-0AA0</a>
25	<a href="#">3VA1125-4GF46-0AA0</a>	<a href="#">3VA1125-5GF46-0AA0</a>	<a href="#">3VA1125-6GF46-0AA0</a>
32	<a href="#">3VA1132-4GF46-0AA0</a>	<a href="#">3VA1132-5GF46-0AA0</a>	<a href="#">3VA1132-6GF46-0AA0</a>
40	<a href="#">3VA1140-4GF46-0AA0</a>	<a href="#">3VA1140-5GF46-0AA0</a>	<a href="#">3VA1140-6GF46-0AA0</a>
50	<a href="#">3VA1150-4GF46-0AA0</a>	<a href="#">3VA1150-5GF46-0AA0</a>	<a href="#">3VA1150-6GF46-0AA0</a>
63	<a href="#">3VA1163-4GF46-0AA0</a>	<a href="#">3VA1163-5GF46-0AA0</a>	<a href="#">3VA1163-6GF46-0AA0</a>
80	<a href="#">3VA1180-4GF46-0AA0</a>	<a href="#">3VA1180-5GF46-0AA0</a>	<a href="#">3VA1180-6GF46-0AA0</a>
100	<a href="#">3VA1110-4GF46-0AA0</a>	<a href="#">3VA1110-5GF46-0AA0</a>	<a href="#">3VA1110-6GF46-0AA0</a>
125	<a href="#">3VA1112-4GF46-0AA0</a>	<a href="#">3VA1112-5GF46-0AA0</a>	<a href="#">3VA1112-6GF46-0AA0</a>
160	<a href="#">3VA1116-4GF46-0AA0</a>	<a href="#">3VA1116-5GF46-0AA0</a>	<a href="#">3VA1116-6GF46-0AA0</a>

#### Connection with lug terminal

16	<a href="#">3VA1196-4GF42-0AA0</a>	<a href="#">3VA1196-5GF42-0AA0</a>	<a href="#">3VA1196-6GF42-0AA0</a>
20	<a href="#">3VA1120-4GF42-0AA0</a>	<a href="#">3VA1120-5GF42-0AA0</a>	<a href="#">3VA1120-6GF42-0AA0</a>
25	<a href="#">3VA1125-4GF42-0AA0</a>	<a href="#">3VA1125-5GF42-0AA0</a>	<a href="#">3VA1125-6GF42-0AA0</a>
32	<a href="#">3VA1132-4GF42-0AA0</a>	<a href="#">3VA1132-5GF42-0AA0</a>	<a href="#">3VA1132-6GF42-0AA0</a>
40	<a href="#">3VA1140-4GF42-0AA0</a>	<a href="#">3VA1140-5GF42-0AA0</a>	<a href="#">3VA1140-6GF42-0AA0</a>
50	<a href="#">3VA1150-4GF42-0AA0</a>	<a href="#">3VA1150-5GF42-0AA0</a>	<a href="#">3VA1150-6GF42-0AA0</a>
63	<a href="#">3VA1163-4GF42-0AA0</a>	<a href="#">3VA1163-5GF42-0AA0</a>	<a href="#">3VA1163-6GF42-0AA0</a>
80	<a href="#">3VA1180-4GF42-0AA0</a>	<a href="#">3VA1180-5GF42-0AA0</a>	<a href="#">3VA1180-6GF42-0AA0</a>
100	<a href="#">3VA1110-4GF42-0AA0</a>	<a href="#">3VA1110-5GF42-0AA0</a>	<a href="#">3VA1110-6GF42-0AA0</a>
125	<a href="#">3VA1112-4GF42-0AA0</a>	<a href="#">3VA1112-5GF42-0AA0</a>	<a href="#">3VA1112-6GF42-0AA0</a>
160	<a href="#">3VA1116-4GF42-0AA0</a>	<a href="#">3VA1116-5GF42-0AA0</a>	<a href="#">3VA1116-6GF42-0AA0</a>

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA


### Switch disconnectors

#### Selection and ordering data

PU (UNIT, SET, M) = 1

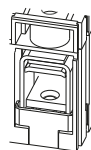
PS\*/P. unit = 1 UNIT

PG = 153

	Connection technology	Type	Rated current $I_n$	Current setting of the inverse-time delayed overload protection "L" $I_r$	Operating current of the instantaneous short-circuit protection "I" $I_i$	DT	Article No.	Basic price per PU
							<a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/product?Article No.</a>	
			A	A	A			

3-pole, fixed-mounted, **3VA11**, up to 160 A  
Without trip unit

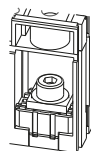
#### Switch disconnector without SD100 trip unit



##### Connection with box terminal

3VA11	63	--	--
	100	--	--
	125	--	--
	160	--	--

3VA1163-1AA36-0AA0  
3VA1110-1AA36-0AA0  
3VA1112-1AA36-0AA0  
3VA1116-1AA36-0AA0



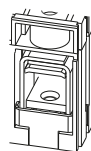
##### Connection with lug terminal

3VA11	63	--	--
	100	--	--
	125	--	--
	160	--	--

3VA1163-1AA32-0AA0  
3VA1110-1AA32-0AA0  
3VA1112-1AA32-0AA0  
3VA1116-1AA32-0AA0

4-pole, fixed-mounted, **3VA11**, up to 160 A  
Without trip unit

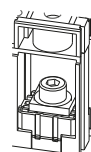
#### Switch disconnector without SD100 trip unit



##### Connection with box terminal

3VA11	63	--	--
	100	--	--
	125	--	--
	160	--	--

3VA1163-1AA46-0AA0  
3VA1110-1AA46-0AA0  
3VA1112-1AA46-0AA0  
3VA1116-1AA46-0AA0



##### Connection with lug terminal

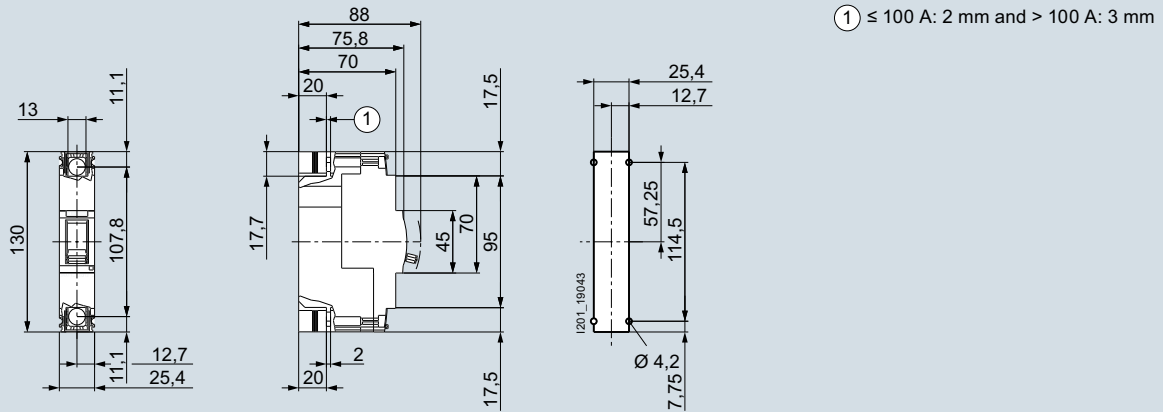
3VA11	63	--	--
	100	--	--
	125	--	--
	160	--	--

3VA1163-1AA42-0AA0  
3VA1110-1AA42-0AA0  
3VA1112-1AA42-0AA0  
3VA1116-1AA42-0AA0

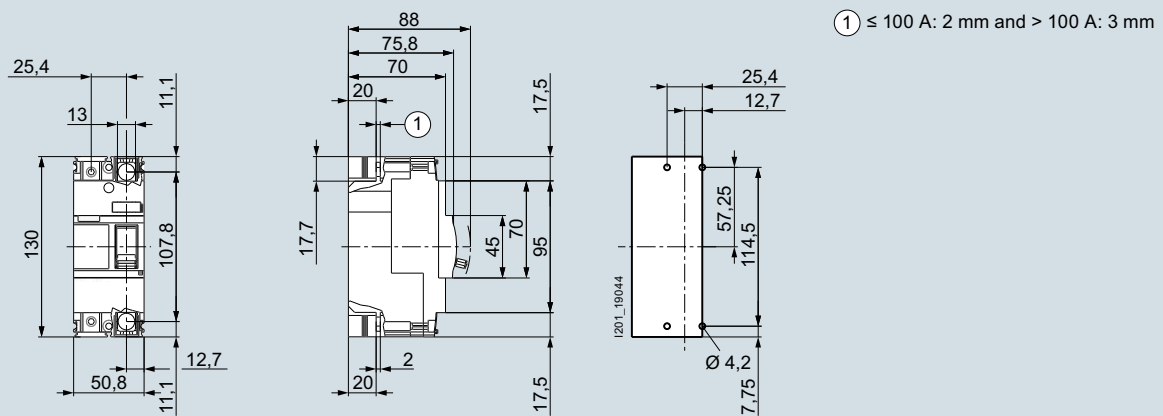
# 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

## Dimensional drawings

### Overview



3VA11, 1-pole

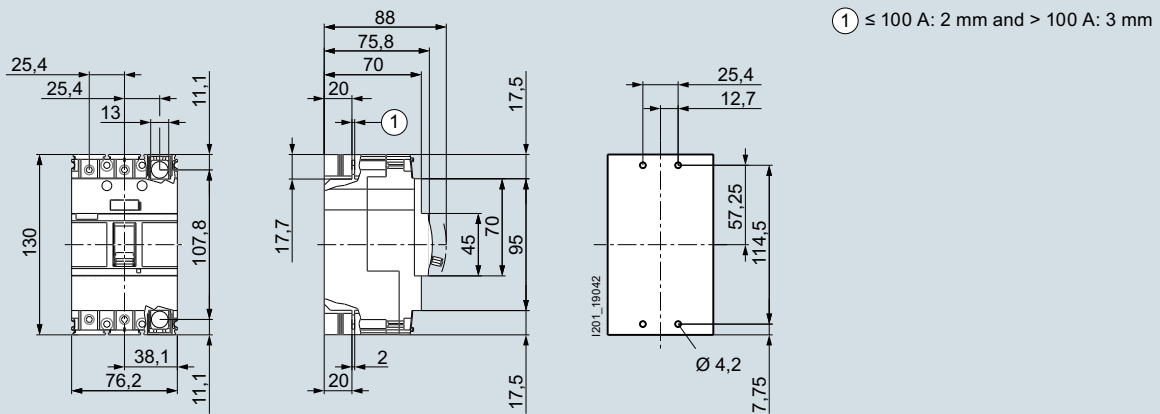


3VA11, 2-pole

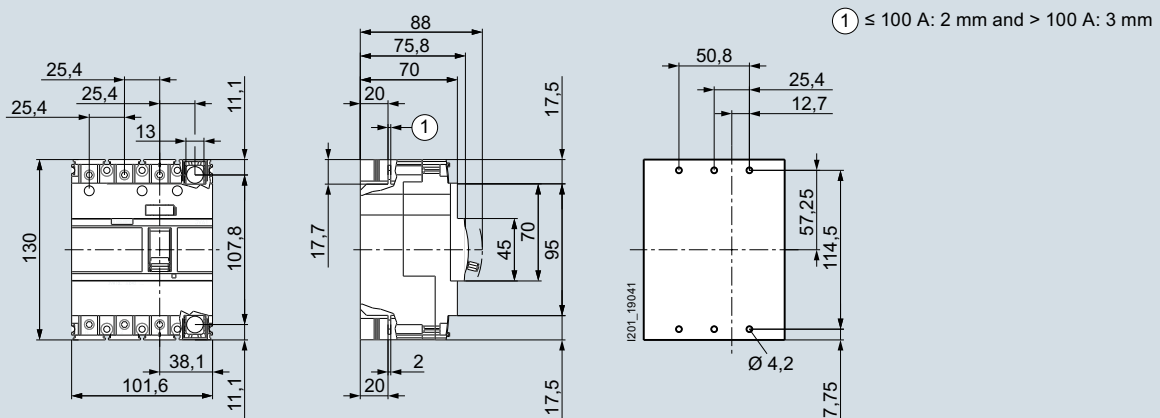
2

## 3VA1 Molded Case Circuit Breakers up to 160 A, TM, 400 V, up to 70 kA

### Dimensional drawings



3VA10 and 3VA11, 3-pole



3VA10 and 3VA11, 4-pole

Further dimensional drawings can be found in the image database at: [www.siemens.com/lowvoltage/picturedb](http://www.siemens.com/lowvoltage/picturedb)

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA



3/2 Line protection

3/22 Dimensional drawings

### NEW

Direct reference to the products in the Industry Mall from the selection and ordering data tables:

Article No.  
[www.siemens.com/  
product? Article No.](http://www.siemens.com/product?ArticleNo.)

3KD2832-0NE10-0

Paper catalog:  
To get more product information enter the Web address plus Article No.



PDF catalog:  
Get more product information with just a mouse click.

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

### Selection and ordering data

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Connection technology

Type

Rated current  $I_n$ Current setting of the inverse-time delayed overload protection "L"  $I_r$ S function (short-time delayed short-circuit protection "S")  $I_{sd}$ Operating current of the instantaneous short-circuit protection "I"  $I_i$ 

DT

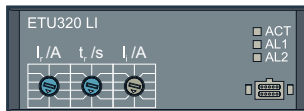
 **$I_{cu}$  up to 55 kA at 415 V, medium breaking capacity M**

 Article No.  
[www.siemens.com/product?Article No.](http://www.siemens.com/product?ArticleNo.)

Basic price per PU



### 3-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



I201\_18857

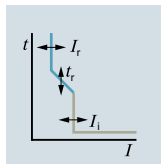
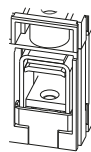
#### Line protection, ETU320 LI

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ 

#### Connection with box terminal

3VA20	25	10 ... 25	--	38 ... 300
	40	16 ... 40	--	60 ... 480
	63	25 ... 63	--	95 ... 756
	100	40 ... 100	--	150 ... 1200
3VA21	25	10 ... 25	--	38 ... 300
	40	16 ... 40	--	60 ... 480
	63	25 ... 63	--	95 ... 756
	100	40 ... 100	--	150 ... 1200
	160	63 ... 160	--	240 ... 1600

 3VA2025-5HL36-0AA0  
 3VA2040-5HL36-0AA0  
 3VA2063-5HL36-0AA0  
 3VA2010-5HL36-0AA0

 3VA2125-5HL36-0AA0  
 3VA2140-5HL36-0AA0  
 3VA2163-5HL36-0AA0  
 3VA2110-5HL36-0AA0  
 3VA2116-5HL36-0AA0


#### Connection with lug terminal

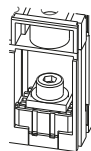
3VA20	25	10 ... 25	--	38 ... 300
	40	16 ... 40	--	60 ... 480
	63	25 ... 63	--	95 ... 756
	100	40 ... 100	--	150 ... 1200
3VA21	25	10 ... 25	--	38 ... 300
	40	16 ... 40	--	60 ... 480
	63	25 ... 63	--	95 ... 756
	100	40 ... 100	--	150 ... 1200
	160	63 ... 160	--	240 ... 1600
3VA22	160	63 ... 160	--	240 ... 1920
	250	100 ... 250	--	375 ... 2500
3VA23	250	100 ... 250	--	375 ... 3000
	400	160 ... 400	--	600 ... 4000
3VA24	400	160 ... 400	--	600 ... 4800 <sup>1)</sup>
	630	250 ... 630	--	945 ... 5670

 3VA2025-5HL32-0AA0  
 3VA2040-5HL32-0AA0  
 3VA2063-5HL32-0AA0  
 3VA2010-5HL32-0AA0

 3VA2125-5HL32-0AA0  
 3VA2140-5HL32-0AA0  
 3VA2163-5HL32-0AA0  
 3VA2110-5HL32-0AA0  
 3VA2116-5HL32-0AA0

 3VA2216-5HL32-0AA0  
 3VA2225-5HL32-0AA0

 3VA2325-5HL32-0AA0  
 3VA2340-5HL32-0AA0

 3VA2440-5HL32-0AA0  
 3VA2463-5HL32-0AA0

<sup>1)</sup> At breaking capacity L 4400 A



# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	H	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C See "Overview", p. 1/6 and 1/7	C	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L See "Overview", p. 1/6 and 1/7	L
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

## Line protection, ETU320 LI

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ 

### Connection with box terminal

25	3VA2025-6HL36-0AA0	3VA2025-7HL36-0AA0	3VA2025-8HL36-0AA0
40	3VA2040-6HL36-0AA0	3VA2040-7HL36-0AA0	3VA2040-8HL36-0AA0
63	3VA2063-6HL36-0AA0	3VA2063-7HL36-0AA0	3VA2063-8HL36-0AA0
100	3VA2010-6HL36-0AA0	3VA2010-7HL36-0AA0	3VA2010-8HL36-0AA0
25	3VA2125-6HL36-0AA0	3VA2125-7HL36-0AA0	3VA2125-8HL36-0AA0
40	3VA2140-6HL36-0AA0	3VA2140-7HL36-0AA0	3VA2140-8HL36-0AA0
63	3VA2163-6HL36-0AA0	3VA2163-7HL36-0AA0	3VA2163-8HL36-0AA0
100	3VA2110-6HL36-0AA0	3VA2110-7HL36-0AA0	3VA2110-8HL36-0AA0
160	3VA2116-6HL36-0AA0	3VA2116-7HL36-0AA0	3VA2116-8HL36-0AA0

### Connection with lug terminal

25	3VA2025-6HL32-0AA0	3VA2025-7HL32-0AA0	3VA2025-8HL32-0AA0
40	3VA2040-6HL32-0AA0	3VA2040-7HL32-0AA0	3VA2040-8HL32-0AA0
63	3VA2063-6HL32-0AA0	3VA2063-7HL32-0AA0	3VA2063-8HL32-0AA0
100	3VA2010-6HL32-0AA0	3VA2010-7HL32-0AA0	3VA2010-8HL32-0AA0
25	3VA2125-6HL32-0AA0	3VA2125-7HL32-0AA0	3VA2125-8HL32-0AA0
40	3VA2140-6HL32-0AA0	3VA2140-7HL32-0AA0	3VA2140-8HL32-0AA0
63	3VA2163-6HL32-0AA0	3VA2163-7HL32-0AA0	3VA2163-8HL32-0AA0
100	3VA2110-6HL32-0AA0	3VA2110-7HL32-0AA0	3VA2110-8HL32-0AA0
160	3VA2116-6HL32-0AA0	3VA2116-7HL32-0AA0	3VA2116-8HL32-0AA0
160	3VA2216-6HL32-0AA0	3VA2216-7HL32-0AA0	3VA2216-8HL32-0AA0
250	3VA2225-6HL32-0AA0	3VA2225-7HL32-0AA0	3VA2225-8HL32-0AA0
250	3VA2325-6HL32-0AA0	3VA2325-7HL32-0AA0	3VA2325-8HL32-0AA0
400	3VA2340-6HL32-0AA0	3VA2340-7HL32-0AA0	3VA2340-8HL32-0AA0
400	3VA2440-6HL32-0AA0	3VA2440-7HL32-0AA0	3VA2440-8HL32-0AA0
630	3VA2463-6HL32-0AA0	3VA2463-7HL32-0AA0	3VA2463-8HL32-0AA0

1) Start of delivery scheduled for 1st quarter 2015

3

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

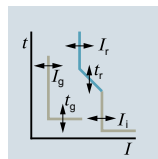


Conne- tion tech- nology	Type	Rated current $I_n$	Current setting of the inverse- time delayed overload protection "L" $I_r$	Operating current of the instantaneous short-circuit protection "I" $I_i$	Ground- fault protection G $I_g$	DT	<b><math>I_{cu}</math> up to 55 kA at 415 V, medium breaking capacity M</b> See "Overview", p. 1/6 and 1/7	(M)
		A	A	A	A		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU

### 3-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



1201\_18426



#### Line protection, ETU330 LIG

With adjustable overload protection  $I_r$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$

#### Connection with box terminal

	25	40	63	100	160	250	400	630	1000	1600	2500	4000	6300
3VA20	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	100 ... 250	160 ... 400	250 ... 630	400 ... 1000	630 ... 1600	1000 ... 2500	1600 ... 4000	2500 ... 6300
3VA21	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	100 ... 250	160 ... 400	250 ... 630	400 ... 1000	630 ... 1600	1000 ... 2500	1600 ... 4000	2500 ... 6300

3VA2025-5HM36-0AA0  
3VA2040-5HM36-0AA0  
3VA2063-5HM36-0AA0  
3VA2010-5HM36-0AA0

3VA2125-5HM36-0AA0  
3VA2140-5HM36-0AA0  
3VA2163-5HM36-0AA0  
3VA2110-5HM36-0AA0  
3VA2116-5HM36-0AA0

#### Connection with lug terminal

	25	40	63	100	160	250	400	630	1000	1600	2500	4000	6300
3VA20	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	100 ... 250	160 ... 400	250 ... 630	400 ... 1000	630 ... 1600	1000 ... 2500	1600 ... 4000	2500 ... 6300
3VA21	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	100 ... 250	160 ... 400	250 ... 630	400 ... 1000	630 ... 1600	1000 ... 2500	1600 ... 4000	2500 ... 6300
3VA22	160 ... 250	250 ... 400	400 ... 630	630 ... 1000	1000 ... 1600	1600 ... 2500	2500 ... 4000	4000 ... 6300	6300 ... 10000	10000 ... 16000	16000 ... 25000	25000 ... 40000	40000 ... 63000
3VA23	250 ... 400	400 ... 630	630 ... 1000	1000 ... 1600	1600 ... 2500	2500 ... 4000	4000 ... 6300	6300 ... 10000	10000 ... 16000	16000 ... 25000	25000 ... 40000	40000 ... 63000	63000 ... 100000
3VA24	400 ... 630	630 ... 1000	1000 ... 1600	1600 ... 2500	2500 ... 4000	4000 ... 6300	6300 ... 10000	10000 ... 16000	16000 ... 25000	25000 ... 40000	40000 ... 63000	63000 ... 100000	100000 ... 160000

3VA2025-5HM32-0AA0  
3VA2040-5HM32-0AA0  
3VA2063-5HM32-0AA0  
3VA2010-5HM32-0AA0

3VA2125-5HM32-0AA0  
3VA2140-5HM32-0AA0  
3VA2163-5HM32-0AA0  
3VA2110-5HM32-0AA0  
3VA2116-5HM32-0AA0

3VA2216-5HM32-0AA0  
3VA2225-5HM32-0AA0

3VA2325-5HM32-0AA0  
3VA2340-5HM32-0AA0

3VA2440-5HM32-0AA0  
3VA2463-5HM32-0AA0

<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H <span style="float: right;">(H)</span> See "Overview", p. 1/6 and 1/7		DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C <span style="float: right;">(C)</span> See "Overview", p. 1/6 and 1/7		DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L <span style="float: right;">(L)</span> See "Overview", p. 1/6 and 1/7	
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

### Line protection, ETU330 LIG

With adjustable overload protection  $I_r$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$

#### Connection with box terminal

25	3VA2025-6HM36-0AA0	3VA2025-7HM36-0AA0	3VA2025-8HM36-0AA0
40	3VA2040-6HM36-0AA0	3VA2040-7HM36-0AA0	3VA2040-8HM36-0AA0
63	3VA2063-6HM36-0AA0	3VA2063-7HM36-0AA0	3VA2063-8HM36-0AA0
100	3VA2010-6HM36-0AA0	3VA2010-7HM36-0AA0	3VA2010-8HM36-0AA0
25	3VA2125-6HM36-0AA0	3VA2125-7HM36-0AA0	3VA2125-8HM36-0AA0
40	3VA2140-6HM36-0AA0	3VA2140-7HM36-0AA0	3VA2140-8HM36-0AA0
63	3VA2163-6HM36-0AA0	3VA2163-7HM36-0AA0	3VA2163-8HM36-0AA0
100	3VA2110-6HM36-0AA0	3VA2110-7HM36-0AA0	3VA2110-8HM36-0AA0
160	3VA2116-6HM36-0AA0	3VA2116-7HM36-0AA0	3VA2116-8HM36-0AA0

#### Connection with lug terminal

25	3VA2025-6HM32-0AA0	3VA2025-7HM32-0AA0	3VA2025-8HM32-0AA0
40	3VA2040-6HM32-0AA0	3VA2040-7HM32-0AA0	3VA2040-8HM32-0AA0
63	3VA2063-6HM32-0AA0	3VA2063-7HM32-0AA0	3VA2063-8HM32-0AA0
100	3VA2010-6HM32-0AA0	3VA2010-7HM32-0AA0	3VA2010-8HM32-0AA0
25	3VA2125-6HM32-0AA0	3VA2125-7HM32-0AA0	3VA2125-8HM32-0AA0
40	3VA2140-6HM32-0AA0	3VA2140-7HM32-0AA0	3VA2140-8HM32-0AA0
63	3VA2163-6HM32-0AA0	3VA2163-7HM32-0AA0	3VA2163-8HM32-0AA0
100	3VA2110-6HM32-0AA0	3VA2110-7HM32-0AA0	3VA2110-8HM32-0AA0
160	3VA2116-6HM32-0AA0	3VA2116-7HM32-0AA0	3VA2116-8HM32-0AA0
160	3VA2216-6HM32-0AA0	3VA2216-7HM32-0AA0	3VA2216-8HM32-0AA0
250	3VA2225-6HM32-0AA0	3VA2225-7HM32-0AA0	3VA2225-8HM32-0AA0
250	3VA2325-6HM32-0AA0	3VA2325-7HM32-0AA0	3VA2325-8HM32-0AA0
400	3VA2340-6HM32-0AA0	3VA2340-7HM32-0AA0	3VA2340-8HM32-0AA0
400	3VA2440-6HM32-0AA0	3VA2440-7HM32-0AA0	3VA2440-8HM32-0AA0
630	3VA2463-6HM32-0AA0	3VA2463-7HM32-0AA0	3VA2463-8HM32-0AA0

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

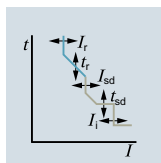


Conne- tion tech- nology	Type	Rated current $I_n$	Current setting of the inverse- time delayed overload protection "L" $I_r$	S function (short-time delayed short-cir- cuit protec- tion "S") $I_{sd}$	Operating current of the instanta- neous short- circuit protec- tion "I" $I_i$	DT	<b><math>I_{cu}</math> up to 55 kA at 415 V, medium breaking capacity M</b> See "Overview", p. 1/6 and 1/7	
A	A	A	A	A	A			

### 3-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



1201\_18430



#### Line and generator protection, ETU350 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$

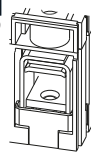
$I_r \times \dots$

#### Connection with box terminal

3VA20	25	10 ... 25	1.5 ... 10	300
	40	16 ... 40	1.5 ... 10	480
	63	25 ... 63	1.5 ... 10	756
	100	40 ... 100	1.5 ... 10	1200
3VA21	25	10 ... 25	1.5 ... 10	300
	40	16 ... 40	1.5 ... 10	480
	63	25 ... 63	1.5 ... 10	756
	100	40 ... 100	1.5 ... 10	1200
	160	63 ... 160	1.5 ... 10	1600

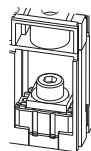
3VA2025-5HN36-0AA0  
3VA2040-5HN36-0AA0  
3VA2063-5HN36-0AA0  
3VA2010-5HN36-0AA0

3VA2125-5HN36-0AA0  
3VA2140-5HN36-0AA0  
3VA2163-5HN36-0AA0  
3VA2110-5HN36-0AA0  
3VA2116-5HN36-0AA0



#### Connection with lug terminal

3VA20	25	10 ... 25	1.5 ... 10	300	3VA2025-5HN32-0AA0 3VA2040-5HN32-0AA0 3VA2063-5HN32-0AA0 3VA2010-5HN32-0AA0
	40	16 ... 40	1.5 ... 10	480	
	63	25 ... 63	1.5 ... 10	756	
	100	40 ... 100	1.5 ... 10	1200	
3VA21	25	10 ... 25	1.5 ... 10	300	3VA2125-5HN32-0AA0 3VA2140-5HN32-0AA0 3VA2163-5HN32-0AA0 3VA2110-5HN32-0AA0 3VA2116-5HN32-0AA0
	40	16 ... 40	1.5 ... 10	480	
	63	25 ... 63	1.5 ... 10	756	
	100	40 ... 100	1.5 ... 10	1200	
	160	63 ... 160	1.5 ... 10	1600	
3VA22	160	63 ... 160	1.5 ... 10	1920	3VA2216-5HN32-0AA0 3VA2225-5HN32-0AA0
	250	100 ... 250	1.5 ... 10	2500	
3VA23	250	100 ... 250	1.5 ... 10	3000	3VA2325-5HN32-0AA0 3VA2340-5HN32-0AA0
	400	160 ... 400	1.5 ... 10	4000	
3VA24	400	160 ... 400	1.5 ... 10	4800 <sup>1)</sup>	3VA2440-5HN32-0AA0 3VA2463-5HN32-0AA0
	630	250 ... 630	1.5 ... 9	5670	



<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H <small>See "Overview", p. 1/6 and 1/7</small>	(H)	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C <small>See "Overview", p. 1/6 and 1/7</small>	(C)	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L <small>See "Overview", p. 1/6 and 1/7</small>	(L)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

### Line and generator protection, ETU350 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$

#### Connection with box terminal

25	3VA2025-6HN36-0AA0	3VA2025-7HN36-0AA0	3VA2025-8HN36-0AA0
40	3VA2040-6HN36-0AA0	3VA2040-7HN36-0AA0	3VA2040-8HN36-0AA0
63	3VA2063-6HN36-0AA0	3VA2063-7HN36-0AA0	3VA2063-8HN36-0AA0
100	3VA2010-6HN36-0AA0	3VA2010-7HN36-0AA0	3VA2010-8HN36-0AA0
25	3VA2125-6HN36-0AA0	3VA2125-7HN36-0AA0	3VA2125-8HN36-0AA0
40	3VA2140-6HN36-0AA0	3VA2140-7HN36-0AA0	3VA2140-8HN36-0AA0
63	3VA2163-6HN36-0AA0	3VA2163-7HN36-0AA0	3VA2163-8HN36-0AA0
100	3VA2110-6HN36-0AA0	3VA2110-7HN36-0AA0	3VA2110-8HN36-0AA0
160	3VA2116-6HN36-0AA0	3VA2116-7HN36-0AA0	3VA2116-8HN36-0AA0

#### Connection with lug terminal

25	3VA2025-6HN32-0AA0	3VA2025-7HN32-0AA0	3VA2025-8HN32-0AA0
40	3VA2040-6HN32-0AA0	3VA2040-7HN32-0AA0	3VA2040-8HN32-0AA0
63	3VA2063-6HN32-0AA0	3VA2063-7HN32-0AA0	3VA2063-8HN32-0AA0
100	3VA2010-6HN32-0AA0	3VA2010-7HN32-0AA0	3VA2010-8HN32-0AA0
25	3VA2125-6HN32-0AA0	3VA2125-7HN32-0AA0	3VA2125-8HN32-0AA0
40	3VA2140-6HN32-0AA0	3VA2140-7HN32-0AA0	3VA2140-8HN32-0AA0
63	3VA2163-6HN32-0AA0	3VA2163-7HN32-0AA0	3VA2163-8HN32-0AA0
100	3VA2110-6HN32-0AA0	3VA2110-7HN32-0AA0	3VA2110-8HN32-0AA0
160	3VA2116-6HN32-0AA0	3VA2116-7HN32-0AA0	3VA2116-8HN32-0AA0
160	3VA2216-6HN32-0AA0	3VA2216-7HN32-0AA0	3VA2216-8HN32-0AA0
250	3VA2225-6HN32-0AA0	3VA2225-7HN32-0AA0	3VA2225-8HN32-0AA0
250	3VA2325-6HN32-0AA0	3VA2325-7HN32-0AA0	3VA2325-8HN32-0AA0
400	3VA2340-6HN32-0AA0	3VA2340-7HN32-0AA0	3VA2340-8HN32-0AA0
400	3VA2440-6HN32-0AA0	3VA2440-7HN32-0AA0	3VA2440-8HN32-0AA0
630	3VA2463-6HN32-0AA0	3VA2463-7HN32-0AA0	3VA2463-8HN32-0AA0

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

3

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Conne-  
tion tech-  
nology

Type

Rated current  
 $I_n$

Current setting of the inverse-time delayed overload protection " $I_r$ "  
 $I_r$

S function (short-time delayed short-circuit protection 'S')  
 $I_{sd}$

Operating current of the instantaneous short-circuit protection 'I'  
 $I_i$

DT

$I_{cu}$  up to 55 kA at 415 V, medium breaking capacity M  
See "Overview", p. 1/6 and 1/7



Article No.  
[www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.)

Basic price per PU

A

A

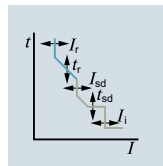
A

A

### 3-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



1201\_18480



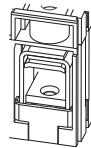
#### Line and generator protection, with display, ETU550 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and adjustable instantaneous short-circuit protection  $I_i$

##### Connection with box terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	15 ... 250	24 ... 400	38 ... 630	60 ... 1000	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	60 ... 1000	96 ... 1600	240 ... 1600	38 ... 300	60 ... 480	95 ... 756	150 ... 1200

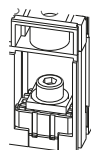
3VA2025-5JP36-0AA0  
3VA2040-5JP36-0AA0  
3VA2063-5JP36-0AA0  
3VA2010-5JP36-0AA0



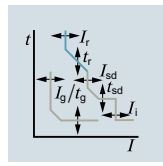
##### Connection with lug terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	15 ... 250	24 ... 400	38 ... 630	60 ... 1000	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	60 ... 1000	96 ... 1600	240 ... 1600	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA22	160	250	100 ... 250	150 ... 2500	375 ... 2500	63 ... 160	96 ... 1600	240 ... 1920	375 ... 3000	600 ... 4000	945 ... 5670	240 ... 1920	375 ... 3000	600 ... 4000	945 ... 5670	240 ... 1920
3VA23	250	400	100 ... 250	150 ... 2500	375 ... 3000	160 ... 400	240 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	750 ... 7000	945 ... 5670	240 ... 1600
3VA24	400	500	160 ... 400	200 ... 500	300 ... 5000	240 ... 4000	300 ... 5000	750 ... 7000	600 ... 6000 <sup>1)</sup>	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	750 ... 7000	945 ... 5670	240 ... 1600

3VA2025-5JP32-0AA0  
3VA2040-5JP32-0AA0  
3VA2063-5JP32-0AA0  
3VA2010-5JP32-0AA0  
3VA2125-5JP32-0AA0  
3VA2140-5JP32-0AA0  
3VA2163-5JP32-0AA0  
3VA2110-5JP32-0AA0  
3VA2116-5JP32-0AA0



1201\_18481



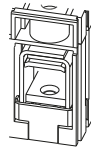
#### Line and generator protection, with display, ETU560 LSIG

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$

##### Connection with box terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	15 ... 250	24 ... 400	38 ... 630	60 ... 1000	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	60 ... 1000	96 ... 1600	240 ... 1600	38 ... 300	60 ... 480	95 ... 756	150 ... 1200

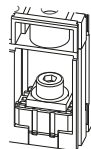
3VA2025-5JQ36-0AA0  
3VA2040-5JQ36-0AA0  
3VA2063-5JQ36-0AA0  
3VA2010-5JQ36-0AA0  
3VA2125-5JQ36-0AA0  
3VA2140-5JQ36-0AA0  
3VA2163-5JQ36-0AA0  
3VA2110-5JQ36-0AA0  
3VA2116-5JQ36-0AA0



##### Connection with lug terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	15 ... 250	24 ... 400	38 ... 630	60 ... 1000	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	60 ... 1000	96 ... 1600	240 ... 1600	38 ... 300	60 ... 480	95 ... 756	150 ... 1200
3VA22	160	250	100 ... 250	150 ... 2500	375 ... 2500	63 ... 160	96 ... 1600	240 ... 1920	375 ... 3000	600 ... 4000	945 ... 5670	240 ... 1920	375 ... 3000	600 ... 4000	945 ... 5670	240 ... 1920
3VA23	250	400	100 ... 250	150 ... 2500	375 ... 3000	160 ... 400	240 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	750 ... 7000	945 ... 5670	240 ... 1600
3VA24	400	500	160 ... 400	200 ... 500	300 ... 5000	240 ... 4000	300 ... 5000	750 ... 7000	600 ... 6000 <sup>1)</sup>	600 ... 4000	600 ... 4000	600 ... 4000	600 ... 4000	750 ... 7000	945 ... 5670	240 ... 1600

3VA2025-5JQ32-0AA0  
3VA2040-5JQ32-0AA0  
3VA2063-5JQ32-0AA0  
3VA2010-5JQ32-0AA0  
3VA2125-5JQ32-0AA0  
3VA2140-5JQ32-0AA0  
3VA2163-5JQ32-0AA0  
3VA2110-5JQ32-0AA0  
3VA2116-5JQ32-0AA0



<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H <small>See "Overview", p. 1/6 and 1/7</small>	H	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C <small>See "Overview", p. 1/6 and 1/7</small>	C	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L <small>See "Overview", p. 1/6 and 1/7</small>	L
$I_n$		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU
A									

### Line and generator protection, with display, ETU550 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and adjustable instantaneous short-circuit protection  $I_i$

#### Connection with box terminal

25	<a href="#">3VA2025-6JP36-0AA0</a>	<a href="#">3VA2025-7JP36-0AA0</a>	<a href="#">3VA2025-8JP36-0AA0</a>
40	<a href="#">3VA2040-6JP36-0AA0</a>	<a href="#">3VA2040-7JP36-0AA0</a>	<a href="#">3VA2040-8JP36-0AA0</a>
63	<a href="#">3VA2063-6JP36-0AA0</a>	<a href="#">3VA2063-7JP36-0AA0</a>	<a href="#">3VA2063-8JP36-0AA0</a>
100	<a href="#">3VA2010-6JP36-0AA0</a>	<a href="#">3VA2010-7JP36-0AA0</a>	<a href="#">3VA2010-8JP36-0AA0</a>
25	<a href="#">3VA2125-6JP36-0AA0</a>	<a href="#">3VA2125-7JP36-0AA0</a>	<a href="#">3VA2125-8JP36-0AA0</a>
40	<a href="#">3VA2140-6JP36-0AA0</a>	<a href="#">3VA2140-7JP36-0AA0</a>	<a href="#">3VA2140-8JP36-0AA0</a>
63	<a href="#">3VA2163-6JP36-0AA0</a>	<a href="#">3VA2163-7JP36-0AA0</a>	<a href="#">3VA2163-8JP36-0AA0</a>
100	<a href="#">3VA2110-6JP36-0AA0</a>	<a href="#">3VA2110-7JP36-0AA0</a>	<a href="#">3VA2110-8JP36-0AA0</a>
160	<a href="#">3VA2116-6JP36-0AA0</a>	<a href="#">3VA2116-7JP36-0AA0</a>	<a href="#">3VA2116-8JP36-0AA0</a>

#### Connection with lug terminal

25	<a href="#">3VA2025-6JP32-0AA0</a>	<a href="#">3VA2025-7JP32-0AA0</a>	<a href="#">3VA2025-8JP32-0AA0</a>
40	<a href="#">3VA2040-6JP32-0AA0</a>	<a href="#">3VA2040-7JP32-0AA0</a>	<a href="#">3VA2040-8JP32-0AA0</a>
63	<a href="#">3VA2063-6JP32-0AA0</a>	<a href="#">3VA2063-7JP32-0AA0</a>	<a href="#">3VA2063-8JP32-0AA0</a>
100	<a href="#">3VA2010-6JP32-0AA0</a>	<a href="#">3VA2010-7JP32-0AA0</a>	<a href="#">3VA2010-8JP32-0AA0</a>
25	<a href="#">3VA2125-6JP32-0AA0</a>	<a href="#">3VA2125-7JP32-0AA0</a>	<a href="#">3VA2125-8JP32-0AA0</a>
40	<a href="#">3VA2140-6JP32-0AA0</a>	<a href="#">3VA2140-7JP32-0AA0</a>	<a href="#">3VA2140-8JP32-0AA0</a>
63	<a href="#">3VA2163-6JP32-0AA0</a>	<a href="#">3VA2163-7JP32-0AA0</a>	<a href="#">3VA2163-8JP32-0AA0</a>
100	<a href="#">3VA2110-6JP32-0AA0</a>	<a href="#">3VA2110-7JP32-0AA0</a>	<a href="#">3VA2110-8JP32-0AA0</a>
160	<a href="#">3VA2116-6JP32-0AA0</a>	<a href="#">3VA2116-7JP32-0AA0</a>	<a href="#">3VA2116-8JP32-0AA0</a>
160	<a href="#">3VA2216-6JP32-0AA0</a>	<a href="#">3VA2216-7JP32-0AA0</a>	<a href="#">3VA2216-8JP32-0AA0</a>
250	<a href="#">3VA2225-6JP32-0AA0</a>	<a href="#">3VA2225-7JP32-0AA0</a>	<a href="#">3VA2225-8JP32-0AA0</a>
250	<a href="#">3VA2325-6JP32-0AA0</a>	<a href="#">3VA2325-7JP32-0AA0</a>	<a href="#">3VA2325-8JP32-0AA0</a>
400	<a href="#">3VA2340-6JP32-0AA0</a>	<a href="#">3VA2340-7JP32-0AA0</a>	<a href="#">3VA2340-8JP32-0AA0</a>
400	<a href="#">3VA2440-6JP32-0AA0</a>	<a href="#">3VA2440-7JP32-0AA0</a>	<a href="#">3VA2440-8JP32-0AA0</a>
500	<a href="#">3VA2450-6JP32-0AA0</a>	<a href="#">3VA2450-7JP32-0AA0</a>	---
630	<a href="#">3VA2463-6JP32-0AA0</a>	<a href="#">3VA2463-7JP32-0AA0</a>	<a href="#">3VA2463-8JP32-0AA0</a>

### Line and generator protection, with display, ETU560 LSIg

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$

#### Connection with box terminal

25	<a href="#">3VA2025-6JQ36-0AA0</a>	<a href="#">3VA2025-7JQ36-0AA0</a>	<a href="#">3VA2025-8JQ36-0AA0</a>
40	<a href="#">3VA2040-6JQ36-0AA0</a>	<a href="#">3VA2040-7JQ36-0AA0</a>	<a href="#">3VA2040-8JQ36-0AA0</a>
63	<a href="#">3VA2063-6JQ36-0AA0</a>	<a href="#">3VA2063-7JQ36-0AA0</a>	<a href="#">3VA2063-8JQ36-0AA0</a>
100	<a href="#">3VA2010-6JQ36-0AA0</a>	<a href="#">3VA2010-7JQ36-0AA0</a>	<a href="#">3VA2010-8JQ36-0AA0</a>
25	<a href="#">3VA2125-6JQ36-0AA0</a>	<a href="#">3VA2125-7JQ36-0AA0</a>	<a href="#">3VA2125-8JQ36-0AA0</a>
40	<a href="#">3VA2140-6JQ36-0AA0</a>	<a href="#">3VA2140-7JQ36-0AA0</a>	<a href="#">3VA2140-8JQ36-0AA0</a>
63	<a href="#">3VA2163-6JQ36-0AA0</a>	<a href="#">3VA2163-7JQ36-0AA0</a>	<a href="#">3VA2163-8JQ36-0AA0</a>
100	<a href="#">3VA2110-6JQ36-0AA0</a>	<a href="#">3VA2110-7JQ36-0AA0</a>	<a href="#">3VA2110-8JQ36-0AA0</a>
160	<a href="#">3VA2116-6JQ36-0AA0</a>	<a href="#">3VA2116-7JQ36-0AA0</a>	<a href="#">3VA2116-8JQ36-0AA0</a>

#### Connection with lug terminal

25	<a href="#">3VA2025-6JQ32-0AA0</a>	<a href="#">3VA2025-7JQ32-0AA0</a>	<a href="#">3VA2025-8JQ32-0AA0</a>
40	<a href="#">3VA2040-6JQ32-0AA0</a>	<a href="#">3VA2040-7JQ32-0AA0</a>	<a href="#">3VA2040-8JQ32-0AA0</a>
63	<a href="#">3VA2063-6JQ32-0AA0</a>	<a href="#">3VA2063-7JQ32-0AA0</a>	<a href="#">3VA2063-8JQ32-0AA0</a>
100	<a href="#">3VA2010-6JQ32-0AA0</a>	<a href="#">3VA2010-7JQ32-0AA0</a>	<a href="#">3VA2010-8JQ32-0AA0</a>
25	<a href="#">3VA2125-6JQ32-0AA0</a>	<a href="#">3VA2125-7JQ32-0AA0</a>	<a href="#">3VA2125-8JQ32-0AA0</a>
40	<a href="#">3VA2140-6JQ32-0AA0</a>	<a href="#">3VA2140-7JQ32-0AA0</a>	<a href="#">3VA2140-8JQ32-0AA0</a>
63	<a href="#">3VA2163-6JQ32-0AA0</a>	<a href="#">3VA2163-7JQ32-0AA0</a>	<a href="#">3VA2163-8JQ32-0AA0</a>
100	<a href="#">3VA2110-6JQ32-0AA0</a>	<a href="#">3VA2110-7JQ32-0AA0</a>	<a href="#">3VA2110-8JQ32-0AA0</a>
160	<a href="#">3VA2116-6JQ32-0AA0</a>	<a href="#">3VA2116-7JQ32-0AA0</a>	<a href="#">3VA2116-8JQ32-0AA0</a>
160	<a href="#">3VA2216-6JQ32-0AA0</a>	<a href="#">3VA2216-7JQ32-0AA0</a>	<a href="#">3VA2216-8JQ32-0AA0</a>
250	<a href="#">3VA2225-6JQ32-0AA0</a>	<a href="#">3VA2225-7JQ32-0AA0</a>	<a href="#">3VA2225-8JQ32-0AA0</a>
250	<a href="#">3VA2325-6JQ32-0AA0</a>	<a href="#">3VA2325-7JQ32-0AA0</a>	<a href="#">3VA2325-8JQ32-0AA0</a>
400	<a href="#">3VA2340-6JQ32-0AA0</a>	<a href="#">3VA2340-7JQ32-0AA0</a>	<a href="#">3VA2340-8JQ32-0AA0</a>
400	<a href="#">3VA2440-6JQ32-0AA0</a>	<a href="#">3VA2440-7JQ32-0AA0</a>	<a href="#">3VA2440-8JQ32-0AA0</a>
500	<a href="#">3VA2450-6JQ32-0AA0</a>	<a href="#">3VA2450-7JQ32-0AA0</a>	---
630	<a href="#">3VA2463-6JQ32-0AA0</a>	<a href="#">3VA2463-7JQ32-0AA0</a>	<a href="#">3VA2463-8JQ32-0AA0</a>

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Conne-  
ction  
tech-  
nology

Type

Rated  
current  
 $I_n$

Current setting  
of the inverse-  
time delayed  
overload  
protection "L"  
 $I_r$

S function  
(short-time  
delayed  
short-circuit  
protection  
"S")  
 $I_{sd}$

Operating  
current of the  
instanta-  
neous short-  
circuit pro-  
tection "I"  
 $I_i$

DT

**$I_{cu}$  up to 55 kA at 415 V,  
medium breaking capacity M** M  
See "Overview", p. 1/6 and 1/7

Article No.  
[www.siemens.com/  
product?Article No.](http://www.siemens.com/product?Article No.)

Basic  
price  
per PU

A

A

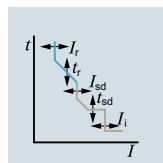
A

A

### 3-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



1201\_18482



#### Line and generator protection, with display, with metering function, ETU850 LSI

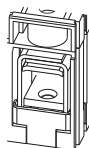
With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and adjustable instantaneous short-circuit protection  $I_i$

##### Connection with box terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
3VA21	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
	160	63 ... 160	96 ... 1600	240 ... 1600	

[3VA2025-5KP36-0AA0](#)  
[3VA2040-5KP36-0AA0](#)  
[3VA2063-5KP36-0AA0](#)  
[3VA2010-5KP36-0AA0](#)

[3VA2125-5KP36-0AA0](#)  
[3VA2140-5KP36-0AA0](#)  
[3VA2163-5KP36-0AA0](#)  
[3VA2110-5KP36-0AA0](#)  
[3VA2116-5KP36-0AA0](#)

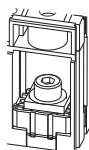


##### Connection with lug terminal

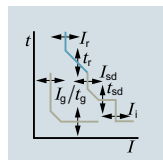
3VA20	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
3VA21	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
	160	63 ... 160	96 ... 1600	240 ... 1600	
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	
	250	100 ... 250	150 ... 2500	375 ... 2500	
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	
	400	160 ... 400	240 ... 4000	600 ... 4000	
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	
	500	200 ... 500	300 ... 5000	750 ... 7000	
	630	250 ... 630	378 ... 5670	945 ... 5670	

[3VA2025-5KP32-0AA0](#)  
[3VA2040-5KP32-0AA0](#)  
[3VA2063-5KP32-0AA0](#)  
[3VA2010-5KP32-0AA0](#)

[3VA2125-5KP32-0AA0](#)  
[3VA2140-5KP32-0AA0](#)  
[3VA2163-5KP32-0AA0](#)  
[3VA2110-5KP32-0AA0](#)  
[3VA2116-5KP32-0AA0](#)



1201\_18483



#### Line and generator protection, with display, with metering function, ETU860 LSI

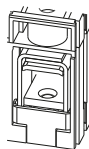
With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$

##### Connection with box terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
3VA21	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
	160	63 ... 160	96 ... 1600	240 ... 1600	

[3VA2025-5KQ36-0AA0](#)  
[3VA2040-5KQ36-0AA0](#)  
[3VA2063-5KQ36-0AA0](#)  
[3VA2010-5KQ36-0AA0](#)

[3VA2125-5KQ36-0AA0](#)  
[3VA2140-5KQ36-0AA0](#)  
[3VA2163-5KQ36-0AA0](#)  
[3VA2110-5KQ36-0AA0](#)  
[3VA2116-5KQ36-0AA0](#)

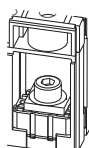


##### Connection with lug terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
3VA21	25	10 ... 25	15 ... 250	38 ... 300	
	40	16 ... 40	24 ... 400	60 ... 480	
	63	25 ... 63	38 ... 630	95 ... 756	
	100	40 ... 100	60 ... 1000	150 ... 1200	
	160	63 ... 160	96 ... 1600	240 ... 1600	
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	
	250	100 ... 250	150 ... 2500	375 ... 2500	
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	
	400	160 ... 400	240 ... 4000	600 ... 4000	
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	
	500	200 ... 500	300 ... 5000	750 ... 7000	
	630	250 ... 630	378 ... 5670	945 ... 5670	

[3VA2025-5KQ32-0AA0](#)  
[3VA2040-5KQ32-0AA0](#)  
[3VA2063-5KQ32-0AA0](#)  
[3VA2010-5KQ32-0AA0](#)

[3VA2125-5KQ32-0AA0](#)  
[3VA2140-5KQ32-0AA0](#)  
[3VA2163-5KQ32-0AA0](#)  
[3VA2110-5KQ32-0AA0](#)  
[3VA2116-5KQ32-0AA0](#)



<sup>1)</sup> At breaking capacity L 4400 A



## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C See "Overview", p. 1/6 and 1/7	(C)	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L See "Overview", p. 1/6 and 1/7	(L)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU
A									

**Line and generator protection, with display, with metering function, ETU850 LSI**With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and adjustable instantaneous short-circuit protection  $I_i$ **Connection with box terminal**

25	3VA2025-6KP36-0AA0	3VA2025-7KP36-0AA0	3VA2025-8KP36-0AA0
40	3VA2040-6KP36-0AA0	3VA2040-7KP36-0AA0	3VA2040-8KP36-0AA0
63	3VA2063-6KP36-0AA0	3VA2063-7KP36-0AA0	3VA2063-8KP36-0AA0
100	3VA2010-6KP36-0AA0	3VA2010-7KP36-0AA0	3VA2010-8KP36-0AA0
25	3VA2125-6KP36-0AA0	3VA2125-7KP36-0AA0	3VA2125-8KP36-0AA0
40	3VA2140-6KP36-0AA0	3VA2140-7KP36-0AA0	3VA2140-8KP36-0AA0
63	3VA2163-6KP36-0AA0	3VA2163-7KP36-0AA0	3VA2163-8KP36-0AA0
100	3VA2110-6KP36-0AA0	3VA2110-7KP36-0AA0	3VA2110-8KP36-0AA0
160	3VA2116-6KP36-0AA0	3VA2116-7KP36-0AA0	3VA2116-8KP36-0AA0

**Connection with lug terminal**

25	3VA2025-6KP32-0AA0	3VA2025-7KP32-0AA0	3VA2025-8KP32-0AA0
40	3VA2040-6KP32-0AA0	3VA2040-7KP32-0AA0	3VA2040-8KP32-0AA0
63	3VA2063-6KP32-0AA0	3VA2063-7KP32-0AA0	3VA2063-8KP32-0AA0
100	3VA2010-6KP32-0AA0	3VA2010-7KP32-0AA0	3VA2010-8KP32-0AA0
25	3VA2125-6KP32-0AA0	3VA2125-7KP32-0AA0	3VA2125-8KP32-0AA0
40	3VA2140-6KP32-0AA0	3VA2140-7KP32-0AA0	3VA2140-8KP32-0AA0
63	3VA2163-6KP32-0AA0	3VA2163-7KP32-0AA0	3VA2163-8KP32-0AA0
100	3VA2110-6KP32-0AA0	3VA2110-7KP32-0AA0	3VA2110-8KP32-0AA0
160	3VA2116-6KP32-0AA0	3VA2116-7KP32-0AA0	3VA2116-8KP32-0AA0
160	3VA2216-6KP32-0AA0	3VA2216-7KP32-0AA0	3VA2216-8KP32-0AA0
250	3VA2225-6KP32-0AA0	3VA2225-7KP32-0AA0	3VA2225-8KP32-0AA0
250	3VA2325-6KP32-0AA0	3VA2325-7KP32-0AA0	1) <sup>1)</sup> 3VA2325-8KP32-0AA0
400	3VA2340-6KP32-0AA0	3VA2340-7KP32-0AA0	1) <sup>1)</sup> 3VA2340-8KP32-0AA0
400	3VA2440-6KP32-0AA0	3VA2440-7KP32-0AA0	1) <sup>1)</sup> 3VA2440-8KP32-0AA0
500	3VA2450-6KP32-0AA0	3VA2450-7KP32-0AA0	1) <sup>1)</sup> --
630	3VA2463-6KP32-0AA0	3VA2463-7KP32-0AA0	1) <sup>1)</sup> 3VA2463-8KP32-0AA0

**Line and generator protection, with display, with metering function, ETU860 LSI G**With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$ , adjustable instantaneous short-circuit protection  $I_i$  and adjustable ground-fault protection  $I_g$ **Connection with box terminal**

25	3VA2025-6KQ36-0AA0	3VA2025-7KQ36-0AA0	3VA2025-8KQ36-0AA0
40	3VA2040-6KQ36-0AA0	3VA2040-7KQ36-0AA0	3VA2040-8KQ36-0AA0
63	3VA2063-6KQ36-0AA0	3VA2063-7KQ36-0AA0	3VA2063-8KQ36-0AA0
100	3VA2010-6KQ36-0AA0	3VA2010-7KQ36-0AA0	3VA2010-8KQ36-0AA0
25	3VA2125-6KQ36-0AA0	3VA2125-7KQ36-0AA0	3VA2125-8KQ36-0AA0
40	3VA2140-6KQ36-0AA0	3VA2140-7KQ36-0AA0	3VA2140-8KQ36-0AA0
63	3VA2163-6KQ36-0AA0	3VA2163-7KQ36-0AA0	3VA2163-8KQ36-0AA0
100	3VA2110-6KQ36-0AA0	3VA2110-7KQ36-0AA0	3VA2110-8KQ36-0AA0
160	3VA2116-6KQ36-0AA0	3VA2116-7KQ36-0AA0	3VA2116-8KQ36-0AA0

**Connection with lug terminal**

25	3VA2025-6KQ32-0AA0	3VA2025-7KQ32-0AA0	3VA2025-8KQ32-0AA0
40	3VA2040-6KQ32-0AA0	3VA2040-7KQ32-0AA0	3VA2040-8KQ32-0AA0
63	3VA2063-6KQ32-0AA0	3VA2063-7KQ32-0AA0	3VA2063-8KQ32-0AA0
100	3VA2010-6KQ32-0AA0	3VA2010-7KQ32-0AA0	3VA2010-8KQ32-0AA0
25	3VA2125-6KQ32-0AA0	3VA2125-7KQ32-0AA0	3VA2125-8KQ32-0AA0
40	3VA2140-6KQ32-0AA0	3VA2140-7KQ32-0AA0	3VA2140-8KQ32-0AA0
63	3VA2163-6KQ32-0AA0	3VA2163-7KQ32-0AA0	3VA2163-8KQ32-0AA0
100	3VA2110-6KQ32-0AA0	3VA2110-7KQ32-0AA0	3VA2110-8KQ32-0AA0
160	3VA2116-6KQ32-0AA0	3VA2116-7KQ32-0AA0	3VA2116-8KQ32-0AA0
160	3VA2216-6KQ32-0AA0	3VA2216-7KQ32-0AA0	3VA2216-8KQ32-0AA0
250	3VA2225-6KQ32-0AA0	3VA2225-7KQ32-0AA0	3VA2225-8KQ32-0AA0
250	3VA2325-6KQ32-0AA0	3VA2325-7KQ32-0AA0	1) <sup>1)</sup> 3VA2325-8KQ32-0AA0
400	3VA2340-6KQ32-0AA0	3VA2340-7KQ32-0AA0	1) <sup>1)</sup> 3VA2340-8KQ32-0AA0
400	3VA2440-6KQ32-0AA0	3VA2440-7KQ32-0AA0	1) <sup>1)</sup> 3VA2440-8KQ32-0AA0
500	3VA2450-6KQ32-0AA0	3VA2450-7KQ32-0AA0	1) <sup>1)</sup> --
630	3VA2463-6KQ32-0AA0	3VA2463-7KQ32-0AA0	1) <sup>1)</sup> 3VA2463-8KQ32-0AA0

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Conne-  
ction tech-  
nology

Type

Rated current  
 $I_n$ Current set-  
ting of the  
inverse-time  
delayed  
overload  
protection "L"  
 $I_r$ S function  
(short-time  
delayed  
short-cir-  
cuit protec-  
tion "S")  
 $I_{sd}$ Operating  
current of the  
instanta-  
neous short-  
circuit pro-  
tection "I"  
 $I_i$ 

DT

 **$I_{cu}$  up to 55 kA at 415 V,  
medium breaking capacity M**

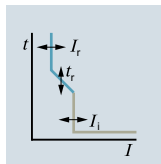
See "Overview", p. 1/6 and 1/7

Article No.  
[www.siemens.com/  
product?Article No.](http://www.siemens.com/product?Article No.)Basic  
price  
per PU

### 4-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



i201\_18830



#### Line protection, ETU320 LI

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 %

#### Connection with box terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	--	38 ... 300	60 ... 480	95 ... 756	150 ... 1200			
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	--	38 ... 300	60 ... 480	95 ... 756	150 ... 1200	240 ... 1600

3VA2025-5HL46-0AA0  
3VA2040-5HL46-0AA0  
3VA2063-5HL46-0AA0  
3VA2010-5HL46-0AA0

3VA2125-5HL46-0AA0  
3VA2140-5HL46-0AA0  
3VA2163-5HL46-0AA0  
3VA2110-5HL46-0AA0  
3VA2116-5HL46-0AA0

#### Connection with lug terminal

3VA20	25	40	63	100	10 ... 25	16 ... 40	25 ... 63	40 ... 100	--	38 ... 300	60 ... 480	95 ... 756	150 ... 1200			
3VA21	25	40	63	100	160	10 ... 25	16 ... 40	25 ... 63	40 ... 100	63 ... 160	--	38 ... 300	60 ... 480	95 ... 756	150 ... 1200	240 ... 1600
3VA22	160	250	63 ... 160	100 ... 250	--	--	--	--	--	240 ... 1920	375 ... 2500	--	--			
3VA23	250	400	100 ... 250	160 ... 400	--	--	--	--	--	375 ... 3000	600 ... 4000	--	--			
3VA24	400	630	160 ... 400	250 ... 630	--	--	--	--	--	600 ... 4800 <sup>1)</sup>	945 ... 5670	--	--			

3VA2025-5HL42-0AA0  
3VA2040-5HL42-0AA0  
3VA2063-5HL42-0AA0  
3VA2010-5HL42-0AA0

3VA2125-5HL42-0AA0  
3VA2140-5HL42-0AA0  
3VA2163-5HL42-0AA0  
3VA2110-5HL42-0AA0  
3VA2116-5HL42-0AA0

3VA2216-5HL42-0AA0  
3VA2225-5HL42-0AA0

3VA2325-5HL42-0AA0  
3VA2340-5HL42-0AA0

3VA2440-5HL42-0AA0  
3VA2463-5HL42-0AA0

<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	<b><math>I_{cu}</math> up to 85 kA at 415 V, high breaking capacity H</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span> See "Overview", p. 1/6 and 1/7	DT	<b><math>I_{cu}</math> up to 110 kA at 415 V, very high breaking capacity C</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">C</span> See "Overview", p. 1/6 and 1/7	DT	<b><math>I_{cu}</math> up to 150 kA at 415 V, extremely high breaking capacity L</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">L</span> See "Overview", p. 1/6 and 1/7
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>
A		Basic price per PU		Basic price per PU		Basic price per PU

### Line protection, ETU320 LI

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 %

#### Connection with box terminal

25	<a href="#">3VA2025-6HL46-0AA0</a>	<a href="#">3VA2025-7HL46-0AA0</a>	<a href="#">3VA2025-8HL46-0AA0</a>
40	<a href="#">3VA2040-6HL46-0AA0</a>	<a href="#">3VA2040-7HL46-0AA0</a>	<a href="#">3VA2040-8HL46-0AA0</a>
63	<a href="#">3VA2063-6HL46-0AA0</a>	<a href="#">3VA2063-7HL46-0AA0</a>	<a href="#">3VA2063-8HL46-0AA0</a>
100	<a href="#">3VA2010-6HL46-0AA0</a>	<a href="#">3VA2010-7HL46-0AA0</a>	<a href="#">3VA2010-8HL46-0AA0</a>
25	<a href="#">3VA2125-6HL46-0AA0</a>	<a href="#">3VA2125-7HL46-0AA0</a>	<a href="#">3VA2125-8HL46-0AA0</a>
40	<a href="#">3VA2140-6HL46-0AA0</a>	<a href="#">3VA2140-7HL46-0AA0</a>	<a href="#">3VA2140-8HL46-0AA0</a>
63	<a href="#">3VA2163-6HL46-0AA0</a>	<a href="#">3VA2163-7HL46-0AA0</a>	<a href="#">3VA2163-8HL46-0AA0</a>
100	<a href="#">3VA2110-6HL46-0AA0</a>	<a href="#">3VA2110-7HL46-0AA0</a>	<a href="#">3VA2110-8HL46-0AA0</a>
160	<a href="#">3VA2116-6HL46-0AA0</a>	<a href="#">3VA2116-7HL46-0AA0</a>	<a href="#">3VA2116-8HL46-0AA0</a>

#### Connection with lug terminal

25	<a href="#">3VA2025-6HL42-0AA0</a>	<a href="#">3VA2025-7HL42-0AA0</a>	<a href="#">3VA2025-8HL42-0AA0</a>
40	<a href="#">3VA2040-6HL42-0AA0</a>	<a href="#">3VA2040-7HL42-0AA0</a>	<a href="#">3VA2040-8HL42-0AA0</a>
63	<a href="#">3VA2063-6HL42-0AA0</a>	<a href="#">3VA2063-7HL42-0AA0</a>	<a href="#">3VA2063-8HL42-0AA0</a>
100	<a href="#">3VA2010-6HL42-0AA0</a>	<a href="#">3VA2010-7HL42-0AA0</a>	<a href="#">3VA2010-8HL42-0AA0</a>
25	<a href="#">3VA2125-6HL42-0AA0</a>	<a href="#">3VA2125-7HL42-0AA0</a>	<a href="#">3VA2125-8HL42-0AA0</a>
40	<a href="#">3VA2140-6HL42-0AA0</a>	<a href="#">3VA2140-7HL42-0AA0</a>	<a href="#">3VA2140-8HL42-0AA0</a>
63	<a href="#">3VA2163-6HL42-0AA0</a>	<a href="#">3VA2163-7HL42-0AA0</a>	<a href="#">3VA2163-8HL42-0AA0</a>
100	<a href="#">3VA2110-6HL42-0AA0</a>	<a href="#">3VA2110-7HL42-0AA0</a>	<a href="#">3VA2110-8HL42-0AA0</a>
160	<a href="#">3VA2116-6HL42-0AA0</a>	<a href="#">3VA2116-7HL42-0AA0</a>	<a href="#">3VA2116-8HL42-0AA0</a>
160	<a href="#">3VA2216-6HL42-0AA0</a>	<a href="#">3VA2216-7HL42-0AA0</a>	<a href="#">3VA2216-8HL42-0AA0</a>
250	<a href="#">3VA2225-6HL42-0AA0</a>	<a href="#">3VA2225-7HL42-0AA0</a>	<a href="#">3VA2225-8HL42-0AA0</a>
250	<a href="#">3VA2325-6HL42-0AA0</a>	<a href="#">3VA2325-7HL42-0AA0</a>	<a href="#">3VA2325-8HL42-0AA0</a>
400	<a href="#">3VA2340-6HL42-0AA0</a>	<a href="#">3VA2340-7HL42-0AA0</a>	<a href="#">3VA2340-8HL42-0AA0</a>
400	<a href="#">3VA2440-6HL42-0AA0</a>	<a href="#">3VA2440-7HL42-0AA0</a>	<a href="#">3VA2440-8HL42-0AA0</a>
630	<a href="#">3VA2463-6HL42-0AA0</a>	<a href="#">3VA2463-7HL42-0AA0</a>	<a href="#">3VA2463-8HL42-0AA0</a>

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

3

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

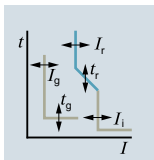


Conne- tion tech- nology	Type	Rated current $I_n$	Current set- ting of the inverse-time delayed overload protection "L" $I_r$	Operating current of the instanta- neous short- circuit protec- tion "I" $I_i$	Ground- fault pro- tection G $I_g$	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M See "Overview", p. 1/6 and 1/7
		A	A	A	A		Basic price per PU

### 4-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



I201\_18829



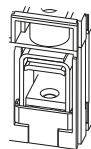
#### Line protection, ETU330 LIG

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 % and adjustable ground-fault protection  $I_g$

#### Connection with box terminal

3VA20	25	10 ... 25	38 ... 300	15 ... 25
	40	16 ... 40	60 ... 480	16 ... 40
	63	25 ... 63	95 ... 756	16 ... 63
	100	40 ... 100	150 ... 1200	20 ... 100
3VA21	25	10 ... 25	38 ... 300	15 ... 25
	40	16 ... 40	60 ... 480	16 ... 40
	63	25 ... 63	95 ... 756	16 ... 63
	100	40 ... 100	150 ... 1200	20 ... 100
	160	63 ... 160	240 ... 1600	32 ... 160

3VA2025-5HM46-0AA0  
3VA2040-5HM46-0AA0  
3VA2063-5HM46-0AA0  
3VA2010-5HM46-0AA0

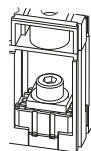


#### Connection with lug terminal

3VA20	25	10 ... 25	38 ... 300	15 ... 25
	40	16 ... 40	60 ... 480	16 ... 40
	63	25 ... 63	95 ... 756	16 ... 63
	100	40 ... 100	150 ... 1200	20 ... 100
3VA21	25	10 ... 25	38 ... 300	15 ... 25
	40	16 ... 40	60 ... 480	16 ... 40
	63	25 ... 63	95 ... 756	16 ... 63
	100	40 ... 100	150 ... 1200	20 ... 100
	160	63 ... 160	240 ... 1600	32 ... 160
	3VA22	160	63 ... 160	240 ... 1920
	250	100 ... 250	375 ... 2500	50 ... 250
3VA23	250	100 ... 250	375 ... 3000	50 ... 250
	400	160 ... 400	600 ... 4000	80 ... 400
3VA24	400	160 ... 400	600 ... 4800 <sup>1)</sup>	80 ... 400
	630	250 ... 630	945 ... 5670	126 ... 630

3VA2025-5HM42-0AA0  
3VA2040-5HM42-0AA0  
3VA2063-5HM42-0AA0  
3VA2010-5HM42-0AA0

3VA2125-5HM42-0AA0  
3VA2140-5HM42-0AA0  
3VA2163-5HM42-0AA0  
3VA2110-5HM42-0AA0  
3VA2116-5HM42-0AA0



<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C See "Overview", p. 1/6 and 1/7	(C)	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L See "Overview", p. 1/6 and 1/7	(L)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Basic price per PU
A									

### Line protection, ETU330 LIG

With adjustable overload protection  $I_r$  and adjustable instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 % and adjustable ground-fault protection  $I_g$

#### Connection with box terminal

25	<a href="#">3VA2025-6HM46-0AA0</a>	<a href="#">3VA2025-7HM46-0AA0</a>	<a href="#">3VA2025-8HM46-0AA0</a>
40	<a href="#">3VA2040-6HM46-0AA0</a>	<a href="#">3VA2040-7HM46-0AA0</a>	<a href="#">3VA2040-8HM46-0AA0</a>
63	<a href="#">3VA2063-6HM46-0AA0</a>	<a href="#">3VA2063-7HM46-0AA0</a>	<a href="#">3VA2063-8HM46-0AA0</a>
100	<a href="#">3VA2010-6HM46-0AA0</a>	<a href="#">3VA2010-7HM46-0AA0</a>	<a href="#">3VA2010-8HM46-0AA0</a>
25	<a href="#">3VA2125-6HM46-0AA0</a>	<a href="#">3VA2125-7HM46-0AA0</a>	<a href="#">3VA2125-8HM46-0AA0</a>
40	<a href="#">3VA2140-6HM46-0AA0</a>	<a href="#">3VA2140-7HM46-0AA0</a>	<a href="#">3VA2140-8HM46-0AA0</a>
63	<a href="#">3VA2163-6HM46-0AA0</a>	<a href="#">3VA2163-7HM46-0AA0</a>	<a href="#">3VA2163-8HM46-0AA0</a>
100	<a href="#">3VA2110-6HM46-0AA0</a>	<a href="#">3VA2110-7HM46-0AA0</a>	<a href="#">3VA2110-8HM46-0AA0</a>
160	<a href="#">3VA2116-6HM46-0AA0</a>	<a href="#">3VA2116-7HM46-0AA0</a>	<a href="#">3VA2116-8HM46-0AA0</a>

#### Connection with lug terminal

25	<a href="#">3VA2025-6HM42-0AA0</a>	<a href="#">3VA2025-7HM42-0AA0</a>	<a href="#">3VA2025-8HM42-0AA0</a>
40	<a href="#">3VA2040-6HM42-0AA0</a>	<a href="#">3VA2040-7HM42-0AA0</a>	<a href="#">3VA2040-8HM42-0AA0</a>
63	<a href="#">3VA2063-6HM42-0AA0</a>	<a href="#">3VA2063-7HM42-0AA0</a>	<a href="#">3VA2063-8HM42-0AA0</a>
100	<a href="#">3VA2010-6HM42-0AA0</a>	<a href="#">3VA2010-7HM42-0AA0</a>	<a href="#">3VA2010-8HM42-0AA0</a>
25	<a href="#">3VA2125-6HM42-0AA0</a>	<a href="#">3VA2125-7HM42-0AA0</a>	<a href="#">3VA2125-8HM42-0AA0</a>
40	<a href="#">3VA2140-6HM42-0AA0</a>	<a href="#">3VA2140-7HM42-0AA0</a>	<a href="#">3VA2140-8HM42-0AA0</a>
63	<a href="#">3VA2163-6HM42-0AA0</a>	<a href="#">3VA2163-7HM42-0AA0</a>	<a href="#">3VA2163-8HM42-0AA0</a>
100	<a href="#">3VA2110-6HM42-0AA0</a>	<a href="#">3VA2110-7HM42-0AA0</a>	<a href="#">3VA2110-8HM42-0AA0</a>
160	<a href="#">3VA2116-6HM42-0AA0</a>	<a href="#">3VA2116-7HM42-0AA0</a>	<a href="#">3VA2116-8HM42-0AA0</a>
160	<a href="#">3VA2216-6HM42-0AA0</a>	<a href="#">3VA2216-7HM42-0AA0</a>	<a href="#">3VA2216-8HM42-0AA0</a>
250	<a href="#">3VA2225-6HM42-0AA0</a>	<a href="#">3VA2225-7HM42-0AA0</a>	<a href="#">3VA2225-8HM42-0AA0</a>
250	<a href="#">3VA2325-6HM42-0AA0</a>	<a href="#">3VA2325-7HM42-0AA0</a>	<a href="#">3VA2325-8HM42-0AA0</a>
400	<a href="#">3VA2340-6HM42-0AA0</a>	<a href="#">3VA2340-7HM42-0AA0</a>	<a href="#">3VA2340-8HM42-0AA0</a>
400	<a href="#">3VA2440-6HM42-0AA0</a>	<a href="#">3VA2440-7HM42-0AA0</a>	<a href="#">3VA2440-8HM42-0AA0</a>
630	<a href="#">3VA2463-6HM42-0AA0</a>	<a href="#">3VA2463-7HM42-0AA0</a>	<a href="#">3VA2463-8HM42-0AA0</a>

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

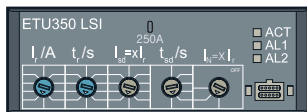
PS\*/P. unit = 1 UNIT

PG = 153

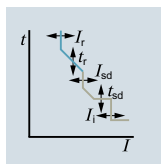


Connection technology	Type	Rated current $I_n$	Current setting of the inverse-time delayed overload protection "L" $I_r$	S function (short-time delayed short-circuit protection "S") $I_{sd}$	Operating current of the instantaneous short-circuit protection "I" $I_i$	DT	$I_{cu}$ up to 55 kA at 415 V, medium breaking capacity M See "Overview", p. 1/6 and 1/7
		A	A	A	A		Basic price per PU

### 4-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



i201\_18828



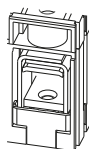
#### Line and generator protection, ETU350 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 %

$I_r \times \dots$

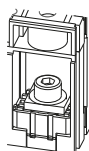
#### Connection with box terminal

Type	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Breaking capacity	Product code
3VA20	25	10 ... 25	1.5 ... 10	300		3VA2025-5HN46-0AA0
	40	16 ... 40	1.5 ... 10	480		3VA2040-5HN46-0AA0
	63	25 ... 63	1.5 ... 10	756		3VA2063-5HN46-0AA0
	100	40 ... 100	1.5 ... 10	1200		3VA2010-5HN46-0AA0
3VA21	25	10 ... 25	1.5 ... 10	300		3VA2125-5HN46-0AA0
	40	16 ... 40	1.5 ... 10	480		3VA2140-5HN46-0AA0
	63	25 ... 63	1.5 ... 10	756		3VA2163-5HN46-0AA0
	100	40 ... 100	1.5 ... 10	1200		3VA2110-5HN46-0AA0
	160	63 ... 160	1.5 ... 10	1600		3VA2116-5HN46-0AA0



#### Connection with lug terminal

Type	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Breaking capacity	Product code
3VA20	25	10 ... 25	1.5 ... 10	300		3VA2025-5HN42-0AA0
	40	16 ... 40	1.5 ... 10	480		3VA2040-5HN42-0AA0
	63	25 ... 63	1.5 ... 10	756		3VA2063-5HN42-0AA0
	100	40 ... 100	1.5 ... 10	1200		3VA2010-5HN42-0AA0
3VA21	25	10 ... 25	1.5 ... 10	300		3VA2125-5HN42-0AA0
	40	16 ... 40	1.5 ... 10	480		3VA2140-5HN42-0AA0
	63	25 ... 63	1.5 ... 10	756		3VA2163-5HN42-0AA0
	100	40 ... 100	1.5 ... 10	1200		3VA2110-5HN42-0AA0
	160	63 ... 160	1.5 ... 10	1600		3VA2116-5HN42-0AA0
3VA22	160	63 ... 160	1.5 ... 10	1920		3VA2216-5HN42-0AA0
	250	100 ... 250	1.5 ... 10	2500		3VA2225-5HN42-0AA0
3VA23	250	100 ... 250	1.5 ... 10	3000		3VA2325-5HN42-0AA0
	400	160 ... 400	1.5 ... 10	4000		3VA2340-5HN42-0AA0
3VA24	400	160 ... 400	1.5 ... 10	4800 <sup>1)</sup>		3VA2440-5HN42-0AA0
	630	250 ... 630	1.5 ... 9	5670		3VA2463-5HN42-0AA0



<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	<b><math>I_{cu}</math> up to 85 kA at 415 V, high breaking capacity H</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span>	DT	<b><math>I_{cu}</math> up to 110 kA at 415 V, very high breaking capacity C</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">C</span>	DT	<b><math>I_{cu}</math> up to 150 kA at 415 V, extremely high breaking capacity L</b> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">L</span>	
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A							

### Line and generator protection, ETU350 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit 0 %, 50 % or 100 %

#### Connection with box terminal

25	<a href="#">3VA2025-6HN46-0AA0</a>	<a href="#">3VA2025-7HN46-0AA0</a>	<a href="#">3VA2025-8HN46-0AA0</a>
40	<a href="#">3VA2040-6HN46-0AA0</a>	<a href="#">3VA2040-7HN46-0AA0</a>	<a href="#">3VA2040-8HN46-0AA0</a>
63	<a href="#">3VA2063-6HN46-0AA0</a>	<a href="#">3VA2063-7HN46-0AA0</a>	<a href="#">3VA2063-8HN46-0AA0</a>
100	<a href="#">3VA2010-6HN46-0AA0</a>	<a href="#">3VA2010-7HN46-0AA0</a>	<a href="#">3VA2010-8HN46-0AA0</a>
25	<a href="#">3VA2125-6HN46-0AA0</a>	<a href="#">3VA2125-7HN46-0AA0</a>	<a href="#">3VA2125-8HN46-0AA0</a>
40	<a href="#">3VA2140-6HN46-0AA0</a>	<a href="#">3VA2140-7HN46-0AA0</a>	<a href="#">3VA2140-8HN46-0AA0</a>
63	<a href="#">3VA2163-6HN46-0AA0</a>	<a href="#">3VA2163-7HN46-0AA0</a>	<a href="#">3VA2163-8HN46-0AA0</a>
100	<a href="#">3VA2110-6HN46-0AA0</a>	<a href="#">3VA2110-7HN46-0AA0</a>	<a href="#">3VA2110-8HN46-0AA0</a>
160	<a href="#">3VA2116-6HN46-0AA0</a>	<a href="#">3VA2116-7HN46-0AA0</a>	<a href="#">3VA2116-8HN46-0AA0</a>

#### Connection with lug terminal

25	<a href="#">3VA2025-6HN42-0AA0</a>	<a href="#">3VA2025-7HN42-0AA0</a>	<a href="#">3VA2025-8HN42-0AA0</a>
40	<a href="#">3VA2040-6HN42-0AA0</a>	<a href="#">3VA2040-7HN42-0AA0</a>	<a href="#">3VA2040-8HN42-0AA0</a>
63	<a href="#">3VA2063-6HN42-0AA0</a>	<a href="#">3VA2063-7HN42-0AA0</a>	<a href="#">3VA2063-8HN42-0AA0</a>
100	<a href="#">3VA2010-6HN42-0AA0</a>	<a href="#">3VA2010-7HN42-0AA0</a>	<a href="#">3VA2010-8HN42-0AA0</a>
25	<a href="#">3VA2125-6HN42-0AA0</a>	<a href="#">3VA2125-7HN42-0AA0</a>	<a href="#">3VA2125-8HN42-0AA0</a>
40	<a href="#">3VA2140-6HN42-0AA0</a>	<a href="#">3VA2140-7HN42-0AA0</a>	<a href="#">3VA2140-8HN42-0AA0</a>
63	<a href="#">3VA2163-6HN42-0AA0</a>	<a href="#">3VA2163-7HN42-0AA0</a>	<a href="#">3VA2163-8HN42-0AA0</a>
100	<a href="#">3VA2110-6HN42-0AA0</a>	<a href="#">3VA2110-7HN42-0AA0</a>	<a href="#">3VA2110-8HN42-0AA0</a>
160	<a href="#">3VA2116-6HN42-0AA0</a>	<a href="#">3VA2116-7HN42-0AA0</a>	<a href="#">3VA2116-8HN42-0AA0</a>
160	<a href="#">3VA2216-6HN42-0AA0</a>	<a href="#">3VA2216-7HN42-0AA0</a>	<a href="#">3VA2216-8HN42-0AA0</a>
250	<a href="#">3VA2225-6HN42-0AA0</a>	<a href="#">3VA2225-7HN42-0AA0</a>	<a href="#">3VA2225-8HN42-0AA0</a>
250	<a href="#">3VA2325-6HN42-0AA0</a>	<a href="#">3VA2325-7HN42-0AA0</a>	<a href="#">3VA2325-8HN42-0AA0</a>
400	<a href="#">3VA2340-6HN42-0AA0</a>	<a href="#">3VA2340-7HN42-0AA0</a>	<a href="#">3VA2340-8HN42-0AA0</a>
400	<a href="#">3VA2440-6HN42-0AA0</a>	<a href="#">3VA2440-7HN42-0AA0</a>	<a href="#">3VA2440-8HN42-0AA0</a>
630	<a href="#">3VA2463-6HN42-0AA0</a>	<a href="#">3VA2463-7HN42-0AA0</a>	<a href="#">3VA2463-8HN42-0AA0</a>

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

3

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Conne- ction tech- nology	Type	Rated current $I_n$	Current set- ting of the inverse-time delayed overload protection "L" $I_r$	S function (short-time delayed short-circuit protection "S") $I_{sd}$	Operating current of the instanta- neous short- circuit protec- tion "I" $I_i$	DT
		A	A	A	A	

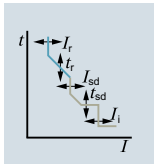
**$I_{cu}$  up to 55 kA at 415 V, medium breaking capacity M** M

Article No. [www.siemens.com/product?Article No.](http://www.siemens.com/product?ArticleNo.) Basic price per PU

### 4-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



1201\_18480

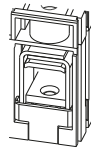


#### Line and generator protection, with display, ETU550 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 %

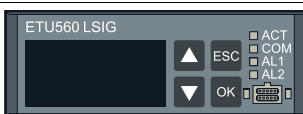
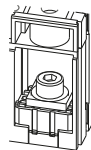
##### Connection with box terminal

Model	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Article No.
3VA20	25	10 ... 25	15 ... 250	38 ... 300	3VA2025-5JP46-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2040-5JP46-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2063-5JP46-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2010-5JP46-0AA0
3VA21	25	10 ... 25	15 ... 250	38 ... 300	3VA2125-5JP46-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2140-5JP46-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2163-5JP46-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2110-5JP46-0AA0
	160	63 ... 160	96 ... 1600	240 ... 1600	3VA2116-5JP46-0AA0

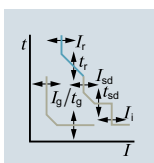


##### Connection with lug terminal

Model	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Article No.
3VA20	25	10 ... 25	15 ... 250	38 ... 300	3VA2025-5JP42-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2040-5JP42-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2063-5JP42-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2010-5JP42-0AA0
3VA21	25	10 ... 25	15 ... 250	38 ... 300	3VA2125-5JP42-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2140-5JP42-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2163-5JP42-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2110-5JP42-0AA0
	160	63 ... 160	96 ... 1600	240 ... 1600	3VA2116-5JP42-0AA0
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	3VA2216-5JP42-0AA0
	250	100 ... 250	150 ... 2500	375 ... 2500	3VA2225-5JP42-0AA0
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	3VA2325-5JP42-0AA0
	400	160 ... 400	240 ... 4000	600 ... 4000	3VA2340-5JP42-0AA0
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	3VA2440-5JP42-0AA0
	500	200 ... 500	300 ... 5000	750 ... 7000	3VA2450-5JP42-0AA0
	630	250 ... 630	378 ... 5670	945 ... 5670	3VA2463-5JP42-0AA0



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#### Line and generator protection, with display, ETU560 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 % and adjustable ground-fault protection  $I_g$

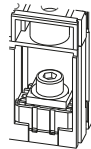
##### Connection with box terminal

Model	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Article No.
3VA20	25	10 ... 25	15 ... 250	38 ... 300	3VA2025-5JQ46-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2040-5JQ46-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2063-5JQ46-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2010-5JQ46-0AA0
3VA21	25	10 ... 25	15 ... 250	38 ... 300	3VA2125-5JQ46-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2140-5JQ46-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2163-5JQ46-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2110-5JQ46-0AA0
	160	63 ... 160	96 ... 1600	240 ... 1600	3VA2116-5JQ46-0AA0



##### Connection with lug terminal

Model	Rated current $I_n$	$I_r$	$I_{sd}$	$I_i$	Article No.
3VA20	25	10 ... 25	15 ... 250	38 ... 300	3VA2025-5JQ42-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2040-5JQ42-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2063-5JQ42-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2010-5JQ42-0AA0
3VA21	25	10 ... 25	15 ... 250	38 ... 300	3VA2125-5JQ42-0AA0
	40	16 ... 40	24 ... 400	60 ... 480	3VA2140-5JQ42-0AA0
	63	25 ... 63	38 ... 630	95 ... 756	3VA2163-5JQ42-0AA0
	100	40 ... 100	60 ... 1000	150 ... 1200	3VA2110-5JQ42-0AA0
	160	63 ... 160	96 ... 1600	240 ... 1600	3VA2116-5JQ42-0AA0
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	3VA2216-5JQ42-0AA0
	250	100 ... 250	150 ... 2500	375 ... 2500	3VA2225-5JQ42-0AA0
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	3VA2325-5JQ42-0AA0
	400	160 ... 400	240 ... 4000	600 ... 4000	3VA2340-5JQ42-0AA0
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	3VA2440-5JQ42-0AA0
	500	200 ... 500	300 ... 5000	750 ... 7000	3VA2450-5JQ42-0AA0
	630	250 ... 630	378 ... 5670	945 ... 5670	3VA2463-5JQ42-0AA0



<sup>1)</sup> At breaking capacity L 4400 A



## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H See "Overview", p. 1/6 and 1/7	(H)	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C See "Overview", p. 1/6 and 1/7	(C)	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L See "Overview", p. 1/6 and 1/7	(L)
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Basic price per PU
A									

**Line and generator protection, with display, ETU550 LSI**

With adjustable overload protection  $I_p$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 %

**Connection with box terminal**

25	3VA2025-6JP46-0AA0	3VA2025-7JP46-0AA0	3VA2025-8JP46-0AA0
40	3VA2040-6JP46-0AA0	3VA2040-7JP46-0AA0	3VA2040-8JP46-0AA0
63	3VA2063-6JP46-0AA0	3VA2063-7JP46-0AA0	3VA2063-8JP46-0AA0
100	3VA2010-6JP46-0AA0	3VA2010-7JP46-0AA0	3VA2010-8JP46-0AA0
25	3VA2125-6JP46-0AA0	3VA2125-7JP46-0AA0	3VA2125-8JP46-0AA0
40	3VA2140-6JP46-0AA0	3VA2140-7JP46-0AA0	3VA2140-8JP46-0AA0
63	3VA2163-6JP46-0AA0	3VA2163-7JP46-0AA0	3VA2163-8JP46-0AA0
100	3VA2110-6JP46-0AA0	3VA2110-7JP46-0AA0	3VA2110-8JP46-0AA0
160	3VA2116-6JP46-0AA0	3VA2116-7JP46-0AA0	3VA2116-8JP46-0AA0

**Connection with lug terminal**

25	3VA2025-6JP42-0AA0	3VA2025-7JP42-0AA0	3VA2025-8JP42-0AA0
40	3VA2040-6JP42-0AA0	3VA2040-7JP42-0AA0	3VA2040-8JP42-0AA0
63	3VA2063-6JP42-0AA0	3VA2063-7JP42-0AA0	3VA2063-8JP42-0AA0
100	3VA2010-6JP42-0AA0	3VA2010-7JP42-0AA0	3VA2010-8JP42-0AA0
25	3VA2125-6JP42-0AA0	3VA2125-7JP42-0AA0	3VA2125-8JP42-0AA0
40	3VA2140-6JP42-0AA0	3VA2140-7JP42-0AA0	3VA2140-8JP42-0AA0
63	3VA2163-6JP42-0AA0	3VA2163-7JP42-0AA0	3VA2163-8JP42-0AA0
100	3VA2110-6JP42-0AA0	3VA2110-7JP42-0AA0	3VA2110-8JP42-0AA0
160	3VA2116-6JP42-0AA0	3VA2116-7JP42-0AA0	3VA2116-8JP42-0AA0
160	3VA2216-6JP42-0AA0	3VA2216-7JP42-0AA0	3VA2216-8JP42-0AA0
250	3VA2225-6JP42-0AA0	3VA2225-7JP42-0AA0	3VA2225-8JP42-0AA0
250	3VA2325-6JP42-0AA0	3VA2325-7JP42-0AA0	1) 3VA2325-8JP42-0AA0
400	3VA2340-6JP42-0AA0	3VA2340-7JP42-0AA0	1) 3VA2340-8JP42-0AA0
400	3VA2440-6JP42-0AA0	3VA2440-7JP42-0AA0	1) 3VA2440-8JP42-0AA0
500	3VA2450-6JP42-0AA0	3VA2450-7JP42-0AA0	1) ---
630	3VA2463-6JP42-0AA0	3VA2463-7JP42-0AA0	1) 3VA2463-8JP42-0AA0

**Line and generator protection, with display, ETU560 LSIG**

With adjustable overload protection  $I_p$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 % and adjustable ground-fault protection  $I_g$

**Connection with box terminal**

25	3VA2025-6JQ46-0AA0	3VA2025-7JQ46-0AA0	3VA2025-8JQ46-0AA0
40	3VA2040-6JQ46-0AA0	3VA2040-7JQ46-0AA0	3VA2040-8JQ46-0AA0
63	3VA2063-6JQ46-0AA0	3VA2063-7JQ46-0AA0	3VA2063-8JQ46-0AA0
100	3VA2010-6JQ46-0AA0	3VA2010-7JQ46-0AA0	3VA2010-8JQ46-0AA0
25	3VA2125-6JQ46-0AA0	3VA2125-7JQ46-0AA0	3VA2125-8JQ46-0AA0
40	3VA2140-6JQ46-0AA0	3VA2140-7JQ46-0AA0	3VA2140-8JQ46-0AA0
63	3VA2163-6JQ46-0AA0	3VA2163-7JQ46-0AA0	3VA2163-8JQ46-0AA0
100	3VA2110-6JQ46-0AA0	3VA2110-7JQ46-0AA0	3VA2110-8JQ46-0AA0
160	3VA2116-6JQ46-0AA0	3VA2116-7JQ46-0AA0	3VA2116-8JQ46-0AA0

**Connection with lug terminal**

25	3VA2025-6JQ42-0AA0	3VA2025-7JQ42-0AA0	3VA2025-8JQ42-0AA0
40	3VA2040-6JQ42-0AA0	3VA2040-7JQ42-0AA0	3VA2040-8JQ42-0AA0
63	3VA2063-6JQ42-0AA0	3VA2063-7JQ42-0AA0	3VA2063-8JQ42-0AA0
100	3VA2010-6JQ42-0AA0	3VA2010-7JQ42-0AA0	3VA2010-8JQ42-0AA0
25	3VA2125-6JQ42-0AA0	3VA2125-7JQ42-0AA0	3VA2125-8JQ42-0AA0
40	3VA2140-6JQ42-0AA0	3VA2140-7JQ42-0AA0	3VA2140-8JQ42-0AA0
63	3VA2163-6JQ42-0AA0	3VA2163-7JQ42-0AA0	3VA2163-8JQ42-0AA0
100	3VA2110-6JQ42-0AA0	3VA2110-7JQ42-0AA0	3VA2110-8JQ42-0AA0
160	3VA2116-6JQ42-0AA0	3VA2116-7JQ42-0AA0	3VA2116-8JQ42-0AA0
160	3VA2216-6JQ42-0AA0	3VA2216-7JQ42-0AA0	3VA2216-8JQ42-0AA0
250	3VA2225-6JQ42-0AA0	3VA2225-7JQ42-0AA0	3VA2225-8JQ42-0AA0
250	3VA2325-6JQ42-0AA0	3VA2325-7JQ42-0AA0	1) 3VA2325-8JQ42-0AA0
400	3VA2340-6JQ42-0AA0	3VA2340-7JQ42-0AA0	1) 3VA2340-8JQ42-0AA0
400	3VA2440-6JQ42-0AA0	3VA2440-7JQ42-0AA0	1) 3VA2440-8JQ42-0AA0
500	3VA2450-6JQ42-0AA0	3VA2450-7JQ42-0AA0	1) ---
630	3VA2463-6JQ42-0AA0	3VA2463-7JQ42-0AA0	1) 3VA2463-8JQ42-0AA0

1) Start of delivery scheduled for 1st quarter 2015

\* You can order this quantity or a multiple thereof.

# 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

## Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153



Conne- ction tech- nology	Type	Rated current $I_n$	Current setting of the inverse- time delayed overload protection "L" $I_r$	S function (short-time delayed short-circuit protection "S") $I_{sd}$	Operating current of the instanta- neous short- circuit pro- tection "I" $I_i$	DT
		A	A	A	A	

**$I_{cu}$  up to 55 kA at 415 V, medium breaking capacity M** M

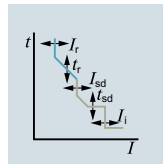
See "Overview", p. 1/6 and 1/7

Article No. [www.siemens.com/product?Article No.](http://www.siemens.com/product?Article No.) Basic price per PU

### 4-pole, fixed-mounted, 3VA20 to 3VA24, up to 630 A Electronic trip unit



i201\_18482

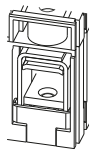


#### Line and generator protection, with display, with metering function, ETU850 LSI

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 %

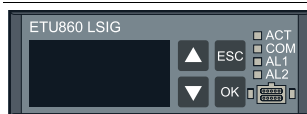
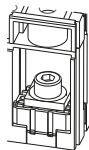
##### Connection with box terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2025-5KP46-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2040-5KP46-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2063-5KP46-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2010-5KP46-0AA0</a>
3VA21	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2125-5KP46-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2140-5KP46-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2163-5KP46-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2110-5KP46-0AA0</a>
	160	63 ... 160	96 ... 1600	240 ... 1600	<a href="#">3VA2116-5KP46-0AA0</a>

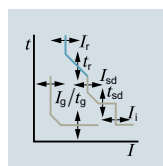


##### Connection with lug terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2025-5KP42-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2040-5KP42-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2063-5KP42-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2010-5KP42-0AA0</a>
3VA21	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2125-5KP42-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2140-5KP42-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2163-5KP42-0AA0</a>
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	<a href="#">3VA2216-5KP42-0AA0</a>
	250	100 ... 250	150 ... 2500	375 ... 2500	<a href="#">3VA2225-5KP42-0AA0</a>
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	<a href="#">3VA2325-5KP42-0AA0</a>
	400	160 ... 400	240 ... 4000	600 ... 4000	<a href="#">3VA2340-5KP42-0AA0</a>
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	<a href="#">3VA2440-5KP42-0AA0</a>
	500	200 ... 500	300 ... 5000	750 ... 7000	<a href="#">3VA2450-5KP42-0AA0</a>
	630	250 ... 630	378 ... 5670	945 ... 5670	<a href="#">3VA2463-5KP42-0AA0</a>



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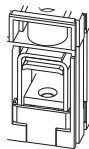


#### Line and generator protection, with display, with metering function, ETU860 LSIg

With adjustable overload protection  $I_r$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 % and adjustable ground-fault protection  $I_g$

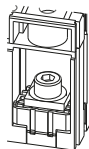
##### Connection with box terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2025-5KQ46-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2040-5KQ46-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2063-5KQ46-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2010-5KQ46-0AA0</a>
3VA21	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2125-5KQ46-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2140-5KQ46-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2163-5KQ46-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2110-5KQ46-0AA0</a>
	160	63 ... 160	96 ... 1600	240 ... 1600	<a href="#">3VA2116-5KQ46-0AA0</a>



##### Connection with lug terminal

3VA20	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2025-5KQ42-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2040-5KQ42-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2063-5KQ42-0AA0</a>
	100	40 ... 100	60 ... 1000	150 ... 1200	<a href="#">3VA2010-5KQ42-0AA0</a>
3VA21	25	10 ... 25	15 ... 250	38 ... 300	<a href="#">3VA2125-5KQ42-0AA0</a>
	40	16 ... 40	24 ... 400	60 ... 480	<a href="#">3VA2140-5KQ42-0AA0</a>
	63	25 ... 63	38 ... 630	95 ... 756	<a href="#">3VA2163-5KQ42-0AA0</a>
3VA22	160	63 ... 160	96 ... 1600	240 ... 1920	<a href="#">3VA2216-5KQ42-0AA0</a>
	250	100 ... 250	150 ... 2500	375 ... 2500	<a href="#">3VA2225-5KQ42-0AA0</a>
3VA23	250	100 ... 250	150 ... 2500	375 ... 3000	<a href="#">3VA2325-5KQ42-0AA0</a>
	400	160 ... 400	240 ... 4000	600 ... 4000	<a href="#">3VA2340-5KQ42-0AA0</a>
3VA24	400	160 ... 400	240 ... 4000	600 ... 6000 <sup>1)</sup>	<a href="#">3VA2440-5KQ42-0AA0</a>
	500	200 ... 500	300 ... 5000	750 ... 7000	<a href="#">3VA2450-5KQ42-0AA0</a>
	630	250 ... 630	378 ... 5670	945 ... 5670	<a href="#">3VA2463-5KQ42-0AA0</a>



<sup>1)</sup> At breaking capacity L 4400 A

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Line protection

PU (UNIT, SET, M) = 1

PS\*/P. unit = 1 UNIT

PG = 153

Rated current	DT	$I_{cu}$ up to 85 kA at 415 V, high breaking capacity H <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">H</span>	DT	$I_{cu}$ up to 110 kA at 415 V, very high breaking capacity C <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">C</span>	DT	$I_{cu}$ up to 150 kA at 415 V, extremely high breaking capacity L <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">L</span>
$I_n$		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>		Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>
A		Basic price per PU		Basic price per PU		Basic price per PU

#### Line and generator protection, with display, with metering function, ETU850 LSI

With adjustable overload protection  $I_n$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 %

##### Connection with box terminal

25	3VA2025-6KP46-0AA0	3VA2025-7KP46-0AA0	3VA2025-8KP46-0AA0
40	3VA2040-6KP46-0AA0	3VA2040-7KP46-0AA0	3VA2040-8KP46-0AA0
63	3VA2063-6KP46-0AA0	3VA2063-7KP46-0AA0	3VA2063-8KP46-0AA0
100	3VA2010-6KP46-0AA0	3VA2010-7KP46-0AA0	3VA2010-8KP46-0AA0
25	3VA2125-6KP46-0AA0	3VA2125-7KP46-0AA0	3VA2125-8KP46-0AA0
40	3VA2140-6KP46-0AA0	3VA2140-7KP46-0AA0	3VA2140-8KP46-0AA0
63	3VA2163-6KP46-0AA0	3VA2163-7KP46-0AA0	3VA2163-8KP46-0AA0
100	3VA2110-6KP46-0AA0	3VA2110-7KP46-0AA0	3VA2110-8KP46-0AA0
160	3VA2116-6KP46-0AA0	3VA2116-7KP46-0AA0	3VA2116-8KP46-0AA0

##### Connection with lug terminal

25	3VA2025-6KP42-0AA0	3VA2025-7KP42-0AA0	3VA2025-8KP42-0AA0
40	3VA2040-6KP42-0AA0	3VA2040-7KP42-0AA0	3VA2040-8KP42-0AA0
63	3VA2063-6KP42-0AA0	3VA2063-7KP42-0AA0	3VA2063-8KP42-0AA0
100	3VA2010-6KP42-0AA0	3VA2010-7KP42-0AA0	3VA2010-8KP42-0AA0
25	3VA2125-6KP42-0AA0	3VA2125-7KP42-0AA0	3VA2125-8KP42-0AA0
40	3VA2140-6KP42-0AA0	3VA2140-7KP42-0AA0	3VA2140-8KP42-0AA0
63	3VA2163-6KP42-0AA0	3VA2163-7KP42-0AA0	3VA2163-8KP42-0AA0
100	3VA2110-6KP42-0AA0	3VA2110-7KP42-0AA0	3VA2110-8KP42-0AA0
160	3VA2116-6KP42-0AA0	3VA2116-7KP42-0AA0	3VA2116-8KP42-0AA0
160	3VA2216-6KP42-0AA0	3VA2216-7KP42-0AA0	3VA2216-8KP42-0AA0
250	3VA2225-6KP42-0AA0	3VA2225-7KP42-0AA0	3VA2225-8KP42-0AA0
250	3VA2325-6KP42-0AA0	3VA2325-7KP42-0AA0	1) <sup>1)</sup> 3VA2325-8KP42-0AA0
400	3VA2340-6KP42-0AA0	3VA2340-7KP42-0AA0	1) <sup>1)</sup> 3VA2340-8KP42-0AA0
400	3VA2440-6KP42-0AA0	3VA2440-7KP42-0AA0	1) <sup>1)</sup> 3VA2440-8KP42-0AA0
500	3VA2450-6KP42-0AA0	3VA2450-7KP42-0AA0	1) <sup>1)</sup> --
630	3VA2463-6KP42-0AA0	3VA2463-7KP42-0AA0	1) <sup>1)</sup> 3VA2463-8KP42-0AA0

#### Line and generator protection, with display, with metering function, ETU860 LSI G

With adjustable overload protection  $I_n$ , adjustable delayed short-circuit protection  $I_{sd}$  and fixed instantaneous short-circuit protection  $I_i$ , with neutral protection against overload and short circuit from 20 %/40 % to 100 %/160 % and adjustable ground-fault protection  $I_g$

##### Connection with box terminal

25	3VA2025-6KQ46-0AA0	3VA2025-7KQ46-0AA0	3VA2025-8KQ46-0AA0
40	3VA2040-6KQ46-0AA0	3VA2040-7KQ46-0AA0	3VA2040-8KQ46-0AA0
63	3VA2063-6KQ46-0AA0	3VA2063-7KQ46-0AA0	3VA2063-8KQ46-0AA0
100	3VA2010-6KQ46-0AA0	3VA2010-7KQ46-0AA0	3VA2010-8KQ46-0AA0
25	3VA2125-6KQ46-0AA0	3VA2125-7KQ46-0AA0	3VA2125-8KQ46-0AA0
40	3VA2140-6KQ46-0AA0	3VA2140-7KQ46-0AA0	3VA2140-8KQ46-0AA0
63	3VA2163-6KQ46-0AA0	3VA2163-7KQ46-0AA0	3VA2163-8KQ46-0AA0
100	3VA2110-6KQ46-0AA0	3VA2110-7KQ46-0AA0	3VA2110-8KQ46-0AA0
160	3VA2116-6KQ46-0AA0	3VA2116-7KQ46-0AA0	3VA2116-8KQ46-0AA0

##### Connection with lug terminal

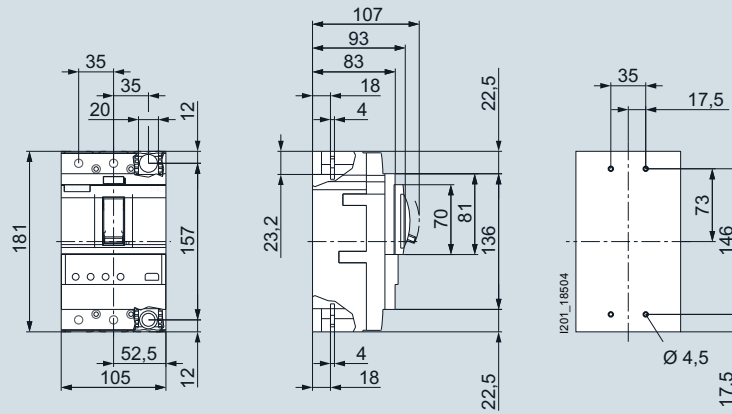
25	3VA2025-6KQ42-0AA0	3VA2025-7KQ42-0AA0	3VA2025-8KQ42-0AA0
40	3VA2040-6KQ42-0AA0	3VA2040-7KQ42-0AA0	3VA2040-8KQ42-0AA0
63	3VA2063-6KQ42-0AA0	3VA2063-7KQ42-0AA0	3VA2063-8KQ42-0AA0
100	3VA2010-6KQ42-0AA0	3VA2010-7KQ42-0AA0	3VA2010-8KQ42-0AA0
25	3VA2125-6KQ42-0AA0	3VA2125-7KQ42-0AA0	3VA2125-8KQ42-0AA0
40	3VA2140-6KQ42-0AA0	3VA2140-7KQ42-0AA0	3VA2140-8KQ42-0AA0
63	3VA2163-6KQ42-0AA0	3VA2163-7KQ42-0AA0	3VA2163-8KQ42-0AA0
100	3VA2110-6KQ42-0AA0	3VA2110-7KQ42-0AA0	3VA2110-8KQ42-0AA0
160	3VA2116-6KQ42-0AA0	3VA2116-7KQ42-0AA0	3VA2116-8KQ42-0AA0
160	3VA2216-6KQ42-0AA0	3VA2216-7KQ42-0AA0	3VA2216-8KQ42-0AA0
250	3VA2225-6KQ42-0AA0	3VA2225-7KQ42-0AA0	3VA2225-8KQ42-0AA0
250	3VA2325-6KQ42-0AA0	3VA2325-7KQ42-0AA0	1) <sup>1)</sup> 3VA2325-8KQ42-0AA0
400	3VA2340-6KQ42-0AA0	3VA2340-7KQ42-0AA0	1) <sup>1)</sup> 3VA2340-8KQ42-0AA0
400	3VA2440-6KQ42-0AA0	3VA2440-7KQ42-0AA0	1) <sup>1)</sup> 3VA2440-8KQ42-0AA0
500	3VA2450-6KQ42-0AA0	3VA2450-7KQ42-0AA0	1) <sup>1)</sup> --
630	3VA2463-6KQ42-0AA0	3VA2463-7KQ42-0AA0	1) <sup>1)</sup> 3VA2463-8KQ42-0AA0

<sup>1)</sup> Start of delivery scheduled for 1st quarter 2015

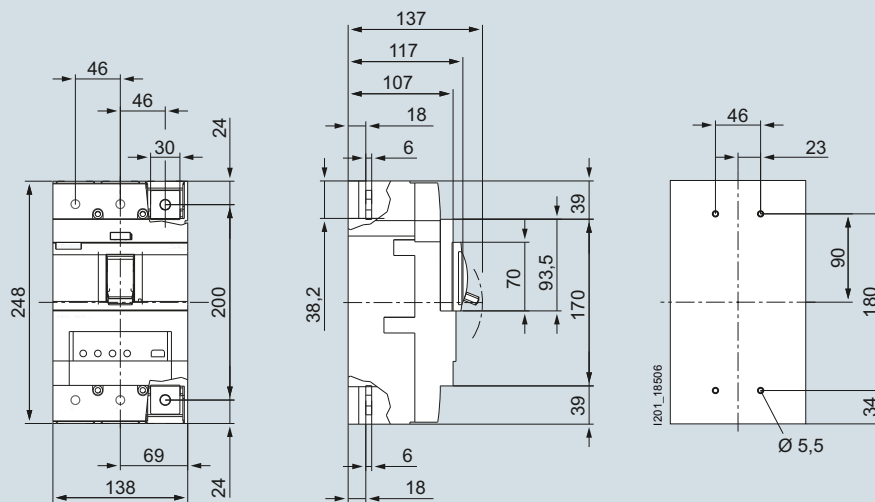
## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Dimensional drawings

#### Overview



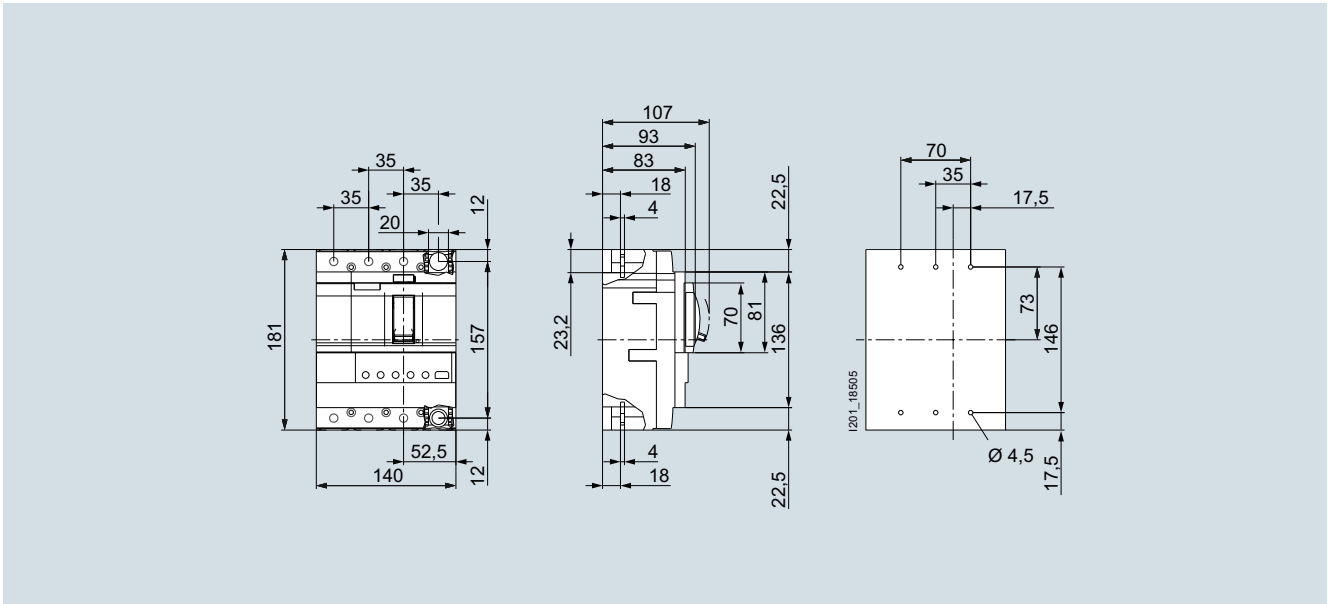
3VA20, 3VA21 and 3VA22, 3-pole



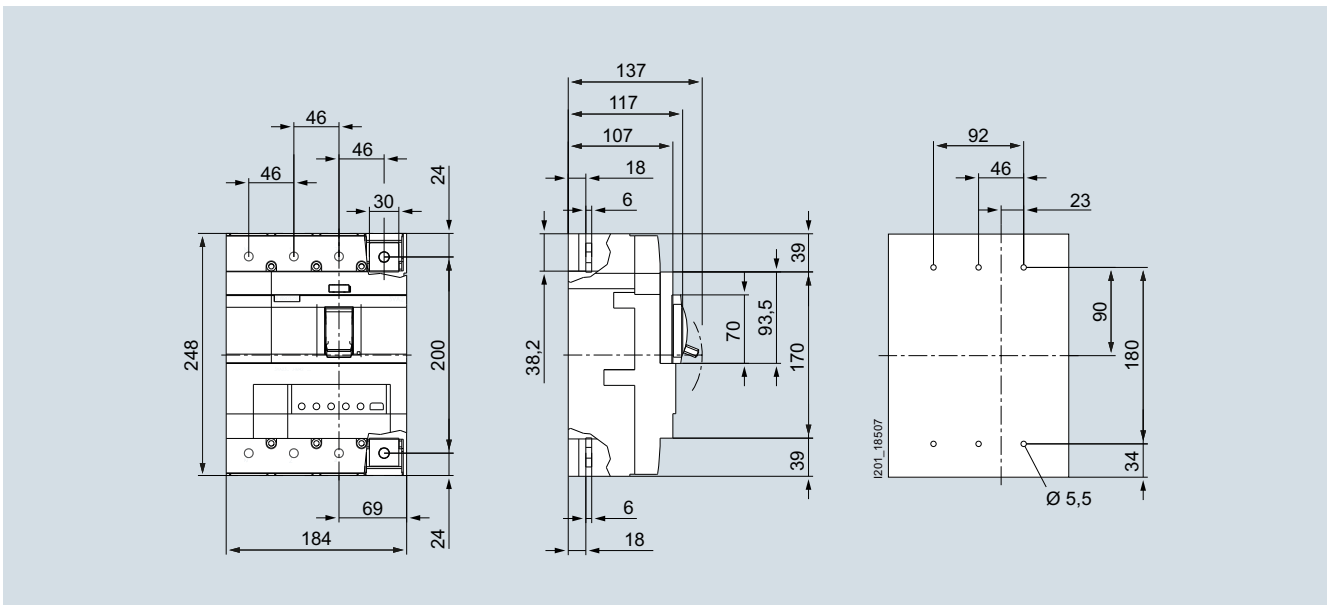
3VA23 and 3VA24, 3-pole

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Dimensional drawings



3VA20, 3VA21 and 3VA22, 4-pole



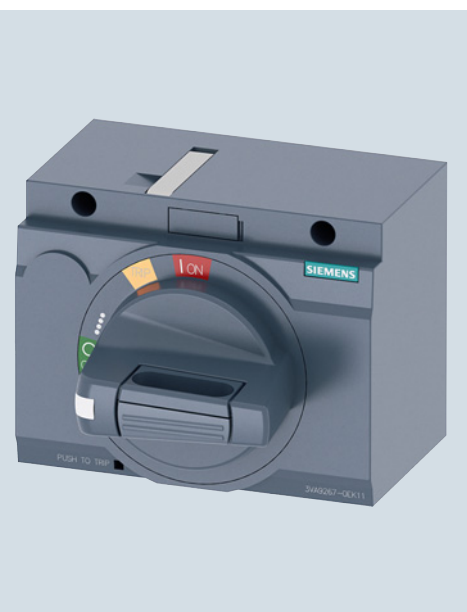
3VA23 and 3VA24, 4-pole

Further dimensional drawings can be found in the image database at: [www.siemens.com/lowvoltage/picturedb](http://www.siemens.com/lowvoltage/picturedb)

## 3VA2 Molded Case Circuit Breakers up to 630 A, ETU, 400/690 V, up to 150 kA

### Notes

## Accessories and Spare Parts



4/2	Internal accessories
4/9	Manual operators
4/15	Motor operators
4/16	Plug-in and draw-out technology
4/24	Residual current devices
4/29	Communication and testing/ commissioning devices
4/37	Locking and interlocking
4/42	Connection technology
4/57	Other

### NEW

Direct reference to the products in the Industry Mall from the selection and ordering data tables:

Article No.  
[www.siemens.com/  
 product? Article No.](http://www.siemens.com/product?ArticleNo.)

3KD2832-0NE10-0

Paper catalog:  
 To get more  
 product information  
 enter the Web  
 address plus  
 Article No.



PDF catalog:  
 Get more product information  
 with just a mouse click.

## Accessories and Spare Parts

### Internal accessories

#### Overview

##### Auxiliary switches

All auxiliary and alarm switches for the 3VA molded case circuit breakers and switch disconnectors belong to an integrated range of accessories. The auxiliary switches can be simply snapped into place and connected up in the accessories compartment provided on the front face of the unit to the left and right of the handle.

The purpose of the auxiliary switches AUX is to signal the position of the main contacts of the molded case circuit breaker. The contacts of the auxiliary switches open and close simultaneously with the main contacts of the molded case circuit breaker.

Leading changeover switches LCS signal the opening of the main contacts with a lead time of 20 ms in advance of the circuit breaker trips and are used for load shedding, for example.

Trip alarm switches TAS signal every circuit breaker tripping operation, regardless of the cause of the trip. The trip alarm switches are actuated whenever the molded case circuit breaker switches to the TRIP position.

Electrical alarm switches EAS are actuated as soon as the main contacts of the molded case circuit breaker open in the event that the breaker is tripped by the ETU.

Special electronic-compatible variants are available for applications which require the auxiliary switch signals to be linked to automation systems.

##### Auxiliary releases

Auxiliary releases allow remote electrical tripping of the circuit breaker. They can be used to monitor control or main circuits in order to implement a protective system against accidental restart following a power failure, for example.

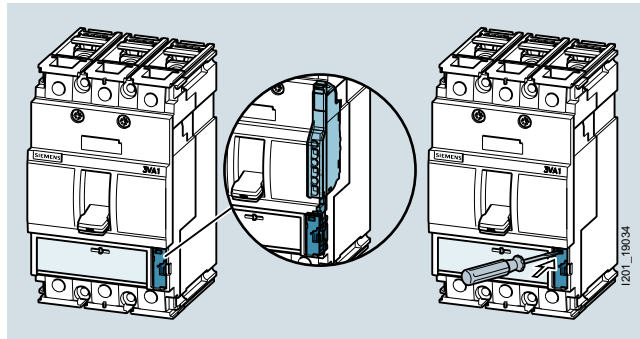
Undervoltage releases trip the 3VA molded case circuit breaker in the event that the rated voltage of a monitored circuit drops below a minimum permissible limit or fails altogether. The UVR (LNO) with its integrated leading NO contacts permits the control circuit to be safely isolated. It is therefore especially suitable for integration in the EMERGENCY-STOP circuit of a 3VA molded case circuit breaker. Safe disconnection of the main current paths and safe isolation of the EMERGENCY-STOP circuit requires the molded case circuit breaker to be switched OFF.

Shunt trips can be used to trip the 3VA molded case circuit breaker remotely. The STF variant can be mounted in either the left-hand or the right-hand accessories compartment. The STL and STL (EI) types are specifically designed for mounting in the left-hand compartment and are very low-consumption devices. The STL (EI) variant can be used to implement electrical interlocks between molded case circuit breakers.

A universal release is a single, 21 mm wide component in which a shunt trip and an undervoltage release are combined. These are subject to the same tripping conditions as the individual devices.

##### Short circuit alarm switches SAS

Short circuit alarm switches signal tripping operations only if they have been initiated by a short circuit. Tripping due to a short circuit is also indicated on the molded case circuit breaker.



The tripping operation must be reset by deliberate acknowledgement of the fault before the molded case circuit breaker can be switched to ON again.

##### Note

Short circuit alarm switches are only compatible with 3VA1 molded case circuit breakers. On breakers equipped with electronic trip units, the short circuit alarm function is performed by the electronic trip unit (ETU) and the EFB external function box.

#### Benefits

- The internal accessories are extremely easy to install. No tools are required because they are simply snapped into place in the accessories compartments to the left and right of the handle.
- The accessories are connected by screw terminals for auxiliary conductors with a cross-section of up to 2.5 mm<sup>2</sup>. The terminals are mounted on the front of the unit for easy access.
- All auxiliary and alarm switches are designed as changeover contacts and therefore provide a high degree of flexibility for planning and installation purposes.
- Slimline auxiliary and alarm switches HQ and double-width auxiliary and alarm switches HP are suitable for use in applications involving diverse types of signaling contact and with high continuous currents.
- With two conductors per contact point for the auxiliary and alarm switches HP, looping through is extremely easy.
- Symbols engraved in the lid of the accessories compartment indicate the possible mounting positions of the internal accessories.



## Design

Internal accessories		3VA1 160 A 2-pole	3VA1 100 A 3- and 4-pole	3VA1 160 A 3- and 4-pole
Optional equipment		23 22 21	23 22 21 11 12 13	23 22 21 11 12 13
		160 A	100 A	160 A
Slot No.:		23 22 21	23 22 21 11 12 13	23 22 21 11 12 13
<b>Auxiliary switch</b>	<b>Type</b>			
Auxiliary switch	AUX_HQ	x x x	x x x x x x	x x x x x x
	AUX_HQ_el	x x x	x x x x x x	x x x x x x
	AUX_HP	x		x
Leading changeover switch	LCS_HQ	x		x
	LCS_HQ_el			x
	LCS_HP			x
<b>Alarm switch</b>	<b>Type</b>			
Trip alarm switch	TAS_HQ	x x	x x x x	x x x x
	TAS_HQ_el	x x	x x x x	x x x x
	TAS_HP	x		x
Short circuit alarm switch	SAS_HQ			x
	SAS_HQ_el			x
<b>Auxiliary release</b>	<b>Type</b>			
Shunt trip flexible	STF	x		x
Shunt trip left	STL	x	x	x
	STL (EI)	x	x	x
Residual current release	RCR <sup>1)</sup>			x
Undervoltage release	UVR	x	x	x
Undervoltage release with leading NO contacts	UVR (LNO)	x	x	x
Universal release	UNI	x	x	x
<b>Other</b>				
Cylinder lock (type Ronis)				x

<sup>1)</sup> Included in the scope of supply for side mounted RCDs

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# Accessories and Spare Parts

## Internal accessories

Internal accessories	
Optional equipment	
	Slot No.:
<b>Auxiliary switch</b>	<b>Type</b>
Auxiliary switch	AUX_HQ
	AUX_HQ_el
	AUX_HP
Leading changeover switch	LCS_HQ
	LCS_HQ_el
	LCS_HP
<b>Alarm switch</b>	<b>Type</b>
Trip alarm switch	TAS_HQ
	TAS_HQ_el
	TAS_HP
Electrical alarm switch	EAS_HQ
	EAS_HQ_el
<b>Auxiliary release</b>	<b>Type</b>
Shunt trip flexible	STF
Shunt trip left	STL
	STL (EI)
Undervoltage release	UVR
Undervoltage release with leading NO contacts	UVR (LNO)
Universal release	UNI
<b>ETU/communication</b>	<b>Type</b>
Breaker data server communication module	COM060
24 V module	
<b>Other</b>	
Cylinder lock (type Ronis)	

3VA2 100/160/250 A 3-pole														3VA2 100/160/250 A 4-pole													
250 A														250 A													
24	23	22	21		11	12	13	14	34	33	32	31	24	23	22	21		11	12	13	14						
x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x						
x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x						
x	x				x		x		x	x			x		x			x		x							
x						x			x				x					x			x						
					x													x									
					x													x									
						x													x								
		x	x			x	x						x	x				x	x								
		x	x			x	x						x	x				x	x								
		x				x							x					x									
								x													x						
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		x				x							x					x									
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		x											x														
								x													x						
								x													x						
								x													x						

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Internal accessories	
Optional equipment	
	Slot No.:
<b>Auxiliary switch</b>	<b>Type</b>
Auxiliary switch	AUX_HQ
	AUX_HQ_el
	AUX_HP
Leading changeover switch	LCS_HQ
	LCS_HQ_el
	LCS_HP
<b>Alarm switch</b>	<b>Type</b>
Trip alarm switch	TAS_HQ
	TAS_HQ_el
	TAS_HP
Electrical alarm switch	EAS_HQ
	EAS_HQ_el
<b>Auxiliary release</b>	<b>Type</b>
Shunt trip flexible	STF
Shunt trip left	STL
	STL (EI)
Undervoltage release	UVR
Undervoltage release with leading NO contacts	UVR (LNO)
Universal release	UNI
<b>ETU/communication</b>	<b>Type</b>
Breaker data server communication module	COM060
24 V module	
<b>Other</b>	
Cylinder lock (type Ronis)	

3VA2 400/630 A 3-pole	
Slot No.	25 24 23 22 21 11 12 13 14 15
AUX_HQ	x x x x x x x x x x x
AUX_HQ_el	x x x x x x x x x x x
AUX_HP	x x x x x x x x x x x
LCS_HQ	x x x x x x x x x x x
LCS_HQ_el	x x x x x x x x x x x
LCS_HP	x x x x x x x x x x x
TAS_HQ	x x x x x x x x x x x
TAS_HQ_el	x x x x x x x x x x x
TAS_HP	x x x x x x x x x x x
EAS_HQ	x x x x x x x x x x x
EAS_HQ_el	x x x x x x x x x x x
STF	x x x x x x x x x x x
STL	x x x x x x x x x x x
STL (EI)	x x x x x x x x x x x
UVR	x x x x x x x x x x x
UVR (LNO)	x x x x x x x x x x x
UNI	x x x x x x x x x x x
COM060	x x x x x x x x x x x
24 V module	x x x x x x x x x x x
Cylinder lock (type Ronis)	x x x x x x x x x x x



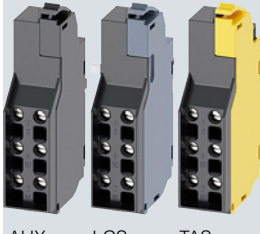
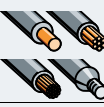

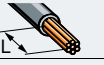
3VA2 400/630 A 4-pole	
Slot No.	35 34 33 32 31 25 24 23 22 21 11 12 13 14 15
AUX_HQ	x x x x x x x x x x x x x x x
AUX_HQ_el	x x x x x x x x x x x x x x x
AUX_HP	x x x x x x x x x x x x x x x
LCS_HQ	x x x x x x x x x x x x x x x
LCS_HQ_el	x x x x x x x x x x x x x x x
LCS_HP	x x x x x x x x x x x x x x x
TAS_HQ	x x x x x x x x x x x x x x x
TAS_HQ_el	x x x x x x x x x x x x x x x
TAS_HP	x x x x x x x x x x x x x x x
EAS_HQ	x x x x x x x x x x x x x x x
EAS_HQ_el	x x x x x x x x x x x x x x x
STF	x x x x x x x x x x x x x x x
STL	x x x x x x x x x x x x x x x
STL (EI)	x x x x x x x x x x x x x x x
UVR	x x x x x x x x x x x x x x x
UVR (LNO)	x x x x x x x x x x x x x x x
UNI	x x x x x x x x x x x x x x x
COM060	x x x x x x x x x x x x x x x
24 V module	x x x x x x x x x x x x x x x
Cylinder lock (type Ronis)	x x x x x x x x x x x x x x x

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# Accessories and Spare Parts

## Internal accessories

### Technical specifications

		Auxiliary switches and alarm switches HQ					Auxiliary switches and alarm switches HQ_electronic					Auxiliary switches and alarm switches HP				
																
		SAS	AUX	LCS	TAS	EAS	SAS	AUX	LCS	TAS	EAS	AUX	LCS	TAS		
<b>Width</b>	mm	7					7					14				
<b>Conductor cross-sections</b>	Solid, stranded and finely stranded, with end sleeve 	Screw connection (per contact)	1 x (0.5 - 1.5)					1 x (0.5 - 1.5)					2 x (0.75 - 2.5)			
			1 x (AWG20 - AWG16)					1 x (AWG20 - AWG16)					2 x (AWG18 - AWG14)			
	Finely stranded with insulated end sleeve 	Screw connection (per contact)	1 x (0.5 - 1.0)					1 x (0.5 - 1.0)					2 x (0.75 - 1.0)			
			1 x (AWG20 - AWG16)					1 x (AWG20 - AWG16)					2 x (AWG18 - AWG16)			
	Tightening torque (connection cables)	Nm	0.4 <sup>+0.1</sup>					0.4 <sup>+0.1</sup>					0.4 <sup>+0.1</sup>			
	Stripped length 	mm	15					15					15			
<b>Rated operating voltage</b>	$U_e$	V AC 50 Hz	240					24					600			
		V DC	250					24					250			
<b>Conventional free-air thermal current</b>	$I_{th} = I_e$	A	6					0.3					10			
<b>Rated operational current</b>	AC-12	12 V	A	6					0.3					10		
		24 V	A	6					0.3					10		
		48 V	A	6					--					10		
		125 V	A	6					--					10		
		220/240 V	A	6					--					10		
		380/440 V	A	--					--					6		
	AC-15	12 V	A	3					0.3					6		
		24 V	A	3					0.3					6		
		48 V	A	3					--					6		
		125 V	A	3					--					6		
		220/240 V	A	3					--					6		
		380/440 V	A	--					--					2		
	DC-12	12 V	A	6					0.1					6		
		24 V	A	4					0.1					6		
		48 V	A	2					--					2		
		110 V	A	0.5					--					0.6		
250 V		A	0.25					--					0.3			
DC-13	12 V	A	1					0.07					3			
	24 V	A	0.8					0.07					3			
	48 V	A	0.4					--					0.8			
	110 V	A	0.2					--					0.2			
	250 V	A	0.1					--					0.1			
<b>Minimum load</b>	At 24 V DC	mA	70					0.5					70			
		At 5 V DC	mA	--					1					--		

## Selection and ordering data

Version	DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
<b>Auxiliary switches and alarm switches</b>						
 3VA9988-0AA11 3VA9988-0AA12	<b>Auxiliary switch AUX</b>					
	Type/switching capacity/size	Electronic-compatible				
	HP/high switching capacity/2 slots	--	3VA9988-0AA11	1	1 unit	163
	HQ/compact size/1 slot	--	3VA9988-0AA12	1	1 unit	163
	HQ_el/compact size/1 slot	✓	3VA9988-0AA13	1	1 unit	163
 3VA9988-0AA21 3VA9988-0AA22	<b>Leading changeover switch LCS</b>					
	Type/switching capacity/size	Electronic-compatible				
	HP/high switching capacity/2 slots	--	3VA9988-0AA21	1	1 unit	163
	HQ/compact size/1 slot	--	3VA9988-0AA22	1	1 unit	163
	HQ_el/compact size/1 slot	✓	3VA9988-0AA23	1	1 unit	163
 3VA9988-0AB11 3VA9988-0AB12	<b>Trip alarm switch TAS</b>					
	Type/switching capacity/size	Electronic-compatible				
	HP/high switching capacity/2 slots	--	3VA9988-0AB11	1	1 unit	163
	HQ/compact size/1 slot	--	3VA9988-0AB12	1	1 unit	163
	HQ_el/compact size/1 slot	✓	3VA9988-0AB13	1	1 unit	163
 3VA9988-0AB32	<b>Short-circuit alarm switches SAS (3VA1 only)</b>					
	For molded case circuit breakers, rated current	Electronic-compatible				
	HQ/compact size/1 slot	--	3VA9988-0AB32	1	1 unit	163
	HQ_el/compact size/1 slot	✓	3VA9988-0AB33	1	1 unit	163
 3VA9988-0AB22	<b>Electrical alarm switches EAS (3VA2 only)</b>					
	Type/switching capacity/size	Electronic-compatible				
	HQ/compact size/1 slot	--	3VA9988-0AB22	1	1 unit	163
	HQ_el/compact size/1 slot	✓	3VA9988-0AB23	1	1 unit	163
<b>Undervoltage releases</b>						
 3VA9908-0BB15	<b>Undervoltage release UVR</b>					
	50/60 Hz V AC	V DC				
	--	12	3VA9908-0BB10	1	1 unit	153
	--	24	3VA9908-0BB11	1	1 unit	153
	--	48	3VA9908-0BB12	1	1 unit	153
	--	60	3VA9908-0BB13	1	1 unit	153
	--	125 ... 127	3VA9908-0BB14	1	1 unit	153
	--	220 ... 230	3VA9908-0BB15	1	1 unit	153
	--	250	3VA9908-0BB16	1	1 unit	153
	24	--	3VA9908-0BB20	1	1 unit	153
	48	--	3VA9908-0BB21	1	1 unit	153
	60	--	3VA9908-0BB22	1	1 unit	153
	110	--	3VA9908-0BB23	1	1 unit	153
	120 ... 127	--	3VA9908-0BB24	1	1 unit	153
208 ... 230	--	3VA9908-0BB25	1	1 unit	153	
380 ... 400 <sup>1)</sup>	--	3VA9908-0BB26	1	1 unit	153	
440 ... 480 <sup>1)</sup>	--	3VA9908-0BB27	1	1 unit	153	

<sup>1)</sup> Start of delivery scheduled for 4th quarter 2014

## Accessories and Spare Parts

## Internal accessories

	Version	DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	
<b>Undervoltage release with leading NO contacts UVR (LNO)</b>								
 3VA9908-0BC15	<b>Undervoltage release with leading NO contacts UVR (LNO)</b>							
	50/60 Hz V AC	V DC						
	--	12 <sup>1)</sup>		3VA9908-0BC10		1	1 unit 153	
	--	24 <sup>1)</sup>		3VA9908-0BC11		1	1 unit 153	
	--	48 <sup>1)</sup>		3VA9908-0BC12		1	1 unit 153	
	--	60 <sup>1)</sup>		3VA9908-0BC13		1	1 unit 153	
	--	125 ... 127 <sup>1)</sup>		3VA9908-0BC14		1	1 unit 153	
	--	220 ... 230 <sup>1)</sup>		3VA9908-0BC15		1	1 unit 153	
	--	250 <sup>1)</sup>		3VA9908-0BC16		1	1 unit 153	
	24 <sup>1)</sup>	--		3VA9908-0BC20		1	1 unit 153	
	48 <sup>1)</sup>	--		3VA9908-0BC21		1	1 unit 153	
	60 <sup>1)</sup>	--		3VA9908-0BC22		1	1 unit 153	
	110 <sup>1)</sup>	--		3VA9908-0BC23		1	1 unit 153	
	120 ... 127 <sup>1)</sup>	--		3VA9908-0BC24		1	1 unit 153	
	208 ... 230 <sup>1)</sup>	--		3VA9908-0BC25		1	1 unit 153	
380 ... 400 <sup>1)</sup>	--		3VA9908-0BC26		1	1 unit 153		
440 ... 480 <sup>1)</sup>	--		3VA9908-0BC27		1	1 unit 153		
<b>Shunt trip left</b>								
 3VA9988-0BL33	<b>Shunt trip left STL</b>							
	50/60 Hz V AC	V DC						
	24	12 ... 30		3VA9988-0BL30		1	1 unit 163	
	48 ... 60	48 ... 60		3VA9988-0BL31		1	1 unit 163	
	110 ... 127	110 ... 127		3VA9988-0BL32		1	1 unit 163	
	208 ... 277	220 ... 250		3VA9988-0BL33		1	1 unit 163	
	380 ... 600 <sup>2)</sup>	--		3VA9988-0BL20		1	1 unit 163	
	<b>Shunt trip left STL (EI)</b>							
	50/60 Hz V AC	V DC						
	--	24 <sup>1)</sup>		3VA9988-0BM10		1	1 unit 163	
110 <sup>1)</sup>	--		3VA9988-0BM21		1	1 unit 163		
--	230 <sup>1)</sup>		3VA9988-0BM22		1	1 unit 163		
<b>Shunt trip flexible STF</b>								
 3VA9988-0BA23	<b>Shunt trip flexible</b>							
	50/60 Hz V AC	V DC						
	24	--		3VA9988-0BA20		1	1 unit 163	
	48 ... 60	--		3VA9988-0BA21		1	1 unit 163	
	110 ... 127	--		3VA9988-0BA22		1	1 unit 163	
	208 ... 277	--		3VA9988-0BA23		1	1 unit 163	
	380 ... 500 <sup>2)</sup>	--		3VA9988-0BA24		1	1 unit 163	
	600 <sup>2)</sup>	--		3VA9988-0BA25		1	1 unit 163	
	<b>Universal release UNI</b>							
	 3VA9908-0BD13	<b>Universal release</b>						
50/60 Hz V AC		V DC						
--		12		3VA9908-0BD11		1	1 unit 153	
--		24		3VA9908-0BD12		1	1 unit 153	
--	48		3VA9908-0BD13		1	1 unit 153		
<b>Time-delay device for undervoltage releases</b>								
 3VA9988-0BF22	<b>Time-delay device</b>							
	V AC	V DC	Delay time					
	110 <sup>2)</sup>	--	Fixed	3VA9988-0BF21		1	1 unit 163	
	230 <sup>2)</sup>	--	Fixed	3VA9988-0BF22		1	1 unit 163	
--	24 <sup>2)</sup>	Fixed	3VA9988-0BF23		1	1 unit 163		

1) Start of delivery scheduled for 1st quarter 2016

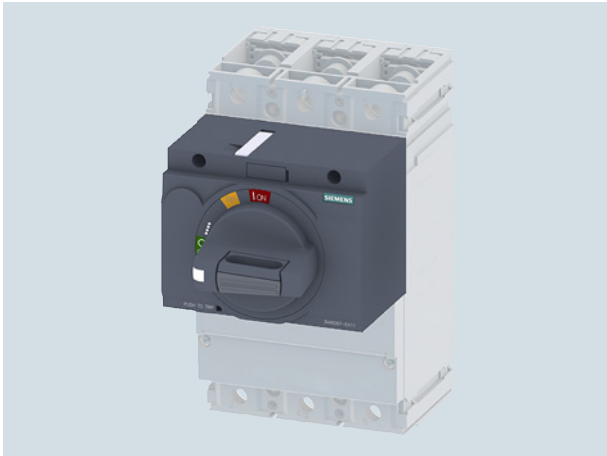
2) Start of delivery scheduled for 4th quarter 2014

## Overview

Manual operators are provided to facilitate manual operation of the 3VA molded case circuit breakers, either directly at the circuit breaker or through the door or side wall of the cubicle.

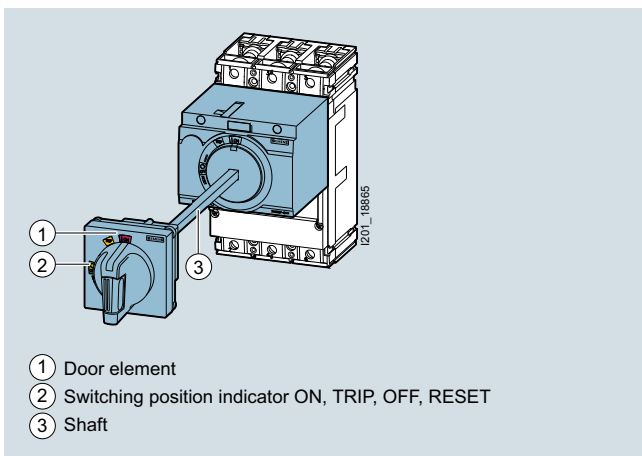
### Front mounted rotary operator

The front mounted rotary operator is mounted directly on the molded case circuit breaker and is available with or without a door interlocking system. It meets the requirements for degree of protection IP30. The door interlock locks the cubicle door when the molded case circuit breaker is closed, but can be deliberately overridden if necessary.



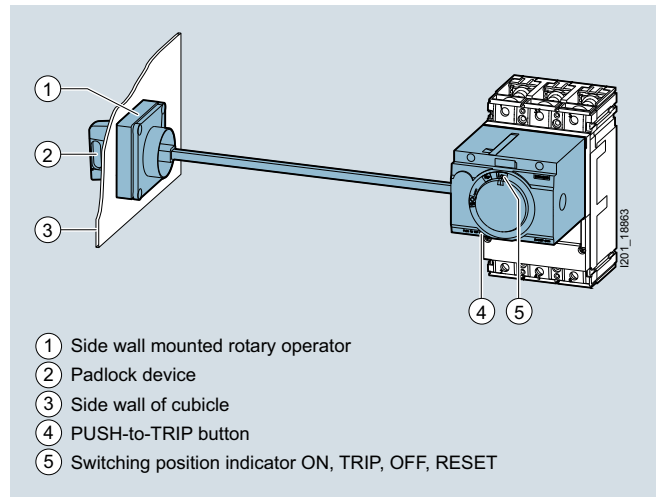
### Door mounted rotary operator

The door mounted rotary operator enables operation of the molded case circuit breaker from the cubicle door. The door element meets the requirements for degree of protection IP65 and features a door interlocking system and tolerance compensation. A variable depth adapter can be deployed to allow use of the door mounted rotary operator in conjunction with draw-out units. A supplementary handle can be attached directly to the shaft shoulder to allow convenient operation of the molded case circuit breaker when the cubicle door is open (i.e. when the control element is decoupled).



### Side wall mounted rotary operator

The side wall mounted rotary operator is designed for installation in the cubicle side wall. It is available optionally with short shaft and mounting plate for mounting directly adjacent to the cubicle wall. The wall element meets the requirements for degree of protection IP65.



All manual operators as well as the supplementary handle for the door mounted rotary operator are also available in a version for use in EMERGENCY-STOP applications. These are colored a conspicuous yellow/red for easier identification.

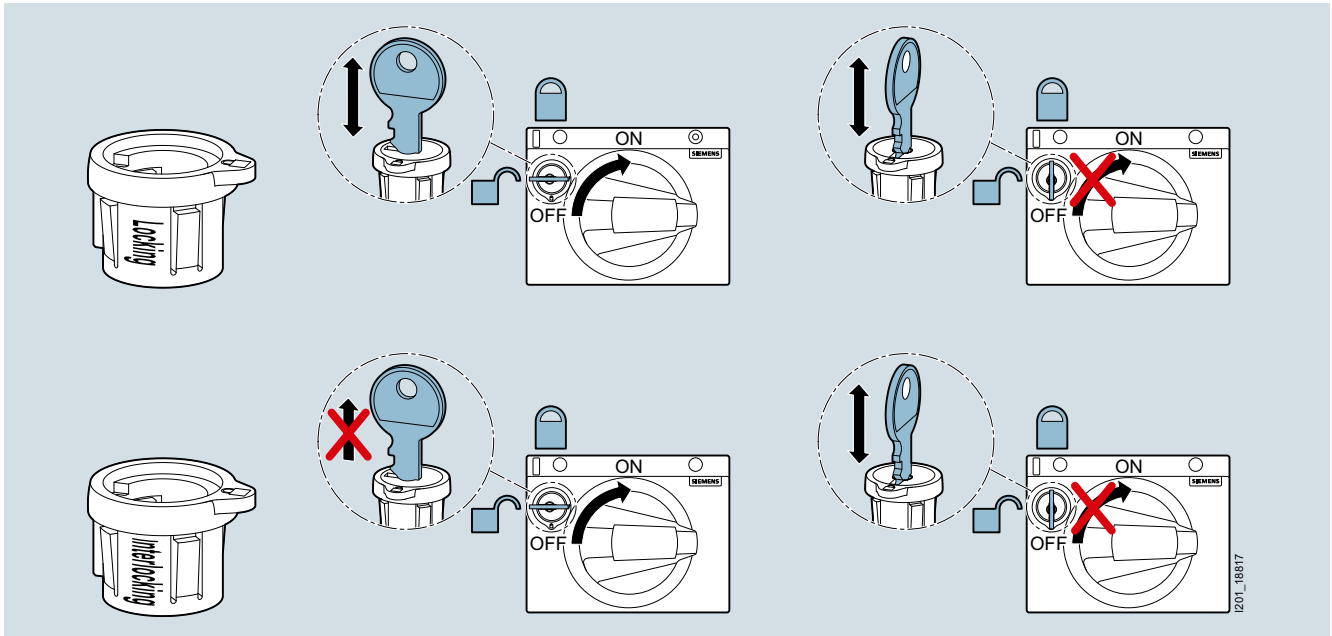
### Interlocking methods

All manual operators are designed to allow locking of the operator at the handle and at the rotary operator with up to three padlocks in each case. It is also possible to fit a cylinder lock which can be used either to lock or to interlock molded case circuit breakers depending on the application.

If the cylinder lock is applied as a lock, it can be used to prevent the molded case circuit breaker from closing. The key can be removed at any time. If the lock is used to create an interlock, the key can be removed only when it is in the OFF position, allowing the creation of an interlock by the use of a single key for several breakers.

## Accessories and Spare Parts

### Manual operators



Using the cylinder lock (type Ronis) and the cylinder lock adapter for rotary operators, it is not only possible to lock a molded case circuit breaker, but also to create an interlock between an optional number of molded case circuit breakers of different sizes.

#### Interlock positions

- If the molded case circuit breaker with rotary operator is merely to be locked, then the cylinder lock adapter labeled "Locking" must be used. If the rotary operator is in the "Unlocked" position (key is horizontal), the molded case circuit breaker can be closed or opened by means of the rotary operator.
- If the key is turned to the vertical position, the position of the rotary operator is "Locked". With the rotary operator in this position, the molded case circuit breaker cannot be closed.

The key can be removed from the lock in both cases.

In order to implement an interlocking application using cylinder locks, the cylinder lock adapter for rotary operators labeled "Interlocking" must be fitted in each of the molded case circuit breakers to be included in the interlock arrangement and all breakers must be locked in the "OFF" position (key in vertical position). In order to ensure reliable functioning of the interlock, only one key must be used for the entire interlock application. All other keys must be kept or locked away in a safe place, because this one key will be used as the release instrument for only one molded case circuit breaker at a time!

In order to release or operate a molded case circuit breaker, the cylinder lock must be turned to the "Unlocked" (horizontal) position with this one particular key. Only then can the rotary operator of the circuit breaker be moved to the "ON" position. The cylinder lock key cannot be removed with the lock in the "Unlocked" position, thereby ensuring that only one molded case circuit breaker at a time can be closed.

In order to implement a locking or an interlocking application involving multiple molded case circuit breakers, the following two components must be ordered for each circuit breaker:

- Cylinder lock (type Ronis)
- Cylinder lock adapter for rotary operators

Another means of implementing an interlock is to use the rotary operator interlock with Bowden cable. This allows up to three molded case circuit breakers to be mutually interlocked via the rotary operators. There is an additional option of locking the door coupling or side wall mounted rotary operator on the masking plate using a cylinder lock (type: Kaba). This cylinder lock (type: Kaba) is not suitable for the interlocking application.

#### Active illumination



The manual operators are also available in illuminated variants in which the handle is illuminated red, yellow or green via LEDs (24 V DC) depending on the position of the breaker. This means that the switching position of the molded case circuit breaker can be immediately identified, even when light conditions are poor. This option can also be retrofitted.

#### Benefits

- Convenient circuit breaker operation inside and outside the cubicle
- Locking and interlocking for all manual operators prevents unauthorized breaker operation
- Conspicuously colored variant for EMERGENCY-STOP circuits
- Illumination for clear indication of switching position even when light conditions are poor
- All manual operators meet the standards for isolating characteristics defined by IEC / EN 60947-1



## Selection and ordering data


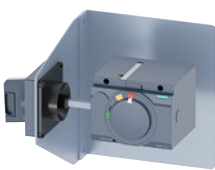


Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG																																																																																																																																																																																																																																																				
	3VA1 100 A, 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A																																																																																																																																																																																																																																																										
<b>Front mounted rotary operators</b>																																																																																																																																																																																																																																																													
 <p><b>Front mounted rotary operator</b></p> <ul style="list-style-type: none"> <li>• Rotary operator</li> <li>• Handle</li> <li>• For IEC</li> <li>• Degree of protection IP30</li> </ul>																																																																																																																																																																																																																																																													
<p>3VA9267-0EK11</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Color</th> <th>3VA1</th> <th>3VA2</th> <th>3VA2</th> <th>Article No.</th> <th>Price</th> <th>PU</th> <th>PS*/</th> <th>PG</th> </tr> </thead> <tbody> <tr> <td rowspan="3">• Standard, without illumination kit</td> <td rowspan="3">gray</td> <td>✓</td> <td>--</td> <td>--</td> <td>3VA9157-0EK11</td> <td></td> <td>1</td> <td>1 unit</td> <td>163</td> </tr> <tr> <td>--</td> <td>✓</td> <td>--</td> <td>3VA9267-0EK11</td> <td></td> <td>1</td> <td>1 unit</td> <td>163</td> </tr> <tr> <td>--</td> <td>--</td> <td>✓</td> <td>3VA9467-0EK11</td> <td></td> <td>1</td> <td>1 unit</td> <td>163</td> </tr> <tr> <td rowspan="3">• Standard, with illumination kit</td> <td rowspan="3">gray</td> <td>✓</td> <td>--</td> <td>--</td> <td>3VA9157-0EK13</td> <td></td> <td>1</td> <td>1 unit</td> <td>163</td> </tr> <tr> <td>--</td> <td>✓</td> <td>--</td> <td>3VA9267-0EK13</td> <td></td> <td>1</td> <td>1 unit</td> <td>163</td> </tr> <tr> <td>--</td> 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door interlock	gray	✓	--	--	3VA9157-0EK21		1	1 unit	163	--	✓	--	3VA9267-0EK21		1	1 unit	163	--	--	✓	3VA9467-0EK21		1	1 unit	163	• Standard, with door interlock, with illumination kit	gray	✓	--	--	3VA9157-0EK23		1	1 unit	163	--	✓	--	3VA9267-0EK23		1	1 unit	163	--	--	✓	3VA9467-0EK23		1	1 unit	163	• EMERGENCY-STOP, with door interlock	yellow-red	✓	--	--	3VA9157-0EK25		1	1 unit	163	--	✓	--	3VA9267-0EK25		1	1 unit	163	--	--	✓	3VA9467-0EK25		1	1 unit	163	• EMERGENCY-STOP, with door interlock, with illumination kit	yellow-red	✓	--	--	3VA9157-0EK27		1	1 unit	163	--	✓	--	3VA9267-0EK27		1	1 unit	163	--	--	✓	3VA9467-0EK27		1	1 unit	163	• Without handle, with shaft stub, without door interlock	gray	✓	--	--	3VA9157-0GK00		1	1 unit	163	--	✓	--	3VA9267-0GK00		1	1 unit	163	--	--	✓	3VA9467-0GK00		1	1 unit	163
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## Accessories and Spare Parts

### Manual operators

	Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
		3VA1 100 A, 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>Door mounted rotary operator</b>										
	<b>Door mounted rotary operator</b>									
	<ul style="list-style-type: none"> <li>• Rotary operator</li> <li>• Shaft 300 mm</li> <li>• Mounting tolerance compensation</li> <li>• Handle with masking plate 75 x 75 mm</li> <li>• Degree of protection IP65</li> </ul>									
3VA9267-0FK21	Type	Color								
	• Standard	gray	✓	--	--	3VA9157-0FK21		1	1 unit	163
			--	✓	--	3VA9267-0FK21		1	1 unit	163
			--	--	✓	3VA9467-0FK21		1	1 unit	163
	• Standard, with illumination kit	gray	✓	--	--	3VA9157-0FK23		1	1 unit	163
			--	✓	--	3VA9267-0FK23		1	1 unit	163
			--	--	✓	3VA9467-0FK23		1	1 unit	163
	• EMERGENCY-STOP	yellow-red	✓	--	--	3VA9157-0FK25		1	1 unit	163
			--	✓	--	3VA9267-0FK25		1	1 unit	163
			--	--	✓	3VA9467-0FK25		1	1 unit	163
	• EMERGENCY-STOP, with illumination kit	yellow-red	✓	--	--	3VA9157-0FK27		1	1 unit	163
			--	✓	--	3VA9267-0FK27		1	1 unit	163
--			--	✓	3VA9467-0FK27		1	1 unit	163	
<b>Supplementary handle for door mounted rotary operator</b>										
	Type	Color								
	• Standard	gray	✓	--	--	3VA9287-0GC01		1	1 unit	163
			--	✓	✓	3VA9487-0GC01		1	1 unit	163
	• EMERGENCY-STOP	yellow-red	✓	--	--	3VA9287-0GC05		1	1 unit	163
--			✓	✓	3VA9487-0GC05		1	1 unit	163	
<b>Shaft</b> 8 mm										
Variants										
8UD1900-2WB00	• 300 mm long					8UD1900-2WA00		1	1 unit	153
	• 600 mm long					8UD1900-2WB00		1	1 unit	153
<b>Adapter for shaft 8 mm x 8 mm</b> With door mounted rotary operator and side wall mounted rotary operator										
8UD1900-2DA00						8UD1900-2DA00		1	1 unit	153
<b>Door coupling</b> 8 x 8 mm										
8UD1900-2HA00						8UD1900-2HA00		1	1 unit	153
<b>Fixing bracket for shaft</b>										
	✓			--	--	3VA9287-0GA80		1	1 unit	163
	--			✓	✓	3VA9487-0GA80		1	1 unit	163
3VA9487-0GA80										
<b>Variable depth adapter</b> 8 x 8 mm										
3VA9487-0GB10						3VA9487-0GB10		1	1 unit	163
<b>Mounting tolerance compensation</b> 8 x 8 mm										
8UD1900-2GA00						8UD1900-2GA00		1	1 unit	153

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Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG			
	3VA1 100 A, 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A									
<b>Side wall mounted rotary operator</b>												
<b>Side wall mounted rotary operator</b>												
<ul style="list-style-type: none"> <li>Without mounting plate           <ul style="list-style-type: none"> <li>Rotary operator with shaft 300 mm</li> <li>Handle with masking plate 75 x 75 mm</li> <li>Degree of protection IP65</li> </ul> </li> </ul>												
 3VA9267-0PK11	Type	Color										
	• Standard	gray	✓	--	--	3VA9157-0PK11	1	1 unit	163			
			--	✓	--	3VA9267-0PK11	1	1 unit	163			
			--	--	✓	3VA9467-0PK11	1	1 unit	163			
	• Standard, with illumination kit	gray	✓	--	--	3VA9157-0PK13	1	1 unit	163			
			--	✓	--	3VA9267-0PK13	1	1 unit	163			
			--	--	✓	3VA9467-0PK13	1	1 unit	163			
	• EMERGENCY-STOP	yellow-red	✓	--	--	3VA9157-0PK15	1	1 unit	163			
			--	✓	--	3VA9267-0PK15	1	1 unit	163			
--			--	✓	3VA9467-0PK15	1	1 unit	163				
• EMERGENCY-STOP, with illumination kit	yellow-red	✓	--	--	3VA9157-0PK17	1	1 unit	163				
		--	✓	--	3VA9267-0PK17	1	1 unit	163				
		--	--	✓	3VA9467-0PK17	1	1 unit	163				
<ul style="list-style-type: none"> <li>With mounting plate           <ul style="list-style-type: none"> <li>Rotary operator with short shaft</li> <li>Handle with masking plate 75 x 75 mm</li> <li>Degree of protection IP65</li> </ul> </li> </ul>												
 3VA9267-0PK51	Type	Color										
	• Standard	gray	✓	--	--	3VA9157-0PK51	1	1 unit	163			
			--	✓	--	3VA9267-0PK51	1	1 unit	163			
			✓	--	--	3VA9157-0PK53	1	1 unit	163			
	• Standard, with illumination kit	gray	--	✓	--	3VA9267-0PK53	1	1 unit	163			
			✓	--	--	3VA9157-0PK55	1	1 unit	163			
	• EMERGENCY-STOP	yellow-red	--	✓	--	3VA9267-0PK55	1	1 unit	163			
			✓	--	--	3VA9157-0PK57	1	1 unit	163			
			--	✓	--	3VA9267-0PK57	1	1 unit	163			
• EMERGENCY-STOP, with illumination kit	yellow-red	✓	--	--	3VA9157-0PK57	1	1 unit	163				
		--	✓	--	3VA9267-0PK57	1	1 unit	163				
<b>Extended DIN rail for N/PE terminal</b>												
<ul style="list-style-type: none"> <li>For mounting plate</li> <li>Up to 250 A</li> </ul>												
 3VA9987-0GL30						3VA9987-0GL30	1	1 unit	163			
<b>Handles</b>												
<b>Handles</b>												
<ul style="list-style-type: none"> <li>With masking plate</li> </ul>												
 8UD1731-0AB11	Type	Color	Tolerance compensation									
	• Standard	gray	without	✓	✓	--	8UD1721-0AB11	1	1 unit	153		
			with	✓	✓	--	8UD1721-0AB21	1	1 unit	153		
			without	--	--	✓	8UD1731-0AB11	1	1 unit	153		
			with	--	--	✓	8UD1731-0AB21	1	1 unit	153		
			• EMERGENCY-STOP	yellow-red	without	✓	✓	--	8UD1721-0AB15	1	1 unit	153
					with	✓	✓	--	8UD1721-0AB25	1	1 unit	153
	without	--			--	✓	8UD1731-0AB15	1	1 unit	153		
	with	--			--	✓	8UD1731-0AB25	1	1 unit	153		

## Accessories and Spare Parts

### Manual operators

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<b>General accessories for manual operators</b>						
 3VA9087-0SX10		<b>Labeling plate for manual operators</b>			1 10 units	163
 8UD1900-0KA20		<b>Illumination kit for manual operators</b> 24 V DC voltage	For molded case circuit breakers			
			3VA1, 100 ... 160 A	8UD1900-0KA10	1 1 unit	153
			3VA2, 100 ... 630 A	8UD1900-0KA20	1 1 unit	153
 8UD1900-0MB01		<b>Cylinder lock (type Kaba)</b> • For door mounted rotary operator and side wall mounted rotary operator (in the masking plate) • Standard masking plate	Key 1	8UD1900-0MB01	1 1 unit	153
			Key 2	8UD1900-0NB01	1 1 unit	153
			Key 3	8UD1900-0PB01	1 1 unit	153
			Key 4	8UD1900-0QB01	1 1 unit	153
 8UD1900-0MB05		<b>Cylinder lock (type Kaba)</b> • For door mounted rotary operator and side wall mounted rotary operator (in the masking plate) • EMERGENCY-STOP masking plate	Key 1	8UD1900-0MB05	1 1 unit	153
			Key 2	8UD1900-0NB05	1 1 unit	153
			Key 3	8UD1900-0PB05	1 1 unit	153
			Key 4	8UD1900-0QB05	1 1 unit	153
 3VA9488-0VF20		<b>Rotary operator interlock<sup>1)</sup></b> • Contains 1 unit • For interlocking up to 3 operators (with 3 modules) • Interlocking via Bowden cable (not included in scope of delivery) <a href="#">see page 4/41</a>	For molded case circuit breakers			
			3VA1, 100 ... 160 A	3VA9288-0VF20	1 1 unit	163
			3VA2, 100 ... 630 A	3VA9488-0VF20	1 1 unit	163
 3VA9980-0VL10		<b>Cylinder lock (type Ronis)</b> • Includes a lock with 2 keys • For locking or interlocking • For installation in all rotary operators with shaft stub • For mounting in the adapter kit for the accessories compartment	Key 1	3VA9980-0VL10	1 1 unit	163
			Key 2	3VA9980-0VL20	1 1 unit	163
			Key 3	3VA9980-0VL30	1 1 unit	163
			Key 4	3VA9980-0VL40	1 1 unit	163
		<b>Note</b> The cylinder lock adapter for rotary operators is also needed for locking or interlocking circuit breakers via rotary operators.				
 3VA9980-0LF20		<b>Cylinder lock adapter for rotary operators</b> To mount the cylinder lock in the rotary operator (also possible with door mounted rotary operator and side wall mounted rotary operator)		3VA9980-0LF20	1 1 unit	163

<sup>1)</sup> Start of delivery on request.

**Overview**

The MO320 motor operator closes and opens the molded case circuit breaker by means of control cable commands (e.g. from pushbuttons or a PLC). It can also be operated manually, however, and a handle is provided on the unit for this purpose.

The motor operator also features a clear switching position indicator which indicates ON and OFF and, via LED, whether the circuit breaker has tripped (TRIP). The motor operator therefore meets the standards for isolating characteristics defined by IEC / EN 60947-1. It is thus possible to identify the switching position of the molded case circuit breaker at any time.

Two different reset modes can be selected, i.e. in one mode, the operator resets the molded case circuit breaker automatically and in the other, it waits for confirmation by an OFF signal before it resets the breaker.

Furthermore, the motor operator can be locked in the OFF position by means of several padlocks.

**Benefits**

- Remote operation of the molded case circuit breaker by means of control cable commands
- Clear switching position indication including TRIP provides a quick visual overview and prevents operating errors
- Locking capability prevents unauthorized operations
- Meets the standards for isolating characteristics defined by IEC / EN 60947-1

**Design**

The MO320 motor operator is simply snapped into position on a mounting frame which is installed instead of the accessories lid of the molded case circuit breaker.

**Technical specifications**

Type of protection	IP20, with escutcheon IP30
Can be locked	3 padlocks (dia. 4.5 mm - 8 mm)
Rated operating voltage	24 - 60 V DC 110 - 230 V AC, 110 - 250 V DC
Make time	< 1 s
Break time	< 1 s
Rated operational power	250 W/250 VA (max. 500 W/500 VA, 60 ms)

**Selection and ordering data**

Version	For molded case circuit breakers/ rated current	DT	Article No. <a href="http://www.siemens.com/product?ArticleNo">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 3VA2 3VA2 160 A 100 A, 400 A, 160 A, 630 A 250 A						

**Motor operators****Motor operator**

Motor operators (MO320)

## Variants

- 24 ... 60 V DC

- 110 ... 230 V AC,  
110 ... 250 V DC



3VA9267-0HA10

✓	--	--	3VA9157-0HA10	1	1 unit	163
--	✓	--	3VA9267-0HA10	1	1 unit	163
--	--	✓	3VA9467-0HA10	1	1 unit	163
✓	--	--	3VA9157-0HA20	1	1 unit	163
--	✓	--	3VA9267-0HA20	1	1 unit	163
--	--	✓	3VA9467-0HA20	1	1 unit	163

## Accessories and Spare Parts

### Plug-in and draw-out technology

#### Overview

Using plug-in and draw-out technology the 3VA molded case circuit breakers can be installed/removed or replaced quickly and safely. In this case, the cables or busbars of the main current paths are connected to the connectors of the plug-in socket or the draw-out socket.

The termination areas of the sockets for these versions are designed in the same way as those of the molded case circuit breakers but, due to the different requirements for creepages and clearances, have slightly different dimensions.

This means that all connections without insulating measures (e.g. box terminals) from the range of breakers can also be used with the socket for plug-in or draw-out units.

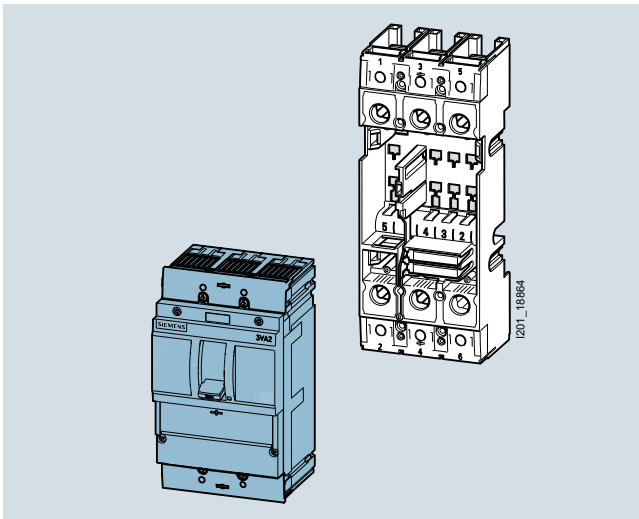
Connections with insulating measures have their own article numbers and are listed below.

A 3VA molded case circuit breaker in the plug-in or draw-out version has plug-in contacts on the input and load side of the main terminals. When the circuit breaker is plugged or moved into the socket, the plug-in contacts slide into the socket-side tulip contacts and connect the main current paths with the circuit breaker. In addition, auxiliary circuit connectors can be used to connect the auxiliary and control signals from the internal accessories of the molded case circuit breaker to the outside.

The main differences between plug-in units and draw-out units are convenience of operation and the potential for functional expansion.

#### Plug-in technology

Plug-in technology is the less expensive and more space-saving of the two solutions. The plug-in version of the molded case circuit breaker is equipped with plug-in contacts on the back of the 3VA molded case circuit breaker. These make a friction-locked and keyed connection with the corresponding mating connectors in the plug-in socket. The plug-in unit can be supplied as a complete kit or as a conversion kit for breakers including screw-fastened terminal covers.

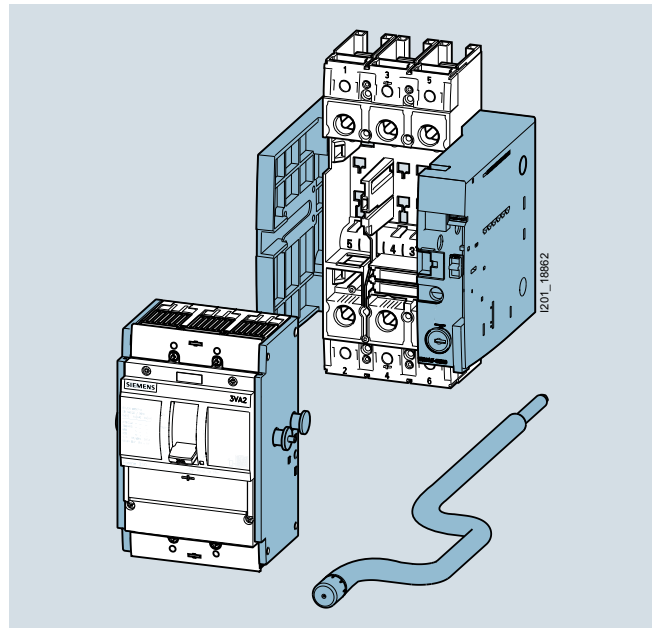


#### Draw-out technology

Draw-out versions of the molded case circuit breaker are also equipped with plug-in contacts at the main current paths. In addition, side walls including guide and support bolts are bolted to the sides of the molded case circuit breaker. With this version, the mating component is the draw-out socket. It is also equipped with a guide mechanism via which the molded case circuit breaker is moved into the draw-out socket by means of a handle in order to connect the breaker to the main circuits. The operator can clearly read from a position indicator whether the breaker is properly connected to the main circuits or safely isolated from them (so that it can be withdrawn).

Position signaling switches which transmit the position information CONNECT, TEST, and DISCONNECT can be integrated in the right-hand side wall of the draw-out unit. A special set of position signaling switches transfers the position data to the COM060 communication module via a preassembled wires.





The draw-out complete kit as well as the draw-out conversion kit for one breaker are available. Both kits include screw-fastened terminal covers for the breaker. The crank handle for the draw-out unit must be ordered separately.



#### Benefits

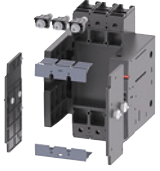
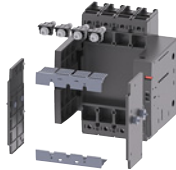
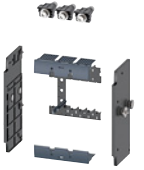
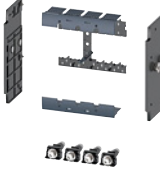
- Molded case circuit breakers can be replaced quickly and easily for the purpose of overhaul or servicing
- Electrical isolation and clearly visible isolating distance
- Socket can be interlocked to prevent the 3VA molded case circuit breaker from being plugged in or moved in
- Identical connection technology for all molded case circuit breakers, whether they are plug-in, draw-out or fixed-mounted units
- Test of the auxiliary and control circuit connections in the test position of the draw-out unit possible without contacted main current paths

## Selection and ordering data

Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>Plug-in socket</b>									
<b>Plug-in unit, complete kit</b> Comprising: • Plug-in socket • Conversion kit • Mounting screw kit									
Variants									
 3VA9123-0KP00	• 3-pole	✓	--	--	3VA9113-0KP00		1	1 unit	153
		--	✓	--	3VA9123-0KP00		1	1 unit	153
		--	--	✓	3VA9323-0KP00		1	1 unit	153
 3VA9124-0KP00	• 4-pole	✓	--	--	3VA9114-0KP00		1	1 unit	153
		--	✓	--	3VA9124-0KP00		1	1 unit	153
		--	--	✓	3VA9324-0KP00		1	1 unit	153
<b>Plug-in unit, conversion kit</b> Comprising: • Screw-fastened terminal covers for molded case circuit breakers • Plug-in contacts • Cable cage • Autotrip plunger									
Variants									
 3VA9123-0KP10	• 3-pole	✓	--	--	3VA9113-0KP10		1	1 unit	153
		--	✓	--	3VA9123-0KP10		1	1 unit	153
		--	--	✓	3VA9323-0KP10		1	1 unit	153
 3VA9124-0KP10	• 4-pole	✓	--	--	3VA9114-0KP10		1	1 unit	153
		--	✓	--	3VA9124-0KP10		1	1 unit	153
		--	--	✓	3VA9324-0KP10		1	1 unit	153

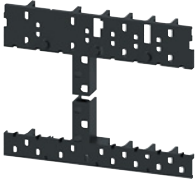





## Accessories and Spare Parts

### Plug-in and draw-out technology

	Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	
		3VA1 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A							
<b>Draw-out units</b>											
<b>Draw-out unit, complete kit</b>											
Comprising:											
<ul style="list-style-type: none"> <li>• Draw-out socket</li> <li>• Conversion kit</li> <li>• Mounting screw kit</li> </ul>											
Variants											
 3VA9123-0KD00	• 3-pole	--	✓	--		<a href="#">3VA9123-0KD00</a>		1	1 unit	153	
		--	--	✓		<a href="#">3VA9323-0KD00</a>		1	1 unit	153	
	 3VA9124-0KD00	• 4-pole	--	✓	--		<a href="#">3VA9124-0KD00</a>		1	1 unit	153
			--	--	✓		<a href="#">3VA9324-0KD00</a>		1	1 unit	153
<b>Draw-out unit, conversion kit</b>											
Conversion kit comprising:											
<ul style="list-style-type: none"> <li>• Screw-fastened terminal covers for molded case circuit breakers</li> <li>• Side wall</li> <li>• Plug-in contacts</li> <li>• Cable cage</li> <li>• Autotrip plunger</li> </ul>											
Variants											
 3VA9123-0KD10	• 3-pole	--	✓	--		<a href="#">3VA9123-0KD10</a>		1	1 unit	153	
		--	--	✓		<a href="#">3VA9323-0KD10</a>		1	1 unit	153	
	 3VA9124-0KD10	• 4-pole	--	✓	--		<a href="#">3VA9124-0KD10</a>		1	1 unit	153
			--	--	✓		<a href="#">3VA9324-0KD10</a>		1	1 unit	153















## Plug-in and draw-out technology

Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>Cable cage</b>									
 <p><b>Cable cage for plug-in/draw-out unit 3-/4-pole (spare part)</b> Cable duct for routing of the required cables from the internal accessories on the back of the circuit breaker</p> <p>3VA9167-0KB02</p>	✓	--	--		<a href="#">3VA9157-0KB02</a>		1	1 unit	163
	--	✓	--		<a href="#">3VA9167-0KB02</a>		1	1 unit	163
	--	--	✓		<a href="#">3VA9367-0KB02</a>		1	1 unit	163
<b>Door feedthrough</b>									
 <p><b>Door feedthrough</b></p> <p>3VA9167-0KT00</p>	--	✓	--		<a href="#">3VA9167-0KT00</a>		1	1 unit	163
	--	--	✓		<a href="#">3VA9367-0KT00</a>		1	1 unit	163
<b>Terminal covers</b>									
 <p><b>Terminal cover for plug-in/draw-out unit (spare part)</b></p> <ul style="list-style-type: none"> <li>To provide circuit breaker touch protection</li> <li>For mounting on the molded case circuit breaker</li> </ul> <p>Variants</p> <ul style="list-style-type: none"> <li>3-pole</li> </ul> <p>3VA9123-0KB01</p>  <p>3VA9123-0KB01</p>  <p>3VA9124-0KB01</p>  <p>3VA9124-0KB01</p>	✓	--	--		<a href="#">3VA9113-0KB01</a>		1	1 unit	153
	--	✓	--		<a href="#">3VA9123-0KB01</a>		1	1 unit	153
	--	--	✓		<a href="#">3VA9353-0KB01</a>		1	1 unit	163
	✓	--	--		<a href="#">3VA9114-0KB01</a>		1	1 unit	153
	--	✓	--		<a href="#">3VA9124-0KB01</a>		1	1 unit	153
	--	--	✓		<a href="#">3VA9354-0KB01</a>		1	1 unit	163

## Accessories and Spare Parts








### Plug-in and draw-out technology



	Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	
		3VA1 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A							
	<b>Terminal cover for plug-in or draw-out socket</b>										
	<ul style="list-style-type: none"> <li>For touch protection in the termination area of the plug-in or draw-out socket</li> <li>For mounting on the plug-in or draw-out socket</li> </ul>										
	Variants										
 3VA9153-0KB03	• 3-pole	✓	--	--		<a href="#">3VA9153-0KB03</a>		1	1 unit	163	
		--	✓	--		<a href="#">3VA9163-0KB03</a>		1	1 unit	163	
		--	--	✓		<a href="#">3VA9353-0KB03</a>		1	1 unit	163	
	 3VA9154-0KB03	• 4-pole	✓	--	--		<a href="#">3VA9154-0KB03</a>		1	1 unit	163
			--	✓	--		<a href="#">3VA9164-0KB03</a>		1	1 unit	163
			--	--	✓		<a href="#">3VA9354-0KB03</a>		1	1 unit	163
	<b>Terminal cover, extended for plug-in or draw-out socket</b>										
	<ul style="list-style-type: none"> <li>For touch protection in the termination area of the plug-in or draw-out socket</li> <li>For mounting on the plug-in or draw-out socket</li> </ul>										
	Variants										
 3VA9153-0KB04	• 3-pole	✓	--	--		<a href="#">3VA9153-0KB04</a>		1	1 unit	163	
		--	✓	--		<a href="#">3VA9163-0KB04</a>		1	1 unit	163	
		--	--	✓		<a href="#">3VA9353-0KB04</a>		1	1 unit	163	
 3VA9154-0KB04	• 4-pole	✓	--	--		<a href="#">3VA9154-0KB04</a>		1	1 unit	163	
		--	✓	--		<a href="#">3VA9164-0KB04</a>		1	1 unit	163	
		--	--	✓		<a href="#">3VA9354-0KB04</a>		1	1 unit	163	
	<b>Terminal cover, broadened, for plug-in or draw-out socket</b>										
	<ul style="list-style-type: none"> <li>For touch protection in the termination area of the plug-in or draw-out socket</li> <li>For mounting on the plug-in or draw-out socket</li> </ul>										
	Variants										
 3VA9153-0KB05	• 3-pole	✓	--	--		<a href="#">3VA9153-0KB05</a>		1	1 unit	163	
		--	✓	--		<a href="#">3VA9163-0KB05</a>		1	1 unit	163	
		--	--	✓		<a href="#">3VA9353-0KB05</a>		1	1 unit	163	
 3VA9154-0KB05	• 4-pole	✓	--	--		<a href="#">3VA9154-0KB05</a>		1	1 unit	163	
		--	✓	--		<a href="#">3VA9164-0KB05</a>		1	1 unit	163	
		--	--	✓		<a href="#">3VA9354-0KB05</a>		1	1 unit	163	

Version	Minimum mm <sup>2</sup> for stranded cable	Maximum mm <sup>2</sup> for stranded cable	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Price per PU	PU (UNIT, SET, M)	PG
			3VA1 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A					
<b>Circular conductor terminals for plug-in and draw-out sockets</b>										
 3VA9153-0JC12	<b>Circular conductor terminal, large, with auxiliary conductor terminal</b> Included in scope of supply: 3 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	<a href="#">3VA9153-0JC12</a>	1	1 unit	163
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9263-0JC13</a>	1	1 unit	163
 3VA9154-0JC12	<b>Circular conductor terminal, large, with auxiliary conductor terminal</b> Included in scope of supply: 4 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	<a href="#">3VA9154-0JC12</a>	1	1 unit	163
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9264-0JC13</a>	1	1 unit	163
 3VA9263-0JC22	<b>Circular conductor terminal, 2 cables, with auxiliary conductor terminal</b> Included in scope of supply: 3 single terminals and 1 extended terminal cover	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9263-0JC22</a>	1	1 unit	163
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓	<a href="#">3VA9483-0JC23</a>	1	1 unit	163
 3VA9264-0JC22	<b>Circular conductor terminal, 2 cables, with auxiliary conductor terminal</b> Included in scope of supply: 4 single terminals and 1 extended terminal cover	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9264-0JC22</a>	1	1 unit	163
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓	<a href="#">3VA9484-0JC23</a>	1	1 unit	163
 3VA9153-0JF60	<b>Circular conductor terminal, 6 cables</b> Included in scope of supply: 3 single terminals and 1 extended terminal cover	6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	✓	--	--	<a href="#">3VA9153-0JF60</a>	1	1 unit	163
		6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9263-0JF60</a>	1	1 unit	163
		6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	--	--	✓	<a href="#">3VA9383-0JF60</a>	1	1 unit	163
 3VA9154-0JF60	<b>Circular conductor terminal, 6 cables</b> Included in scope of supply: 4 single terminals and 1 extended terminal cover	6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	✓	--	--	<a href="#">3VA9154-0JF60</a>	1	1 unit	163
		6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	--	✓	--	<a href="#">3VA9264-0JF60</a>	1	1 unit	163
		6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	--	--	✓	<a href="#">3VA9384-0JF60</a>	1	1 unit	163

## Accessories and Spare Parts

### Plug-in and draw-out technology

Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS* P. unit	PG
	3VA1 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>Auxiliary conductor terminals for plug-in and draw-out units</b>									
<b>Auxiliary conductor terminal for box terminal</b>									
 3VA9280-0WB00	✓	--	--		<a href="#">3VA9150-0WB00</a>		1	10 units	163
	--	✓	--		<a href="#">3VA9280-0WB00</a>		1	10 units	163
	--	--	✓		<a href="#">3VA9480-0WB00</a>		1	10 units	163
<b>Auxiliary conductor terminal for busbar</b>									
 3VA9280-0WC00	✓	--	--		<a href="#">3VA9150-0WC00</a>		1	10 units	163
	--	✓	--		<a href="#">3VA9280-0WC00</a>		1	10 units	163
	--	--	✓		<a href="#">3VA9480-0WC00</a>		1	10 units	163
<b>Other accessories</b>									
<b>Communication link for draw-out unit</b>									
Comprising:					<a href="#">3VA9987-0KC00</a>		1	1 unit	163
• Cable kit with 3 special position signaling switches									
• Connecting cable 3VA9987-0KC10									
 3VA9987-0KC00									
<b>Position signaling switch</b>									
For draw-out unit					<a href="#">3VA9987-0KB00</a>		1	1 unit	163
 3VA9987-0KB00									
<b>Spare connecting cable</b>									
To connect the position signaling switches for communication with the COM060					<a href="#">3VA9987-0KC10</a>		1	1 unit	163
 3VA9987-0KC10									
<b>Crank handle for draw-out unit</b>									
Insulated, incl. crank holder					<a href="#">3VA9987-0KD81</a>		1	1 unit	163
 3VA9987-0KD81									
<b>Auxiliary circuit connector</b>									
Variants									
• For all draw-out units					<a href="#">3VA9987-0KD80</a>		1	1 unit	163
• For all plug-in units					<a href="#">3VA9987-0KP80</a>		1	1 unit	163
 3VA9987-0KD80									

Version	For molded case circuit breakers/ rated current	DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG												
	<table border="1"> <tr> <td>3VA1</td> <td>3VA2</td> <td>3VA2</td> </tr> <tr> <td>160 A</td> <td>100 A</td> <td>400 A</td> </tr> <tr> <td></td> <td>160 A</td> <td>630 A</td> </tr> <tr> <td></td> <td>250 A</td> <td></td> </tr> </table>	3VA1	3VA2	3VA2	160 A	100 A	400 A		160 A	630 A		250 A							
3VA1	3VA2	3VA2																	
160 A	100 A	400 A																	
	160 A	630 A																	
	250 A																		
 <p><b>Cylinder lock (type Ronis)</b></p> <ul style="list-style-type: none"> <li>Includes a lock with 2 keys</li> <li>For locking</li> <li>For installation in all rotary operators with shaft stub</li> <li>For mounting in the adapter kit for the accessories compartment</li> </ul>		Key 1	<a href="#">3VA9980-OVL10</a>		1	1 unit	163												
		Key 2	<a href="#">3VA9980-OVL20</a>		1	1 unit	163												
		Key 3	<a href="#">3VA9980-OVL30</a>		1	1 unit	163												
		Key 4	<a href="#">3VA9980-OVL40</a>		1	1 unit	163												
	3VA9980-OVL10																		
 <p><b>Cylinder lock adapter for draw-out unit</b></p> <ul style="list-style-type: none"> <li>For fitting a cylinder lock in the right-hand side wall of the draw-out unit</li> <li>To prevent unauthorized withdrawal or insertion of the circuit breaker into the draw-out unit</li> <li>Circuit breaker can be locked in the CONNECT, TEST and DISCONNECT positions.</li> </ul>			<a href="#">3VA9980-OLF40</a>		1	1 unit	163												
	3VA9980-OLF40																		

## Accessories and Spare Parts

### Residual current devices

#### Overview

Residual current devices can be used to prevent or reduce hazardous residual currents that could cause injury to personnel and livestock, and damage to property. These are available as accessory components for the 3VA series up to the largest circuit breaker size. The new portfolio of residual current devices of the 3VA series includes three different RCD designs so that an optimum solution is available for every conceivable type of application: mounted below, mounted on the side, and modular. All residual current devices detect both purely sinusoidal AC residual currents as well as pulsating DC residual currents (type A), and the combination of molded case circuit breakers with mounted residual current devices complies with IEC 60947-2 Annex B, while the combination with modular residual current devices complies with IEC 60947-2 Annex M.

#### Residual current devices "Basic" type

The residual current devices of the "Basic" type can be combined with the 3VA1 molded case circuit breakers. The following features characterize these devices:

- Compact design
- 45 mm cover size
- LEDs for signaling "ready" state and pre-alarms
- Tripped signal at device and via electrical contacts
- Deliberate acknowledgment following a trip via a reset push-button on the residual current device

RCD310 and RCD510 are suitable for side mounting on the breaker, and versions RCD320 and RCD520 are mounted below the breaker. On the residual current devices of the 5-series (RCD5..), tripping can be delayed by up to three seconds so that in the event of a fault, only the branch containing the fault is switched off by means of appropriate selective grading of the series-switched residual current devices. The device types of the 3-series (RCD3..) are instantaneous versions, in other words, they trip immediately. They can be supplied as 4-pole versions.

#### RCD310 and RCD510

The RCD310 and RCD510 units are specially designed for the infrastructure market. This is reflected in the design: compact L-shaped design, operator controls and displays in a 45 mm cover size, DIN rail mounting is possible and the combination of breaker and residual current device has a depth of 70 mm and thus fits optimally into a distribution board.

The RCD310 and RCD510 can be combined with 3VA1 molded case circuit breakers and switch disconnectors. They are mounted on the left side of the breaker. Through-hole technology enables direct connection of the cable to the box terminal. There is no need for time-consuming wiring of the breaker-residual current device combination. In the event of a residual current, the breaker is tripped by an RCR (residual current release) built into the left accessories compartment of the breaker. However, this RCR can also be used by means of a floating contact as a shunt trip independently of the residual current device.



RCD510

#### RCD320 and RCD520

The RCD320 and RCD520 can be installed below the trip unit of the 3VA1 molded case circuit breaker. Equipping the molded case circuit breaker fully with internal accessories is easy because with these residual current devices, the molded case circuit breaker is tripped by a tappet that is already integrated into the residual current device and the circuit breaker. Following a trip, the molded case circuit breaker cannot be closed again until the residual current device has been reset via its reset button. Since the outgoing feeder end of the residual current device has exactly the same connection contours as the molded case circuit breaker, all connection accessories such as phase barriers, terminal covers, etc. can also be mounted on the residual current device.



RCD520

**Residual current devices "Advanced" type****RCD820**

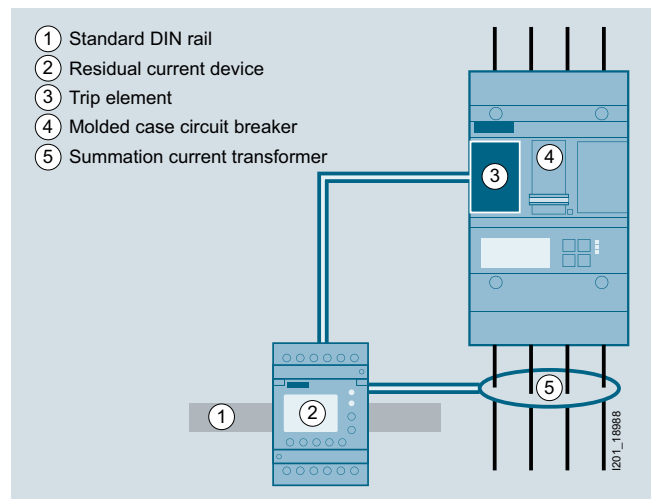
The "Advanced" residual current devices of the type RCD820 are accessory components for the 3 and 4-pole 3VA2 molded case circuit breakers with electronic trip unit, and they can detect residual currents of type A to 10 A, and type AC to 30 A. Here, the range of functions has been significantly increased in comparison to the residual current devices of the Basic type. Thus, the RCD820 can be integrated into a communication system via which important status, diagnostics, maintenance and identification data can be queried, and commands issued. And not only that. This data can also be forwarded to a PLC or LED via the host of auxiliary contacts on the device. LEDs for signaling the "ready" state of the residual current device, the communication connection, and the two pre-alarms on the residual current device provide information on the current status on-site. Thanks to an innovative tripping concept, it is also possible to use the RCD820 purely as a display unit, so that residual currents do not result in shutdown, but instead are only indicated.



RCD820

**Modular residual current device**

As well as a residual current device mounted direct on the breaker, an external solution is also available. The modular solution, comprising a residual current device 5SV8101-6KK, a separate summation current transformer (5SV8702-0KK, 5SV8703-0KK, 5SV8704-0KK, 5SV8705-0KK, 5SV8706-0KK), and a trip element, has been tested in accordance with IEC 60947-2 Annex M, and can be combined with all 3VA1 and 3VA2 molded case circuit breakers. You can find out the suitable combinations on request. The residual current device is supplied with an external auxiliary voltage of 230 V~. Appropriate summation current transformers with varying diameters are offered for the different rated breaker currents. Depending on the application, it is possible to use an undervoltage release or a shunt trip as the trip element. If the trip element is omitted, the combination of residual current device and summation current transformer works purely as a display unit.



Modular residual current device

**Benefits****RCD310 and RCD510**

- Increased packaging density in the cubicle thanks to the compact L-shaped design
- Through-hole technology saves inconvenient wiring of the breaker and the residual current device
- Mounting of a DIN rail adapter enables attachment to a DIN rail
- Side-by-side arrangement with miniature circuit breakers possible thanks to 45 mm cover size
- Function of a shunt trip automatically integrated by RCR dual functionality
- Deliberate acknowledgment of a residual current prevents unintentional restart

**RCD320 and RCD520**

- Compact design saves space in the cubicle
- Deliberate acknowledgment of a residual current prevents unintentional restart

**RCD820**

- Communication connection or alternatively electrical contacts ensure fast status messages – even remotely
- Advanced RCD820 is also suitable for use as a display unit
- Staggered pre-alarms prevent/avoid plant downtimes
- Local presence not required thanks to remote test, acknowledgment and commissioning of the RCD820 via electrical contacts or communication






**Modular residual current device**

- Modular design allows mounting on different breaker designs (e.g. 1-, 2-, 3- and 4-pole breakers)
- Reuse in the event of a change of application ensures cost savings
- Time savings thanks to simple upgrading of the residual current functionality in an existing plant
- Especially suitable for use where installation space is restricted

## Accessories and Spare Parts




### Residual current devices

#### Selection and ordering data

Version	For molded case circuit breakers/ rated current	DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 160 A						
<b>Side mounted residual current devices RCD for 3VA1</b>							
<b>Type A</b> (pulse current sensitive) <ul style="list-style-type: none"> <li>Mounted on the side (left)</li> <li>Can be mounted on molded case circuit breakers and switch disconnectors with box terminal</li> <li><math>U_e = 127 - 480 \text{ V AC}, 50/60 \text{ Hz}</math></li> </ul>							
 3VA9114-ORS10	<b>RCD310</b> <ul style="list-style-type: none"> <li>4-pole</li> <li>Adjustable rated residual response current: <math>I_{\Delta n} = 0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 \text{ A}</math>,</li> <li>Non-adjustable delay time: <math>\Delta t = 0 \text{ s}</math></li> </ul>	✓	<a href="#">3VA9114-ORS10</a>		1	1 unit	153
	<b>RCD510</b> <ul style="list-style-type: none"> <li>Adjustable rated residual response current: <math>I_{\Delta n} = 0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 \text{ A}</math>,</li> <li>Adjustable delay time: <math>\Delta t = 0 - 0.06 - 0.15 - 0.3 - 0.5 - 1 - 2 - 3 \text{ s}</math></li> </ul>						
Variants							
	• 3-pole	✓	<a href="#">3VA9113-ORS20</a>		1	1 unit	153
	• 4-pole	✓	<a href="#">3VA9114-ORS20</a>		1	1 unit	153
 3VA9113-ORS20							
 3VA9114-ORS20							
<b>Type A</b> (pulse current sensitive) <ul style="list-style-type: none"> <li>Mounted below (under trip unit)</li> <li>Can be mounted on molded case circuit breakers</li> <li><math>U_e = 127 - 480 \text{ V AC}, 50/60 \text{ Hz}</math></li> </ul>							
 3VA9113-ORL20	<b>RCD320</b> <ul style="list-style-type: none"> <li>4-pole</li> <li>Adjustable rated residual response current: <math>I_{\Delta n} = 0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 \text{ A}</math>,</li> <li>Non-adjustable delay time: <math>\Delta t = 0 \text{ s}</math></li> </ul>	✓	<a href="#">3VA9114-ORL10</a>		1	1 unit	153
	<b>RCD520</b> <ul style="list-style-type: none"> <li>Adjustable rated residual response current: <math>I_{\Delta n} = 0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 \text{ A}</math>,</li> <li>Adjustable delay time: <math>\Delta t = 0 - 0.06 - 0.15 - 0.3 - 0.5 - 1 - 2 - 3 \text{ s}</math></li> </ul>						
Variants							
	• 3-pole	✓	<a href="#">3VA9113-ORL20</a>		1	1 unit	153
	• 4-pole	✓	<a href="#">3VA9114-ORL20</a>		1	1 unit	153
 3VA9114-ORL20							

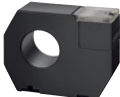
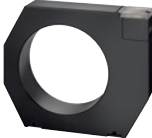



## Residual current devices

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	3VA1 100 A 160 A	3VA2 100 A 160 A	3VA2 250 A	3VA2 400 A	3VA2 630 A																																																																																																																							
<b>Residual current devices RCD for 3VA2</b>																																																																																																																												
<p><b>Type A</b> (pulse current sensitive)</p> <ul style="list-style-type: none"> <li>• Mounted below (under trip unit),</li> <li>• With energy infeed from below, the required auxiliary switch (AUX) must be ordered separately.</li> <li>• <math>U_e = 127 - 690</math> V AC, 50/60 Hz</li> </ul>																																																																																																																												
<p><b>RCD820</b></p> <ul style="list-style-type: none"> <li>• Adjustable rated residual response current, <math>I_{\Delta n} = 0.03 - 0.05 - 0.1 - 0.3 - 0.5 - 1 - 3 - 5 - 10 - 30</math> A,</li> <li>• Adjustable delay time <math>\Delta t = 0 - 0.06 - 0.15 - 0.3 - 0.5 - 1 - 2 - 3 - 5 - 10</math> s</li> <li>• Note: 30 A setting range only for type AC applications</li> </ul>																																																																																																																												
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<p><b>Variants</b></p> <table border="1"> <thead> <tr> <th></th> <th>3VA1</th> <th>3VA2</th> <th>3VA2</th> <th>3VA2</th> <th>3VA2</th> <th>DT</th> <th>Article No.</th> <th>Price per PU</th> <th>PU</th> <th>PS*/P. unit</th> <th>PG</th> </tr> </thead> <tbody> <tr> <td rowspan="5">• 3-pole</td> <td>--</td> <td>✓</td> <td>--</td> <td>--</td> <td>--</td> <td></td> <td>3VA9123-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>✓</td> <td>--</td> <td>--</td> <td></td> <td>3VA9223-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>--</td> <td>✓</td> <td>--</td> <td></td> <td>3VA9323-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>✓</td> <td></td> <td>3VA9423-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>✓</td> <td></td> <td>3VA9124-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td rowspan="4">• 4-pole</td> <td>--</td> <td>✓</td> <td>--</td> <td>--</td> <td>--</td> <td></td> <td>3VA9124-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>✓</td> <td>--</td> <td>--</td> <td></td> <td>3VA9224-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>--</td> <td>✓</td> <td>--</td> <td></td> <td>3VA9324-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> <tr> <td>--</td> <td>--</td> <td>--</td> <td>--</td> <td>✓</td> <td></td> <td>3VA9424-ORL30</td> <td></td> <td>1</td> <td>1 unit</td> <td>153</td> </tr> </tbody> </table>													3VA1	3VA2	3VA2	3VA2	3VA2	DT	Article No.	Price per PU	PU	PS*/P. unit	PG	• 3-pole	--	✓	--	--	--		3VA9123-ORL30		1	1 unit	153	--	--	✓	--	--		3VA9223-ORL30		1	1 unit	153	--	--	--	✓	--		3VA9323-ORL30		1	1 unit	153	--	--	--	--	✓		3VA9423-ORL30		1	1 unit	153	--	--	--	--	✓		3VA9124-ORL30		1	1 unit	153	• 4-pole	--	✓	--	--	--		3VA9124-ORL30		1	1 unit	153	--	--	✓	--	--		3VA9224-ORL30		1	1 unit	153	--	--	--	✓	--		3VA9324-ORL30		1	1 unit	153	--	--	--	--	✓		3VA9424-ORL30		1	1 unit	153
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<p>Modular residual current device MRCD</p> <ul style="list-style-type: none"> <li>• In accordance with IEC 60947-2 Annex M</li> <li>• Rated residual current <math>I_{\Delta}</math> adjustable in 7 stages from 0.03 A to 3 A (0.03 - 0.1 - 0.3 - 0.5 - 1 - 2 - 3 A, default: 30 mA)</li> <li>• Non-tripping time <math>\Delta t</math> adjustable in 12 stages from instantaneous (INS) to 10 seconds (INS - SEL - 0.06 - 0.1 - 0.2 - 0.3 - 0.4 - 0.5 - 1 - 3 - 5 - 10 s, default: INS, SEL: selective).</li> <li>• Supply from a 1-phase auxiliary voltage source (230 V, also externally)</li> <li>• Suitable for 1- to 4-pole molded case circuit breakers</li> <li>• DIN rail mounting</li> </ul> <p><b>Note</b></p> <p>If a molded case circuit breaker is to be tripped by the modular residual current device, an additional shunt trip is required in the molded case circuit breaker. See <a href="#">Internal accessories</a>, from page 4/2.</p>																																																																																																																												
 <p>5SV8101-6KK</p>																																																																																																																												
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## Accessories and Spare Parts

### Residual current devices

	Version	For molded case circuit breakers/ rated current					DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
		3VA1 100 A 160 A	3VA2 100 A 160 A	3VA2 250 A	3VA2 400 A	3VA2 630 A						
<b>Summation current transformers</b>												
	• Including holder for wall mounting <sup>1)</sup>	-	-	- Internal diameter 35 mm			<a href="#">5SV8702-0KK</a>		1	1 unit	009	
		-	-	- Internal diameter 70 mm			<a href="#">5SV8703-0KK</a>		1	1 unit	009	
		-	-	- Internal diameter 105 mm			<a href="#">5SV8704-0KK</a>		1	1 unit	009	
	• Including holder for wall mounting	-	-	- Internal diameter 140 mm			<a href="#">5SV8705-0KK</a>		1	1 unit	009	
		-	-	- Internal diameter 210 mm			<a href="#">5SV8706-0KK</a>		1	1 unit	009	
	Holder for DIN rails Suitable for summation current trans- formers with internal diameters of 35 mm, 70 mm and 105 mm						<a href="#">5SV8900-1KK</a>		1	2 units	009	

<sup>1)</sup> Mounting on DIN rail with optional holder for DIN rail also possible.

**Overview****Metering function**

The Rogowski coils integrated in the 3VA2 molded case circuit breakers are capable of delivering particularly accurate current measurements. An additional voltage tap is integrated in molded case circuit breakers equipped with an 8-series ETU, which means that energy data can also be measured – the 3VA2 molded case circuit breaker therefore offers a range of metering functions similar to those available with the tried-and-tested 7KM PAC measuring device!

An external current transformer for N conductors is available to allow direct measurement of the neutral conductor current with 3-pole molded case circuit breakers. When the 3-pole circuit breaker is installed in the 4-pole network, it is advisable to deploy the voltage tap at the neutral conductor so that the neutral point of the voltage network can be fixed.

**Communication via the COM800/COM100 breaker data server**

The 3VA2 molded case circuit breaker utilizes an innovative, modern communication concept. This concept is based on the COM800 breaker data server which can link up to eight molded case circuit breakers to different fieldbus systems. For applications involving only one 3VA2 molded case circuit breaker, the COM100 is an ideal alternative to the COM800 breaker data server.

The COM060 communication module in the molded case circuit breaker is wired via a T-Connector to the COM800/COM100 breaker data server. Integrated as standard in the COM800/COM100 breaker data server is an Ethernet interface with the Modbus TCP protocol to allow communication with powerconfig and the powermanager. Optional communication modules can be installed to provide different fieldbus protocols. An additional benefit of this structure is that the communication costs per molded case circuit breaker decrease with every further circuit breaker that is connected to the COM800 breaker data server.

The communication equipment for the molded case circuit breakers can be installed and connected extremely easily, reliably and efficiently thanks to the connector system used. The 24 V DC supply to the electronic trip units is also reliably provided by these connections. The breaker data server utilizes independent supplementary functions to deliver valuable information about the connected molded case circuit breakers and the power distribution system.

**DSP800 display**

The DSP800 display can be used to show breaker information (status, measured values, parameters) on the cubicle door. It communicates via the integral Ethernet interface with the COM800/COM100 and is thus able to display the data of up to 8 3VA2 molded case circuit breakers simultaneously.

**EFB300 external function box**

The EFB300 external function box is linked directly to the ETU of the 3VA2 molded case circuit breaker by a cable. It provides four digital outputs and one digital input. The powerconfig software can be used to set which information is to be output from the ETU via the four digital outputs:

- All reasons for tripping, categorized according to LSING
- Overload alarms AL1 and AL2
- Pre-trip alarm from overload protection system
- Load shedding and load pick-up
- Temperature alarm
- Output of an energy pulse (S0 signal), in combination with an 8-series ETU only

A zone selective interlocking functionality (ZSI) can also be implemented via the module.

**Note:**

A TD500 or the COM060 and COM800/COM100 combination is needed to program a change in the output assignments with powerconfig.

**TD300 and TD500 test devices**

The TD300 activation and trip box is a mobile, battery-operated local test device. One of its functions is to provide a temporary power supply to the Electronic Trip Units (ETUs) so that they can be operated and parameterized. It is also used to test the trip-function of the molded case circuit breaker.

The TD500 mobile test device allows the proper functioning and connections of all connected system components to be tested at the breaker commissioning stage because it is capable of simulating every conceivable cause of breaker tripping. The molded case circuit breaker responds as if the emergency were real – it trips in accordance with the set parameters and transmits all alarm and trip signals to the connected components.

The TD500 test device can be used as a hand-held tester or in conjunction with a PC. In the latter case, the TD500 test device is connected to the PC via a supplied USB cable and acts as a gateway to the 3VA2 molded case circuit breaker. Using the powerconfig software supplied, it is possible to read out or modify the setting parameters of the molded case circuit breaker and monitor the measured values.

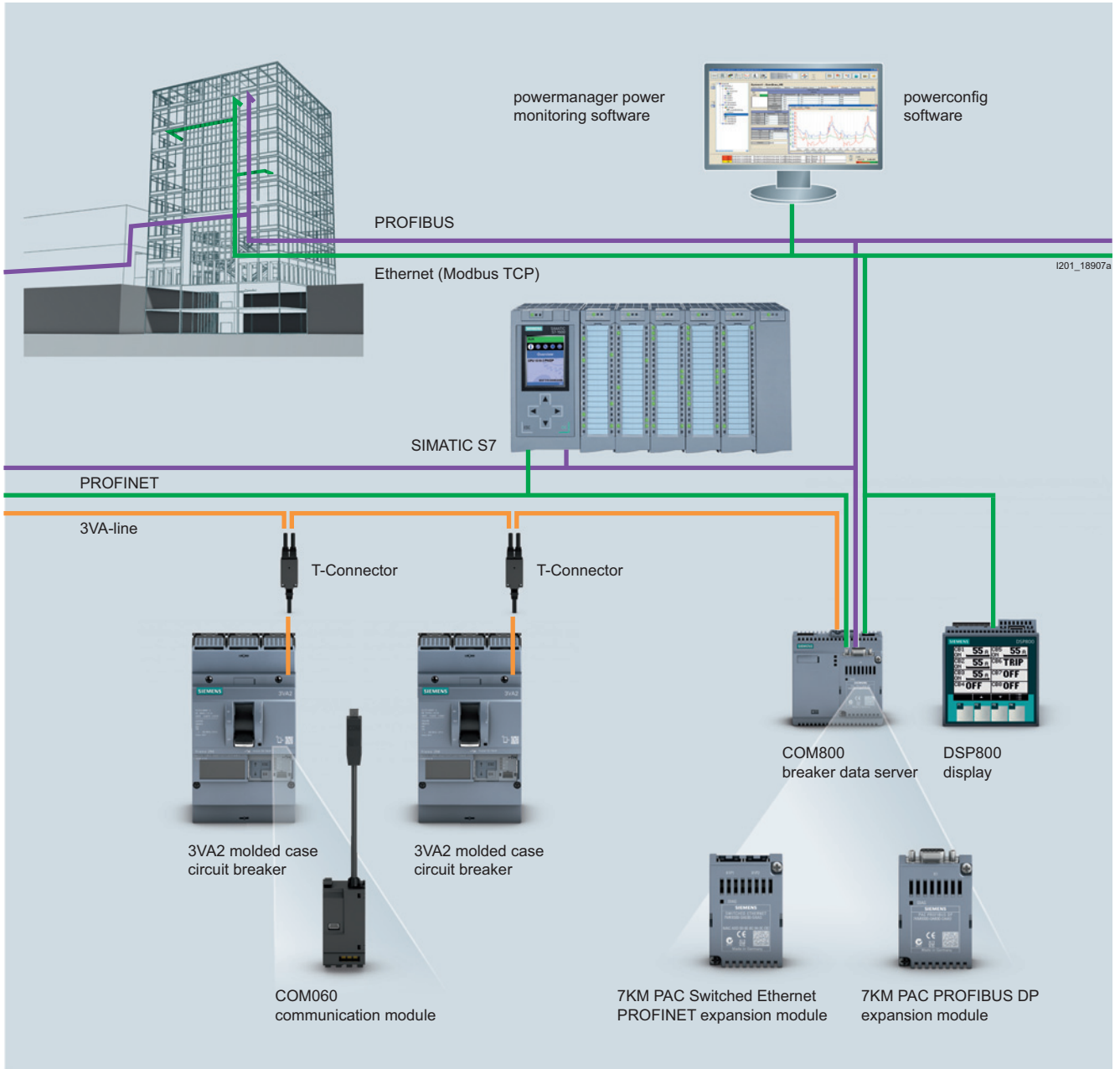
**Benefits**

- The metering function integrated in 8-series ETUs can acquire energy data without requiring additional external transformers
- The COM800 breaker data server provides a cost-efficient communication interface for up to 8 3VA2 molded case circuit breakers
- Universal bus interfaces are available for the COM800/COM100 breaker data server
- Universal S0 interface for the output of energy pulses
- 100 test results can be stored with the TD500 test device
- Status and measured values of up to 8 molded case circuit breakers are displayed in the cubicle door using the DSP800

# Accessories and Spare Parts

## Communication and testing/commissioning devices

### Design



## Technical specifications

## Overview of the setting values

Setting values <sup>1)</sup>			ETUs of the		Display		Communication	
			5-series	8-series	in ETU		DSP800	COM800 via COM060
<b>Overload protection</b>								
Current	$I_r$	A	✓	✓	👁️	✎	👁️	👁️ ✎
Delay time	$t_r$	s	✓	✓	👁️	✎	👁️	👁️ ✎
Switch thermal memory on/off	ThM		✓	✓	👁️	✎	👁️	👁️ ✎
<b>Short-time delayed short-circuit protection</b>								
Current	$I_{sd}$	A	✓	✓	👁️	✎	👁️	👁️ ✎
Delay time	$t_{sd}$	s	✓	✓	👁️	✎	👁️	👁️ ✎
Characteristic curve in S range	$I^2 t_{sd}$		✓	✓	👁️	✎	👁️	👁️ ✎
Zone selective interlocking	ZSI		✓	✓	👁️	✎	👁️	👁️ ✎
<b>Instantaneous short-circuit protection</b>								
Current	$I_i$	A	✓	✓	👁️	✎	👁️	👁️ ✎
<b>Overload protection in the neutral conductor</b>								
Current	$I_N$	A	✓	✓	👁️	✎	👁️	👁️ ✎
<b>Ground-fault protection</b>								
Current	$I_g$	A	✓	✓	👁️	✎	👁️	👁️ ✎
Delay time	$t_g$	s	✓	✓	👁️	✎	👁️	👁️ ✎
Characteristic curve	$I^2 t_g$		✓	✓	👁️	✎	👁️	👁️ ✎
Alarm current	$I_{gA}$	A	✓	✓	👁️	✎	👁️	👁️ ✎

<sup>1)</sup> Depending on ETU version

## Overview of the metering functions

Metering function <sup>1)</sup>			ETUs of the		Display		Communication	
			5-series	8-series	in ETU		DSP800	COM800 via COM060
<b>Current</b>								
Phase and neutral conductor currents	$I_1, I_2, I_3, I_N$	A	✓	✓	👁️		👁️	👁️
Residual current to ground	$I_g$	A	✓	✓	👁️		👁️	👁️
Phase with highest load		A	✓	✓	👁️		👁️	👁️
Mean value over the three phase currents	$I_{LAVG} = (I_1 + I_2 + I_3)/3$	A	--	✓	--		👁️	👁️
Asymmetry of the phase currents	$I_{nba}$	%	--	✓	--		👁️	👁️
THD of the 3 phases	THDI <sub>1</sub> , THDI <sub>2</sub> , THDI <sub>3</sub>	%	--	✓	--		👁️	👁️
<b>Voltage</b>								
Phase voltages incl. mean value	$U_{12}, U_{23}, U_{31}, U_{phavg}$	V	--	✓	👁️		👁️	👁️
Voltages to N conductor incl. mean value	$U_{1N}, U_{2N}, U_{3N}, U_{Navg}$	V	--	✓	--		👁️	👁️
Asymmetry of the voltages		%	--	✓	--		👁️	👁️
THD phase/phase and phase/N	THDU <sub>1</sub> , THDU <sub>2</sub> , THDU <sub>3</sub>	%	--	✓	--		👁️	👁️
<b>Power</b>								
Active power, total and per phase	$P_1, P_2, P_3, P_{tot}$	kW	--	✓	👁️ (P <sub>tot</sub> )		👁️	👁️
Apparent power, total and per phase	$S_1, S_2, S_3, S_{tot}$	kVA	--	✓	--		👁️	👁️
Reactive power, total and per phase	$Q_1, Q_2, Q_3, Q_{tot}$	kVAr	--	✓	👁️		👁️	👁️
Fundamental power factor	$PF_1, PF_2, PF_3, PF_{avg}$		--	✓	👁️ (PF <sub>avg</sub> )		👁️	👁️
<b>Energy</b>								
Active energy, infeed and feedback	$E_p$	kWh	--	✓	👁️		👁️	👁️
Reactive energy, infeed and feedback	$E_q$	kVArh	--	✓	--		👁️	👁️
Apparent energy	$E_s$	kVAh	--	✓	--		👁️	👁️
<b>Frequency</b>								
Present frequency	f	Hz	--	✓	👁️		👁️	👁️
<b>Maximum pointer function</b>								
Min/max current, voltage, power	with time stamp		--	--	--		--	👁️

<sup>1)</sup> Depending on ETU version

✓ Available

-- Not available

👁️ Can be displayed

✎ Can be edited

## Accessories and Spare Parts

### Communication and testing/commissioning devices

#### Overview of status, diagnostics and maintenance

Status, diagnostics and maintenance <sup>1)</sup>		ETUs of the		Display in ETU	DSP800	Communication COM800 via COM060
		5-series	8-series			
Breaker status	On, Off, TRIP	✓	✓	--	👁	👁
Currently pending alarm messages		✓	✓	👁	👁	👁
Reason for last trip		✓	✓	👁	👁	👁
Event Log	• of the last 100 events	✓	✓	--	👁	👁
	• of the last 10 trips	✓	✓	--	👁	👁
	• of the last 100 switching operations	✓	✓	--	👁	👁
Maintenance information	• Trip counter after LSIG trips	✓	✓	--	👁	👁
	• Operating hours counter	✓	✓	--	👁	👁
	• Switching cycle counter	✓	✓	--	👁	👁
Position in the draw-out unit		✓	✓	--	👁	👁
Temperature		✓	✓	--	👁	👁

<sup>1)</sup> Depending on ETU version

#### Overview of identification

Identification		ETUs of the		Display in ETU	DSP800	Communication COM800 via COM060
		5-series	8-series			
Identification data of the breaker	• Article No.	✓	✓	--	👁	👁
	• Rated operational current, number of poles, $I_{CU}$	✓	✓	--	👁	👁
HW/FW version		✓	✓	--	--	👁

#### Overview of power management functions

Power management functions			ETUs of the		Display in ETU	DSP800	Communication COM800 via COM060
			5-series	8-series			
Power demand values of the last demand period	Active, reactive and apparent power in fixed block or rolling block	5 ... 60 min	--	✓	--	👁	👁
Energy pulse output	S0 signal at EFB output		--	✓	--	--	--
Load monitoring	Load shedding/load pick-up, output via EFB		✓	✓	--	👁	👁
Threshold value parameters	10 freely adjustable monitoring parameters		✓	✓	--	👁	👁

✓ Available

👁 Can be displayed

-- Not available

🔧 Can be edited

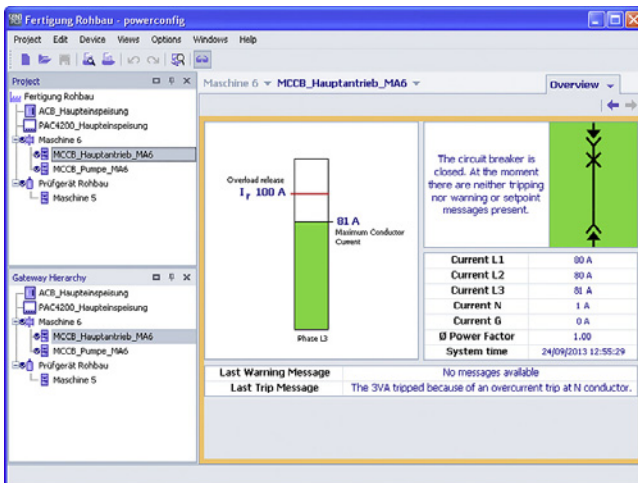
#### Accuracy specifications

Accuracy levels of the specified measured values of the 8-series ETU, including the integrated current sensors:

Measured value	Accuracy
Current	1 % in the range from 0.2 ... 1.2 $I_n$
Voltage	1 % in the range from 80 ... 800 V
Active power, active energy	Class 2 acc. to IEC 61557-12

**powerconfig****The powerconfig software for commissioning**

	Software tool for the efficient commissioning and diagnosis of communication-capable SENTRON components
License	Free use
Supported devices	3VA2 molded case circuit breakers, 7KM PAC3100/3200/4200 measuring devices, incl. expansion modules, 3WL/3VL circuit breakers
General range of functions	The PC-based tool facilitates parameterization of the devices, resulting in substantial time savings, particularly when several devices have to be set up. The device settings can be stored in the PC and printed out. The tool enables monitoring of instantaneous measured quantities, which can be printed out if required. Execution of specific device functions, such as resetting of devices and setting of energy counters
Supported languages	English, German
Service functions	Firmware updates and switching of language packs for 7KM PAC measuring devices
Function range with 3VA2	Read-out/setup/upload and download of the protection parameters, information about the current breaker status, read-out of diagnostics information, and display of the current measured values of the 3VA2









powerconfig interface, here for representing the switching state and load of the 3VA2 molded case circuit breaker

## Accessories and Spare Parts









### Communication and testing/commissioning devices

#### Selection and ordering data

Version	For molded case circuit breakers/ rated current		DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>24 V module</b>								
	<b>24 V module</b> <ul style="list-style-type: none"> <li>• 24 V DC,</li> <li>• For mounting in the right accessories compartment of the 3VA2,</li> <li>• Optional energy supply for the ETU, also includes continuous operation of the ETU display and the metering function of the ETU 8-series</li> </ul>		✓	–			1	1 unit 163
			–	✓			1	1 unit 163
<b>Communication accessories in the molded case circuit breaker</b>								
	<b>COM060 communication module</b> <ul style="list-style-type: none"> <li>• For mounting in the right-hand accessories compartment of the 3VA2 molded case circuit breaker (including ETU power supply)</li> <li>• Communication with the COM800/COM100 breaker data server via the 3VA-line</li> <li>• Including a T-Connector</li> </ul>		✓	–			1	1 unit 163
			–	✓			1	1 unit 163
<b>Breaker data server</b>								
	<b>COM800 breaker data server</b> <ul style="list-style-type: none"> <li>• 2 terminating resistors,</li> <li>• Central communication module for connecting up to eight 3VA2 molded case circuit breakers via the 3VA-line,</li> <li>• Ethernet 10/100 Mbit/s interface</li> <li>• Module slot for plugging on an optional PROFIBUS DP or PROFINET module</li> </ul>						1	1 unit 163
	<b>COM100 breaker data server</b> <ul style="list-style-type: none"> <li>• 2 terminating resistors,</li> <li>• Optimized, central communication module for connecting a 3VA2 molded case circuit breaker via the 3VA-line</li> <li>• Ethernet 10/100 Mbit/s interface</li> <li>• Module slot for plugging on an optional PROFIBUS DP or PROFINET module</li> </ul>						1	1 unit 163
	<b>7KM PAC PROFIBUS DP expansion module</b> <ul style="list-style-type: none"> <li>• The 7KM PAC PROFIBUS DP expansion module is used for connecting the COM800 breaker data server, and the 3VA molded case circuit breaker connected to it, to PROFIBUS DPV1.</li> <li>• The 7KM PAC PROFIBUS DP expansion module provides the status and measured quantities of the 3VA molded case circuit breaker for the PROFIBUS DP master. It receives information (e.g. commands) from the PROFIBUS DP master, and forwards this information to the 3VA molded case circuit breaker.</li> </ul>						1	1 unit 133
	<b>7KM PAC Switched Ethernet PROFINET expansion module</b> <ul style="list-style-type: none"> <li>• The 7KM PAC Switched Ethernet PROFINET expansion module is used to connect the COM800 breaker data server, and the connected 3VA molded case circuit breaker, to PROFINET via two Ethernet interfaces.</li> <li>• The 7KM PAC Switched Ethernet PROFINET expansion module provides the status and measured quantities of the 3VA molded case circuit breaker to PROFINET via the PROFINET IO, PROFenergy and Modbus TCP protocols.</li> </ul>						1	1 unit 133



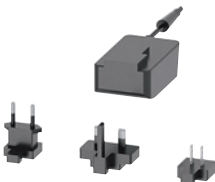



## Communication and testing/commissioning devices

Version	DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
<b>Accessories for communication</b>						
 3VA9987-0TG10		<b>T-Connector</b> • Spare part • Provides spur line feeder to COM060 and loops through to the next circuit breaker.	3VA9987-0TG10		1 1 unit	163
 3VA9987-0TC10		<b>Preassembled T-Connector-to-T-Connector or T-Connector-to-COM800/COM100 connecting cable</b> • 0.4 m long • 1 m long • 2 m long • 4 m long	3VA9987-0TC10 3VA9987-0TC20 3VA9987-0TC30 3VA9987-0TC40		1 1 unit 1 1 unit 1 1 unit 1 1 unit	163 163 163 163
 3VA9987-0TF20		<b>Preassembled connecting cable for extending the COM060-to-T-Connector spur line connection</b> • 0.4 m long • 0.8 m long	3VA9987-0TF20 3VA9987-0TF10		1 1 unit 1 1 unit	163 163
 3VA9987-0TE10		<b>Additional bus terminating resistors</b>	3VA9987-0TE10		1 5 units	163
 3VA9987-0UC10		<b>Voltage tap to external N conductor</b> Cable for connecting the neutral point for the metering function of the 8-series ETU, length 1.5 m	3VA9987-0UC10		1 1 unit	163
 3VA9107-0NA10		<b>External current transformer for N conductor</b> Connection of an external current transformer for the N conductor for 3-pole 3VA2 molded case circuit breakers for 5-series and 8-series ETUs, including connecting cable • $I_n = 25 \dots 100$ A • $I_n = 160 \dots 250$ A • $I_n = 400 \dots 630$ A	3VA9007-0NA10 3VA9107-0NA10 3VA9307-0NA10		1 1 unit 1 1 unit 1 1 unit	153 153 153
		<b>Spare part: cable for connecting external current transformer for N conductor</b>	3VA9907-0NB10		1 1 unit	153
<b>Display</b>						
 3VA9987-0TD10		<b>DSP800 display</b> • For displaying the status, measured values and parameters of up to 8 3VA2 molded case circuit breakers • Connection to the COM800/COM100 via Ethernet for displaying information of the COM800/COM100 and the connected 3VA2 molded case circuit breaker	3VA9987-0TD10		1 1 unit	163
<b>External function box</b>						
 3VA9987-0UA10		<b>EFB300</b> • External function box for connection to the ETU of the 3VA2 molded case circuit breaker • 4 digital outputs for information output • 1 digital input • ZSI functionality • SO interface • Including cable 1.5 m in length	3VA9987-0UA10		1 1 unit	163
		<b>Connecting cable for EFB300</b> Spare part • Length 1.5 m • Length 3.0 m • Length 3.0 m for 3VA2 with EFB and RCD820	3VA9987-0UB10 3VA9987-0UB20 3VA9987-0UB30		1 1 unit 1 1 unit 1 1 unit	163 163 163

## Accessories and Spare Parts

### Communication and testing/commissioning devices

Version	DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
<b>Test devices</b>						
 <p>3VA9987-0MA10</p>	<p><b>TD300</b></p> <ul style="list-style-type: none"> <li>• Connection to the front interface of the ETU</li> <li>• Test device for activating the ETU and triggering a test trip</li> </ul>	3VA9987-0MA10		1	1 unit	163
 <p>3VA9987-0MB10</p>	<p><b>TD500</b></p> <ul style="list-style-type: none"> <li>• Connection to the front interface of the ETU</li> <li>• Initiation of various test trips (LSING)</li> <li>• USB interface for connection of a PC using powerconfig</li> <li>• ETU parameterization</li> <li>• Including an external power supply and connecting cable to the 3VA2 molded case circuit breaker</li> </ul>	3VA9987-0MB10		1	1 unit	163
 <p>3VA9987-0MX10</p>	<p><b>Spare part: external power supply for TD500</b></p> <p>Spare part 110 ... 240 V AC</p>	3VA9987-0MX10		1	1 unit	163
 <p>3VA9987-0MY10</p>	<p><b>Spare part: cable for connecting the TD500 to the 3VA2 molded case circuit breaker</b></p>	3VA9987-0MY10		1	1 unit	163
<b>Software</b>						
	<p><b>powerconfig</b></p> <ul style="list-style-type: none"> <li>• Software for assigning parameters to the 3VA2 molded case circuit breaker</li> <li>• For Windows XP and Windows 7</li> <li>• Connection via TD500 or COM800/COM100</li> <li>• TD500, COM800 included in scope of supply</li> <li>• powerconfig can be downloaded free of charge from the Siemens Service &amp; Support portal at <a href="http://support.automation.siemens.com/WW/view/en/63452759">http://support.automation.siemens.com/WW/view/en/63452759</a></li> </ul>					

### Overview

With all types of 3VA molded case circuit breakers, a basic distinction is made between:

- Locking of molded case circuit breakers
- Interlocking of molded case circuit breakers

The padlock devices make it possible to lock the 3VA molded case circuit breaker in either the OFF or the ON operating position. Once the molded case circuit breaker is locked in position, it cannot be operated again.

Using the interlocking technology, it is possible to mutually interlock two or more molded case circuit breakers. The interlock system is designed to ensure that no more than one molded case circuit breaker can be operated at a time. This is the molded case circuit breaker which has been released by the interlock system. In other words, the interlock system ensures that the other molded case circuit breaker(s) cannot close. As a result, all molded case circuit breakers which have not been released by the interlock system are securely locked in the OFF state. The following methods of interlocking can be used on 3VA molded case circuit breakers:

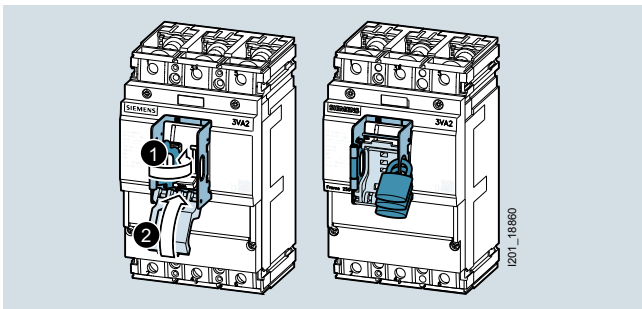
- Front interlock
- Rear interlock

### Locking technology

#### Padlock device for the handle

A padlock device mounted and latched on the handle allows the 3VA molded case circuit breaker to be locked in the ON or the OFF position.

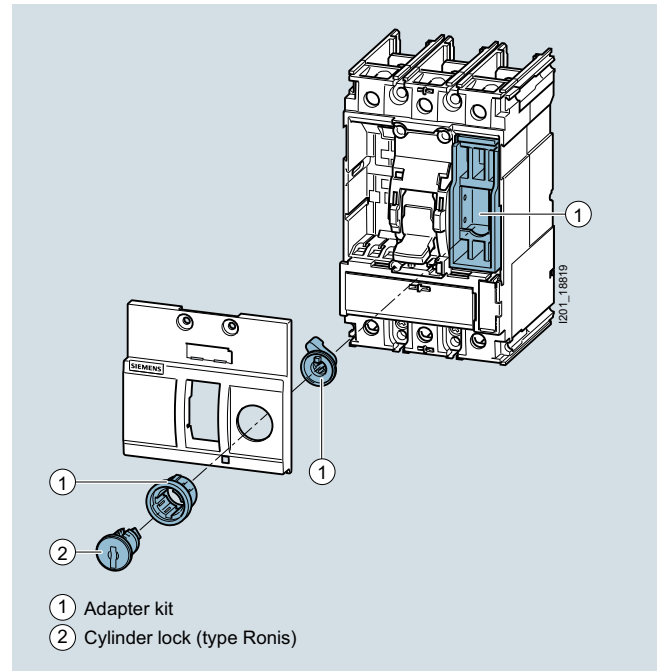
In this position, up to 3 padlocks with diameters ranging from 4.5 mm to 8.5 mm can be fitted in order to prevent the handle from being moved.



#### Locking with cylinder lock

The 3VA molded case circuit breaker can also be locked in the OFF (O) or ON (I) position by means of a cylinder lock supplied by Ronis. This prevents further operation of the circuit breaker. In order to lock a molded case circuit breaker in a specific operating state, the following two components need to be ordered.

- Cylinder lock (type Ronis)
- Lock adapter kit for mounting the cylinder lock in the accessories compartment



- ① Adapter kit
- ② Cylinder lock (type Ronis)

## Accessories and Spare Parts

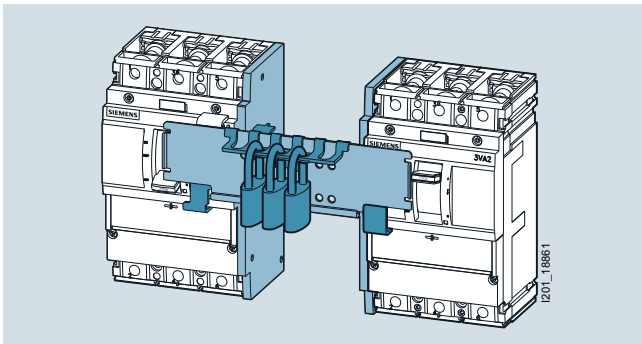
### Locking and interlocking

#### Interlocking technology

##### Interlocking by means of a sliding bar

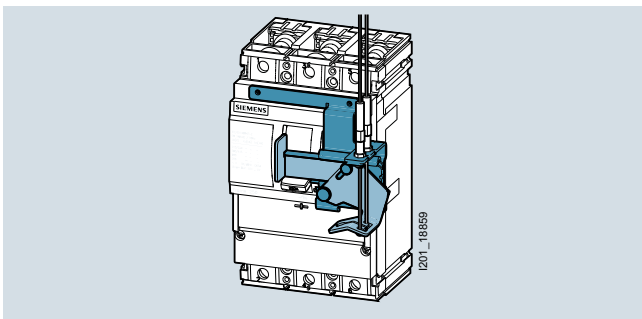
The sliding bar allows between two and three 3VA molded case circuit breakers of the same size to be mutually interlocked by means of a sliding bar.

With this device, the sliding bar is moved to block the handle of the interlocked molded case circuit breaker. For this reason, a molded case circuit breaker is always locked in the safe "OFF" position, while the released circuit breaker can still be operated. Up to three commercially available padlocks with diameters ranging from 4.5 mm to 8.5 mm can be fitted to prevent the sliding bar from being moved.



##### Handle interlock using a Bowden cable

With the front Bowden cable interlock, it is possible to implement a mutual interlock between two or three molded case circuit breakers of different sizes. The front Bowden cable interlock operates according to the blocking principle. In order to implement this system, modules for the Bowden cable interlock must be mounted on the molded case circuit breakers to be included in the interlock arrangement. Each of these modules is equipped with a slide which blocks or releases operation of the handle. The Bowden cable to be installed between the interlock modules ensures that only one slide at a time can release operation of the molded case circuit breaker.



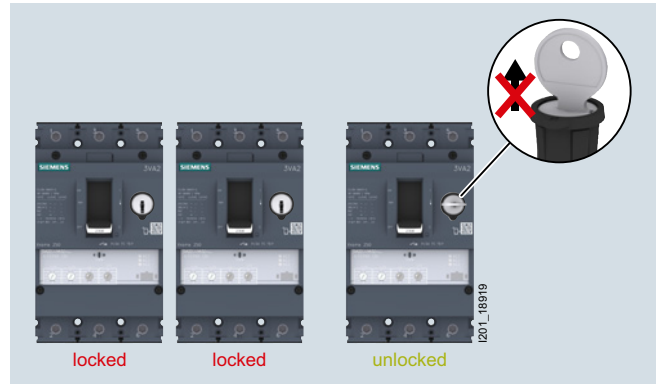
##### Interlocking with cylinder locks

Using the cylinder lock (type Ronis), it is not only possible to lock a molded case circuit breaker, but also to create an interlock between an optional number of molded case circuit breakers of different sizes. In order to implement an interlocking application using cylinder locks, the adapter kit with the cylinder lock (type Ronis) must be fitted in the right-hand accessories compartment of each molded case circuit breaker to be included in the interlock arrangement and all breakers must be locked in the "OFF" position. In order to ensure reliable functioning of the interlock, only one key may be used for the entire interlock application! All other keys must be kept or locked away in a safe place. This one key must be used as the release instrument for only one molded case circuit breaker at a time! In order to release or operate a molded case circuit breaker, the cylinder lock must be turned to

the "Unlocked" position with this one particular key. Only then can the handle of the circuit breaker be moved to the "ON" position. When the cylinder lock is in the "Unlocked" position, the key cannot be removed and must be left in the lock.

In order to implement an interlocking application involving multiple molded case circuit breakers, the following two components must be ordered for each circuit breaker:

- Cylinder lock (type Ronis)
- Interlock adapter kit for mounting the cylinder lock in the accessories compartment



##### Interlocking using an interlocking module in the rotary operator

In addition to the interlocking options described above, it is also possible to mutually interlock molded case circuit breakers with rotary operators of different sizes. This type of interlock can be employed with door mounted rotary operators, side wall mounted rotary operators, front operators and rotary operators with shaft stub or combinations thereof.

For this purpose, a rotary operator interlock module must be fitted in each individual rotary operator of the molded case circuit breakers to be included in the interlock arrangement. The interlocking modules are interconnected by means of Bowden cables in a similar manner to the handle interlock. This system can be used to implement a mutual interlock between two or three molded case circuit breakers.

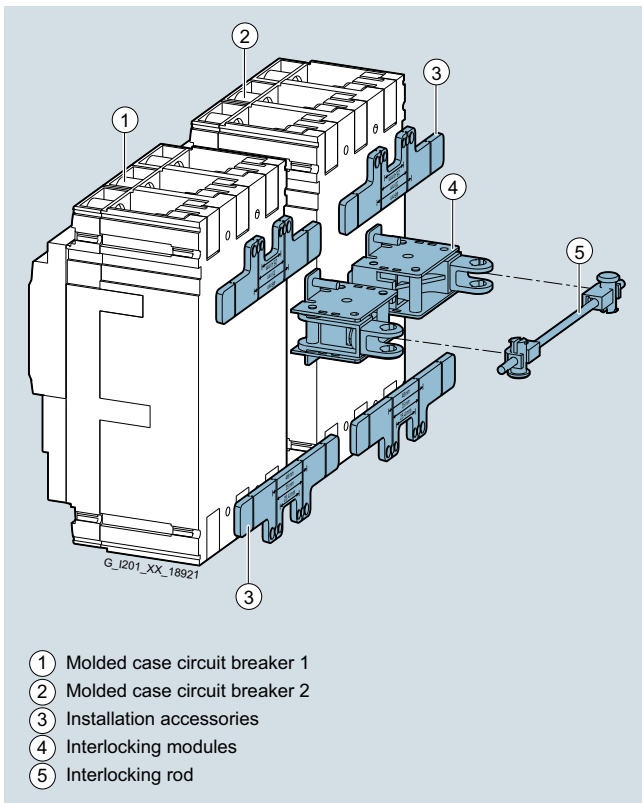
##### Rear interlock

The rear interlock system allows implementation of an interlock without restricting the number of accessories which can be installed at the front of the 3VA molded case circuit breaker. Using the rear interlock, it is possible to create an interlock between two molded case circuit breakers of different sizes based on the blocking principle. When one molded case circuit breaker closes, the other circuit breaker is prevented from closing by a tappet which engages in the breaker mechanism directly from the rear panel of the molded case circuit breaker.

This system requires the installation of two interlocking modules which are mounted behind the molded case circuit breakers and behind the mounting frame of the cubicle. The two interlocking modules are interconnected by means of the interlocking rod.

The article number of the rear interlock includes two interlocking modules, one interlocking rod and the required installation accessories.

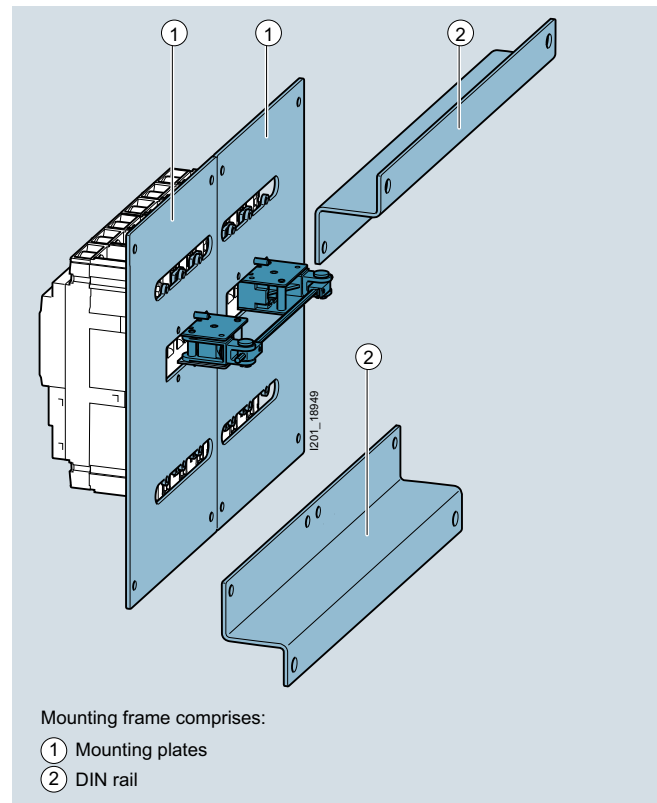
A mounting plate comprising a plate and two DIN rails is available as an accessory to assist installation.



Rear interlock without mounting frame

**Note:**

The interlock components are attached to the mounting plate of the cubicle (mounting plate must be machined according to the drilling pattern in the cubicle).



Rear interlock with mounting frame

**Note:**

The interlock together with the mounting frame is bolted to the mounting plate of the cubicle (no machining work to cubicle is required).

**Rear interlock for plug-in or draw-out units**

In order to install a rear interlock for plug-in or draw-out versions of the molded case circuit breakers, the tappet needs to be lengthened. By lengthening the tappet, the interlocking motion of the modules is guided or extended through the plug-in socket or the draw-out socket. The rear interlock for plug-in or draw-out circuit breakers is available as a complete kit. It includes two interlocking modules, installation accessories, interlocking rod and all necessary tappet extensions. It does not include a mounting frame.




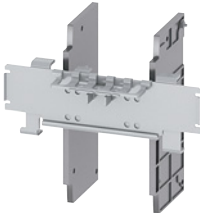



**Benefits**

- Broad range of applications thanks to flexibility of interlocking technology
- Locking technology ensures safe locking of molded case circuit breakers, e.g. for maintenance purposes
- No restriction to use of internal accessories or to scope of accessories installed at the front of the molded case circuit breaker (when a rear interlock is deployed)
- Molded case circuit breakers of different sizes can be mutually interlocked




## Accessories and Spare Parts

### Locking and interlocking

#### Selection and ordering data

Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?ArticleNo.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>Accessories for locking and interlocking</b>									
	<b>Locking devices for toggle levers</b>								
		✓	--	--		<b>3VA9088-0LB10</b>		1	1 unit 163
	--	✓	✓			<b>3VA9388-0LB10</b>		1	1 unit 163
	<b>Adapter kit for mounting the cylinder lock (type Ronis) in the accessories compartment of the 3VA2 molded case circuit breaker</b> Comprising 2 cylinder lock casings (one for locking and one for interlocking) and the appropriate mounting module								
	Notes	✓	--	--		<b>3VA9157-0LF10</b>		1	1 unit 163
	• To implement an interlock or a lock: select suitable cylinder lock(s)	--	✓	--		<b>3VA9167-0LF10</b>		1	1 unit 163
	• For an interlock: select the same cylinder lock number	--	--	✓		<b>3VA9367-0LF10</b>		1	1 unit 163
	<b>Cylinder lock (type Ronis)</b> • Includes a lock with 2 keys • For locking or interlocking • For installation in all rotary operators with shaft stub • For mounting in the adapter kit for the accessories compartment								
	Variants								
	• Key 1 (lock number 1)	✓	✓	✓		<b>3VA9980-0VL10</b>		1	1 unit 163
	• Key 2 (lock number 2)	✓	✓	✓		<b>3VA9980-0VL20</b>		1	1 unit 163
	• Key 3 (lock number 3)	✓	✓	✓		<b>3VA9980-0VL30</b>		1	1 unit 163
	• Key 4 (lock number 4)	✓	✓	✓		<b>3VA9980-0VL40</b>		1	1 unit 163
	<b>Sliding bar</b> Complete kit for interlocking 2 circuit breakers								
	Note	✓	--	--		<b>3VA9158-0VF30</b>		1	1 unit 163
	The article number must be ordered 2 x to implement an interlock between 3 breakers of the same size.	--	✓	--		<b>3VA9168-0VF30</b>		1	1 unit 163
		--	--	✓		<b>3VA9368-0VF30</b>		1	1 unit 163
	<b>Module for handle interlock using a Bowden cable</b>								
	Notes	✓	--	--		<b>3VA9157-0VF10</b>		1	1 unit 163
	• A separate handle interlock module is required for each 3VA.	--	✓	--		<b>3VA9167-0VF10</b>		1	1 unit 163
	• A Bowden cable must be ordered separately.	--	--	✓		<b>3VA9367-0VF10</b>		1	1 unit 163
	<b>Rear interlock with rod</b> Complete kit								
	✓	✓	✓		<b>3VA9088-0VM10</b>		1	1 unit 163	
	<b>Rear interlock with rod</b> Complete kit for plug-in/draw-out unit								
	✓	✓	✓		<b>3VA9088-0VM30</b>		1	1 unit 163	

## Locking and interlocking

Version	For molded case circuit breakers/rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>Bowden cable</b>									
Variants									
• Length 0.6 m	✓	✓	✓		3VA9980-0VC10		1	1 unit	163
• Length 1.0 m	✓	✓	✓		3VA9980-0VC20		1	1 unit	163
• Length 1.5 m	✓	✓	✓		3VA9980-0VC30		1	1 unit	163
 3VA9980-0VC10									
<b>Rotary operator interlock<sup>1)</sup></b>									
• Contains 1 unit									
• For interlocking up to 3 operators (with 3 modules)									
• Interlocking via Bowden cable (not included in scope of delivery)									
For molded case circuit breakers									
3VA1, 100 ... 160 A									
3VA2, 100 ... 630 A									
 3VA9488-0VF20									
<b>Mounting frame for rear interlock with rod</b>									
The following are required for the complete mounting frame kit:									
Variants									
• DIN rails	✓	✓	✓		3VA9088-0VK10		1	1 unit	163
• Mounting plate	✓	--	--		3VA9158-0VK20		1	1 unit	163
	--	✓	--		3VA9268-0VK20		1	1 unit	163
	--	--	✓		3VA9468-0VK20		1	1 unit	163
									
<b>Note</b>									
2 mounting plates are required. They are screwed onto the DIN rail that can be ordered above. Different breakers can be mutually interlocked.									

1) Start of delivery on request.

## Accessories and Spare Parts

### Connection technology

#### Overview

The proper functioning and in particular the safety of electrical installations does not just depend on the quality and design of the components, but also on the method of installation.

The following aspects of electrical installations are of crucial importance for the implementation of a safe, properly functioning connection to the 3VA molded case circuit breakers:

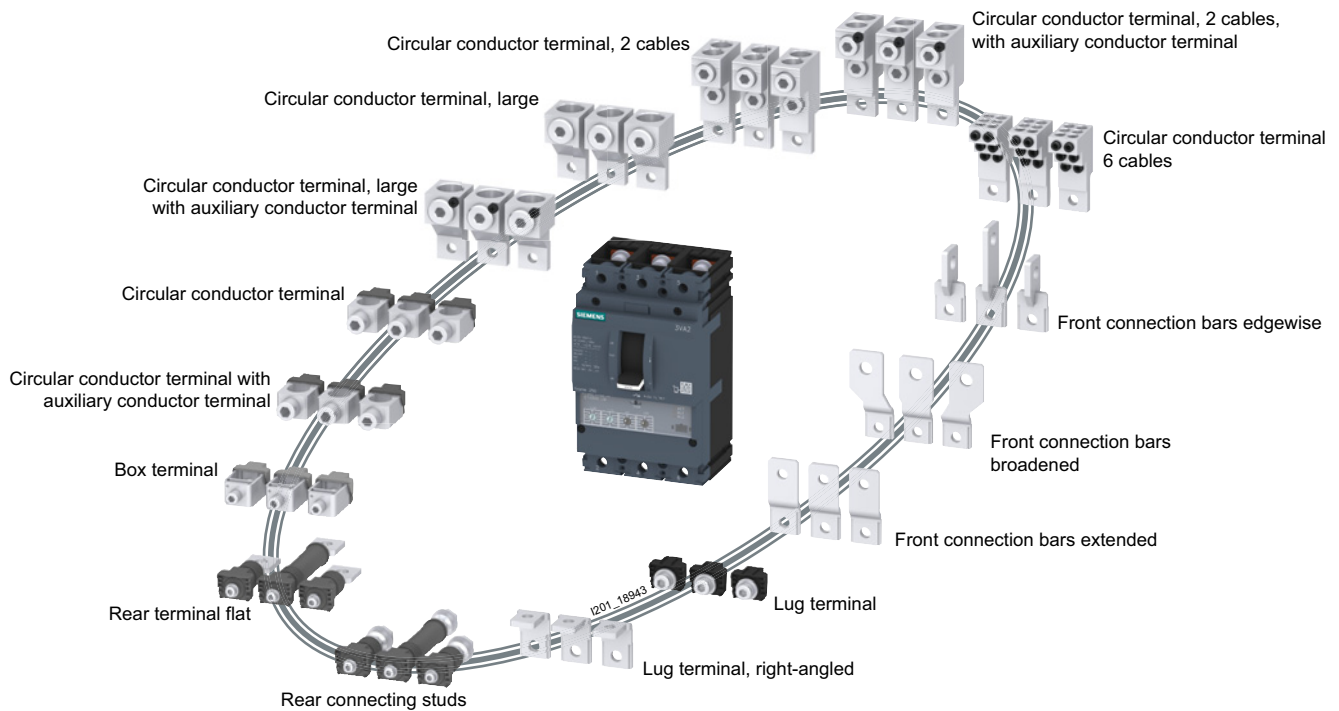
- Installation, e.g. connection to cables or busbars
- Dimensioning of the cables and busbars
- Installation medium, e.g. rigid or flexible

The following catalog pages provide all the information needed to ensure that a 3VA molded case circuit breaker is safely connected.

#### **Connection technology for the 3VA molded case circuit breaker**

The connection technology of the 3VA molded case circuit breaker is designed to support uncomplicated and convenient commissioning of the 3VA molded case circuit breakers and to meet all installation requirements.

To meet this objective, an extensive portfolio of connection components is available.





**Front terminals**



The portfolio of connection components for the molded case circuit breakers includes a large selection of front cable and busbar terminals.

Connection technology available from/installed at the factory

All 3VA molded case circuit breakers are available as standard with a lug terminal (clip-in nut and clamping screw) at the infeed and load ends.

For units up to size 160 A, a box terminal for direct cable connection can be optionally selected instead of the lug terminal. The box terminal is preassembled and installed at the factory.

The connection technology available from/installed at the factory can be selected in the 12th position of the circuit breaker MLFB.

Connection technology	Illustration	3VA1		3VA2				
		100	160	100	160	250	400	630
Lug terminal		✓	✓	✓	✓	✓	✓	✓
Box terminal		✓	✓	✓	✓	✓	✓	✓

✓ Available

Insulated busbars and cables with cable lugs can be connected directly to the lug terminal. Furthermore, all connection bar extensions are assembled at the molded case circuit breaker using the lug terminal:

















- Front connection bars extended (phase barriers included in scope of supply)
- Front connection bars broadened (phase barriers included in scope of supply)
- Front connection bars edgewise (phase barriers included in scope of supply)
- Lug terminal, right-angled (phase barriers included in scope of supply)

The implementation of insulation measures (phase barriers or terminal covers) is recommended. With some accessory components, insulation measures are essential (and these are included in the scope of supply of the relevant component).

## Accessories and Spare Parts

### Connection technology

In addition to the factory-mounted connection technology included in the scope of the supply of the breaker, the following front connection components are available as accessories:

		Cable medium			
					
Front terminals	Illustration	Solid, stranded and finely stranded cables	Cable lugs	Busbars	Flexible busbars
Box terminal		✓ Cu cable	--	--	✓
Circular conductor terminal of aluminum		✓ Cu/Al cable	--	--	--
Circular conductor terminal of aluminum with auxiliary conductor terminal		✓ Cu/Al cable	--	--	--
Circular conductor terminal of aluminum, large (extended terminal cover included in scope of supply)		✓ Cu/Al cable	--	--	--
Circular conductor terminal of aluminum, large with auxiliary conductor terminal (extended terminal cover included in scope of supply)		✓ Cu/Al cable	--	--	--
Circular conductor terminal of aluminum, 2 cables (extended terminal cover included in scope of supply)		✓ Cu/Al cable	--	--	--
Circular conductor terminal of aluminum, 2 cables with auxiliary conductor terminal (extended terminal cover included in scope of supply)		✓ Cu/Al cable	--	--	--
Circular conductor terminal 6 cables (extended terminal cover included in scope of supply)		✓ Cu/Al cable	--	--	--
Lug terminal		--	✓	✓	✓
Front connection bars extended (phase barriers included in scope of supply)		--	✓	✓	✓
Front connection bars broadened (phase barriers included in scope of supply)		--	✓	✓	✓
Front connection bars edgewise (phase barriers included in scope of supply)		--	✓	✓	✓








✓ Available

-- Not available

The circular conductor terminals (large, 2 cables, and 6 cables) are supplied as standard with extended terminal covers.

**Rear terminals**

The following connection components are available for implementing a rear terminal:

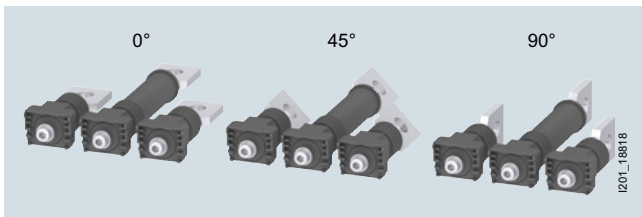
		Cable medium			
					
Rear terminals	Illustration	Solid, stranded and finely stranded cables	Cable lugs	Busbars	Flexible busbars
Rear terminal flat		--	✓	✓	✓
Rear connecting stud		--	✓	✓	✓
Lug terminal, right-angled (phase barriers in scope of supply) <sup>1)</sup>		✓ <sup>2)</sup>	✓	✓	✓

✓ Available      -- Not available

<sup>1)</sup> Can only be connected to breaker side N, 1, 3, 5

<sup>2)</sup> In conjunction with a box terminal

The rear terminal flat can be mounted at an angle in increments of 45°:



Insulated busbars and cables with cable lugs can be connected to the right-angled lug terminal. A box terminal can be mounted to allow direct connection of a cable to the right-angled lug terminal.

**General note about connection technology**

All connection components are available in the following sets:

- Set with 3 units
- Set with 4 units






The rear terminals are an exception as these can also be ordered individually (1 unit).

All connection technologies available for the molded case circuit breakers can be used without modification in plug-in technology (plug-in socket) applications and in draw-out technology (draw-out socket) applications.

## Accessories and Spare Parts

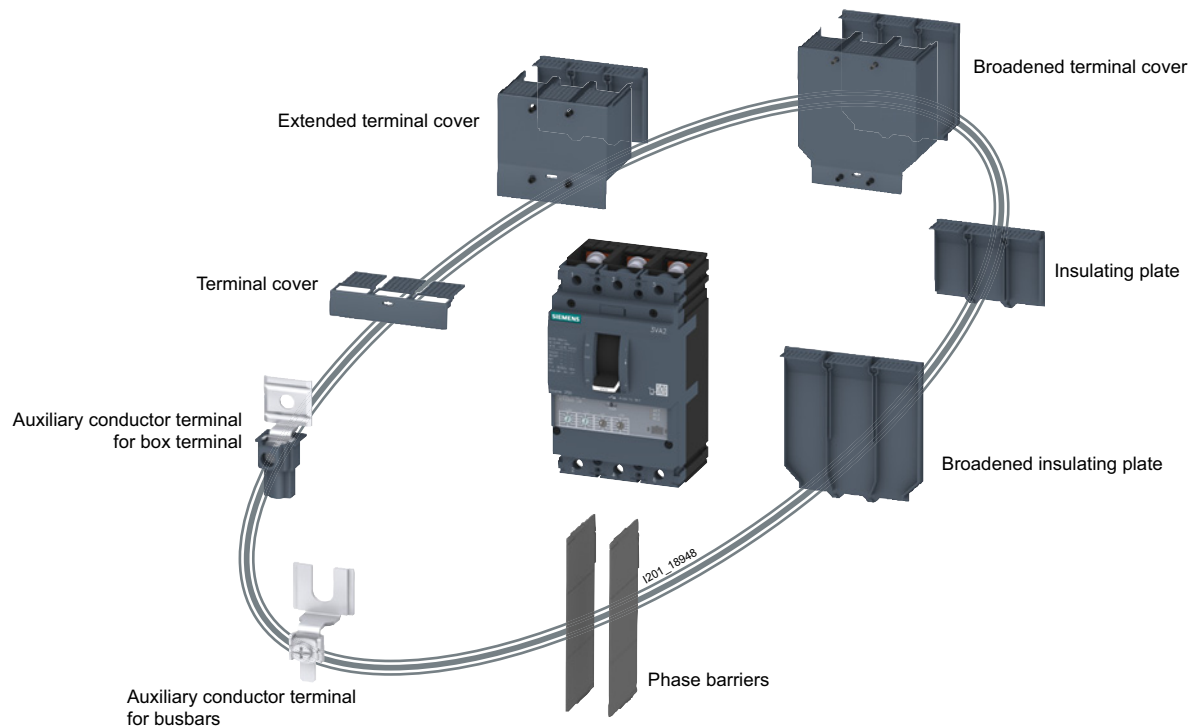
### Connection technology

#### Conductor cross-sections

Connection technology	Cable medium	Dimensions	3VA1	3VA2		
			100 A/160 A	100 A/160 A/250 A	400 A	630 A
 Box terminal	Solid cable	mm <sup>2</sup>	1.5 ... 16	6 ... 16	--	--
	Stranded cable	mm <sup>2</sup>	1.5 ... 70	6 ... 120 25 ... 185	35 ... 300	35 ... 300
	Finely stranded cable	mm <sup>2</sup>	1.5 ... 50	6 ... 95 25 ... 150	25 ... 240	25 ... 240
	Finely stranded with insulated end sleeve	mm <sup>2</sup>	1.5 ... 50	10 ... 95 35 ... 150	25 ... 240	25 ... 240
	Flexible copper busbar	mm x mm	2x ..6x [13 x 0.5] ... 2x ..9x [9 x 0.8]	2x ..6x [13 x 0.5] ... 2x ..6x [15.5 x 0.8] ... 2x ..6x [20 x 1]	2x ..10x [20 x 1] ... 2x ..10x [24 x 1]	2x ..10x [20 x 1] ... 2x ..10x [24 x 1]
 Circular conductor terminal	Solid cable	mm <sup>2</sup>	2.5 ... 16	2.5 ... 16	--	--
	Stranded cable	mm <sup>2</sup>	1.5 ... 50	1.5 ... 50 16 ... 185	50 ... 300	--
	Finely stranded cable	mm <sup>2</sup>	1.5 ... 35	1.5 ... 35 25 ... 150	50 ... 240	--
	Finely stranded with insulated end sleeve	mm <sup>2</sup>	1.5 ... 35	1.5 ... 35 16 ... 120	50 ... 240	--
 Circular conductor terminal, large	Solid cable		--	--	--	--
	Stranded cable		25 ... 150	50 ... 240	--	--
	Finely stranded cable		25 ... 150	50 ... 185	--	--
	Finely stranded with insulated end sleeve		25 ... 95	50 ... 185	--	--
 Circular conductor terminal for 2 cables	Solid cable	mm <sup>2</sup>	--	--	--	--
	Stranded cable	mm <sup>2</sup>	--	25 ... 150	70 ... 300	70 ... 300
	Finely stranded cable	mm <sup>2</sup>	--	25 ... 70	70 ... 185	70 ... 185
	Finely stranded with insulated end sleeve	mm <sup>2</sup>	--	25 ... 70	70 ... 185	70 ... 185
 Circular conductor terminal for 6 cables	Solid cable	mm <sup>2</sup>	1.5 ... 16	1.5 ... 16	1.5 ... 16	1.5 ... 16
	Stranded cable	mm <sup>2</sup>	1.5 ... 35	1.5 ... 35	1.5 ... 35	1.5 ... 35
	Finely stranded cable	mm <sup>2</sup>	1.5 ... 25	1.5 ... 25	1.5 ... 25	1.5 ... 25
	Finely stranded with insulated end sleeve	mm <sup>2</sup>	1.5 ... 25	1.5 ... 25	1.5 ... 25	1.5 ... 25
Busbar connection	Direct (width x height)	mm x mm	17 x 6.5	25 x 8	35 x 10	35 x 10
	Front connection bars extended	mm x mm	22 x 8	32 x 10	40 x 12.5	40 x 12.5
	Front connection bars broadened	mm x mm	30 x 8	35 x 10	60 x 12.5	60 x 12.5

**Further connection accessories**Insulation / auxiliary conductor connections

The connection accessories portfolio includes an extensive selection of insulating components (phase barriers, terminal covers, etc.). Auxiliary conductor connections for box terminals and busbars are also available.

Terminal covers

Terminal covers are insulating and sealable insulation accessories which protect against accidental contact with main current paths. When mounted on the circuit breaker, terminal covers at the front provide degree of protection IP4x and when correctly installed at the infeed and load ends of the breaker, degree of protection IP2x. All terminal covers have a recess on the inside face which can be drilled out if necessary so that safe isolation can be afforded by commercially available voltage detectors.

- Short terminal covers are normally installed for all types of front termination which do not exceed the geometric dimensions of the molded case circuit breaker (the termination area) (e.g. box terminal, lug terminal, etc.).
- Extended terminal covers are required when bar extensions or external terminals (i.e. terminals which exceed the dimensions of the termination area of the molded case circuit breaker) are installed. The extended terminal cover consists of two parts, an insulating plate and the top half of the terminal cover. Both parts are attached by screws and thus afford the degrees of protection specified above.
- Broad terminal covers are required when broadened connection bars are installed. The extended terminal cover consists of two parts, a broadened insulating plate and the top half of the terminal cover. Both parts are attached by screws and thus afford the degrees of protection specified above.

Insulating plates

The purpose of insulating plates is to insulate the main terminals of the molded case circuit breaker from the mounting plate (cubicle).

- Insulating plate: in combination with bar extensions, for example
- Insulating plate broadened: in combination with broadened connection bars, for example

Auxiliary conductor terminals

All circular conductor terminals can be ordered with or without auxiliary conductor terminal (see page 4/44 [Front terminals](#)). The following accessories are available to allow the implementation of an auxiliary conductor terminal in combination with a box terminal or busbar connection:

- Auxiliary conductor terminal for box terminal: This terminal is fastened by screws in the box terminal with the cable.
- Auxiliary conductor terminal for busbars: This terminal is attached by screws directly to the busbar.

All auxiliary conductor terminals are rated for a maximum load of 6 A. Cables of up to 2.5 mm<sup>2</sup> can be connected.



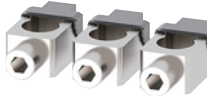



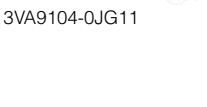

**Benefits**

- High degree of flexibility
- Cables and busbars can be connected quickly and easily to the 3VA2 molded case circuit breaker
- Extensive selection of connection accessories







## Accessories and Spare Parts

## Connection technology

## Selection and ordering data









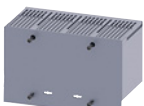

	Version	Minimum mm <sup>2</sup> for stranded cable	Maximum mm <sup>2</sup> for stranded cable	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG
				3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>Box terminals</b>												
 3VA9163-OJA12	<b>Box terminal</b> • Connection of Cu cable • Included in scope of supply: 3 single terminals	1.5 mm <sup>2</sup>	70 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9153-OJA11</a>		1	1 unit	163
		6 mm <sup>2</sup>	120 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9163-OJA12</a>		1	1 unit	163
		25 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9263-OJA12</a>		1	1 unit	163
		35 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9483-OJA13</a>		1	1 unit	163
 3VA9164-OJA12	<b>Box terminal</b> • Connection of Cu cable • Included in scope of supply: 4 single terminals	1.5 mm <sup>2</sup>	70 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9154-OJA11</a>		1	1 unit	163
		6 mm <sup>2</sup>	120 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9164-OJA12</a>		1	1 unit	163
		25 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9264-OJA12</a>		1	1 unit	163
		35 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9484-OJA13</a>		1	1 unit	163
<b>Circular conductor terminals</b>												
 3VA9103-OJB11	<b>Circular conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 3 single terminals	1.5 mm <sup>2</sup>	50 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9113-OJB11</a>		1	1 unit	153
		16 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9103-OJB11</a>		1	1 unit	153
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9263-OJB12</a>		1	1 unit	163
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9383-OJB13</a>		1	1 unit	163
 3VA9104-OJB11	<b>Circular conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 4 single terminals	1.5 mm <sup>2</sup>	50 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9114-OJB11</a>		1	1 unit	153
		16 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9104-OJB11</a>		1	1 unit	153
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9264-OJB12</a>		1	1 unit	163
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9384-OJB13</a>		1	1 unit	163
 3VA9103-OJG11	<b>Circular conductor terminal with auxiliary conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 3 single terminals	1.5 mm <sup>2</sup>	50 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9113-OJG11</a>		1	1 unit	153
		16 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9103-OJG11</a>		1	1 unit	153
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9263-OJG12</a>		1	1 unit	163
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9383-OJG13</a>		1	1 unit	163
 3VA9104-OJG11	<b>Circular conductor terminal with auxiliary conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 4 single terminals	1.5 mm <sup>2</sup>	50 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9114-OJG11</a>		1	1 unit	153
		16 mm <sup>2</sup>	185 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9104-OJG11</a>		1	1 unit	153
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9264-OJG12</a>		1	1 unit	163
		50 mm <sup>2</sup>	300 mm <sup>2</sup>	--	--	✓		<a href="#">3VA9384-OJG13</a>		1	1 unit	163
 3VA9112-OJJ12	<b>Circular conductor terminal, large</b> • Connection of Cu/Al cable • Included in scope of supply: 2 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9112-OJJ12</a>		1	1 unit	153
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9113-OJJ12</a>		1	1 unit	153
 3VA9113-OJJ12	<b>Circular conductor terminal, large</b> • Connection of Cu/Al cable • Included in scope of supply: 3 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--		<a href="#">3VA9113-OJJ12</a>		1	1 unit	153
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--		<a href="#">3VA9223-OJJ13</a>		1	1 unit	153

## Connection technology



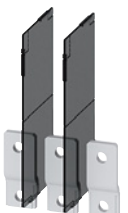




	Version	Minimum mm <sup>2</sup> for stranded cable	Maximum mm <sup>2</sup> for stranded cable	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG
				3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
 3VA9114-0JJ12	<b>Circular conductor terminal, large</b> • Connection of Cu/Al cable • Included in scope of supply: 4 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	3VA9114-0JJ12			1	1 unit	153
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--						
 3VA9112-0JC12	<b>Circular conductor terminal, large, with auxiliary conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 2 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	3VA9112-0JC12			1	1 unit	153
 3VA9223-0JC12	<b>Circular conductor terminal, large, with auxiliary conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 3 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	3VA9113-0JC12			1	1 unit	153
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--						
 3VA9114-0JC12	<b>Circular conductor terminal, large, with auxiliary conductor terminal</b> • Connection of Cu/Al cable • Included in scope of supply: 4 single terminals and 1 extended terminal cover	25 mm <sup>2</sup>	150 mm <sup>2</sup>	✓	--	--	3VA9114-0JC12			1	1 unit	153
		50 mm <sup>2</sup>	240 mm <sup>2</sup>	--	✓	--						
 3VA9223-0JJ22	<b>Circular conductor terminal, 2 cables</b> • Connection of Cu/Al cable • Included in scope of supply: 3 single terminals and 1 extended terminal cover	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	3VA9223-0JJ22			1	1 unit	153
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓						
 3VA9224-0JJ22	<b>Circular conductor terminal, 2 cables</b> • Connection of Cu/Al cable • Included in scope of supply: 4 single terminals and 1 extended terminal cover	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	3VA9224-0JJ22			1	1 unit	153
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓						

## Accessories and Spare Parts

## Connection technology

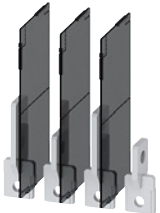


	Version	Minimum mm <sup>2</sup> for stranded cable	Maximum mm <sup>2</sup> for stranded cable	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/P. unit	PG
				3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
  3VA9223-0JC22	<b>Circular conductor terminal, 2 cables, with auxiliary conductor terminal</b> <ul style="list-style-type: none"> <li>• Connection of Cu/Al cable</li> <li>• Included in scope of supply: 3 single terminals and 1 extended terminal cover</li> </ul>	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	3VA9223-0JC22		1	1 unit	153	
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓						3VA9403-0JC23
  3VA9224-0JC22	<b>Circular conductor terminal, 2 cables, with auxiliary conductor terminal</b> <ul style="list-style-type: none"> <li>• Connection of Cu/Al cable</li> <li>• Included in scope of supply: 4 single terminals and 1 extended terminal cover</li> </ul>	2 x 25 mm <sup>2</sup>	2 x 150 mm <sup>2</sup>	--	✓	--	3VA9224-0JC22		1	1 unit	153	
		2 x 70 mm <sup>2</sup>	2 x 300 mm <sup>2</sup>	--	--	✓						3VA9404-0JC23
  3VA9112-0JF60	<b>Circular conductor terminal, 6 cables</b> <ul style="list-style-type: none"> <li>• Connection of Cu/Al cable</li> <li>• Included in scope of supply: 2 single terminals and 1 extended terminal cover</li> </ul>	6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	✓	--	--	3VA9112-0JF60		1	1 unit	153	
  3VA9223-0JF60	<b>Circular conductor terminal, 6 cables</b> <ul style="list-style-type: none"> <li>• Connection of Cu/Al cable</li> <li>• Included in scope of supply: 3 single terminals and 1 extended terminal cover</li> </ul>	6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	✓	--	--	3VA9113-0JF60		1	1 unit	153	
				--	✓	--	3VA9223-0JF60		1	1 unit	153	
				--	--	✓	3VA9303-0JF60		1	1 unit	153	
  3VA9224-0JF60	<b>Circular conductor terminal, 6 cables</b> <ul style="list-style-type: none"> <li>• Connection of Cu/Al cable</li> <li>• Included in scope of supply: 4 single terminals and 1 extended terminal cover</li> </ul>	6 x 1.5 mm <sup>2</sup>	6 x 35 mm <sup>2</sup>	✓	--	--	3VA9114-0JF60		1	1 unit	153	
				--	✓	--	3VA9224-0JF60		1	1 unit	153	
				--	--	✓	3VA9304-0JF60		1	1 unit	153	



	Version	Max. terminal width	Max. busbar thickness	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
				3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>Lug terminals</b>												
 3VA9203-0QA00	<b>Lug terminal</b> Included in scope of supply: • 3 single terminals	25 mm	8 mm	✓	--	--		3VA9113-0QA00		1	1 unit	153
				--	✓	--		3VA9203-0QA00				
				--	--	✓		3VA9403-0QA00				
 3VA9204-0QA00	<b>Lug terminal</b> Included in scope of supply: • 4 single terminals	25 mm	8 mm	✓	--	--		3VA9114-0QA00		1	1 unit	153
				--	✓	--		3VA9204-0QA00				
				--	--	✓		3VA9404-0QA00				
<b>Connection bar extensions</b>												
 3VA9263-0QB00	<b>Front connection bars extended</b> Included in scope of supply: • 3 single terminals • 2 phase barriers	32 mm	10 mm	✓	--	--		3VA9153-0QB00		1	1 unit	163
				--	✓	--		3VA9263-0QB00				
				--	--	✓		3VA9483-0QB00				
 3VA9264-0QB00	<b>Front connection bars extended</b> Included in scope of supply: • 4 single terminals • 3 phase barriers	32 mm	10 mm	✓	--	--		3VA9154-0QB00		1	1 unit	163
				--	✓	--		3VA9264-0QB00				
				--	--	✓		3VA9484-0QB00				
 3VA9263-0QC00	<b>Front connection bars broadened</b> Included in scope of supply: • 3 single terminals • 2 phase barriers	35 mm	10 mm	✓	--	--		3VA9153-0QC00		1	1 unit	163
				--	✓	--		3VA9263-0QC00				
				--	--	✓		3VA9483-0QC00				
 3VA9264-0QC00	<b>Front connection bars broadened</b> Included in scope of supply: • 4 single terminals • 3 phase barriers	35 mm	10 mm	✓	--	--		3VA9154-0QC00		1	1 unit	163
				--	✓	--		3VA9264-0QC00				
				--	--	✓		3VA9484-0QC00				
 3VA9263-0QD00	<b>Front connection bars edgewise</b> Included in scope of supply: • 3 single terminals • 2 phase barriers	25 mm	10 mm	✓	--	--		3VA9153-0QD00		1	1 unit	163
				--	✓	--		3VA9263-0QD00				
				--	--	✓		3VA9483-0QD00				

## Accessories and Spare Parts

### Connection technology

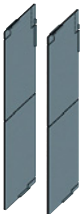

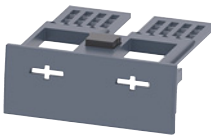





	Version	Max. terminal width	Max. busbar thickness	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG			
				3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A									
 3VA9264-0QD00	<b>Front connection bars edgewise</b> Included in scope of supply: • 4 single terminals • 3 phase barriers	25 mm	10 mm	✓	--	--						1	1 unit	163	
				--	✓	--						3VA9154-0QD00	1	1 unit	163
				--	--	✓						3VA9264-0QD00	1	1 unit	163
 3VA9223-0QG00	<b>Lug terminal, right-angled<sup>1)</sup></b> Included in scope of supply: • 3 single terminals • 2 phase barriers	32 mm	10 mm	✓	--	--						1	1 unit	153	
				--	✓	--						3VA9113-0QG00	1	1 unit	153
				--	--	✓						3VA9223-0QG00	1	1 unit	153
 3VA9224-0QG00	<b>Lug terminal, right-angled<sup>1)</sup></b> Included in scope of supply: • 4 single terminals • 3 phase barriers	32 mm	10 mm	✓	--	--						1	1 unit	153	
				--	✓	--						3VA9114-0QG00	1	1 unit	153
				--	--	✓						3VA9224-0QG00	1	1 unit	153

<sup>1)</sup> Can only be connected to breaker side N, 1,3,5

	Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
		3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A 250 A						
<b>Rear terminals flat</b>										
 3VA9203-QQE00	<b>Rear terminal flat</b> Included in scope of supply: • 2 short terminals flat • 1 long terminal flat	✓	--	--		<a href="#">3VA9113-QQE00</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9203-QQE00</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9403-QQE00</a>		1	1 unit	153
 3VA9204-QQE00	<b>Rear terminal flat</b> Included in scope of supply: • 2 short terminals flat • 2 long terminals flat	✓	--	--		<a href="#">3VA9114-QQE00</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9204-QQE00</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9404-QQE00</a>		1	1 unit	153
 3VA9201-QQE10	<b>Rear terminal flat</b> Included in scope of supply: • 1 short terminal flat	✓	--	--		<a href="#">3VA9111-QQE10</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9201-QQE10</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9401-QQE10</a>		1	1 unit	153
 3VA9201-QQE20	<b>Rear terminal flat</b> Included in scope of supply: • 1 long terminal flat	✓	--	--		<a href="#">3VA9111-QQE20</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9201-QQE20</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9401-QQE20</a>		1	1 unit	153
<b>Rear connecting studs</b>										
 3VA9203-QQF00	<b>Rear connecting stud</b> Included in scope of supply: • 1 long connecting stud • 2 short connecting studs	✓	--	--		<a href="#">3VA9113-QQF00</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9203-QQF00</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9403-QQF00</a>		1	1 unit	153
 3VA9204-QQF00	<b>Rear connecting stud</b> Included in scope of supply: • 2 long connecting studs • 2 short connecting studs	✓	--	--		<a href="#">3VA9114-QQF00</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9204-QQF00</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9404-QQF00</a>		1	1 unit	153
 3VA9201-QQF10	<b>Rear connecting stud</b> Included in scope of supply: • 1 short connecting stud	✓	--	--		<a href="#">3VA9111-QQF10</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9201-QQF10</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9401-QQF10</a>		1	1 unit	153
 3VA9111-QQF20	<b>Rear connecting stud</b> Included in scope of supply: • 1 long connecting stud	✓	--	--		<a href="#">3VA9111-QQF20</a>		1	1 unit	153
		--	✓	--		<a href="#">3VA9201-QQF20</a>		1	1 unit	153
		--	--	✓		<a href="#">3VA9401-QQF20</a>		1	1 unit	153







## Accessories and Spare Parts

### Connection technology

	Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
		3VA1 100 A 160 A	3VA2 100 A 160 A	3VA2 400 A 630 A 250 A						
<b>Phase barriers</b>										
 3VA9262-0WA00	<b>Phase barriers</b> Included in scope of supply: • 2 phase barriers	✓	--	--		3VA9152-0WA00		1	1 unit	163
		--	✓	--		3VA9262-0WA00		1	1 unit	163
		--	--	✓		3VA9482-0WA00		1	1 unit	163
<b>Terminal covers</b>										
 3VA9111-0WD10	<b>Terminal cover for 1-pole breakers</b>	✓	--	--		3VA9111-0WD10		1	1 unit	153
 3VA9111-0WD20	<b>Terminal cover for 2-pole breakers</b>	✓	--	--		3VA9111-0WD20		1	1 unit	153
 3VA9221-0WD30	<b>Terminal cover for 3-pole breakers</b>	✓	--	--		3VA9111-0WD30		1	1 unit	153
		--	✓	--		3VA9221-0WD30		1	1 unit	153
		--	--	✓		3VA9481-0WD30		1	1 unit	163
 3VA9221-0WD40	<b>Terminal cover for 4-pole breakers</b>	✓	--	--		3VA9111-0WD40		1	1 unit	153
		--	✓	--		3VA9221-0WD40		1	1 unit	153
		--	--	✓		3VA9481-0WD40		1	1 unit	163
 3VA9111-0WF20	<b>Extended terminal cover, 2-pole</b>	✓	--	--		3VA9111-0WF20		1	1 unit	153
 3VA9221-0WF30	<b>Extended terminal cover for 3-pole breakers</b>	✓	--	--		3VA9111-0WF30		1	1 unit	153
		--	✓	--		3VA9221-0WF30		1	1 unit	153
		--	--	✓		3VA9481-0WF30		1	1 unit	163
 3VA9221-0WF40	<b>Extended terminal cover for 4-pole breakers</b>	✓	--	--		3VA9111-0WF40		1	1 unit	153
		--	✓	--		3VA9221-0WF40		1	1 unit	153
		--	--	✓		3VA9481-0WF40		1	1 unit	163





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## Connection technology

Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	
	3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A							
 3VA9221-0WG30	<b>Broadened terminal cover for 3-pole breakers</b>	✓	--	--	3VA9111-0WG30		1	1 unit	153	
		--	✓	--	3VA9221-0WG30		1	1 unit	153	
		--	--	✓	3VA9401-0WG30		1	1 unit	153	
 3VA9221-0WG40	<b>Broadened terminal cover for 4-pole breakers</b>	✓	--	--	3VA9111-0WG40		1	1 unit	153	
		--	✓	--	3VA9221-0WG40		1	1 unit	153	
		--	--	✓	3VA9401-0WG40		1	1 unit	153	
<b>Insulating plates</b>										
 3VA9111-0WJ20	<b>Insulating plate, 2-pole</b>	✓	--	--	3VA9111-0WJ20		1	1 unit	153	
	 3VA9221-0WJ30	<b>Insulating plate, 3-pole</b>	✓	--	--	3VA9111-0WJ30		1	1 unit	153
			--	✓	--	3VA9221-0WJ30		1	1 unit	153
		--	--	✓	3VA9481-0WJ30		1	1 unit	163	
 3VA9221-0WJ40	<b>Insulating plate, 4-pole</b>	✓	--	--	3VA9111-0WJ40		1	1 unit	153	
		--	✓	--	3VA9221-0WJ40		1	1 unit	153	
		--	--	✓	3VA9481-0WJ40		1	1 unit	163	
 3VA9221-0WK30	<b>Insulating plate broadened, 3-pole</b>	✓	--	--	3VA9111-0WK30		1	1 unit	153	
		--	✓	--	3VA9221-0WK30		1	1 unit	153	
		--	--	✓	3VA9481-0WK30		1	1 unit	163	
 3VA9221-0WK40	<b>Insulating plate broadened, 4-pole</b>	✓	--	--	3VA9111-0WK40		1	1 unit	153	
		--	✓	--	3VA9221-0WK40		1	1 unit	153	
		--	--	✓	3VA9481-0WK40		1	1 unit	163	


## Accessories and Spare Parts

## Connection technology

Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article.No.">www.siemens.com/ product?Article.No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 100 A 160 A	3VA2 100 A 160 A 250 A	3VA2 400 A 630 A						
<b>DC insulating plate</b>									
<b>DC insulating plate for 3VA1</b>									
Variants									
• For fixed-mounted molded case circuit breakers									
- 3-pole									
- 4-pole									
									
3VA9113-0SG10									
<b>Side plate</b>									
<b>Side plate for 3VA1</b>									
Variants									
• For fixed-mounted molded case circuit breakers									
- 2-pole									
									
3VA9112-0SG20									
<b>Auxiliary conductor terminals</b>									
<b>Auxiliary conductor terminal for box terminal</b>									
✓ -- --									
-- ✓ --									
-- -- ✓									
									
3VA9200-0WB00									
<b>Auxiliary conductor terminal for busbar</b>									
✓ -- --									
-- ✓ --									
-- -- ✓									
									
3VA9200-0WC00									

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## Selection and ordering data




Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 100 A, 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>Escutcheon for door cutout</b>									
<b>Escutcheon for door cutout for molded case circuit breaker</b>									
Variants									
 3VA9163-0SB10	• 3-pole, door cutout without ETU	✓	--	--		<a href="#">3VA9053-0SB10</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9163-0SB10</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9383-0SB10</a>	1	1 unit	163
	• 3-pole, door cutout with ETU	✓	--	--		<a href="#">3VA9053-0SB20</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9163-0SB20</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9363-0SB20</a>	1	1 unit	163
	• 4-pole, door cutout without ETU	✓	--	--		<a href="#">3VA9054-0SB10</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9164-0SB10</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9384-0SB10</a>	1	1 unit	163
	• 4-pole, door cutout with ETU	✓	--	--		<a href="#">3VA9054-0SB20</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9164-0SB20</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9364-0SB20</a>	1	1 unit	163
<b>Escutcheon for MO320 motor operators</b>									
		✓	--	--		<a href="#">3VA9053-0SB20</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9257-0SB30</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9387-0SB30</a>	1	1 unit	163
<b>Escutcheon for residual current module</b>									
All RCD residual current modules mounted on the load side									
Variants									
	• 3-pole	✓	--	--		<a href="#">3VA9053-0SB10</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9253-0SB10</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9303-0SB40</a>	1	1 unit	153
	• 4-pole	✓	--	--		<a href="#">3VA9054-0SB10</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9254-0SB10</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9304-0SB40</a>	1	1 unit	153
<b>Escutcheon for front mounted rotary operator</b>									
		✓	--	--		<a href="#">3VA9053-0SB10</a>	1	1 unit	163
		--	✓	--		<a href="#">3VA9163-0SB10</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9383-0SB10</a>	1	1 unit	163
<b>Escutcheon for door feedthrough</b>									
		--	✓	--		<a href="#">3VA9253-0SB20</a>	1	1 unit	163
		--	--	✓		<a href="#">3VA9353-0SB20</a>	1	1 unit	163
<b>Labeling plate for escutcheon</b>									
						<a href="#">3VA9087-0SX10</a>	1	10 units	163



3VA9087-0SX10

## Accessories and Spare Parts

### Other

Version	For molded case circuit breakers/ rated current			DT	Article No. <a href="http://www.siemens.com/product?Article No.">www.siemens.com/ product?Article No.</a>	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG
	3VA1 100 A, 160 A	3VA2 100 A, 160 A, 250 A	3VA2 400 A, 630 A						
<b>Adapter for DIN rails for 3VA1 molded case circuit breakers</b>									
	<b>Adapter for DIN rails for 3VA1 molded case circuit breakers</b>								
Variants									
• 1-pole <sup>1)</sup>	✓	--	--		<a href="#">3VA9181-0SH10</a>		1	1 unit	163
• 2-pole	✓	--	--		<a href="#">3VA9182-0SH10</a>		1	1 unit	163
• 3- and 4-pole	✓	--	--		<a href="#">3VA9187-0SH10</a>		1	1 unit	163
• 3- and 4-pole in conjunction with RCD310 or RCD510	✓	--	--		<a href="#">3VA9187-0SH20</a>		1	1 unit	163
3VA9187-0SH10									
<b>Adapter for 60 mm busbar system (8US)</b>									
	<b>Adapter for 60mm busbar system (8US)</b>								
Variants									
• 3-pole <sup>2)</sup>	✓	--	--		<a href="#">8US1213-4AU01</a>		1	1 unit	143
• 3-pole	--	✓	--		<a href="#">8US1213-4AP03</a>		1	1 unit	143
8US1213-4AP03									
<b>Mounting screw kit</b>									
	<b>Mounting screw kit</b>								
Variants									
• For fixed-mounted molded case circuit breakers									
- 1-pole	✓	--	--		<a href="#">3VA9111-0SS10</a>		1	1 unit	153
- 2- and 3-pole (apart from 125 A/160 A with 55 kA and 70 kA)	✓	--	--		<a href="#">3VA9116-0SS10</a>		1	1 unit	153
- 3-pole (125 A/160 A with 55 kA and 70 kA) and 4-pole	✓	--	--		<a href="#">3VA9114-0SS10</a>		1	1 unit	153
- 3-pole	--	✓	--		<a href="#">3VA9126-0SS10</a>		1	1 unit	153
- 4-pole	--	✓	--		<a href="#">3VA9124-0SS10</a>		1	1 unit	153
- 3- and 4-pole	--	--	✓		<a href="#">3VA9328-0SS10</a>		1	1 unit	153
• For plug-in technology	✓	--	--		<a href="#">3VA9114-0SS10</a>		1	1 unit	153
• For plug-in and draw-out units	--	✓	--		<a href="#">3VA9124-0SS10</a>		1	1 unit	153
	--	--	✓		<a href="#">3VA9328-0SS10</a>		1	1 unit	153
3VA9111-0SS10									

<sup>1)</sup> For 3VA1 molded case circuit breakers, 160A 1-pole up to 25 kA

<sup>2)</sup> Available from 4th quarter 2014.



## Appendix



5/2	<b>Catalog notes</b>
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5/10	<b>Quality management</b>
5/11	<b>Standards and approvals</b>
5/13	<b>Siemens contacts</b>
5/14	<b>Service &amp; Support</b>
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5/16	<b>Software licenses</b>
5/18	<b>Article No. index incl. export markings</b>
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## Appendix

### Catalog notes

#### Overview

##### Trademarks

All product designations may be registered trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes may violate the rights of the owner.

##### Amendments

Unless stated otherwise on the individual pages of this catalog, we reserve the right to make changes, in particular to the specified values, measurements and weights.

##### Dimensions

All dimensions are in mm.

##### Illustrations

The illustrations are not binding.

##### Technical data

The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

Further technical information is available at [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

- under Product list:
  - Technical specifications
- under "Entry list":
  - Certificates
  - Characteristics
  - Download
  - FAQs
  - Manuals
  - Updates




Configurators can be found under [www.siemens.com/lowvoltage/configurators](http://www.siemens.com/lowvoltage/configurators)

##### Assembly, operation and maintenance

Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

##### Symbols

In the table below, you will find all symbols concerning connections that can occur in this catalog. In combination with orange highlighting, these identify special selection criteria.

Connections	
	Screw connection
	Ring cable lug connection
	Spring-loaded terminals

## Logistics

### General

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

We are proud of our personal consulting service, on-time deliveries and 1-day transport within Germany.

**To this end, we supply preferred types marked with ► ex works.**

We regard the DIN ISO 9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

### Packaging, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that all our products arrive in perfect condition.

We select our packaging for maximum environmental compatibility and reusability (e.g. crumpled paper for protection during transport in packages up to 32 kg) and, in particular, with a view to reducing waste.

With our multi-unit and reusable packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements:

Your advantages at a glance:

- Lower ordering costs.
- Cost savings through same-material type packaging: Low/no disposal costs.
- Reduced time and cost thanks to short unpacking times.
- "Just-in-time" delivery directly to the production line helps reduce stock: Cost savings through reduction of storage areas.
- Fast assembly thanks to supply in sets.
- Standard Euro boxes - corresponding to the Euro pallet modular system - suitable for most conveyor systems.
- Active contribution to environmental protection.

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you cost-effective packaging units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral carton. The label includes warning notices, the CE marking, and device descriptions in English and German.

In addition to the Article No. (MLFB) and the number of items in the packaging, the order number for operating instructions (Instr.-Order-No.) is also specified.

They can be obtained from your local Siemens representative (you will find a list at [www.siemens.com/automation/partner](http://www.siemens.com/automation/partner)).

Most device Article No.'s can be obtained by means of the EAN barcode to simplify ordering and storage logistics.

The associated master data, too, is available from your local Siemens representative.

## Appendix

### Ordering notes

#### Overview

##### Ordering special versions

When ordering products that differ from the standard versions listed in the catalog, "-Z" must be added to the Article No. indicated and the required features must be specified using alphanumeric order codes or plain text.

##### Ordering very small quantities

When very small orders are placed, the costs associated with order processing are greater than the order value. We therefore recommend that you combine several small orders. Where this is not possible, we regret that we are obliged to make a small processing charge: for orders with a net goods value of less than € 250 we charge an € 20 supplement to cover our order processing and invoicing costs.

#### Explanations of Selection and Ordering Data

##### Delivery time class (DT)

DT	Meaning	
▶	Preferred type	Preferred types are device types that can be delivered immediately ex works, i.e. they are dispatched within 24 hours.
A	Two working days	If ordered in normal quantities, the products are usually delivered within the specified delivery times, calculated from the date we receive your order.
B	One week	In exceptional cases, delivery times may vary from those specified.
C	Three weeks	The delivery times are valid ex works from Siemens AG (products ready for dispatch).
D	Six weeks	Shipping times depend on the destination and the method of shipping. The standard shipping time for Germany is one day.
X	On request	The specified delivery times are correct at the time of going to print and are subject to constant optimization. Up-to-date information can be found at <a href="http://www.siemens.com/industrymall">www.siemens.com/industrymall</a> .

##### Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price and weight apply.

##### PS/P. unit (packaging size/packaging unit)

The packaging size/packaging unit defines the number, e.g. of units, sets or meters, contained within outer packaging:

- The **first digit** in the PS/P. unit column (packaging size/packaging unit) indicates the minimum order quantity. You can only order this specified quantity or a multiple thereof.
- The **second digit** in the PS/P. unit column (packaging size/packaging unit) specifies the number of units contained within the outer packaging (e.g. in a carton). You must order this quantity or a multiple thereof if you want the items to be delivered in discrete packaging quantities.

Examples:

PS/P. unit	Meaning
1 unit	You can order one item or a multiple thereof.
5 units	Five units are packed in a bag, for example. Because the bags cannot be opened, you can only order a multiple of the quantity contained in the bag: 5, 10, 15, 20 etc.
5/100 units	One carton contains (for example) 20 bags, each containing 5 units, i.e. a total of 100 units. If only cartons are available for delivery, you need to order a multiple of the carton quantity: 100, 200, 300, etc. Ordering a quantity of 220 units would result in the following delivery: two cartons, each containing 100 units (= 200 units) and 4 bags, each containing 5 units (= 20 units).
1 set	A set comprises a defined number of different parts.

##### Price group (PG)

Each product is allocated to a price group.

##### Weight

The defined weight is the net weight in kg and refers to the price unit (PU).

##### Examples

DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS/P. unit	PG	Weight per PU approx.	DT	Article No.	Price per PU	PU (UNIT, SET, M)	PS/P. unit	PG
▶	<b>3NW7013</b>			1 1/12 units	017	0.076 kg		<b>8HP2021</b>		1	1 unit	046

DT: Preferred type

PU: One unit (on which price is based)

PS/P. unit: 1 = minimum order quantity / 12 = quantity per carton

PG: 017

Weight per PU: 76 g, always given in kg

Note:

The article numbers shown here are examples only. They are not necessarily included in this catalog, nor is it essential that their specifications regarding selection and ordering data be up to date. When ordering, always use the selection and ordering data.

## Low-voltage power distribution and electrical installation technology on the WWW



We regard product support to be just as important as the products and systems themselves.

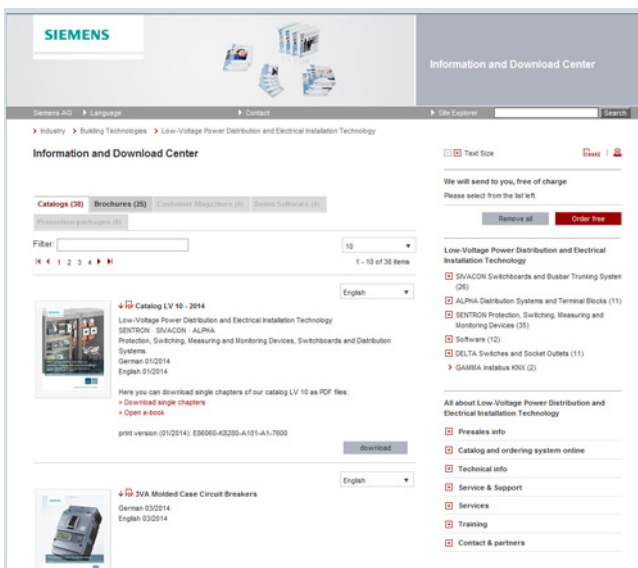
Visit our website for a comprehensive offering of support for low-voltage power distribution and electrical installation products, such as:

- Overview of the entire product portfolio
- Keeping up to date via newsletters, podcasts, blogs and Twitter
- Access to interesting videos on YouTube
- Contact with partners around the world
- Operating instructions and manuals for direct download

and much more - all conveniently and easily accessible.

[www.siemens.com/lowvoltage](http://www.siemens.com/lowvoltage)

## Information and Download Center



You will find regularly updated information material such as catalogs, customer magazines, brochures and trial versions of software for low-voltage power distribution and electrical installations on the Internet at

[www.siemens.com/lowvoltage/infomaterial](http://www.siemens.com/lowvoltage/infomaterial)

Here you can order your copy of the available documentation or download it in common file formats (PDF, ZIP).

## Appendix

### Further documentation

#### Product selection using the interactive catalog CA 01



#### **Detailed information together with user-friendly interactive functions:**

The interactive catalog CA 01 with more than 80,000 products provides a comprehensive overview of the product range from Siemens Industry.

You can find everything you need here for solving automation, switching, installation and drive technology tasks. All information is provided over a user interface that is both user-friendly and intuitive.

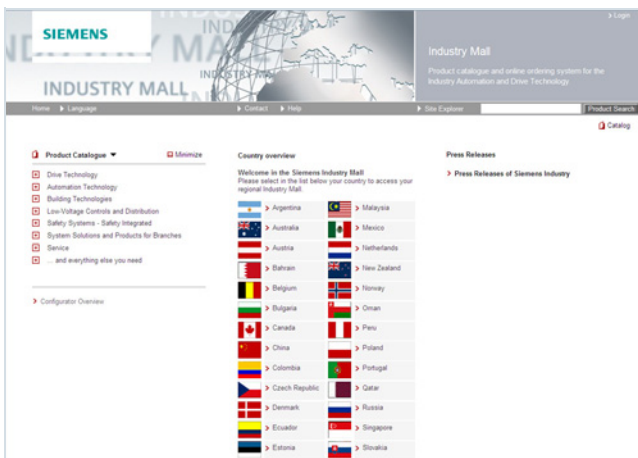
After selecting the product of your choice you can order at the press of a button, by fax or by online link.

Information about the interactive catalog CA 01 can be found on the Internet at:

[www.siemens.com/automation/ca01](http://www.siemens.com/automation/ca01)

or on DVD.

#### Industry Mall



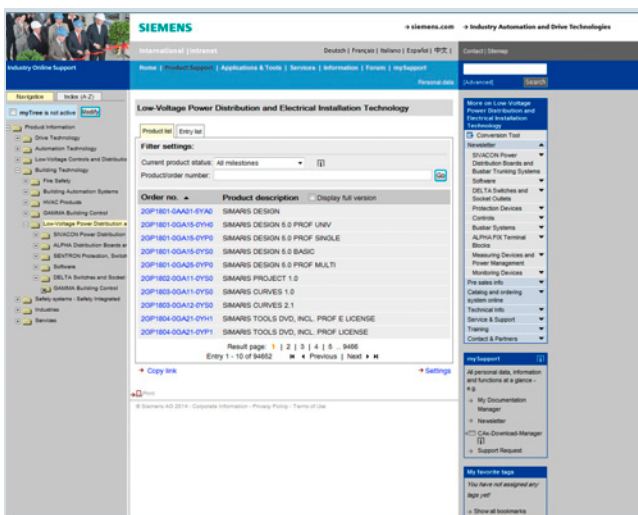
#### **The Industry Mall – for online information, product selection and ordering:**

- Detailed information including product data, illustrations, certificates and CAx data
- Simple configuring of systems
- Possible to request individualized quotations
- Availability check
- Online ordering facility
- Order tracking/order overview
- Fast access to relevant training offers and services

You can find the Industry Mall on the Internet at

[www.siemens.com/industrymall](http://www.siemens.com/industrymall)

#### Industry Online Support



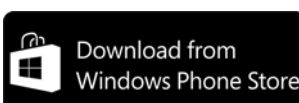
#### **Comprehensive support – at any time, whatever your location**

- FAQs, sample applications, information about successor products and product news
- Prompt assistance with technical queries
- Discussions and best practice sharing with other users in the forum
- Provision of high-quality product data for your planning programs
- Faster access to information – with helpful filter and folder functions in mySupport
- Automatic notification service to keep you up to date with the latest information about topics of interest to you

To find the link to the Service & Support portal, go to

[www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

## Industry Online Support App

**Android:****Apple iOS:****Windows:****Main functions at a glance**

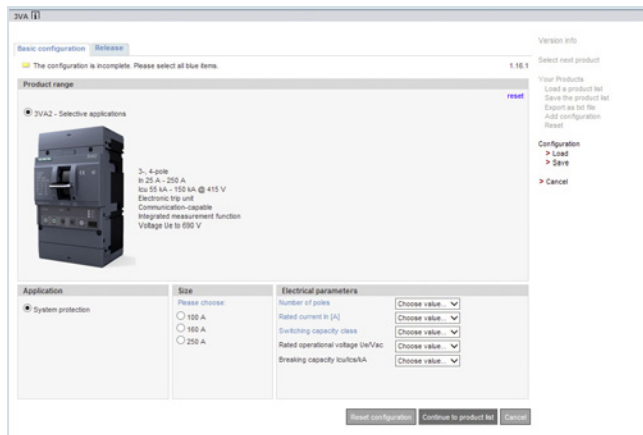
- Scanning of product codes (EAN/QR and data matrix codes) with direct display of all technical information on the product, including graphic data (CAx data).
- Delivery of product information or entries by e-mail, so that the information can immediately be processed at the workplace.
- Submission of queries to Technical Support (Support Requests). With photo function for transmitting detailed information.
- Contents and interfaces available in six languages (German, English, French, Italian, Spanish and Chinese) – including option of temporary switchover to English.
- Offline cache function for all favorites stored in "mySupport". These entries can also be retrieved without network reception.
- Import of PDF documents into a library (e.g. iBooks or similar).
- An overview of the main functions can be found at

[www.siemens.com/lowvoltage/support-app](http://www.siemens.com/lowvoltage/support-app)

## Appendix

### Further documentation

#### Product configurator



#### ***Find the right product faster using intuitive product selection***

- Complete selection of products and systems based on technical characteristics or application requirements
- Simple, intuitive operation
- Option to save the configuration and order lists in a file format of your choice (txt, pdf, xls, csv)
- Direct transfer of the order list into the shopping cart of the Siemens Industry Mall
- Fast access to product data, diagrams, certificates and CAx data for the selected product and system configuration
- Available in multiple languages for use by customers anywhere in the world

The configurators are available online in the Siemens Industry Mall and offline in Catalog CA01. A product selection process could hardly be made any clearer, faster or easier.

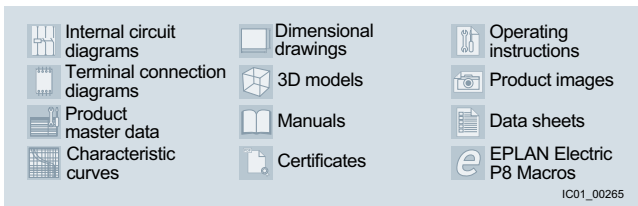
You can find our configurators at the following website:

[www.siemens.com/lowvoltage/configurators](http://www.siemens.com/lowvoltage/configurators)



## CAx Download Manager

The 12 CAx data types are listed below:



[www.siemens.com/lowvoltage/cax](http://www.siemens.com/lowvoltage/cax)

The CAx Download Manager can supply you with all the necessary CAx file types for the products of your choice for use in all common CAE and CAD systems. The data contained in the files is continuously updated. The whole process involves only four selection steps and is free of charge. All your selected files are packed into a zip file which you can download for further use.

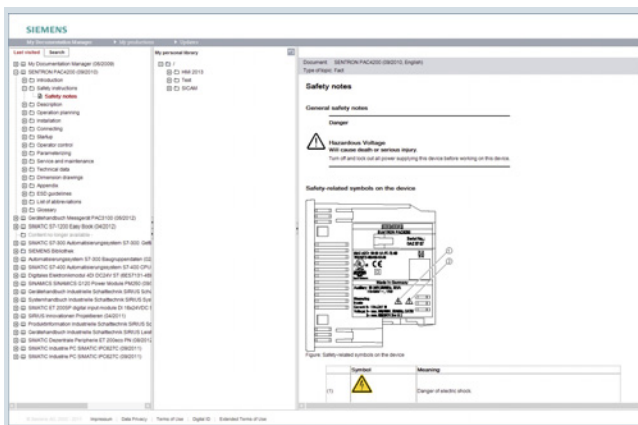
This service will cut the time it takes you to integrate product data into your CAE and CAD system by up to 80 %.

Siemens makes available up to 12 file types to support your mechanical (CAD) and electrical (CAE) planning processes for you to download at any time of the day.

### **Time savings of up to 80 % with universal product data for your CAE and CAD systems**

- No manual data collection necessary
- Universal manufacturer data for all common CAE and CAD systems
- Standardized documentation is simple to generate
- Choice of different languages for system commissioning anywhere in the world

## My Documentation Manager



In "mySupport" you can compile individual documentation for your project by dragging and dropping

\* e.g. Low Voltage Directive 2006/95/EC and EC Machinery Directive 2006/42/EC

In accordance with directives\*, the documentation is part of the plant and requires certification, thus giving the purchaser the right to full plant documentation.

To support you in this, a manual configurator has been developed with which you can put together individual and standard-compliant documentation – fully in accordance with the relevant project-specific requirements.

You can thus select the chapters relevant to the respective project from the available manuals of the installed Siemens components. FAQs, certificates, data sheets and your own content can also be incorporated. This means that the documentation is perfectly tailored to your individual needs, making information easier to locate.

### **User-friendly compilation of project-specific documentation**

- Compile and structure manuals, data sheets, FAQs and certificates simply by dragging and dropping
- Insert personalized content via the Notes function
- Further processing possible thanks to selectable export formats (pdf, xml, rtf)
- After generating the documentation, automatic translation into the desired language is possible
- Always up-to-the minute thanks to the Update function

You can find "My Documentation Manager" on the Internet at

[www.siemens.com/lowvoltage/mdm](http://www.siemens.com/lowvoltage/mdm)

## Appendix

### Quality management

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#### Overview

The quality management system of our IC LMV LP Business Unit complies with the international standard EN ISO 9001.

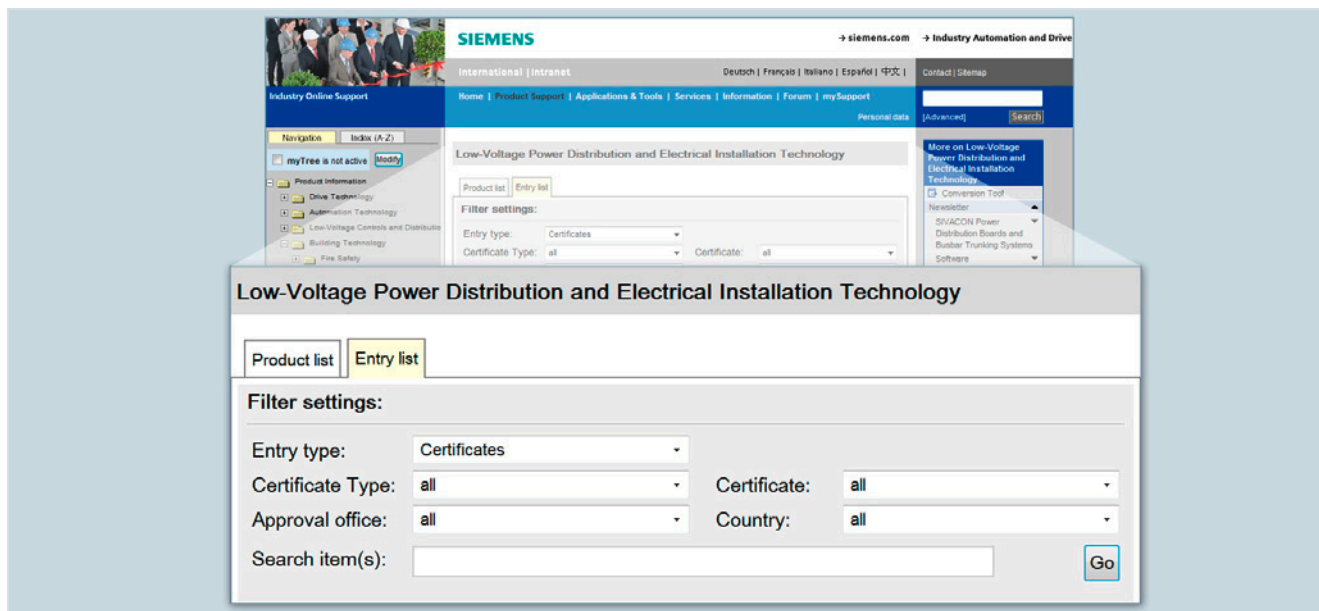
The products and systems listed in this catalog are developed and manufactured using a certified quality management system in accordance with DIN EN ISO 9001:2008.

Overview

Certificates

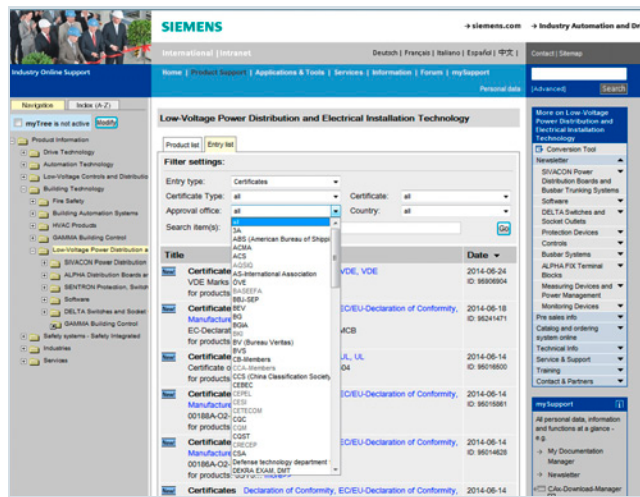
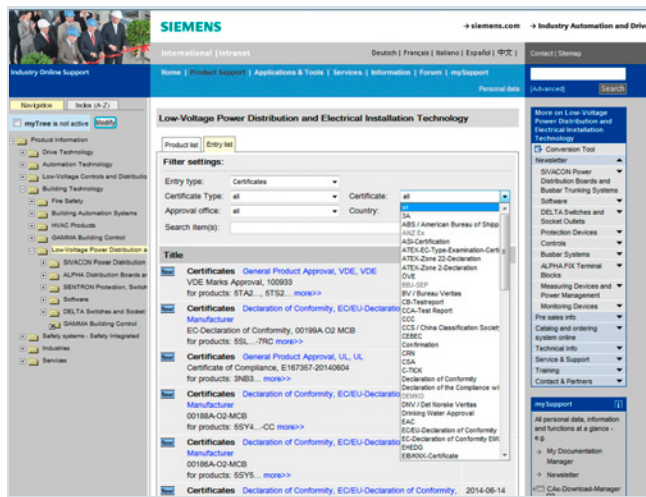
An overview, updated on a daily basis, of our products certified in accordance with CE, UL, CSA, FM, shipping authorizations etc. for products in the areas of low-voltage power distribution, electrical installation technology and industrial controls as well as additional technical documentation can be found on the Internet at

[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates)



In the **Entry list** you can **filter the view** in order to quickly find comprehensive information on the following subjects:

- Country
- Article number(s) or search term(s)
- Certificates (ABS, UL etc.)
- Type of certificate (general product approval, for use in hazardous explosions, test certificates, shipping approval, ...)
- Approval office (TÜV, VDE, UL, ...)



5

## Appendix

### Standards and approvals

#### Approval requirements valid in different countries

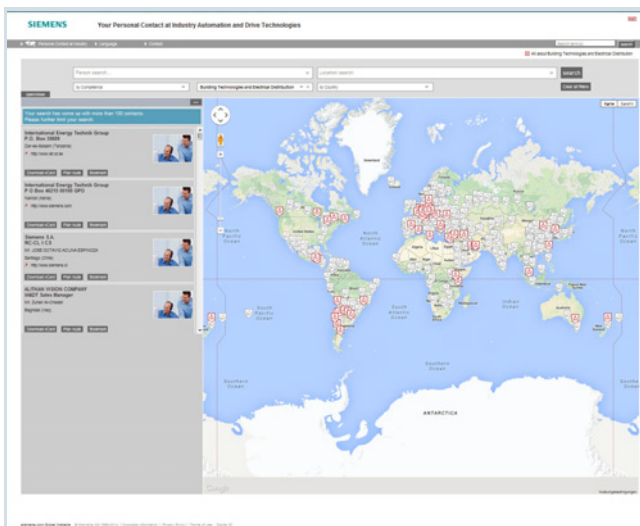
Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), IEC publications and European standard.

As far as is economically viable, in addition to the pertinent VDE, EN and IEC standards, the requirements of the various regulations valid in other countries are also taken into account in the design of the devices.

The currently available approvals, test certificates and certificates can be viewed in the Service & Support Portal via the following link

[www.siemens.com/lowvoltage/certificates](http://www.siemens.com/lowvoltage/certificates)

### Contact partners at Siemens Low-Voltage Power Distribution and Electrical Installation Technology



At Siemens Low-Voltage Power Distribution and Electrical Installation Technology, more than 85 000 people are resolutely pursuing the same goal:

Long-term improvement of your competitive ability.

We are committed to this goal. Thanks to our dedication, we are continually setting new standards. In all industries – worldwide.

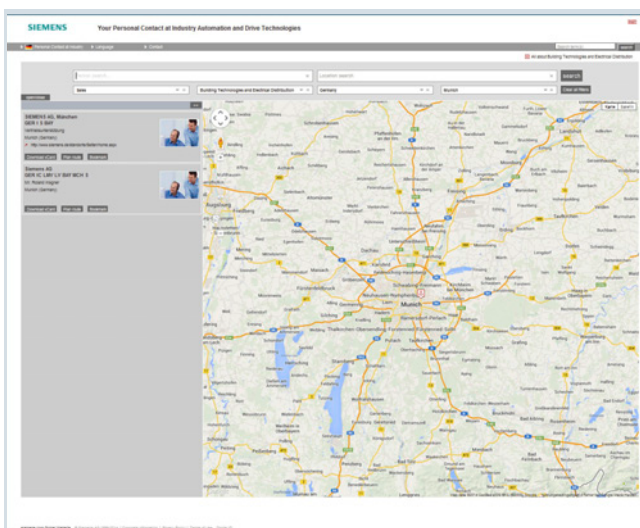
At your service, locally, around the globe: Partners for consulting, sales, training, service, support, spare parts ... on the entire Siemens range of Low-Voltage Power Distribution and Electrical Installation Technology.

Your personal contact can be found in our Contact Database at

[www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

You start by selecting a

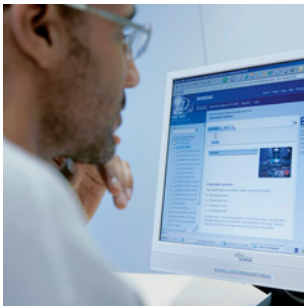
- competence,
- product or branch,
- country,
- city.



## Appendix Service & Support

### Unrivalled complete range of services

#### Online Support



Our comprehensive online information platform covers every aspect of our Service & Support and is available whenever, wherever.

More detailed information is available at [www.siemens.com/lowvoltage/product-support](http://www.siemens.com/lowvoltage/product-support)

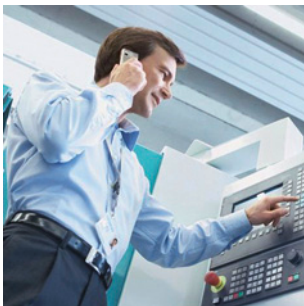
#### Field Service



Siemens Field Service offers support with all aspects of maintenance – so that the availability of your machines and plants is assured whatever the case.

More detailed information is available at [www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

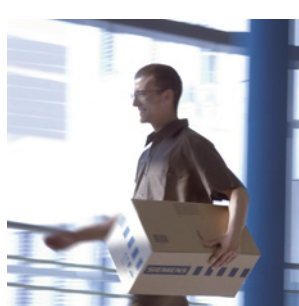
#### Technical Support



The competent consulting service for technical issues with a broad range of customer-oriented services for all our products and systems.

More detailed information is available at [www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

#### Spare Parts



Plants and systems in all industries worldwide are expected to meet ever higher levels of availability.

We can help you rule out unexpected stoppages: with a global network and optimum logistics chains.

More detailed information is available at [www.siemens.com/lowvoltage/contact](http://www.siemens.com/lowvoltage/contact)

#### Training



Extend your lead – with practice-related know-how straight from the manufacturer.

More detailed information is available at [www.siemens.com/lowvoltage/training](http://www.siemens.com/lowvoltage/training)

#### Specification texts

You can obtain qualified, free support to help you produce specifications for technically equipping non-residential and industrial buildings at

[www.siemens.com/specifications](http://www.siemens.com/specifications)

## Overview

Product information	
<b>Website</b>	Fast and targeted information on low-voltage power distribution: <a href="http://www.siemens.com/lowvoltage">www.siemens.com/lowvoltage</a>
<b>Newsletter</b>	Always up to date about our trend-setting products and systems: <a href="http://www.siemens.com/lowvoltage/newsletter">www.siemens.com/lowvoltage/newsletter</a>
Product information/product & system selection	
<b>Information and Download Center</b>	Current catalogs, customer magazines, brochures, demo software and promotion packages: <a href="http://www.siemens.com/lowvoltage/infomaterial">www.siemens.com/lowvoltage/infomaterial</a>
<b>Industry Mall</b>	Comprehensive information and order platform for the Siemens Industry Basket: <a href="http://www.siemens.com/lowvoltage/mall">www.siemens.com/lowvoltage/mall</a>
<b>CA 01</b>	The interactive catalog on DVD for automation and drive technology and low-voltage power distribution and electrical installation products.
Product and system engineering	
<b>SIMARIS software tools</b>	Support in planning and configuring the electrical power distribution: <a href="http://www.siemens.com/simaris">www.siemens.com/simaris</a>
<b>SIMARIS ConFiguration Basic planning and configuration tool</b>	Assists in generating offers and configuring products ranging from ALPHA distribution boards to the SIVACON S4 power distribution boards <a href="http://www.siemens.com/scfb">www.siemens.com/scfb</a>
Product documentation	
<b>Service &amp; Support portal</b>	Comprehensive technical information - from planning to configuration and operation: <a href="http://www.siemens.com/lowvoltage/product-support">www.siemens.com/lowvoltage/product-support</a>
<b>Product configurator</b>	Complete selection of products and systems based on technical characteristics or application requirements: <a href="http://www.siemens.com/lowvoltage/configurators">www.siemens.com/lowvoltage/configurators</a>
<b>CAX Download Manager</b>	Collation of CAX data types for standard CAE and CAD systems: <a href="http://www.siemens.com/lowvoltage/cax">www.siemens.com/lowvoltage/cax</a>
<b>My Documentation Manager</b>	Compilation of project-specific documentation: <a href="http://www.siemens.com/lowvoltage/mdm">www.siemens.com/lowvoltage/mdm</a>
<b>Image database</b>	Collection of product photographs and graphics, such as dimensional drawings and internal circuit diagrams: <a href="http://www.siemens.com/lowvoltage/picturedb">www.siemens.com/lowvoltage/picturedb</a>
Product training	
<b>SITRAIN Portal</b>	Comprehensive training program for our products, systems and engineering tools: <a href="http://www.siemens.com/lowvoltage/training">www.siemens.com/lowvoltage/training</a>
Product hotline	
<b>Technical Support</b>	Support in all technical queries about our products: <a href="http://www.siemens.com/lowvoltage/contact">www.siemens.com/lowvoltage/contact</a>

## Appendix

### Software licenses

#### Overview

##### Software types

Software requiring a license is categorized into types. The following software types have been defined:

- Engineering software
- Runtime software

##### Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

##### Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

The duplication of the runtime software and executable programs created with the runtime software for your own use or for use by third-parties is subject to a charge.

You can find information about license fees according to use in the ordering data (e.g. in the catalog). Examples of categories of use include per CPU, per installation, per channel, per instance, per axis, per control loop, per variable, etc.

Information about extended rights of use for parameterization/configuration tools supplied as integral components of the scope of delivery can be found in the readme file supplied with the relevant product(s).

##### License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- Rental floating license
- Trial license
- Demo license
- Demo floating license

##### Floating license

The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started. A license is required for each concurrent user.

##### Single license

Unlike the floating license, a single license permits only one installation of the software per license.

The type of use licensed is specified in the ordering data and in the Certificate of License (CoL). Types of use include for example per instance, per axis, per channel, etc.

One single license is required for each type of use defined.

##### Rental license

A rental license supports the "sporadic use" of engineering software. Once the license key has been installed, the software can be used for a specific period of time (the operating hours do not have to be consecutive).

One license is required for each installation of the software.

##### Rental floating license

The rental floating license corresponds to the rental license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

##### Trial license

A trial license supports "short-term use" of the software in a non-productive context, e.g. for testing and evaluation purposes. It can be transferred to another license.

##### Demo license

The demo license support the "sporadic use" of engineering software in a non-productive context, for example, use for testing and evaluation purposes. It can be transferred to another license. After the installation of the license key, the software can be operated for a specific period of time, whereby usage can be interrupted as often as required.

One license is required per installation of the software.

##### Demo floating license

The demo floating license corresponds to the demo license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

##### Certificate of license (CoL)

The CoL is the licensee's proof that the use of the software has been licensed by Siemens. A CoL is required for every type of use and must be kept in a safe place.

##### Downgrading

The licensee is permitted to use the software or an earlier version/release of the software, provided that the licensee owns such a version/release and its use is technically feasible.

##### Delivery versions

Software is constantly being updated. The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

Existing bug fixes are supplied with the ServicePack version.

##### PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.

A separate PowerPack must be purchased for each original license of the software to be replaced.

##### Upgrade

An upgrade permits the use of a new version of the software on the condition that a license for a previous version of the product is already held.

The licensee receives a new license agreement and CoL with the upgrade. This CoL, together with the CoL for the previous product, proves that the new version is licensed.

A separate upgrade must be purchased for each original license of the software to be upgraded.



## Overview

### **ServicePack**

ServicePacks are used to debug existing products. ServicePacks may be duplicated for use as prescribed according to the number of existing original licenses.

### **License key**

Siemens Industry Automation & Drive Technologies supplies software products with and without license keys.

The license key serves as an electronic license stamp and is also the "switch" for activating the software (floating license, rental license, etc.).

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## Appendix

## Article No. index incl. export markings

## Overview

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
<b>3VA1</b>				
3VA1010-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1010-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1010-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1010-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1010-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1010-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1010-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1010-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1010-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1010-4ED36-0AA0	2/7	1.027	EAR99	N
3VA1010-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1010-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1020-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1020-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1020-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1020-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1020-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1020-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1020-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1020-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1020-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1020-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1020-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1020-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1025-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1025-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1025-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1025-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1025-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1025-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1025-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1025-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1025-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1025-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1025-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1025-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1032-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1032-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1032-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1032-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1032-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1032-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1032-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1032-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1032-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1032-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1032-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1032-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1040-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1040-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1040-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1040-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1040-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1040-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1040-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1040-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1040-4ED32-0AA0	2/7	0.900	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1040-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1040-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1040-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1050-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1050-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1050-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1050-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1050-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1050-3ED36-0AA0	2/7	1.025	EAR99	N
3VA1050-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1050-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1050-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1050-4ED36-0AA0	2/7	1.025	EAR99	N
3VA1050-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1050-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1063-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1063-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1063-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1063-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1063-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1063-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1063-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1063-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1063-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1063-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1063-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1063-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1080-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1080-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1080-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1080-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1080-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1080-3ED36-0AA0	2/7	1.026	EAR99	N
3VA1080-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1080-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1080-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1080-4ED36-0AA0	2/7	0.950	EAR99	N
3VA1080-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1080-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1096-2ED32-0AA0	2/6	0.900	EAR99	N
3VA1096-2ED36-0AA0	2/6	0.900	EAR99	N
3VA1096-2ED42-0AA0	2/12	1.200	EAR99	N
3VA1096-2ED46-0AA0	2/12	1.200	EAR99	N
3VA1096-3ED32-0AA0	2/7	0.900	EAR99	N
3VA1096-3ED36-0AA0	2/7	0.900	EAR99	N
3VA1096-3ED42-0AA0	2/13	1.200	EAR99	N
3VA1096-3ED46-0AA0	2/13	1.200	EAR99	N
3VA1096-4ED32-0AA0	2/7	0.900	EAR99	N
3VA1096-4ED36-0AA0	2/7	0.900	EAR99	N
3VA1096-4ED42-0AA0	2/13	1.200	EAR99	N
3VA1096-4ED46-0AA0	2/13	1.200	EAR99	N
3VA1110-1AA32-0AA0	2/24	0.800	EAR99	N
3VA1110-1AA36-0AA0	2/24	0.800	EAR99	N
3VA1110-1AA42-0AA0	2/24	1.100	EAR99	N
3VA1110-1AA46-0AA0	2/24	1.100	EAR99	N
3VA1110-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1110-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1110-3ED22-0AA0	2/4	0.600	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1110-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1110-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1110-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1110-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1110-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1110-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1110-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1110-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1110-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1110-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1110-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1110-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1110-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1110-3FD42-0AA0	2/14	1.200	EAR99	N
3VA1110-3FD46-0AA0	2/14	1.200	EAR99	N
3VA1110-3FE42-0AA0	2/18	1.200	EAR99	N
3VA1110-3FE46-0AA0	2/18	1.200	EAR99	N
3VA1110-3FF42-0AA0	2/20	1.200	EAR99	N
3VA1110-3FF46-0AA0	2/20	1.200	EAR99	N
3VA1110-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1110-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1110-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1110-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1110-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1110-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1110-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1110-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1110-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1110-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1110-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1110-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1110-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1110-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1110-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1110-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1110-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1110-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1110-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1110-4EF36-0AA0	2/11	1.026	EAR99	N
3VA1110-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1110-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1110-4FD42-0AA0	2/15	1.200	EAR99	N
3VA1110-4FD46-0AA0	2/15	1.200	EAR99	N
3VA1110-4FE42-0AA0	2/19	1.200	EAR99	N
3VA1110-4FE46-0AA0	2/19	1.200	EAR99	N
3VA1110-4FF42-0AA0	2/21	1.200	EAR99	N
3VA1110-4FF46-0AA0	2/21	1.200	EAR99	N
3VA1110-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1110-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1110-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1110-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1110-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1110-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1110-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1110-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1110-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1110-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1110-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1110-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1110-5EE42-0AA0	2/17	1.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1110-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1110-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1110-5EF36-0AA0	2/11	1.025	EAR99	N
3VA1110-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1110-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1110-5FD42-0AA0	2/15	1.200	EAR99	N
3VA1110-5FD46-0AA0	2/15	1.200	EAR99	N
3VA1110-5FE42-0AA0	2/19	1.200	EAR99	N
3VA1110-5FE46-0AA0	2/19	1.200	EAR99	N
3VA1110-5FF42-0AA0	2/21	1.200	EAR99	N
3VA1110-5FF46-0AA0	2/21	1.200	EAR99	N
3VA1110-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1110-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1110-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1110-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1110-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1110-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1110-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1110-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1110-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1110-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1110-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1110-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1110-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1110-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1110-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1110-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1110-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1110-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1110-6FD42-0AA0	2/15	1.200	EAR99	N
3VA1110-6FD46-0AA0	2/15	1.200	EAR99	N
3VA1110-6FE42-0AA0	2/19	1.200	EAR99	N
3VA1110-6FE46-0AA0	2/19	1.200	EAR99	N
3VA1110-6FF42-0AA0	2/21	1.200	EAR99	N
3VA1110-6FF46-0AA0	2/21	1.200	EAR99	N
3VA1110-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1110-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1110-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1110-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1110-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1110-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1112-1AA32-0AA0	2/24	0.800	EAR99	N
3VA1112-1AA36-0AA0	2/24	0.800	EAR99	N
3VA1112-1AA42-0AA0	2/24	1.100	EAR99	N
3VA1112-1AA46-0AA0	2/24	1.100	EAR99	N
3VA1112-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1112-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1112-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1112-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1112-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1112-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1112-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1112-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1112-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1112-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1112-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1112-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1112-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1112-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1112-3EF42-0AA0	2/20	1.200	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1112-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1112-3FD42-0AA0	2/14	1.200	EAR99	N
3VA1112-3FD46-0AA0	2/14	1.200	EAR99	N
3VA1112-3FE42-0AA0	2/18	1.200	EAR99	N
3VA1112-3FE46-0AA0	2/18	1.200	EAR99	N
3VA1112-3FF42-0AA0	2/20	1.200	EAR99	N
3VA1112-3FF46-0AA0	2/20	1.200	EAR99	N
3VA1112-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1112-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1112-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1112-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1112-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1112-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1112-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1112-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1112-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1112-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1112-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1112-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1112-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1112-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1112-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1112-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1112-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1112-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1112-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1112-4EF36-0AA0	2/11	1.065	EAR99	N
3VA1112-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1112-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1112-4FD42-0AA0	2/15	1.200	EAR99	N
3VA1112-4FD46-0AA0	2/15	1.200	EAR99	N
3VA1112-4FE42-0AA0	2/19	1.200	EAR99	N
3VA1112-4FE46-0AA0	2/19	1.200	EAR99	N
3VA1112-4FF42-0AA0	2/21	1.200	EAR99	N
3VA1112-4FF46-0AA0	2/21	1.200	EAR99	N
3VA1112-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1112-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1112-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1112-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1112-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1112-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1112-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1112-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1112-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1112-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1112-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1112-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1112-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1112-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1112-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1112-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1112-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1112-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1112-5FD42-0AA0	2/15	1.200	EAR99	N
3VA1112-5FD46-0AA0	2/15	1.200	EAR99	N
3VA1112-5FE42-0AA0	2/19	1.200	EAR99	N
3VA1112-5FE46-0AA0	2/19	1.200	EAR99	N
3VA1112-5FF42-0AA0	2/21	1.200	EAR99	N
3VA1112-5FF46-0AA0	2/21	1.200	EAR99	N
3VA1112-5GD42-0AA0	2/17	1.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1112-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1112-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1112-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1112-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1112-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1112-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1112-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1112-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1112-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1112-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1112-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1112-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1112-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1112-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1112-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1112-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1112-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1112-6FD42-0AA0	2/15	1.200	EAR99	N
3VA1112-6FD46-0AA0	2/15	1.200	EAR99	N
3VA1112-6FE42-0AA0	2/19	1.200	EAR99	N
3VA1112-6FE46-0AA0	2/19	1.200	EAR99	N
3VA1112-6FF42-0AA0	2/21	1.200	EAR99	N
3VA1112-6FF46-0AA0	2/21	1.200	EAR99	N
3VA1112-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1112-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1112-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1112-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1112-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1112-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1116-1AA32-0AA0	2/24	0.800	EAR99	N
3VA1116-1AA36-0AA0	2/24	0.800	EAR99	N
3VA1116-1AA42-0AA0	2/24	1.100	EAR99	N
3VA1116-1AA46-0AA0	2/24	1.100	EAR99	N
3VA1116-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1116-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1116-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1116-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1116-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1116-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1116-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1116-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1116-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1116-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1116-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1116-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1116-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1116-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1116-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1116-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1116-3FD42-0AA0	2/14	1.200	EAR99	N
3VA1116-3FD46-0AA0	2/14	1.200	EAR99	N
3VA1116-3FE42-0AA0	2/18	1.200	EAR99	N
3VA1116-3FE46-0AA0	2/18	1.200	EAR99	N
3VA1116-3FF42-0AA0	2/20	1.200	EAR99	N
3VA1116-3FF46-0AA0	2/20	1.200	EAR99	N
3VA1116-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1116-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1116-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1116-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1116-3GF42-0AA0	2/22	1.200	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1116-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1116-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1116-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1116-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1116-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1116-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1116-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1116-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1116-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1116-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1116-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1116-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1116-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1116-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1116-4EF36-0AA0	2/11	1.063	EAR99	N
3VA1116-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1116-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1116-4FD42-0AA0	2/15	1.200	EAR99	N
3VA1116-4FD46-0AA0	2/15	1.200	EAR99	N
3VA1116-4FE42-0AA0	2/19	1.200	EAR99	N
3VA1116-4FE46-0AA0	2/19	1.200	EAR99	N
3VA1116-4FF42-0AA0	2/21	1.200	EAR99	N
3VA1116-4FF46-0AA0	2/21	1.200	EAR99	N
3VA1116-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1116-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1116-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1116-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1116-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1116-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1116-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1116-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1116-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1116-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1116-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1116-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1116-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1116-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1116-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1116-5EF36-0AA0	2/11	1.066	EAR99	N
3VA1116-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1116-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1116-5FD42-0AA0	2/15	1.200	EAR99	N
3VA1116-5FD46-0AA0	2/15	1.200	EAR99	N
3VA1116-5FE42-0AA0	2/19	1.200	EAR99	N
3VA1116-5FE46-0AA0	2/19	1.200	EAR99	N
3VA1116-5FF42-0AA0	2/21	1.200	EAR99	N
3VA1116-5FF46-0AA0	2/21	1.200	EAR99	N
3VA1116-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1116-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1116-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1116-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1116-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1116-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1116-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1116-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1116-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1116-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1116-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1116-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1116-6EE42-0AA0	2/17	1.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1116-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1116-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1116-6EF36-0AA0	2/11	1.066	EAR99	N
3VA1116-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1116-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1116-6FD42-0AA0	2/15	1.200	EAR99	N
3VA1116-6FD46-0AA0	2/15	1.200	EAR99	N
3VA1116-6FE42-0AA0	2/19	1.200	EAR99	N
3VA1116-6FE46-0AA0	2/19	1.200	EAR99	N
3VA1116-6FF42-0AA0	2/21	1.200	EAR99	N
3VA1116-6FF46-0AA0	2/21	1.200	EAR99	N
3VA1116-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1116-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1116-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1116-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1116-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1116-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1120-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1120-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1120-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1120-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1120-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1120-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1120-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1120-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1120-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1120-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1120-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1120-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1120-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1120-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1120-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1120-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1120-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1120-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1120-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1120-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1120-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1120-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1120-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1120-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1120-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1120-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1120-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1120-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1120-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1120-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1120-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1120-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1120-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1120-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1120-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1120-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1120-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1120-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1120-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1120-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1120-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1120-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1120-4GF42-0AA0	2/23	1.200	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1120-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1120-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1120-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1120-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1120-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1120-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1120-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1120-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1120-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1120-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1120-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1120-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1120-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1120-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1120-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1120-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1120-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1120-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1120-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1120-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1120-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1120-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1120-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1120-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1120-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1120-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1120-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1120-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1120-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1120-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1120-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1120-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1120-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1120-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1120-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1120-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1120-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1125-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1125-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1125-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1125-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1125-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1125-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1125-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1125-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1125-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1125-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1125-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1125-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1125-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1125-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1125-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1125-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1125-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1125-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1125-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1125-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1125-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1125-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1125-4ED12-0AA0	2/3	1.000	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1125-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1125-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1125-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1125-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1125-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1125-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1125-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1125-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1125-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1125-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1125-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1125-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1125-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1125-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1125-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1125-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1125-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1125-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1125-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1125-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1125-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1125-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1125-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1125-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1125-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1125-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1125-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1125-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1125-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1125-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1125-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1125-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1125-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1125-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1125-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1125-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1125-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1125-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1125-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1125-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1125-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1125-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1125-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1125-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1125-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1125-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1125-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1125-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1125-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1125-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1125-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1125-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1125-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1125-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1125-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1125-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1125-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1132-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1132-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1132-3ED22-0AA0	2/4	0.600	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1132-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1132-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1132-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1132-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1132-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1132-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1132-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1132-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1132-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1132-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1132-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1132-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1132-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1132-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1132-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1132-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1132-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1132-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1132-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1132-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1132-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1132-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1132-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1132-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1132-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1132-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1132-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1132-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1132-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1132-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1132-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1132-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1132-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1132-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1132-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1132-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1132-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1132-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1132-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1132-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1132-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1132-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1132-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1132-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1132-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1132-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1132-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1132-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1132-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1132-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1132-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1132-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1132-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1132-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1132-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1132-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1132-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1132-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1132-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1132-6ED32-0AA0	2/9	0.900	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1132-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1132-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1132-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1132-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1132-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1132-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1132-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1132-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1132-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1132-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1132-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1132-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1132-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1132-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1132-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1132-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1132-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1140-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1140-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1140-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1140-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1140-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1140-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1140-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1140-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1140-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1140-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1140-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1140-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1140-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1140-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1140-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1140-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1140-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1140-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1140-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1140-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1140-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1140-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1140-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1140-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1140-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1140-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1140-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1140-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1140-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1140-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1140-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1140-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1140-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1140-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1140-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1140-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1140-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1140-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1140-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1140-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1140-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1140-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1140-4GF42-0AA0	2/23	1.200	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1140-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1140-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1140-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1140-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1140-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1140-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1140-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1140-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1140-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1140-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1140-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1140-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1140-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1140-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1140-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1140-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1140-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1140-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1140-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1140-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1140-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1140-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1140-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1140-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1140-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1140-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1140-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1140-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1140-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1140-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1140-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1140-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1140-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1140-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1140-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1140-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1140-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1150-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1150-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1150-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1150-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1150-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1150-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1150-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1150-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1150-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1150-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1150-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1150-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1150-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1150-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1150-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1150-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1150-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1150-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1150-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1150-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1150-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1150-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1150-4ED12-0AA0	2/3	1.000	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1150-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1150-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1150-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1150-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1150-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1150-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1150-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1150-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1150-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1150-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1150-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1150-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1150-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1150-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1150-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1150-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1150-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1150-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1150-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1150-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1150-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1150-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1150-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1150-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1150-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1150-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1150-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1150-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1150-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1150-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1150-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1150-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1150-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1150-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1150-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1150-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1150-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1150-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1150-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1150-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1150-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1150-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1150-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1150-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1150-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1150-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1150-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1150-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1150-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1150-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1150-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1150-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1150-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1150-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1150-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1150-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1150-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1163-1AA32-0AA0	2/24	0.800	EAR99	N
3VA1163-1AA36-0AA0	2/24	0.800	EAR99	N
3VA1163-1AA42-0AA0	2/24	1.100	EAR99	N



## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1163-1AA46-0AA0	2/24	1.100	EAR99	N
3VA1163-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1163-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1163-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1163-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1163-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1163-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1163-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1163-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1163-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1163-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1163-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1163-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1163-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1163-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1163-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1163-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1163-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1163-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1163-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1163-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1163-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1163-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1163-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1163-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1163-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1163-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1163-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1163-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1163-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1163-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1163-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1163-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1163-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1163-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1163-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1163-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1163-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1163-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1163-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1163-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1163-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1163-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1163-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1163-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1163-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1163-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1163-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1163-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1163-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1163-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1163-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1163-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1163-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1163-5EF36-0AA0	2/11	0.212	EAR99	N
3VA1163-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1163-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1163-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1163-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1163-5GE42-0AA0	2/19	1.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1163-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1163-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1163-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1163-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1163-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1163-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1163-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1163-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1163-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1163-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1163-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1163-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1163-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1163-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1163-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1163-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1163-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1163-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1163-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1163-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1163-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1180-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1180-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1180-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1180-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1180-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1180-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1180-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1180-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1180-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1180-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1180-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1180-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1180-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1180-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1180-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1180-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1180-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1180-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1180-3GE42-0AA0	2/18	1.200	EAR99	N
3VA1180-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1180-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1180-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1180-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1180-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1180-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1180-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1180-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1180-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1180-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1180-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1180-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1180-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1180-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1180-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1180-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1180-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1180-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1180-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1180-4GD42-0AA0	2/17	1.200	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1180-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1180-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1180-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1180-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1180-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1180-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1180-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1180-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1180-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1180-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1180-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1180-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1180-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1180-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1180-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1180-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1180-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1180-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1180-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1180-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1180-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1180-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1180-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1180-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1180-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1180-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1180-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1180-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1180-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1180-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1180-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1180-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1180-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1180-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1180-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1180-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1180-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1180-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1180-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1180-6GF42-0AA0	2/23	1.200	EAR99	N
3VA1180-6GF46-0AA0	2/23	1.200	EAR99	N
3VA1196-3ED12-0AA0	2/2	1.000	EAR99	N
3VA1196-3ED16-0AA0	2/2	1.000	EAR99	N
3VA1196-3ED22-0AA0	2/4	0.600	EAR99	N
3VA1196-3ED26-0AA0	2/4	0.600	EAR99	N
3VA1196-3ED32-0AA0	2/8	0.900	EAR99	N
3VA1196-3ED36-0AA0	2/8	0.900	EAR99	N
3VA1196-3ED42-0AA0	2/14	1.200	EAR99	N
3VA1196-3ED46-0AA0	2/14	1.200	EAR99	N
3VA1196-3EE32-0AA0	2/8	0.900	EAR99	N
3VA1196-3EE36-0AA0	2/8	0.900	EAR99	N
3VA1196-3EE42-0AA0	2/16	1.200	EAR99	N
3VA1196-3EE46-0AA0	2/16	1.200	EAR99	N
3VA1196-3EF32-0AA0	2/10	0.900	EAR99	N
3VA1196-3EF36-0AA0	2/10	0.900	EAR99	N
3VA1196-3EF42-0AA0	2/20	1.200	EAR99	N
3VA1196-3EF46-0AA0	2/20	1.200	EAR99	N
3VA1196-3GD42-0AA0	2/16	1.200	EAR99	N
3VA1196-3GD46-0AA0	2/16	1.200	EAR99	N
3VA1196-3GE42-0AA0	2/18	1.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1196-3GE46-0AA0	2/18	1.200	EAR99	N
3VA1196-3GF42-0AA0	2/22	1.200	EAR99	N
3VA1196-3GF46-0AA0	2/22	1.200	EAR99	N
3VA1196-4ED12-0AA0	2/3	1.000	EAR99	N
3VA1196-4ED16-0AA0	2/3	1.000	EAR99	N
3VA1196-4ED22-0AA0	2/5	0.600	EAR99	N
3VA1196-4ED26-0AA0	2/5	0.600	EAR99	N
3VA1196-4ED32-0AA0	2/9	0.900	EAR99	N
3VA1196-4ED36-0AA0	2/9	0.900	EAR99	N
3VA1196-4ED42-0AA0	2/15	1.200	EAR99	N
3VA1196-4ED46-0AA0	2/15	1.200	EAR99	N
3VA1196-4EE32-0AA0	2/9	0.900	EAR99	N
3VA1196-4EE36-0AA0	2/9	0.900	EAR99	N
3VA1196-4EE42-0AA0	2/17	1.200	EAR99	N
3VA1196-4EE46-0AA0	2/17	1.200	EAR99	N
3VA1196-4EF32-0AA0	2/11	0.900	EAR99	N
3VA1196-4EF36-0AA0	2/11	0.900	EAR99	N
3VA1196-4EF42-0AA0	2/21	1.200	EAR99	N
3VA1196-4EF46-0AA0	2/21	1.200	EAR99	N
3VA1196-4GD42-0AA0	2/17	1.200	EAR99	N
3VA1196-4GD46-0AA0	2/17	1.200	EAR99	N
3VA1196-4GE42-0AA0	2/19	1.200	EAR99	N
3VA1196-4GE46-0AA0	2/19	1.200	EAR99	N
3VA1196-4GF42-0AA0	2/23	1.200	EAR99	N
3VA1196-4GF46-0AA0	2/23	1.200	EAR99	N
3VA1196-5ED32-0AA0	2/9	0.900	EAR99	N
3VA1196-5ED36-0AA0	2/9	0.900	EAR99	N
3VA1196-5ED42-0AA0	2/15	1.200	EAR99	N
3VA1196-5ED46-0AA0	2/15	1.200	EAR99	N
3VA1196-5EE32-0AA0	2/9	0.900	EAR99	N
3VA1196-5EE36-0AA0	2/9	0.900	EAR99	N
3VA1196-5EE42-0AA0	2/17	1.200	EAR99	N
3VA1196-5EE46-0AA0	2/17	1.200	EAR99	N
3VA1196-5EF32-0AA0	2/11	0.900	EAR99	N
3VA1196-5EF36-0AA0	2/11	0.900	EAR99	N
3VA1196-5EF42-0AA0	2/21	1.200	EAR99	N
3VA1196-5EF46-0AA0	2/21	1.200	EAR99	N
3VA1196-5GD42-0AA0	2/17	1.200	EAR99	N
3VA1196-5GD46-0AA0	2/17	1.200	EAR99	N
3VA1196-5GE42-0AA0	2/19	1.200	EAR99	N
3VA1196-5GE46-0AA0	2/19	1.200	EAR99	N
3VA1196-5GF42-0AA0	2/23	1.200	EAR99	N
3VA1196-5GF46-0AA0	2/23	1.200	EAR99	N
3VA1196-6ED32-0AA0	2/9	0.900	EAR99	N
3VA1196-6ED36-0AA0	2/9	0.900	EAR99	N
3VA1196-6ED42-0AA0	2/15	1.200	EAR99	N
3VA1196-6ED46-0AA0	2/15	1.200	EAR99	N
3VA1196-6EE32-0AA0	2/9	0.900	EAR99	N
3VA1196-6EE36-0AA0	2/9	0.900	EAR99	N
3VA1196-6EE42-0AA0	2/17	1.200	EAR99	N
3VA1196-6EE46-0AA0	2/17	1.200	EAR99	N
3VA1196-6EF32-0AA0	2/11	0.900	EAR99	N
3VA1196-6EF36-0AA0	2/11	0.900	EAR99	N
3VA1196-6EF42-0AA0	2/21	1.200	EAR99	N
3VA1196-6EF46-0AA0	2/21	1.200	EAR99	N
3VA1196-6GD42-0AA0	2/17	1.200	EAR99	N
3VA1196-6GD46-0AA0	2/17	1.200	EAR99	N
3VA1196-6GE42-0AA0	2/19	1.200	EAR99	N
3VA1196-6GE46-0AA0	2/19	1.200	EAR99	N
3VA1196-6GF42-0AA0	2/23	1.200	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA1196-6GF46-0AA0	2/23	1.200	EAR99	N
<b>3VA2</b>				
3VA2010-5HL32-0AA0	3/2	2.290	EAR99	N
3VA2010-5HL36-0AA0	3/2	2.229	EAR99	N
3VA2010-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2010-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2010-5HM32-0AA0	3/4	2.280	EAR99	N
3VA2010-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2010-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2010-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2010-5HN32-0AA0	3/6	2.100	EAR99	N
3VA2010-5HN36-0AA0	3/6	2.235	EAR99	N
3VA2010-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2010-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2010-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2010-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2010-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2010-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2010-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2010-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2010-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2010-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2010-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2010-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2010-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2010-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2010-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2010-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2010-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2010-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2010-6HL32-0AA0	3/3	2.290	EAR99	N
3VA2010-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2010-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2010-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2010-6HM32-0AA0	3/5	2.105	EAR99	N
3VA2010-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2010-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2010-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2010-6HN32-0AA0	3/7	2.280	EAR99	N
3VA2010-6HN36-0AA0	3/7	2.234	EAR99	N
3VA2010-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2010-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2010-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2010-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2010-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2010-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2010-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2010-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2010-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2010-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2010-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2010-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2010-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2010-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2010-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2010-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2010-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2010-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2025-5HL32-0AA0	3/2	2.280	EAR99	N
3VA2025-5HL36-0AA0	3/2	2.430	EAR99	N
3VA2025-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2025-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2025-5HM32-0AA0	3/4	2.280	EAR99	N
3VA2025-5HM36-0AA0	3/4	2.430	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2010-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2010-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2010-7HM32-0AA0	3/5	2.280	EAR99	N
3VA2010-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2010-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2010-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2010-7HN32-0AA0	3/7	2.280	EAR99	N
3VA2010-7HN36-0AA0	3/7	2.235	EAR99	N
3VA2010-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2010-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2010-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2010-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2010-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2010-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2010-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2010-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2010-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2010-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2010-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2010-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2010-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2010-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2010-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2010-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2010-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2010-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2010-8HL32-0AA0	3/3	2.290	EAR99	N
3VA2010-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2010-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2010-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2010-8HM32-0AA0	3/5	2.280	EAR99	N
3VA2010-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2010-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2010-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2010-8HN32-0AA0	3/7	2.280	EAR99	N
3VA2010-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2010-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2010-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2010-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2010-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2010-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2010-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2010-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2010-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2010-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2010-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2010-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2010-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2010-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2010-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2010-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2010-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2010-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2010-8KQ46-0AA0	3/21	3.150	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2025-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2025-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2025-5HN32-0AA0	3/6	2.280	EAR99	N
3VA2025-5HN36-0AA0	3/6	2.269	EAR99	N
3VA2025-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2025-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2025-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2025-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2025-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2025-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2025-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2025-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2025-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2025-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2025-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2025-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2025-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2025-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2025-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2025-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2025-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2025-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2025-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2025-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2025-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2025-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2025-6HM32-0AA0	3/5	2.280	EAR99	N
3VA2025-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2025-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2025-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2025-6HN32-0AA0	3/7	2.280	EAR99	N
3VA2025-6HN36-0AA0	3/7	2.265	EAR99	N
3VA2025-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2025-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2025-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2025-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2025-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2025-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2025-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2025-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2025-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2025-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2025-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2025-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2025-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2025-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2025-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2025-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2025-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2025-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2025-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2025-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2025-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2025-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2025-7HM32-0AA0	3/5	2.280	EAR99	N
3VA2025-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2025-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2025-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2025-7HN32-0AA0	3/7	2.280	EAR99	N
3VA2025-7HN36-0AA0	3/7	2.265	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2025-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2025-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2025-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2025-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2025-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2025-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2025-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2025-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2025-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2025-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2025-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2025-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2025-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2025-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2025-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2025-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2025-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2025-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2025-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2025-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2025-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2025-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2025-8HM32-0AA0	3/5	2.280	EAR99	N
3VA2025-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2025-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2025-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2025-8HN32-0AA0	3/7	2.280	EAR99	N
3VA2025-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2025-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2025-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2025-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2025-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2025-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2025-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2025-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2025-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2025-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2025-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2025-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2025-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2025-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2025-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2025-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2025-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2025-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2025-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2040-5HL32-0AA0	3/2	2.280	EAR99	N
3VA2040-5HL36-0AA0	3/2	2.430	EAR99	N
3VA2040-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2040-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2040-5HM32-0AA0	3/4	2.280	EAR99	N
3VA2040-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2040-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2040-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2040-5HN32-0AA0	3/6	2.280	EAR99	N
3VA2040-5HN36-0AA0	3/6	2.430	EAR99	N
3VA2040-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2040-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2040-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2040-5JP36-0AA0	3/8	2.440	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2040-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2040-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2040-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2040-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2040-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2040-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2040-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2040-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2040-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2040-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2040-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2040-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2040-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2040-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2040-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2040-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2040-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2040-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2040-6HM32-0AA0	3/5	2.280	EAR99	N
3VA2040-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2040-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2040-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2040-6HN32-0AA0	3/7	2.280	EAR99	N
3VA2040-6HN36-0AA0	3/7	2.265	EAR99	N
3VA2040-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2040-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2040-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2040-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2040-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2040-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2040-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2040-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2040-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2040-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2040-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2040-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2040-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2040-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2040-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2040-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2040-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2040-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2040-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2040-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2040-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2040-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2040-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2040-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2040-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2040-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2040-7HM32-0AA0	3/5	2.280	EAR99	N
3VA2040-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2040-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2040-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2040-7HN32-0AA0	3/7	2.280	EAR99	N
3VA2040-7HN36-0AA0	3/7	2.266	EAR99	N
3VA2040-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2040-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2040-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2040-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2040-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2040-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2040-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2040-7JQ36-0AA0	3/9	2.440	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2040-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2040-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2040-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2040-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2040-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2040-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2040-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2040-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2040-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2040-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2040-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2040-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2040-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2040-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2040-8HM32-0AA0	3/5	2.280	EAR99	N
3VA2040-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2040-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2040-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2040-8HN32-0AA0	3/7	2.280	EAR99	N
3VA2040-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2040-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2040-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2040-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2040-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2040-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2040-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2040-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2040-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2040-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2040-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2040-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2040-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2040-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2040-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2040-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2040-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2040-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2040-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2063-5HL32-0AA0	3/2	2.140	EAR99	N
3VA2063-5HL36-0AA0	3/2	2.260	EAR99	N
3VA2063-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2063-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2063-5HM32-0AA0	3/4	2.280	EAR99	N
3VA2063-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2063-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2063-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2063-5HN32-0AA0	3/6	2.140	EAR99	N
3VA2063-5HN36-0AA0	3/6	2.260	EAR99	N
3VA2063-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2063-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2063-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2063-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2063-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2063-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2063-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2063-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2063-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2063-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2063-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2063-5KP36-0AA0	3/10	2.450	EAR99	N



## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2110-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2110-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2110-6HM32-0AA0	3/5	2.290	EAR99	N
3VA2110-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2110-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2110-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2110-6HN32-0AA0	3/7	2.290	EAR99	N
3VA2110-6HN36-0AA0	3/7	2.430	EAR99	N
3VA2110-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2110-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2110-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2110-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2110-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2110-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2110-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2110-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2110-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2110-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2110-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2110-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2110-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2110-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2110-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2110-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2110-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2110-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2110-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2110-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2110-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2110-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2110-7HM32-0AA0	3/5	2.290	EAR99	N
3VA2110-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2110-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2110-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2110-7HN32-0AA0	3/7	2.290	EAR99	N
3VA2110-7HN36-0AA0	3/7	2.430	EAR99	N
3VA2110-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2110-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2110-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2110-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2110-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2110-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2110-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2110-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2110-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2110-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2110-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2110-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2110-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2110-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2110-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2110-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2110-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2110-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2110-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2110-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2110-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2110-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2110-8HM32-0AA0	3/5	2.290	EAR99	N
3VA2110-8HM36-0AA0	3/5	2.430	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2110-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2110-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2110-8HN32-0AA0	3/7	2.290	EAR99	N
3VA2110-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2110-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2110-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2110-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2110-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2110-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2110-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2110-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2110-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2110-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2110-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2110-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2110-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2110-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2110-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2110-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2110-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2110-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2110-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2116-5HL32-0AA0	3/2	2.120	EAR99	N
3VA2116-5HL36-0AA0	3/2	2.250	EAR99	N
3VA2116-5HL42-0AA0	3/12	2.720	EAR99	N
3VA2116-5HL46-0AA0	3/12	2.930	EAR99	N
3VA2116-5HM32-0AA0	3/4	2.290	EAR99	N
3VA2116-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2116-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2116-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2116-5HN32-0AA0	3/6	2.120	EAR99	N
3VA2116-5HN36-0AA0	3/6	2.250	EAR99	N
3VA2116-5HN42-0AA0	3/16	2.720	EAR99	N
3VA2116-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2116-5JP32-0AA0	3/8	2.130	EAR99	N
3VA2116-5JP36-0AA0	3/8	2.570	EAR99	N
3VA2116-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2116-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2116-5JQ32-0AA0	3/8	2.120	EAR99	N
3VA2116-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2116-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2116-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2116-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2116-5KP36-0AA0	3/10	2.440	EAR99	N
3VA2116-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2116-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2116-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2116-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2116-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2116-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2116-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2116-6HL36-0AA0	3/3	2.280	EAR99	N
3VA2116-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2116-6HL46-0AA0	3/13	2.930	EAR99	N
3VA2116-6HM32-0AA0	3/5	2.290	EAR99	N
3VA2116-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2116-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2116-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2116-6HN32-0AA0	3/7	2.290	EAR99	N
3VA2116-6HN36-0AA0	3/7	2.430	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2116-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2116-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2116-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2116-6JP36-0AA0	3/9	2.430	EAR99	N
3VA2116-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2116-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2116-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2116-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2116-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2116-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2116-6KP32-0AA0	3/11	2.290	EAR99	N
3VA2116-6KP36-0AA0	3/11	2.440	EAR99	N
3VA2116-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2116-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2116-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2116-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2116-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2116-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2116-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2116-7HL36-0AA0	3/3	2.280	EAR99	N
3VA2116-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2116-7HL46-0AA0	3/13	2.930	EAR99	N
3VA2116-7HM32-0AA0	3/5	2.290	EAR99	N
3VA2116-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2116-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2116-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2116-7HN32-0AA0	3/7	2.290	EAR99	N
3VA2116-7HN36-0AA0	3/7	2.430	EAR99	N
3VA2116-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2116-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2116-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2116-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2116-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2116-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2116-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2116-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2116-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2116-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2116-7KP32-0AA0	3/11	2.290	EAR99	N
3VA2116-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2116-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2116-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2116-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2116-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2116-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2116-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2116-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2116-8HL36-0AA0	3/3	2.280	EAR99	N
3VA2116-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2116-8HL46-0AA0	3/13	2.930	EAR99	N
3VA2116-8HM32-0AA0	3/5	2.290	EAR99	N
3VA2116-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2116-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2116-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2116-8HN32-0AA0	3/7	2.290	EAR99	N
3VA2116-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2116-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2116-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2116-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2116-8JP36-0AA0	3/9	2.440	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2116-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2116-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2116-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2116-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2116-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2116-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2116-8KP32-0AA0	3/11	2.290	EAR99	N
3VA2116-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2116-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2116-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2116-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2116-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2116-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2116-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2125-5HL32-0AA0	3/2	2.280	EAR99	N
3VA2125-5HL36-0AA0	3/2	2.430	EAR99	N
3VA2125-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2125-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2125-5HM32-0AA0	3/4	2.290	EAR99	N
3VA2125-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2125-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2125-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2125-5HN32-0AA0	3/6	2.290	EAR99	N
3VA2125-5HN36-0AA0	3/6	2.297	EAR99	N
3VA2125-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2125-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2125-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2125-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2125-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2125-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2125-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2125-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2125-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2125-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2125-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2125-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2125-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2125-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2125-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2125-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2125-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2125-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2125-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2125-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2125-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2125-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2125-6HM32-0AA0	3/5	2.290	EAR99	N
3VA2125-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2125-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2125-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2125-6HN32-0AA0	3/7	2.290	EAR99	N
3VA2125-6HN36-0AA0	3/7	2.430	EAR99	N
3VA2125-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2125-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2125-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2125-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2125-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2125-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2125-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2125-6JQ36-0AA0	3/9	2.440	EAR99	N



## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2125-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2125-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2125-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2125-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2125-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2125-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2125-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2125-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2125-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2125-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2125-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2125-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2125-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2125-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2125-7HM32-0AA0	3/5	2.290	EAR99	N
3VA2125-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2125-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2125-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2125-7HN32-0AA0	3/7	2.290	EAR99	N
3VA2125-7HN36-0AA0	3/7	2.430	EAR99	N
3VA2125-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2125-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2125-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2125-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2125-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2125-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2125-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2125-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2125-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2125-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2125-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2125-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2125-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2125-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2125-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2125-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2125-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2125-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2125-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2125-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2125-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2125-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2125-8HM32-0AA0	3/5	2.290	EAR99	N
3VA2125-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2125-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2125-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2125-8HN32-0AA0	3/7	2.290	EAR99	N
3VA2125-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2125-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2125-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2125-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2125-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2125-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2125-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2125-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2125-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2125-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2125-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2125-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2125-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2125-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2125-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2125-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2125-8KQ36-0AA0	3/11	2.450	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2125-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2125-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2125-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2125-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2125-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2125-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2140-5HL32-0AA0	3/2	2.280	EAR99	N
3VA2140-5HL36-0AA0	3/2	2.430	EAR99	N
3VA2140-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2140-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2140-5HM32-0AA0	3/4	2.290	EAR99	N
3VA2140-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2140-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2140-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2140-5HN32-0AA0	3/6	2.290	EAR99	N
3VA2140-5HN36-0AA0	3/6	2.430	EAR99	N
3VA2140-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2140-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2140-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2140-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2140-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2140-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2140-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2140-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2140-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2140-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2140-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2140-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2140-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2140-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2140-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2140-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2140-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2140-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2140-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2140-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2140-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2140-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2140-6HM32-0AA0	3/5	2.290	EAR99	N
3VA2140-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2140-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2140-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2140-6HN32-0AA0	3/7	2.290	EAR99	N
3VA2140-6HN36-0AA0	3/7	2.430	EAR99	N
3VA2140-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2140-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2140-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2140-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2140-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2140-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2140-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2140-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2140-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2140-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2140-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2140-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2140-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2140-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2140-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2140-6KQ36-0AA0	3/11	2.450	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2140-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2140-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2140-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2140-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2140-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2140-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2140-7HM32-0AA0	3/5	2.290	EAR99	N
3VA2140-7HM36-0AA0	3/5	2.430	EAR99	N
3VA2140-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2140-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2140-7HN32-0AA0	3/7	2.290	EAR99	N
3VA2140-7HN36-0AA0	3/7	2.430	EAR99	N
3VA2140-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2140-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2140-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2140-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2140-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2140-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2140-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2140-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2140-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2140-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2140-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2140-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2140-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2140-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2140-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2140-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2140-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2140-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2140-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2140-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2140-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2140-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2140-8HM32-0AA0	3/5	2.290	EAR99	N
3VA2140-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2140-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2140-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2140-8HN32-0AA0	3/7	2.290	EAR99	N
3VA2140-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2140-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2140-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2140-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2140-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2140-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2140-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2140-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2140-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2140-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2140-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2140-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2140-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2140-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2140-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2140-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2140-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2140-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2140-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2163-5HL32-0AA0	3/2	2.280	EAR99	N
3VA2163-5HL36-0AA0	3/2	2.430	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2163-5HL42-0AA0	3/12	2.930	EAR99	N
3VA2163-5HL46-0AA0	3/12	3.130	EAR99	N
3VA2163-5HM32-0AA0	3/4	2.290	EAR99	N
3VA2163-5HM36-0AA0	3/4	2.430	EAR99	N
3VA2163-5HM42-0AA0	3/14	2.930	EAR99	N
3VA2163-5HM46-0AA0	3/14	3.130	EAR99	N
3VA2163-5HN32-0AA0	3/6	2.290	EAR99	N
3VA2163-5HN36-0AA0	3/6	2.430	EAR99	N
3VA2163-5HN42-0AA0	3/16	2.930	EAR99	N
3VA2163-5HN46-0AA0	3/16	3.130	EAR99	N
3VA2163-5JP32-0AA0	3/8	2.290	EAR99	N
3VA2163-5JP36-0AA0	3/8	2.440	EAR99	N
3VA2163-5JP42-0AA0	3/18	2.940	EAR99	N
3VA2163-5JP46-0AA0	3/18	3.140	EAR99	N
3VA2163-5JQ32-0AA0	3/8	2.290	EAR99	N
3VA2163-5JQ36-0AA0	3/8	2.440	EAR99	N
3VA2163-5JQ42-0AA0	3/18	2.940	EAR99	N
3VA2163-5JQ46-0AA0	3/18	3.140	EAR99	N
3VA2163-5KP32-0AA0	3/10	2.300	EAR99	N
3VA2163-5KP36-0AA0	3/10	2.450	EAR99	N
3VA2163-5KP42-0AA0	3/20	2.950	EAR99	N
3VA2163-5KP46-0AA0	3/20	3.150	EAR99	N
3VA2163-5KQ32-0AA0	3/10	2.300	EAR99	N
3VA2163-5KQ36-0AA0	3/10	2.450	EAR99	N
3VA2163-5KQ42-0AA0	3/20	2.950	EAR99	N
3VA2163-5KQ46-0AA0	3/20	3.150	EAR99	N
3VA2163-6HL32-0AA0	3/3	2.280	EAR99	N
3VA2163-6HL36-0AA0	3/3	2.430	EAR99	N
3VA2163-6HL42-0AA0	3/13	2.930	EAR99	N
3VA2163-6HL46-0AA0	3/13	3.130	EAR99	N
3VA2163-6HM32-0AA0	3/5	2.290	EAR99	N
3VA2163-6HM36-0AA0	3/5	2.430	EAR99	N
3VA2163-6HM42-0AA0	3/15	2.930	EAR99	N
3VA2163-6HM46-0AA0	3/15	3.130	EAR99	N
3VA2163-6HN32-0AA0	3/7	2.290	EAR99	N
3VA2163-6HN36-0AA0	3/7	2.430	EAR99	N
3VA2163-6HN42-0AA0	3/17	2.930	EAR99	N
3VA2163-6HN46-0AA0	3/17	3.130	EAR99	N
3VA2163-6JP32-0AA0	3/9	2.290	EAR99	N
3VA2163-6JP36-0AA0	3/9	2.440	EAR99	N
3VA2163-6JP42-0AA0	3/19	2.940	EAR99	N
3VA2163-6JP46-0AA0	3/19	3.140	EAR99	N
3VA2163-6JQ32-0AA0	3/9	2.290	EAR99	N
3VA2163-6JQ36-0AA0	3/9	2.440	EAR99	N
3VA2163-6JQ42-0AA0	3/19	2.940	EAR99	N
3VA2163-6JQ46-0AA0	3/19	3.140	EAR99	N
3VA2163-6KP32-0AA0	3/11	2.300	EAR99	N
3VA2163-6KP36-0AA0	3/11	2.450	EAR99	N
3VA2163-6KP42-0AA0	3/21	2.950	EAR99	N
3VA2163-6KP46-0AA0	3/21	3.150	EAR99	N
3VA2163-6KQ32-0AA0	3/11	2.300	EAR99	N
3VA2163-6KQ36-0AA0	3/11	2.450	EAR99	N
3VA2163-6KQ42-0AA0	3/21	2.950	EAR99	N
3VA2163-6KQ46-0AA0	3/21	3.150	EAR99	N
3VA2163-7HL32-0AA0	3/3	2.280	EAR99	N
3VA2163-7HL36-0AA0	3/3	2.430	EAR99	N
3VA2163-7HL42-0AA0	3/13	2.930	EAR99	N
3VA2163-7HL46-0AA0	3/13	3.130	EAR99	N
3VA2163-7HM32-0AA0	3/5	2.290	EAR99	N
3VA2163-7HM36-0AA0	3/5	2.430	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2163-7HM42-0AA0	3/15	2.930	EAR99	N
3VA2163-7HM46-0AA0	3/15	3.130	EAR99	N
3VA2163-7HN32-0AA0	3/7	2.290	EAR99	N
3VA2163-7HN36-0AA0	3/7	2.430	EAR99	N
3VA2163-7HN42-0AA0	3/17	2.930	EAR99	N
3VA2163-7HN46-0AA0	3/17	3.130	EAR99	N
3VA2163-7JP32-0AA0	3/9	2.290	EAR99	N
3VA2163-7JP36-0AA0	3/9	2.440	EAR99	N
3VA2163-7JP42-0AA0	3/19	2.940	EAR99	N
3VA2163-7JP46-0AA0	3/19	3.140	EAR99	N
3VA2163-7JQ32-0AA0	3/9	2.290	EAR99	N
3VA2163-7JQ36-0AA0	3/9	2.440	EAR99	N
3VA2163-7JQ42-0AA0	3/19	2.940	EAR99	N
3VA2163-7JQ46-0AA0	3/19	3.140	EAR99	N
3VA2163-7KP32-0AA0	3/11	2.300	EAR99	N
3VA2163-7KP36-0AA0	3/11	2.450	EAR99	N
3VA2163-7KP42-0AA0	3/21	2.950	EAR99	N
3VA2163-7KP46-0AA0	3/21	3.150	EAR99	N
3VA2163-7KQ32-0AA0	3/11	2.300	EAR99	N
3VA2163-7KQ36-0AA0	3/11	2.450	EAR99	N
3VA2163-7KQ42-0AA0	3/21	2.950	EAR99	N
3VA2163-7KQ46-0AA0	3/21	3.150	EAR99	N
3VA2163-8HL32-0AA0	3/3	2.280	EAR99	N
3VA2163-8HL36-0AA0	3/3	2.430	EAR99	N
3VA2163-8HL42-0AA0	3/13	2.930	EAR99	N
3VA2163-8HL46-0AA0	3/13	3.130	EAR99	N
3VA2163-8HM32-0AA0	3/5	2.290	EAR99	N
3VA2163-8HM36-0AA0	3/5	2.430	EAR99	N
3VA2163-8HM42-0AA0	3/15	2.930	EAR99	N
3VA2163-8HM46-0AA0	3/15	3.130	EAR99	N
3VA2163-8HN32-0AA0	3/7	2.290	EAR99	N
3VA2163-8HN36-0AA0	3/7	2.430	EAR99	N
3VA2163-8HN42-0AA0	3/17	2.930	EAR99	N
3VA2163-8HN46-0AA0	3/17	3.130	EAR99	N
3VA2163-8JP32-0AA0	3/9	2.290	EAR99	N
3VA2163-8JP36-0AA0	3/9	2.440	EAR99	N
3VA2163-8JP42-0AA0	3/19	2.940	EAR99	N
3VA2163-8JP46-0AA0	3/19	3.140	EAR99	N
3VA2163-8JQ32-0AA0	3/9	2.290	EAR99	N
3VA2163-8JQ36-0AA0	3/9	2.440	EAR99	N
3VA2163-8JQ42-0AA0	3/19	2.940	EAR99	N
3VA2163-8JQ46-0AA0	3/19	3.140	EAR99	N
3VA2163-8KP32-0AA0	3/11	2.300	EAR99	N
3VA2163-8KP36-0AA0	3/11	2.450	EAR99	N
3VA2163-8KP42-0AA0	3/21	2.950	EAR99	N
3VA2163-8KP46-0AA0	3/21	3.150	EAR99	N
3VA2163-8KQ32-0AA0	3/11	2.300	EAR99	N
3VA2163-8KQ36-0AA0	3/11	2.450	EAR99	N
3VA2163-8KQ42-0AA0	3/21	2.950	EAR99	N
3VA2163-8KQ46-0AA0	3/21	3.150	EAR99	N
3VA2216-5HL32-0AA0	3/2	2.390	EAR99	N
3VA2216-5HL42-0AA0	3/12	3.080	EAR99	N
3VA2216-5HM32-0AA0	3/4	2.400	EAR99	N
3VA2216-5HM42-0AA0	3/14	3.080	EAR99	N
3VA2216-5HN32-0AA0	3/6	2.400	EAR99	N
3VA2216-5HN42-0AA0	3/16	3.080	EAR99	N
3VA2216-5JP32-0AA0	3/8	2.410	EAR99	N
3VA2216-5JP42-0AA0	3/18	3.090	EAR99	N
3VA2216-5JQ32-0AA0	3/8	2.260	EAR99	N
3VA2216-5JQ42-0AA0	3/18	3.090	EAR99	N
3VA2216-5KP32-0AA0	3/10	2.420	EAR99	N
3VA2216-5KP42-0AA0	3/20	3.100	EAR99	N
3VA2216-5KQ32-0AA0	3/10	2.420	EAR99	N
3VA2216-5KQ42-0AA0	3/20	3.100	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2216-5KP32-0AA0	3/10	2.420	EAR99	N
3VA2216-5KP42-0AA0	3/20	3.100	EAR99	N
3VA2216-5KQ32-0AA0	3/10	2.420	EAR99	N
3VA2216-5KQ42-0AA0	3/20	3.100	EAR99	N
3VA2216-6HL32-0AA0	3/3	2.390	EAR99	N
3VA2216-6HL42-0AA0	3/13	3.080	EAR99	N
3VA2216-6HM32-0AA0	3/5	2.400	EAR99	N
3VA2216-6HM42-0AA0	3/15	3.080	EAR99	N
3VA2216-6HN32-0AA0	3/7	2.400	EAR99	N
3VA2216-6HN42-0AA0	3/17	3.080	EAR99	N
3VA2216-6JP32-0AA0	3/9	2.410	EAR99	N
3VA2216-6JP42-0AA0	3/19	3.090	EAR99	N
3VA2216-6JQ32-0AA0	3/9	2.410	EAR99	N
3VA2216-6JQ42-0AA0	3/19	3.090	EAR99	N
3VA2216-6KP32-0AA0	3/11	2.420	EAR99	N
3VA2216-6KP42-0AA0	3/21	3.100	EAR99	N
3VA2216-6KQ32-0AA0	3/11	2.420	EAR99	N
3VA2216-6KQ42-0AA0	3/21	3.100	EAR99	N
3VA2216-7HL32-0AA0	3/3	2.390	EAR99	N
3VA2216-7HL42-0AA0	3/13	3.080	EAR99	N
3VA2216-7HM32-0AA0	3/5	2.400	EAR99	N
3VA2216-7HM42-0AA0	3/15	3.080	EAR99	N
3VA2216-7HN32-0AA0	3/7	2.400	EAR99	N
3VA2216-7HN42-0AA0	3/17	3.080	EAR99	N
3VA2216-7JP32-0AA0	3/9	2.410	EAR99	N
3VA2216-7JP42-0AA0	3/19	3.090	EAR99	N
3VA2216-7JQ32-0AA0	3/9	2.410	EAR99	N
3VA2216-7JQ42-0AA0	3/19	3.090	EAR99	N
3VA2216-7KP32-0AA0	3/11	2.420	EAR99	N
3VA2216-7KP42-0AA0	3/21	3.100	EAR99	N
3VA2216-7KQ32-0AA0	3/11	2.420	EAR99	N
3VA2216-7KQ42-0AA0	3/21	3.100	EAR99	N
3VA2216-8HL32-0AA0	3/3	2.390	EAR99	N
3VA2216-8HL42-0AA0	3/13	3.080	EAR99	N
3VA2216-8HM32-0AA0	3/5	2.400	EAR99	N
3VA2216-8HM42-0AA0	3/15	3.080	EAR99	N
3VA2216-8HN32-0AA0	3/7	2.400	EAR99	N
3VA2216-8HN42-0AA0	3/17	3.080	EAR99	N
3VA2216-8JP32-0AA0	3/9	2.410	EAR99	N
3VA2216-8JP42-0AA0	3/19	3.090	EAR99	N
3VA2216-8JQ32-0AA0	3/9	2.410	EAR99	N
3VA2216-8JQ42-0AA0	3/19	3.090	EAR99	N
3VA2216-8KP32-0AA0	3/11	2.420	EAR99	N
3VA2216-8KP42-0AA0	3/21	3.100	EAR99	N
3VA2216-8KQ32-0AA0	3/11	2.420	EAR99	N
3VA2216-8KQ42-0AA0	3/21	3.100	EAR99	N
3VA2225-5HL32-0AA0	3/2	2.250	EAR99	N
3VA2225-5HL42-0AA0	3/12	2.900	EAR99	N
3VA2225-5HM32-0AA0	3/4	2.400	EAR99	N
3VA2225-5HM42-0AA0	3/14	3.080	EAR99	N
3VA2225-5HN32-0AA0	3/6	2.250	EAR99	N
3VA2225-5HN42-0AA0	3/16	2.900	EAR99	N
3VA2225-5JP32-0AA0	3/8	2.260	EAR99	N
3VA2225-5JP42-0AA0	3/18	3.090	EAR99	N
3VA2225-5JQ32-0AA0	3/8	2.260	EAR99	N
3VA2225-5JQ42-0AA0	3/18	3.090	EAR99	N
3VA2225-5KP32-0AA0	3/10	2.420	EAR99	N
3VA2225-5KP42-0AA0	3/20	3.100	EAR99	N
3VA2225-5KQ32-0AA0	3/10	2.420	EAR99	N
3VA2225-5KQ42-0AA0	3/20	3.100	EAR99	N

## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2225-6HL32-0AA0	3/3	2.250	EAR99	N
3VA2225-6HL42-0AA0	3/13	3.080	EAR99	N
3VA2225-6HM32-0AA0	3/5	2.400	EAR99	N
3VA2225-6HM42-0AA0	3/15	3.080	EAR99	N
3VA2225-6HN32-0AA0	3/7	2.250	EAR99	N
3VA2225-6HN42-0AA0	3/17	3.080	EAR99	N
3VA2225-6JP32-0AA0	3/9	2.410	EAR99	N
3VA2225-6JP42-0AA0	3/19	3.090	EAR99	N
3VA2225-6JQ32-0AA0	3/9	2.410	EAR99	N
3VA2225-6JQ42-0AA0	3/19	3.090	EAR99	N
3VA2225-6KP32-0AA0	3/11	2.420	EAR99	N
3VA2225-6KP42-0AA0	3/21	3.100	EAR99	N
3VA2225-6KQ32-0AA0	3/11	2.420	EAR99	N
3VA2225-6KQ42-0AA0	3/21	3.100	EAR99	N
3VA2225-7HL32-0AA0	3/3	2.250	EAR99	N
3VA2225-7HL42-0AA0	3/13	3.080	EAR99	N
3VA2225-7HM32-0AA0	3/5	2.400	EAR99	N
3VA2225-7HM42-0AA0	3/15	3.080	EAR99	N
3VA2225-7HN32-0AA0	3/7	2.250	EAR99	N
3VA2225-7HN42-0AA0	3/17	3.080	EAR99	N
3VA2225-7JP32-0AA0	3/9	2.410	EAR99	N
3VA2225-7JP42-0AA0	3/19	3.090	EAR99	N
3VA2225-7JQ32-0AA0	3/9	2.410	EAR99	N
3VA2225-7JQ42-0AA0	3/19	3.090	EAR99	N
3VA2225-7KP32-0AA0	3/11	2.420	EAR99	N
3VA2225-7KP42-0AA0	3/21	3.100	EAR99	N
3VA2225-7KQ32-0AA0	3/11	2.420	EAR99	N
3VA2225-7KQ42-0AA0	3/21	3.100	EAR99	N
3VA2225-8HL32-0AA0	3/3	2.390	EAR99	N
3VA2225-8HL42-0AA0	3/13	3.080	EAR99	N
3VA2225-8HM32-0AA0	3/5	2.400	EAR99	N
3VA2225-8HM42-0AA0	3/15	3.080	EAR99	N
3VA2225-8HN32-0AA0	3/7	2.400	EAR99	N
3VA2225-8HN42-0AA0	3/17	3.080	EAR99	N
3VA2225-8JP32-0AA0	3/9	2.410	EAR99	N
3VA2225-8JP42-0AA0	3/19	3.090	EAR99	N
3VA2225-8JQ32-0AA0	3/9	2.410	EAR99	N
3VA2225-8JQ42-0AA0	3/19	3.090	EAR99	N
3VA2225-8KP32-0AA0	3/11	2.420	EAR99	N
3VA2225-8KP42-0AA0	3/21	3.100	EAR99	N
3VA2225-8KQ32-0AA0	3/11	2.420	EAR99	N
3VA2225-8KQ42-0AA0	3/21	3.100	EAR99	N
3VA2325-5HL32-0AA0	3/2	4.300	EAR99	N
3VA2325-5HL42-0AA0	3/12	4.800	EAR99	N
3VA2325-5HM32-0AA0	3/4	4.300	EAR99	N
3VA2325-5HM42-0AA0	3/14	4.800	EAR99	N
3VA2325-5HN32-0AA0	3/6	4.300	EAR99	N
3VA2325-5HN42-0AA0	3/16	4.800	EAR99	N
3VA2325-5JP32-0AA0	3/8	4.300	EAR99	N
3VA2325-5JP42-0AA0	3/18	4.800	EAR99	N
3VA2325-5JQ32-0AA0	3/8	4.300	EAR99	N
3VA2325-5JQ42-0AA0	3/18	4.800	EAR99	N
3VA2325-5KP32-0AA0	3/10	4.300	EAR99	N
3VA2325-5KP42-0AA0	3/20	4.800	EAR99	N
3VA2325-5KQ32-0AA0	3/10	4.300	EAR99	N
3VA2325-5KQ42-0AA0	3/20	4.800	EAR99	N
3VA2325-5KP32-0AA0	3/10	4.300	EAR99	N
3VA2325-5KP42-0AA0	3/20	4.800	EAR99	N
3VA2325-5KQ32-0AA0	3/10	4.300	EAR99	N
3VA2325-5KQ42-0AA0	3/20	4.800	EAR99	N
3VA2325-6HL32-0AA0	3/3	4.300	EAR99	N
3VA2325-6HL42-0AA0	3/13	4.800	EAR99	N
3VA2325-6HM32-0AA0	3/5	4.300	EAR99	N
3VA2325-6HM42-0AA0	3/15	4.800	EAR99	N
3VA2325-6HN32-0AA0	3/7	4.300	EAR99	N
3VA2325-6HN42-0AA0	3/17	4.800	EAR99	N
3VA2325-6JP32-0AA0	3/9	4.300	EAR99	N
3VA2325-6JP42-0AA0	3/19	4.800	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2325-6HN32-0AA0	3/7	4.300	EAR99	N
3VA2325-6HN42-0AA0	3/17	4.800	EAR99	N
3VA2325-6JP32-0AA0	3/9	4.300	EAR99	N
3VA2325-6JP42-0AA0	3/19	4.800	EAR99	N
3VA2325-6JQ32-0AA0	3/9	4.300	EAR99	N
3VA2325-6JQ42-0AA0	3/19	4.800	EAR99	N
3VA2325-6KP32-0AA0	3/11	4.300	EAR99	N
3VA2325-6KP42-0AA0	3/21	4.800	EAR99	N
3VA2325-6KQ32-0AA0	3/11	4.300	EAR99	N
3VA2325-6KQ42-0AA0	3/21	4.800	EAR99	N
3VA2325-7HL32-0AA0	3/3	4.300	EAR99	N
3VA2325-7HL42-0AA0	3/13	4.800	EAR99	N
3VA2325-7HM32-0AA0	3/5	4.300	EAR99	N
3VA2325-7HM42-0AA0	3/15	4.800	EAR99	N
3VA2325-7HN32-0AA0	3/7	4.300	EAR99	N
3VA2325-7HN42-0AA0	3/17	4.800	EAR99	N
3VA2325-7JP32-0AA0	3/9	4.300	EAR99	N
3VA2325-7JP42-0AA0	3/19	4.800	EAR99	N
3VA2325-7JQ32-0AA0	3/9	4.300	EAR99	N
3VA2325-7JQ42-0AA0	3/19	4.800	EAR99	N
3VA2325-7KP32-0AA0	3/11	4.300	EAR99	N
3VA2325-7KP42-0AA0	3/21	4.800	EAR99	N
3VA2325-7KQ32-0AA0	3/11	4.300	EAR99	N
3VA2325-7KQ42-0AA0	3/21	4.800	EAR99	N
3VA2325-8HL32-0AA0	3/3	4.300	EAR99	N
3VA2325-8HL42-0AA0	3/13	4.800	EAR99	N
3VA2325-8HM32-0AA0	3/5	4.300	EAR99	N
3VA2325-8HM42-0AA0	3/15	4.800	EAR99	N
3VA2325-8HN32-0AA0	3/7	4.300	EAR99	N
3VA2325-8HN42-0AA0	3/17	4.800	EAR99	N
3VA2325-8JP32-0AA0	3/9	4.300	EAR99	N
3VA2325-8JP42-0AA0	3/19	4.800	EAR99	N
3VA2325-8JQ32-0AA0	3/9	4.300	EAR99	N
3VA2325-8JQ42-0AA0	3/19	4.800	EAR99	N
3VA2325-8KP32-0AA0	3/11	4.300	EAR99	N
3VA2325-8KP42-0AA0	3/21	4.800	EAR99	N
3VA2325-8KQ32-0AA0	3/11	4.300	EAR99	N
3VA2325-8KQ42-0AA0	3/21	4.800	EAR99	N
3VA2340-5HL32-0AA0	3/2	4.300	EAR99	N
3VA2340-5HL42-0AA0	3/12	4.800	EAR99	N
3VA2340-5HM32-0AA0	3/4	4.300	EAR99	N
3VA2340-5HM42-0AA0	3/14	4.800	EAR99	N
3VA2340-5HN32-0AA0	3/6	4.300	EAR99	N
3VA2340-5HN42-0AA0	3/16	4.800	EAR99	N
3VA2340-5JP32-0AA0	3/8	4.300	EAR99	N
3VA2340-5JP42-0AA0	3/18	4.800	EAR99	N
3VA2340-5JQ32-0AA0	3/8	4.300	EAR99	N
3VA2340-5JQ42-0AA0	3/18	4.800	EAR99	N
3VA2340-5KP32-0AA0	3/10	4.300	EAR99	N
3VA2340-5KP42-0AA0	3/20	4.800	EAR99	N
3VA2340-5KQ32-0AA0	3/10	4.300	EAR99	N
3VA2340-5KQ42-0AA0	3/20	4.800	EAR99	N
3VA2340-6HL32-0AA0	3/3	4.300	EAR99	N
3VA2340-6HL42-0AA0	3/13	4.800	EAR99	N
3VA2340-6HM32-0AA0	3/5	4.300	EAR99	N
3VA2340-6HM42-0AA0	3/15	4.800	EAR99	N
3VA2340-6HN32-0AA0	3/7	4.300	EAR99	N
3VA2340-6HN42-0AA0	3/17	4.800	EAR99	N
3VA2340-6JP32-0AA0	3/9	4.300	EAR99	N
3VA2340-6JP42-0AA0	3/19	4.800	EAR99	N



## Appendix

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA2463-5JP32-0AA0	3/8	4.300	EAR99	N
3VA2463-5JP42-0AA0	3/18	4.800	EAR99	N
3VA2463-5JQ32-0AA0	3/8	4.300	EAR99	N
3VA2463-5JQ42-0AA0	3/18	4.800	EAR99	N
3VA2463-5KP32-0AA0	3/10	4.300	EAR99	N
3VA2463-5KP42-0AA0	3/20	4.800	EAR99	N
3VA2463-5KQ32-0AA0	3/10	4.300	EAR99	N
3VA2463-5KQ42-0AA0	3/20	4.800	EAR99	N
3VA2463-6HL32-0AA0	3/3	4.800	EAR99	N
3VA2463-6HL42-0AA0	3/13	4.300	EAR99	N
3VA2463-6HM32-0AA0	3/5	4.300	EAR99	N
3VA2463-6HM42-0AA0	3/15	4.800	EAR99	N
3VA2463-6HN32-0AA0	3/7	4.300	EAR99	N
3VA2463-6HN42-0AA0	3/17	4.800	EAR99	N
3VA2463-6JP32-0AA0	3/9	4.300	EAR99	N
3VA2463-6JP42-0AA0	3/19	4.800	EAR99	N
3VA2463-6JQ32-0AA0	3/9	4.300	EAR99	N
3VA2463-6JQ42-0AA0	3/19	4.800	EAR99	N
3VA2463-6KP32-0AA0	3/11	4.300	EAR99	N
3VA2463-6KP42-0AA0	3/21	4.800	EAR99	N
3VA2463-6KQ32-0AA0	3/11	4.300	EAR99	N
3VA2463-6KQ42-0AA0	3/21	4.800	EAR99	N
3VA2463-7HL32-0AA0	3/3	4.300	EAR99	N
3VA2463-7HL42-0AA0	3/13	4.800	EAR99	N
3VA2463-7HM32-0AA0	3/5	4.300	EAR99	N
3VA2463-7HM42-0AA0	3/15	4.800	EAR99	N
3VA2463-7HN32-0AA0	3/7	4.300	EAR99	N
3VA2463-7HN42-0AA0	3/17	4.800	EAR99	N
3VA2463-7JP32-0AA0	3/9	4.300	EAR99	N
3VA2463-7JP42-0AA0	3/19	4.800	EAR99	N
3VA2463-7JQ32-0AA0	3/9	4.300	EAR99	N
3VA2463-7JQ42-0AA0	3/19	4.800	EAR99	N
3VA2463-7KP32-0AA0	3/11	4.300	EAR99	N
3VA2463-7KP42-0AA0	3/21	4.800	EAR99	N
3VA2463-7KQ32-0AA0	3/11	4.300	EAR99	N
3VA2463-7KQ42-0AA0	3/21	4.800	EAR99	N
3VA2463-8HL32-0AA0	3/3	4.300	EAR99	N
3VA2463-8HL42-0AA0	3/13	4.800	EAR99	N
3VA2463-8HM32-0AA0	3/5	4.300	EAR99	N
3VA2463-8HM42-0AA0	3/15	4.800	EAR99	N
3VA2463-8HN32-0AA0	3/7	4.300	EAR99	N
3VA2463-8HN42-0AA0	3/17	4.800	EAR99	N
3VA2463-8JP32-0AA0	3/9	4.300	EAR99	N
3VA2463-8JP42-0AA0	3/19	4.800	EAR99	N
3VA2463-8JQ32-0AA0	3/9	4.300	EAR99	N
3VA2463-8JQ42-0AA0	3/19	4.800	EAR99	N
3VA2463-8KP32-0AA0	3/11	4.300	EAR99	N
3VA2463-8KP42-0AA0	3/21	4.800	EAR99	N
3VA2463-8KQ32-0AA0	3/11	4.300	EAR99	N
3VA2463-8KQ42-0AA0	3/21	4.800	EAR99	N
<b>3VA9</b>				
3VA9007-0NA10	4/35	0.730	EAR99	N
3VA9053-0SB10	4/57	0.016	EAR99	N
3VA9053-0SB20	4/57	0.022	EAR99	N
3VA9054-0SB10	4/57	0.019	EAR99	N
3VA9054-0SB20	4/57	0.023	EAR99	N
3VA9087-0SX10	4/14, 4/57	0.100	EAR99	N
3VA9088-0LB10	4/40	0.036	EAR99	N
3VA9088-0VK10	4/41	2.280	EAR99	N
3VA9088-0VM10	4/40	0.340	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9088-0VM30	4/40	0.350	EAR99	N
3VA9103-0JB11	4/48	0.090	EAR99	N
3VA9103-0JG11	4/48	0.096	EAR99	N
3VA9104-0JB11	4/48	0.118	EAR99	N
3VA9104-0JG11	4/48	0.123	EAR99	N
3VA9107-0NA10	4/35	0.730	EAR99	N
3VA9110-0WB00	4/56	0.096	EAR99	N
3VA9110-0WC00	4/56	0.095	EAR99	N
3VA9111-0QE10	4/53	0.068	N	N
3VA9111-0QE20	4/53	0.104	N	N
3VA9111-0QF10	4/53	0.086	N	N
3VA9111-0QF20	4/53	0.120	N	N
3VA9111-0SS10	4/58	0.020	EAR99	N
3VA9111-0WD10	4/54	0.385	N	N
3VA9111-0WD20	4/54	0.033	N	N
3VA9111-0WD30	4/54	0.068	N	N
3VA9111-0WD40	4/54	0.003	N	N
3VA9111-0WF20	4/54	0.048	EAR99	N
3VA9111-0WF30	4/54	0.057	EAR99	N
3VA9111-0WF40	4/54	0.074	EAR99	N
3VA9111-0WG30	4/55	0.143	EAR99	N
3VA9111-0WG40	4/55	0.186	EAR99	N
3VA9111-0WJ20	4/55	0.012	EAR99	N
3VA9111-0WJ30	4/55	0.016	EAR99	N
3VA9111-0WJ40	4/55	0.002	EAR99	N
3VA9111-0WK30	4/55	0.029	EAR99	N
3VA9111-0WK40	4/55	0.037	EAR99	N
3VA9112-0JC12	4/49	0.208	EAR99	N
3VA9112-0JF60	4/50	0.541	N	N
3VA9112-0JJ12	4/48	0.235	EAR99	N
3VA9112-0SG20	4/56	0.100	EAR99	N
3VA9113-0JB11	4/48	1.037	N	N
3VA9113-0JC12	4/49	0.337	EAR99	N
3VA9113-0JF60	4/50	0.241	EAR99	N
3VA9113-0JG11	4/48	0.109	N	N
3VA9113-0JJ12	4/48	0.365	N	N
3VA9113-0KB01	4/19	0.012	EAR99	N
3VA9113-0KP00	4/17	0.541	EAR99	N
3VA9113-0KP10	4/17	0.381	EAR99	N
3VA9113-0QA00	4/51	0.052	EAR99	N
3VA9113-0QE00	4/53	0.194	N	N
3VA9113-0QF00	4/53	0.247	N	N
3VA9113-0QG00	4/52	0.011	EAR99	N
3VA9113-0RL20	4/26	0.750	N	N
3VA9113-0RS20	4/26	0.810	N	N
3VA9113-0SG10	4/56	0.185	EAR99	N
3VA9114-0JB11	4/48	0.185	N	N
3VA9114-0JC12	4/49	0.444	EAR99	N
3VA9114-0JF60	4/50	1.264	EAR99	N
3VA9114-0JG11	4/48	0.143	N	N
3VA9114-0JJ12	4/49	0.486	N	N
3VA9114-0KB01	4/19	0.016	EAR99	N
3VA9114-0KP00	4/17	0.757	EAR99	N
3VA9114-0KP10	4/17	0.476	EAR99	N
3VA9114-0QA00	4/51	0.063	EAR99	N
3VA9114-0QE00	4/53	0.276	N	N
3VA9114-0QF00	4/53	0.345	N	N
3VA9114-0QG00	4/52	0.149	EAR99	N
3VA9114-0RL10	4/26	0.890	N	N
3VA9114-0RL20	4/26	0.890	EAR99	N

## Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9114-ORS10	4/26	0.910	EAR99	N
3VA9114-ORS20	4/26	0.910	EAR99	N
3VA9114-OSG10	4/56	0.543	EAR99	N
3VA9114-OSS10	4/58	0.020	EAR99	N
3VA9116-OSS10	4/58	0.020	EAR99	N
3VA9123-OKB01	4/19	0.047	EAR99	N
3VA9123-OKD00	4/18	3.260	EAR99	N
3VA9123-OKD10	4/18	1.038	EAR99	N
3VA9123-OKP00	4/17	2.300	EAR99	N
3VA9123-OKP10	4/17	0.488	EAR99	N
3VA9123-ORL30	4/27	1.340	EAR99	N
3VA9124-OKB01	4/19	0.055	EAR99	N
3VA9124-OKD00	4/18	3.850	EAR99	N
3VA9124-OKD10	4/18	1.160	EAR99	N
3VA9124-OKP00	4/17	1.840	EAR99	N
3VA9124-OKP10	4/17	0.612	EAR99	N
3VA9124-ORL30	4/27	1.680	EAR99	N
3VA9124-OSS10	4/58	0.031	EAR99	N
3VA9124-OSS10	4/58	0.031	EAR99	N
3VA9126-OSS10	4/58	0.018	EAR99	N
3VA9150-OWB00	4/22	0.145	N	N
3VA9150-OWC00	4/22	0.136	N	N
3VA9152-OWA00	4/54	0.033	EAR99	N
3VA9153-OJA11	4/48	0.709	N	N
3VA9153-OJC12	4/21	0.339	EAR99	N
3VA9153-OJF60	4/21	0.319	EAR99	N
3VA9153-OKB03	4/20	0.006	EAR99	N
3VA9153-OKB04	4/20	0.107	N	N
3VA9153-OKB05	4/20	0.145	N	N
3VA9153-OQB00	4/51	0.107	EAR99	N
3VA9153-OQC00	4/51	0.143	EAR99	N
3VA9153-OQD00	4/51	0.124	EAR99	N
3VA9154-OJA11	4/48	0.345	N	N
3VA9154-OJC12	4/21	0.445	EAR99	N
3VA9154-OJF60	4/21	0.630	EAR99	N
3VA9154-OKB03	4/20	0.006	EAR99	N
3VA9154-OKB04	4/20	0.140	N	N
3VA9154-OKB05	4/20	0.185	N	N
3VA9154-OQB00	4/51	0.145	EAR99	N
3VA9154-OQC00	4/51	0.195	EAR99	N
3VA9154-OQD00	4/52	0.175	EAR99	N
3VA9157-OEK11	4/11	0.197	EAR99	N
3VA9157-OEK13	4/11	0.203	N	N
3VA9157-OEK15	4/11	0.197	EAR99	N
3VA9157-OEK17	4/11	0.203	N	N
3VA9157-OEK21	4/11	0.263	EAR99	N
3VA9157-OEK23	4/11	0.263	N	N
3VA9157-OEK25	4/11	0.265	EAR99	N
3VA9157-OEK27	4/11	0.269	N	N
3VA9157-OFK21	4/12	0.535	EAR99	N
3VA9157-OFK23	4/12	0.541	N	N
3VA9157-OFK25	4/12	0.535	EAR99	N
3VA9157-OFK27	4/12	0.541	N	N
3VA9157-OGK00	4/11	0.180	EAR99	N
3VA9157-OHA10	4/15	1.000	EAR99	N
3VA9157-OHA20	4/15	2.600	EAR99	N
3VA9157-OKB02	4/19	0.020	EAR99	N
3VA9157-OLF10	4/40	0.039	EAR99	N
3VA9157-OPK11	4/13	0.537	EAR99	N
3VA9157-OPK13	4/13	0.628	N	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9157-OPK15	4/13	0.637	EAR99	N
3VA9157-OPK17	4/13	0.620	N	N
3VA9157-OPK51	4/13	1.700	EAR99	N
3VA9157-OPK53	4/13	1.700	N	N
3VA9157-OPK55	4/13	1.275	EAR99	N
3VA9157-OPK57	4/13	1.281	N	N
3VA9157-OVF10	4/40	0.184	EAR99	N
3VA9158-OVF30	4/40	0.598	EAR99	N
3VA9158-OVK20	4/41	1.136	EAR99	N
3VA9163-OJA12	4/48	0.156	EAR99	N
3VA9163-OKB03	4/20	0.028	EAR99	N
3VA9163-OKB04	4/20	0.101	EAR99	N
3VA9163-OKB05	4/20	0.275	EAR99	N
3VA9163-OSB10	4/57	0.022	EAR99	N
3VA9163-OSB20	4/57	0.024	EAR99	N
3VA9164-OJA12	4/48	0.204	EAR99	N
3VA9164-OKB03	4/20	0.037	EAR99	N
3VA9164-OKB04	4/20	0.130	EAR99	N
3VA9164-OKB05	4/20	0.404	EAR99	N
3VA9164-OSB10	4/57	0.025	EAR99	N
3VA9164-OSB20	4/57	0.028	EAR99	N
3VA9167-OKB02	4/19	0.025	EAR99	N
3VA9167-OKT00	4/19	0.059	EAR99	N
3VA9167-OLF10	4/40	0.032	EAR99	N
3VA9167-OVF10	4/40	0.192	EAR99	N
3VA9168-OVF30	4/40	0.980	EAR99	N
3VA9181-OSH10	4/58	0.117	EAR99	N
3VA9182-OSH10	4/58	0.177	EAR99	N
3VA9187-OSH10	4/58	0.049	EAR99	N
3VA9187-OSH20	4/58	0.091	EAR99	N
3VA9187-OTB10	4/34	0.109	EAR99	N
3VA9187-OTB50	4/34	0.080	EAR99	N
3VA9200-OWB00	4/56	0.119	EAR99	N
3VA9200-OWC00	4/56	0.141	EAR99	N
3VA9201-OQE10	4/53	0.088	EAR99	N
3VA9201-OQE20	4/53	0.178	EAR99	N
3VA9201-OQF10	4/53	0.114	EAR99	N
3VA9201-OQF20	4/53	204.000	EAR99	N
3VA9203-OQA00	4/51	0.088	EAR99	N
3VA9203-OQE00	4/53	0.353	EAR99	N
3VA9203-OQF00	4/53	0.428	EAR99	N
3VA9204-OQA00	4/51	0.114	EAR99	N
3VA9204-OQE00	4/53	0.530	EAR99	N
3VA9204-OQF00	4/53	0.621	EAR99	N
3VA9221-OWD30	4/54	0.011	EAR99	N
3VA9221-OWD40	4/54	0.014	EAR99	N
3VA9221-OWF30	4/54	0.120	EAR99	N
3VA9221-OWF40	4/54	0.129	EAR99	N
3VA9221-OWG30	4/55	0.263	EAR99	N
3VA9221-OWG40	4/55	0.335	EAR99	N
3VA9221-OWJ30	4/55	0.030	EAR99	N
3VA9221-OWJ40	4/55	0.038	EAR99	N
3VA9221-OWK30	4/55	0.060	EAR99	N
3VA9221-OWK40	4/55	0.078	EAR99	N
3VA9223-OJC13	4/49	0.498	EAR99	N
3VA9223-OJC22	4/50	0.535	EAR99	N
3VA9223-OJF60	4/50	0.434	EAR99	N
3VA9223-OJJ13	4/48	0.460	EAR99	N
3VA9223-OJJ22	4/49	0.530	EAR99	N
3VA9223-OQG00	4/52	0.247	EAR99	N

## Appendix

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Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9223-0RL30	4/27	1.340	EAR99	N
3VA9224-0JC13	4/49	0.649	EAR99	N
3VA9224-0JC22	4/50	0.706	EAR99	N
3VA9224-0JF60	4/50	0.596	EAR99	N
3VA9224-0JJ13	4/49	0.608	EAR99	N
3VA9224-0JJ22	4/49	0.699	EAR99	N
3VA9224-0QG00	4/52	0.334	EAR99	N
3VA9224-0RL30	4/27	1.680	EAR99	N
3VA9253-0SB10	4/57	0.019	EAR99	N
3VA9253-0SB20	4/57	0.024	EAR99	N
3VA9254-0SB10	4/57	0.022	EAR99	N
3VA9257-0SB30	4/57	0.019	EAR99	N
3VA9262-0WA00	4/54	0.047	EAR99	N
3VA9263-0JA12	4/48	0.179	EAR99	N
3VA9263-0JB12	4/48	0.113	EAR99	N
3VA9263-0JC13	4/21	0.611	EAR99	N
3VA9263-0JC22	4/21	4.800	EAR99	N
3VA9263-0JF60	4/21	0.466	EAR99	N
3VA9263-0JG12	4/48	0.121	EAR99	N
3VA9263-0QB00	4/51	0.250	EAR99	N
3VA9263-0QC00	4/51	0.323	EAR99	N
3VA9263-0QD00	4/51	0.271	EAR99	N
3VA9264-0JA12	4/48	0.235	EAR99	N
3VA9264-0JB12	4/48	0.149	EAR99	N
3VA9264-0JC13	4/21	0.647	EAR99	N
3VA9264-0JC22	4/21	4.800	EAR99	N
3VA9264-0JF60	4/21	0.617	EAR99	N
3VA9264-0JG12	4/48	0.157	EAR99	N
3VA9264-0QB00	4/51	0.338	EAR99	N
3VA9264-0QC00	4/51	0.426	EAR99	N
3VA9264-0QD00	4/52	0.384	EAR99	N
3VA9267-0EK11	4/11	0.307	EAR99	N
3VA9267-0EK13	4/11	0.299	EAR99	N
3VA9267-0EK15	4/11	0.295	EAR99	N
3VA9267-0EK17	4/11	0.300	EAR99	N
3VA9267-0EK21	4/11	0.400	EAR99	N
3VA9267-0EK23	4/11	0.377	EAR99	N
3VA9267-0EK25	4/11	0.400	EAR99	N
3VA9267-0EK27	4/11	0.400	EAR99	N
3VA9267-0FK21	4/12	0.645	EAR99	N
3VA9267-0FK23	4/12	0.641	EAR99	N
3VA9267-0FK25	4/12	0.634	EAR99	N
3VA9267-0FK27	4/12	0.641	EAR99	N
3VA9267-0GK00	4/11	0.269	EAR99	N
3VA9267-0HA10	4/15	0.800	EAR99	N
3VA9267-0HA20	4/15	0.001	EAR99	N
3VA9267-0PK11	4/13	0.727	EAR99	N
3VA9267-0PK13	4/13	0.726	EAR99	N
3VA9267-0PK15	4/13	0.723	EAR99	N
3VA9267-0PK17	4/13	0.707	EAR99	N
3VA9267-0PK51	4/13	1.900	EAR99	N
3VA9267-0PK53	4/13	1.884	EAR99	N
3VA9267-0PK55	4/13	1.900	EAR99	N
3VA9267-0PK57	4/13	1.846	EAR99	N
3VA9268-0VK20	4/41	1.140	EAR99	N
3VA9280-0WB00	4/22	0.158	EAR99	N
3VA9280-0WC00	4/22	0.151	EAR99	N
3VA9287-0GA80	4/12	0.026	EAR99	N
3VA9287-0GC01	4/12	0.200	EAR99	N
3VA9287-0GC05	4/12	0.200	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9288-0VF20	4/14, 4/41	0.400	EAR99	N
3VA9303-0JF60	4/50	0.318	EAR99	N
3VA9303-0SB40	4/57	0.023	EAR99	N
3VA9304-0JF60	4/50	0.289	EAR99	N
3VA9304-0SB40	4/57	0.027	EAR99	N
3VA9307-0NA10	4/35	0.715	N	N
3VA9323-0KD00	4/18	5.250	EAR99	N
3VA9323-0KD10	4/18	1.980	EAR99	N
3VA9323-0KP00	4/17	3.210	EAR99	N
3VA9323-0KP10	4/17	1.300	EAR99	N
3VA9323-0RL30	4/27	2.850	N	N
3VA9324-0KD00	4/18	6.380	EAR99	N
3VA9324-0KD10	4/18	2.350	EAR99	N
3VA9324-0KP00	4/17	4.280	EAR99	N
3VA9324-0KP10	4/17	1.670	EAR99	N
3VA9324-0RL30	4/27	3.710	N	N
3VA9328-0SS10	4/58	0.071	EAR99	N
3VA9353-0KB01	4/19	0.077	EAR99	N
3VA9353-0KB03	4/20	0.028	N	N
3VA9353-0KB04	4/20	0.171	N	N
3VA9353-0KB05	4/20	0.476	N	N
3VA9353-0SB20	4/57	0.029	EAR99	N
3VA9354-0KB01	4/19	0.086	EAR99	N
3VA9354-0KB03	4/20	0.037	N	N
3VA9354-0KB04	4/20	0.216	N	N
3VA9354-0KB05	4/20	0.607	N	N
3VA9363-0SB20	4/57	0.029	EAR99	N
3VA9364-0SB20	4/57	0.034	EAR99	N
3VA9367-0KB02	4/19	0.050	EAR99	N
3VA9367-0KT00	4/19	0.085	EAR99	N
3VA9367-0LF10	4/40	0.057	N	N
3VA9367-0VF10	4/40	0.214	EAR99	N
3VA9368-0VF30	4/40	1.210	EAR99	N
3VA9383-0JB13	4/48	0.086	N	N
3VA9383-0JF60	4/21	0.954	EAR99	N
3VA9383-0JG13	4/48	0.067	N	N
3VA9383-0SB10	4/57	0.027	EAR99	N
3VA9384-0JB13	4/48	0.120	N	N
3VA9384-0JF60	4/21	0.290	EAR99	N
3VA9384-0JG13	4/48	0.087	N	N
3VA9384-0SB10	4/57	0.029	EAR99	N
3VA9387-0SB30	4/57	0.025	EAR99	N
3VA9387-0TB10	4/34	0.110	EAR99	N
3VA9387-0TB50	4/34	0.110	EAR99	N
3VA9388-0LB10	4/40	0.065	EAR99	N
3VA9401-0QE10	4/53	0.185	EAR99	N
3VA9401-0QE20	4/53	0.333	EAR99	N
3VA9401-0QF10	4/53	0.185	EAR99	N
3VA9401-0QF20	4/53	0.333	EAR99	N
3VA9401-0WG30	4/55	0.498	EAR99	N
3VA9401-0WG40	4/55	0.639	EAR99	N
3VA9403-0JC23	4/50	0.363	EAR99	N
3VA9403-0JJ23	4/49	0.303	N	N
3VA9403-0QA00	4/51	0.181	EAR99	N
3VA9403-0QE00	4/53	0.704	EAR99	N
3VA9403-0QF00	4/53	0.709	EAR99	N
3VA9403-0QG00	4/52	0.511	EAR99	N
3VA9404-0JC23	4/50	0.482	EAR99	N
3VA9404-0JJ23	4/49	0.304	N	N
3VA9404-0QA00	4/51	0.242	EAR99	N



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Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9404-0QE00	4/53	1.037	EAR99	N
3VA9404-0QF00	4/53	1.037	EAR99	N
3VA9404-0QG00	4/52	1.210	EAR99	N
3VA9423-0RL30	4/27	2.850	N	N
3VA9424-0RL30	4/27	3.710	N	N
3VA9467-0EK11	4/11	9999.000	EAR99	N
3VA9467-0EK13	4/11	4.800	N	N
3VA9467-0EK15	4/11	9999.000	EAR99	N
3VA9467-0EK17	4/11	4.800	N	N
3VA9467-0EK21	4/11	9999.000	EAR99	N
3VA9467-0EK23	4/11	0.531	N	N
3VA9467-0EK25	4/11	9999.000	EAR99	N
3VA9467-0EK27	4/11	0.536	N	N
3VA9467-0FK21	4/12	9999.000	EAR99	N
3VA9467-0FK23	4/12	9999.000	N	N
3VA9467-0FK25	4/12	9999.000	EAR99	N
3VA9467-0FK27	4/12	9999.000	N	N
3VA9467-0GK00	4/11	9999.000	EAR99	N
3VA9467-0HA10	4/15	1.200	EAR99	N
3VA9467-0HA20	4/15	1.200	EAR99	N
3VA9467-0PK11	4/13	9999.000	EAR99	N
3VA9467-0PK13	4/13	9999.000	N	N
3VA9467-0PK15	4/13	9999.000	EAR99	N
3VA9467-0PK17	4/13	9999.000	N	N
3VA9468-0VK20	4/41	1.136	EAR99	N
3VA9480-0WB00	4/22, 4/56	0.181	EAR99	N
3VA9480-0WC00	4/22, 4/56	0.185	EAR99	N
3VA9481-0WD30	4/54	0.002	N	N
3VA9481-0WD40	4/54	0.005	N	N
3VA9481-0WF30	4/54	0.017	EAR99	N
3VA9481-0WF40	4/54	0.219	EAR99	N
3VA9481-0WJ30	4/55	0.043	EAR99	N
3VA9481-0WJ40	4/55	0.055	EAR99	N
3VA9481-0WK30	4/55	0.109	EAR99	N
3VA9481-0WK40	4/55	0.143	EAR99	N
3VA9482-0WA00	4/54	0.068	EAR99	N
3VA9483-0JA13	4/48	0.026	N	N
3VA9483-0JC23	4/21	0.084	EAR99	N
3VA9483-0QB00	4/51	0.736	EAR99	N
3VA9483-0QC00	4/51	0.980	EAR99	N
3VA9483-0QD00	4/51	0.800	EAR99	N
3VA9484-0JA13	4/48	0.611	N	N
3VA9484-0JC23	4/21	0.240	EAR99	N
3VA9484-0QB00	4/51	0.990	EAR99	N
3VA9484-0QC00	4/51	1.335	EAR99	N
3VA9484-0QD00	4/52	1.105	EAR99	N
3VA9487-0GA80	4/12	0.400	EAR99	N
3VA9487-0GB10	4/12	0.105	EAR99	N
3VA9487-0GC01	4/12	0.040	EAR99	N
3VA9487-0GC05	4/12	0.150	EAR99	N
3VA9488-0VF20	4/14, 4/41	0.400	EAR99	N
3VA9907-0NB10	4/35	0.130	EAR99	N
3VA9908-0BB10	4/7	0.091	EAR99	N
3VA9908-0BB11	4/7	0.091	EAR99	N
3VA9908-0BB12	4/7	0.091	EAR99	N
3VA9908-0BB13	4/7	0.091	EAR99	N
3VA9908-0BB14	4/7	0.084	EAR99	N
3VA9908-0BB15	4/7	0.091	EAR99	N
3VA9908-0BB16	4/7	0.091	EAR99	N
3VA9908-0BB20	4/7	0.091	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9908-0BB21	4/7	0.091	EAR99	N
3VA9908-0BB22	4/7	0.091	EAR99	N
3VA9908-0BB23	4/7	0.091	EAR99	N
3VA9908-0BB24	4/7	0.091	EAR99	N
3VA9908-0BB25	4/7	0.091	EAR99	N
3VA9908-0BB26	4/7	0.091	EAR99	N
3VA9908-0BB27	4/7	0.091	EAR99	N
3VA9908-0BC10	4/8	0.091	EAR99	N
3VA9908-0BC11	4/8	0.091	EAR99	N
3VA9908-0BC12	4/8	0.091	EAR99	N
3VA9908-0BC13	4/8	0.091	EAR99	N
3VA9908-0BC14	4/8	0.091	EAR99	N
3VA9908-0BC15	4/8	0.091	EAR99	N
3VA9908-0BC16	4/8	0.091	EAR99	N
3VA9908-0BC20	4/8	0.091	EAR99	N
3VA9908-0BC21	4/8	0.091	EAR99	N
3VA9908-0BC22	4/8	0.091	EAR99	N
3VA9908-0BC23	4/8	0.091	EAR99	N
3VA9908-0BC24	4/8	0.091	EAR99	N
3VA9908-0BC25	4/8	0.091	EAR99	N
3VA9908-0BC26	4/8	0.091	EAR99	N
3VA9908-0BC27	4/8	0.091	EAR99	N
3VA9908-0BD11	4/8	0.091	EAR99	N
3VA9908-0BD12	4/8	0.091	EAR99	N
3VA9908-0BD13	4/8	0.091	EAR99	N
3VA9980-0LF20	4/14	0.024	EAR99	N
3VA9980-0LF40	4/23	0.005	EAR99	N
3VA9980-0VC10	4/41	0.037	EAR99	N
3VA9980-0VC20	4/41	0.052	EAR99	N
3VA9980-0VC30	4/41	0.071	EAR99	N
3VA9980-0VL10	4/14, 4/23, 4/40	0.023	EAR99	N
3VA9980-0VL20	4/14, 4/23, 4/40	0.023	EAR99	N
3VA9980-0VL30	4/14, 4/23, 4/40	0.023	EAR99	N
3VA9980-0VL40	4/14, 4/23, 4/40	0.023	EAR99	N
3VA9987-0GL30	4/13	0.020	EAR99	N
3VA9987-0KB00	4/22	0.033	EAR99	N
3VA9987-0KC00	4/22	0.050	EAR99	N
3VA9987-0KC10	4/22	0.011	EAR99	N
3VA9987-0KD80	4/22	0.054	EAR99	N
3VA9987-0KD81	4/22	0.538	EAR99	N
3VA9987-0KP80	4/22	0.055	EAR99	N
3VA9987-0MA10	4/36	0.219	EAR99	N
3VA9987-0MB10	4/36	1.043	EAR99	N
3VA9987-0MX10	4/36	0.213	EAR99	N
3VA9987-0MY10	4/36	0.202	EAR99	N
3VA9987-0TA10	4/34	0.200	EAR99	N
3VA9987-0TA20	4/34	0.100	N	N
3VA9987-0TC10	4/35	0.023	EAR99	N
3VA9987-0TC20	4/35	0.044	EAR99	N
3VA9987-0TC30	4/35	0.087	EAR99	N
3VA9987-0TC40	4/35	0.175	EAR99	N
3VA9987-0TD10	4/35	0.184	EAR99	N
3VA9987-0TE10	4/35	0.015	EAR99	N
3VA9987-0TF10	4/35	0.052	N	N
3VA9987-0TF20	4/35	0.037	N	N
3VA9987-0TG10	4/35	0.020	EAR99	N
3VA9987-0UA10	4/35	0.236	EAR99	N

## Appendix

### Article No. index incl. export markings

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
3VA9987-0UB10	4/35	0.050	EAR99	N
3VA9987-0UB20	4/35	0.090	EAR99	N
3VA9987-0UB30	4/35	0.076	N	N
3VA9987-0UC10	4/35	0.014	EAR99	N
3VA9988-0AA11	4/7	0.040	EAR99	N
3VA9988-0AA12	4/7	0.023	EAR99	N
3VA9988-0AA13	4/7	0.030	EAR99	N
3VA9988-0AA21	4/7	0.040	EAR99	N
3VA9988-0AA22	4/7	0.030	EAR99	N
3VA9988-0AA23	4/7	0.030	EAR99	N
3VA9988-0AB11	4/7	0.040	EAR99	N
3VA9988-0AB12	4/7	0.030	EAR99	N
3VA9988-0AB13	4/7	0.030	EAR99	N
3VA9988-0AB22	4/7	0.030	EAR99	N
3VA9988-0AB23	4/7	0.030	EAR99	N
3VA9988-0AB32	4/7	0.030	EAR99	N
3VA9988-0AB33	4/7	0.030	EAR99	N
3VA9988-0BA20	4/8	0.091	EAR99	N
3VA9988-0BA21	4/8	0.091	EAR99	N
3VA9988-0BA22	4/8	0.081	EAR99	N
3VA9988-0BA23	4/8	0.091	EAR99	N
3VA9988-0BA24	4/8	0.091	EAR99	N
3VA9988-0BA25	4/8	0.091	EAR99	N
3VA9988-0BF21	4/8	0.117	EAR99	N
3VA9988-0BF22	4/8	0.117	EAR99	N
3VA9988-0BF23	4/8	0.117	EAR99	N
3VA9988-0BL20	4/8	0.091	EAR99	N
3VA9988-0BL30	4/8	0.083	EAR99	N
3VA9988-0BL31	4/8	0.091	EAR99	N
3VA9988-0BL32	4/8	0.081	EAR99	N
3VA9988-0BL33	4/8	0.079	EAR99	N
3VA9988-0BM10	4/8	0.091	EAR99	N
3VA9988-0BM21	4/8	0.091	EAR99	N
3VA9988-0BM22	4/8	0.091	EAR99	N
<b>5SV8</b>				
5SV8101-6KK	4/27	0.253	N	N
5SV8702-0KK	4/28	0.168	N	N
5SV8703-0KK	4/28	0.265	N	N
5SV8704-0KK	4/28	0.487	N	N
5SV8705-0KK	4/28	1.003	N	N
5SV8706-0KK	4/28	1.777	N	N
5SV8900-1KK	4/28	0.005	N	N
<b>7KM9</b>				
7KM9300-0AB01-0AA0	4/34	0.078	EAR99	N
7KM9300-0AE01-0AA0	4/34	0.070	EAR99	N
<b>8UD1</b>				
8UD1721-0AB11	4/13	0.164	EAR99	N
8UD1721-0AB15	4/13	0.164	EAR99	N
8UD1721-0AB21	4/13	0.217	EAR99	N
8UD1721-0AB25	4/13	0.216	EAR99	N
8UD1731-0AB11	4/13	0.399	N	N
8UD1731-0AB15	4/13	0.401	N	N
8UD1731-0AB21	4/13	0.601	N	N
8UD1731-0AB25	4/13	1.003	N	N
8UD1900-0KA10	4/14	0.023	N	N
8UD1900-0KA20	4/14	0.023	EAR99	N
8UD1900-0MB01	4/14	0.029	EAR99	N
8UD1900-0MB05	4/14	0.030	EAR99	N
8UD1900-0NB01	4/14	0.030	EAR99	N
8UD1900-0NB05	4/14	0.030	EAR99	N

Article No.	Page	Weight kg	Export markings	
			ECCN	AL
8UD1900-0PB01	4/14	0.030	EAR99	N
8UD1900-0PB05	4/14	0.030	EAR99	N
8UD1900-0QB01	4/14	0.030	EAR99	N
8UD1900-0QB05	4/14	0.030	EAR99	N
8UD1900-2DA00	4/12	0.025	EAR99	N
8UD1900-2GA00	4/12	0.061	EAR99	N
8UD1900-2HA00	4/12	0.015	EAR99	N
8UD1900-2WA00	4/12	0.129	EAR99	N
8UD1900-2WB00	4/12	0.266	EAR99	N
<b>8US1</b>				
8US1213-4AP03	4/58	1.020	N	N
8US1213-4AU01	4/58	a. Anfr.	N	N

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- the text of the Comprehensive Terms and Conditions of Sale and Delivery of Siemens AG

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[www.siemens.com/automation/salesmaterial-as/catalog/en/terms\\_of\\_trade\\_en.pdf](http://www.siemens.com/automation/salesmaterial-as/catalog/en/terms_of_trade_en.pdf)

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## Appendix

### Notes



## Appendix

### Notes

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Interactive Catalog on DVD**

Catalog

Products for Automation and Drives, Low-Voltage Power Distribution and Electrical Installation Technology **CA 01****Building Control**

GAMMA Building Control ET G1

**Drive Systems**

SINAMICS G130 Drive Converter Chassis Units	D 11
SINAMICS G150 Drive Converter Cabinet Units	
SINAMICS GM150, SINAMICS SM150 Medium-Voltage Converters	D 12
SINAMICS PERFECT HARMONY GH180 Medium-Voltage Air-Cooled Drives Germany Edition	D 15.1
SINAMICS G180 Converters – Compact Units, Cabinet Systems, Cabinet Units Air-Cooled and Liquid-Cooled	D 18.1
SINAMICS S120 Chassis Format Units and Cabinet Modules	D 21.3
SINAMICS S150 Converter Cabinet Units	
SINAMICS DCM DC Converter, Control Module	D 23.1
SINAMICS DCM Cabinet	D 23.2
SINAMICS and Motors for Single-Axis Drives	D 31
SINAMICS G120P and SINAMICS G120P Cabinet pump, fan, compressor converters	D 35
Three-Phase Induction Motors SIMOTICS HV, SIMOTICS TN	D 84.1
• Series H-compact	
• Series H-compact PLUS	
Asynchronous Motors Standardline	D 86.1
Synchronous Motors with Permanent-Magnet Technology, HT-direct	D 86.2
DC Motors	DA 12
SIMOREG DC MASTER 6RA70 Digital Chassis Converters	DA 21.1
SIMOREG K 6RA22 Analog Chassis Converters	DA 21.2
<i>Digital: SIMOREG DC MASTER 6RM70 Digital Converter Cabinet Units</i>	DA 22
SIMOVERT PM Modular Converter Systems	DA 45
SIEMOSYN Motors	DA 48
MICROMASTER 420/430/440 Inverters	DA 51.2
MICROMASTER 411/COMBIMASTER 411	DA 51.3
SIMODRIVE 611 universal and POSMO	DA 65.4

*Note: Additional catalogs on SIMODRIVE or SINAMICS drive systems and SIMOTICS motors with SINUMERIK and SIMOTION can be found under Motion Control*

**Low-Voltage Three-Phase-Motors**

SIMOTICS Low-Voltage Motors	D 81.1
SIMOTICS FD Flexible Duty Motors	D 81.8
LOHER Low-Voltage Motors	D 83.1
MOTOX Geared Motors	D 87.1
SIMOGEAR Geared Motors	MD 50.1
SIMOGEAR Gearboxes with adapter	MD 50.11

**Mechanical Driving Machines**

FLENDER Standard Couplings	MD 10.1
FLENDER High Performance Couplings	MD 10.2
FLENDER SIG Standard industrial gear unit	MD 30.1
FLENDER SIP Standard industrial planetary gear units	MD 31.1

**Process Instrumentation and Analytics**

Field Instruments for Process Automation	FI 01
<i>Digital: SIPART Controllers and Software</i>	MP 31
Products for Weighing Technology	WT 10
<i>Digital: Process Analytical Instruments</i>	PA 01
<i>Digital: Process Analytics, Components for the System Integration</i>	PA 11

*Digital: These catalogs are only available as a PDF or an E-Book.*

**Low-Voltage Power Distribution and  
Electrical Installation Technology**

Catalog

SENTRON · SIVACON · ALPHA Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems	LV 10
Standards-Compliant Components for Photovoltaic Plants	LV 11
Electrical Components for the Railway Industry	LV 12
<i>Digital: TÜV-certified Power Monitoring System</i>	LV 14
3WT Air Circuit Breakers up to 4000 A	LV 35
3VT Molded Case Circuit Breakers up to 1600 A	LV 36
<i>Digital: SIVACON System Cubicles, System Lighting and System Air-Conditioning</i>	LV 50
<i>Digital: ALPHA Distribution Systems</i>	LV 51
ALPHA FIX Terminal Blocks	LV 52
SIVACON S4 Power Distribution Boards	LV 56
<i>Digital: SIVACON 8PS Busbar Trunking Systems</i>	LV 70
<i>Digital: DELTA Switches and Socket Outlets</i>	ET D1

**Motion Control**

SINUMERIK & SIMODRIVE Automation Systems for Machine Tools	NC 60
SINUMERIK & SINAMICS Equipment for Machine Tools	NC 61
SINUMERIK 840D sl Type 1B Equipment for Machine Tools	NC 62
SINUMERIK 808 Equipment for Machine Tools	NC 81.1
SINUMERIK 828 Equipment for Machine Tools	NC 82
SIMOTION, SINAMICS S120 & SIMOTICS Equipment for Production Machines	PM 21
Drive and Control Components for Cranes	CR 1

**Power Supply**

Power supply SITOP	KT 10.1
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**Safety Integrated**

Safety Technology for Factory Automation	SI 10
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**SIMATIC HMI/PC-based Automation**

Human Machine Interface Systems/ PC-based Automation	ST 80/ ST PC
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**SIMATIC Ident**

Industrial Identification Systems	ID 10
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**SIMATIC Industrial Automation Systems**

Products for Totally Integrated Automation	ST 70
SIMATIC PCS 7 Process Control System System components	ST PCS 7
SIMATIC PCS 7 Process Control System Technology components	ST PCS 7 T
Add-ons for the SIMATIC PCS 7 Process Control System	ST PCS 7 AO

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**SIRIUS Industrial Controls**

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