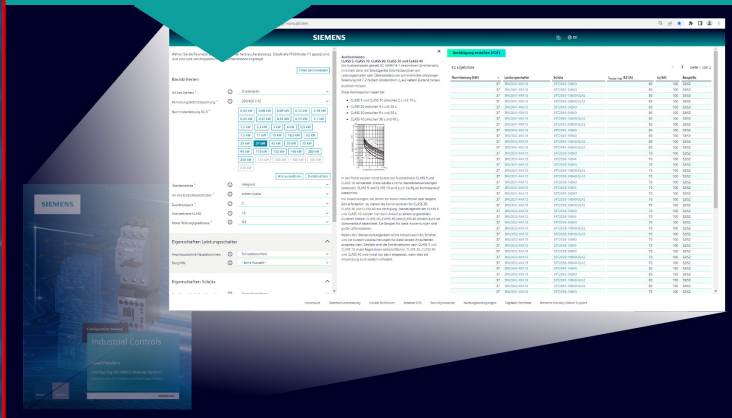


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Digital Engineering Manual Delivery Release V4.0 - What's new?

- Star-delta 400 V load feeders implemented
- New power ranges for load feeders with SIMOCODE M-CP 3UF8 devices
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Configuration Manual

Industrial Controls

Load Feeders

Configuring the SIRIUS Modular System -
Selection data for Fused Load Feeders

Edition

09/2017

siemens.com

Industrial Controls

Load feeders Configuring the SIRIUS modular system

Configuration Manual

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<u>General information</u>	2
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Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Introduction

SIRIUS modular system

The SIRIUS modular system comprises devices for use in switching, starting, protecting, and monitoring, as well as combinations thereof.

Device	Performance range / adjustable current range
3RT contactors	3 ... 250 kW (P / AC-3 / 400 V)
3RH contactor relays	Switching in the control circuit
3RF solid-state switching devices	2.2 ... 7.5 kW (P / U _e / 400 V)
3RW soft starters	1.5 ... 250 kW (P / U _e / 400 V)
3RV motor starter protectors	0.11 ... 100 A
3RU thermal overload relays	0.11 ... 100 A
3RB electronic overload relays	0.1 ... 630 A
3RR current monitoring relays	1.6 ... 80 A

The devices named above are supplemented for the main circuit by devices for the control circuit: 3RA28 function modules for mounting on 3RT2 contactors and 3RA27 function modules for connection to the higher-level control.

Switching and starting

Table 1- 1 Function - switching and starting - contactors

Size						
S00	S0	S2	S3	S6	S10	S12
						

Table 1- 2 Function - switching and starting - solid-state switching devices

Size	
S00	S0
	

Table 1- 3 Function - switching and starting - soft starters

Size					
S00	S0	S2	S3	S6	S10 / S12
					

Protecting

Table 1- 4 Function - protecting - motor starter protectors

Size						
S00	S0	S2	S3	S6	S10	S12
				—	—	—

Table 1- 5 Function - protecting - electronic overload relays

Size					
S00	S0	S2	S3	S6	S10 / S12
					

Table 1- 6 Function - protecting - thermal overload relays

Size						
S00	S0	S2	S3	S6	S10	S12
				—	—	

Monitoring

Table 1- 7 Function - monitoring - current monitoring relays

Size						
S00	S0	S2	S3	S6	S10	S12
			—	—	—	—

Feeders

Table 1- 8 Function - Feeders - pre-assembled load feeders

Size						
S00	S0	S2	S3	S6	S10	S12
			—	—	—	—

Table 1- 9 Function - feeders - compact starters

Size	
S00	S0
	

Table 1- 10 Function modules

Components	Size						
	S00	S0	S2	S3	S6	S10	S12
Function modules for mounting on contactors					—	—	—
Function modules for connection to the automation level	  IO-Link				—	—	—

Highlights



□ Load feeders:	Up to 250 kW / 400 V □ Comprehensive variety of starter technologies: electromechanical, semiconductors, soft starters □ Short-circuit breaking capacity up to 150 kA
□ Modular design:	Coordinated components ensure combinability
□ Variants and sizes:	Economical and flexible with 7 sizes and a broader performance range
□ Accessories:	Optimum variance with uniform accessories
□ Type of construction:	Space-saving design with small device width and butt-mounting type of construction up to 60°C
□ Setup:	Fast startup, short setting-up times, and simple wiring
□ Communication:	Optional connection to AS-Interface or IO-Link with function modules
□ Maintenance:	Extremely durable, low maintenance, and reliable
□ Approvals:	Global approvals and certifications, such as UL, CSA, CCC, shipbuilding ...
□ Mounting:	Permanently secure mounting, screw or snap fitting
□ Spring-loaded connection technology:	Quick and secure connection, vibration-proof, and maintenance-free
□ Environment:	Environment friendly production and materials, recycling capability, low power loss
□ Design:	Clear-cut, ergonomic design (winner of the iF Product Design Award)

General information

General criteria for the selection of devices

The motor starter protectors, contactors, solid-state switching devices, soft starters and overload relays in the following tables are all specified in their basic versions with screw terminals, i.e. (in particular) without accessories. Where available, of course, versions with spring-loaded terminals or ring cable lug connections as well as accessories such as auxiliary switches, auxiliary trip units etc. can be used.

The contactors listed have a rated control supply voltage U_s of 230 V AC, 50 Hz. Versions with other voltages can also be used.

The 3RU21 thermal overload relay and the 3RB30 / 3RB31 electronic overload relays can be directly mounted onto the contactor. The 3RB22 / 3RB23 / 3RB24 electronic overload relay and the SIMOCODE pro 3UF7 motor protection and control device are essentially used for stand-alone installation. In their basic version, these devices are specified with a rated control supply voltage of 230 V AC.

Note

When designing a system, comply with all valid national installation specifications and standards.

Mounting the combinations

When mounting the devices, specific arcing spaces must be maintained so that short-circuits can be cleared safely and reliably. The appropriate installation guidelines can be found in Section Installation guidelines (Page 75).

The technical data of the individual devices must be taken into account when selecting a device.

400 V / 500 V / 690 V AC

The tables below are primarily structured for the 400 V, 500 V and 690 V line voltages for grounded networks (at 50 and 60 Hz) generally found in IEC regions.

Tests are carried out with a test voltage which lies 10% above these values (further details can be found in the test reports). Thus, the specified combinations can also be used for other networks as long as their maximum voltage does not exceed the test voltage. This means, for instance, the combinations for 400 V can also be used for 415 V networks that have a line supply tolerance of +5%.

The tables shown in this document are always based on certificates of compliance with the order and on test reports.

If more detailed information is required, these can be downloaded from the Siemens Industry Online Support (<https://support.industry.siemens.com/cs/ww/en/ps>) portal.

Ambient conditions

A maximum ambient temperature of 60°C applies to all electromechanical controlgear, and 40°C to soft starters and solid-state contactors. Higher temperatures are possible with derating. For details, refer to the System Manual or contact Technical Assistance.

A maximum installation height of 2000 m applies to electromechanical controlgear, and 1000 m to soft starters and solid-state contactors.

Higher installation altitudes are also possible with derating. For details refer to the appropriate manuals.

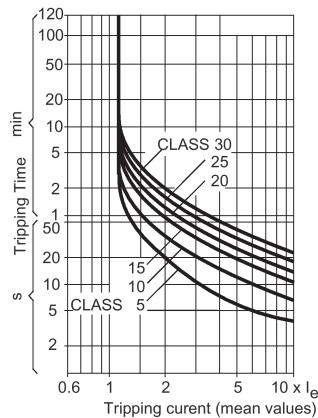
Trip classes

CLASS 5, CLASS 10, CLASS 20, CLASS 30 and CLASS 40

Trip classes, according to IEC 60947-4-1, define the time intervals within which the protection equipment (overload release of a motor starter protector or overload relay) must trip from the cold state, for a symmetrical, three-phase load with a 7.2-fold set current I_e .

The tripping times are as follows:

- CLASS 5 and CLASS 10 between 2 s and 10 s,
- CLASS 20 between 4 s and 20 s,
- CLASS 30 between 9 s and 30 s,
- CLASS 40 between 30 s and 40 s.



In practice, devices with trip CLASS 5 and CLASS 10 are generally used. These devices are designed for standard applications. CLASS 5 and CLASS 10 are often referred to as normal starting.

Combinations for CLASS 20, CLASS 30 and CLASS 40 are available for applications where a higher starting current is required for a prolonged period. In this case, using standard devices of CLASS 5 and CLASS 10 would result in unwanted tripping. CLASS 20, CLASS 30 and CLASS 40 are also known as heavy starting devices. Large fan motors are an example of this type of application.

As well as the overload protection devices, the contactors and short-circuit protection devices must also be designed for these long starting times. This is why combinations acc. to CLASS 5 and CLASS 10 are generally more cost-effective. CLASS 20, CLASS 30 and CLASS 40 are only generally used if genuinely necessitated by the application.

Type of coordination 1 or 2

When selecting the combinations, in many cases, either coordination type 1 or 2 can be selected. According to IEC 60947-4-1, the coordination type defines the permissible degree of damage for a device following a short-circuit.

☐ **Type of coordination 1:**

After a short-circuit, it is permissible for the starter to be inoperative, in particular, damage to the contactor, solid-state switching devices and overload relay is permissible.

☐ **Type of coordination 2:**

The starter is still operative. There must be no signs of damage to the devices, with the exception of slightly welded contactor contacts if these can be easily separated again without any noticeable deformation.

In both cases, the short-circuit is reliably and safely cleared. Combinations of coordination type 2 are therefore of a higher quality and are rapidly available for reuse after a short-circuit. In the case of solid-state switching devices, the same applies as for type of coordination 2, that the short-circuit is cleared without any damage to the power semiconductors. Combinations of coordination type 1 are generally the more favorably priced solution. Combinations of coordination type 2 automatically fulfill the requirements of coordination type 1.

Tests

All of the specified combinations are tested in compliance with IEC 60947-4-1.

With or without overload relay

In addition to the combinations comprising a motor starter protector (for motor protection) and contactor, combinations are also available with motor starter protector (for starter protection), contactor and overload relay.

In the first case, the motor starter protector assumes the dual function of overload protection and short-circuit protection, while in the second case, the motor starter protector assumes only the short-circuit protection function and the overload relay the overload protection function. The tripping behavior of both solutions under overload and short-circuit conditions is technically comparable.

For fuseless load feeders with electronic overload relays, and for higher trip classes, CLASS 20, CLASS 30 and CLASS 40 in particular, a motor starter protector is often used instead of an MSP for starter combinations. This is due to the following: from the point of view of thermal destruction limits, MSPs for starter combinations are generally designed for CLASS 10 motor starts. The current measurement of electronic overload relays usually moves into saturation upwards of a 10-fold rated current, so that the intrinsic protection of the motor starter protector is no longer guaranteed for higher trip classes. In order to ensure thermal intrinsic protection, it is advisable to use a motor starter protector/circuit breaker that protects itself over the overload release. The motor starter protector/circuit breaker is selected so that the point at which the characteristic curve of the overload relay intersects with the a-tripping characteristic of the motor starter protector/circuit breaker is more than 10 x the set current. This ensures that, in the case of motor faults, such as overload or blocking, the overload relay always trips and not the motor starter protector.

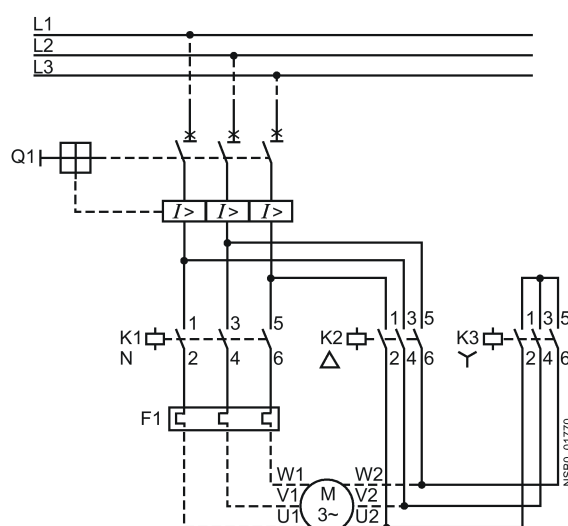
In this situation, combinations with motor starter protector and contactor offer the most cost-effective solution. However, combinations with overload relays offer distinct advantages for certain applications:

- 3RB30 / 3RB31 and 3RB22 / 3RB23 / 3RB24 electronic overload relays or SIMOCODE pro 3UF7 can be used to achieve not only trip CLASS 5 and CLASS 10 but also solutions for heavy starting, such as CLASS 20, CLASS 30, and CLASS 40.
- Using electronic overload relays offers a wide setting range of 1:4 or 1:10. This offers advantages during configuration (e.g. if the exact motor current is not known) and enables us to reduce the number of variants required.
- Overload and short-circuit protection are carried out separately and can also be signaled separately. Alternatively, the 3RV2921-1M signaling block can be used for the 3RV motor starter protector instead of the overload relay. This also supports the separate signaling of overloads and short-circuits.
- Setting of the overload relay to "Automatic Reset" can also save a walk to the control cabinet in the case of overload tripping, as a manual reset in the control cabinet is not required. Alternatively, this function can also be implemented with the "3RV21 motor starter protector with overload relay function". These devices can be used in the motor starter protector + contactor tables instead of the 3RV20 motor starter protector.

Star(wye)(Y)-delta function(Δ) starting

In order to keep the current peaks in the line supply as low as possible, contactor assembly are frequently used as star(wye)-delta starters to start three-phase motors. However, to make worthwhile use of Y Δ starting, a low load torque is required during starting. Only then can the motor approximately reach its rated speed in the Y stage before switching to Δ operation.

An overload relay should be used for motor overload protection. Normally, this is located directly in the motor feeder cable U1, V1, W1, as shown in the circuit diagram. Using this arrangement, the overload protection is effective in both the Y and Δ circuit. The overload relay should be set for 58% of the rated motor current.



Circuit diagram main circuit for Y Δ circuit

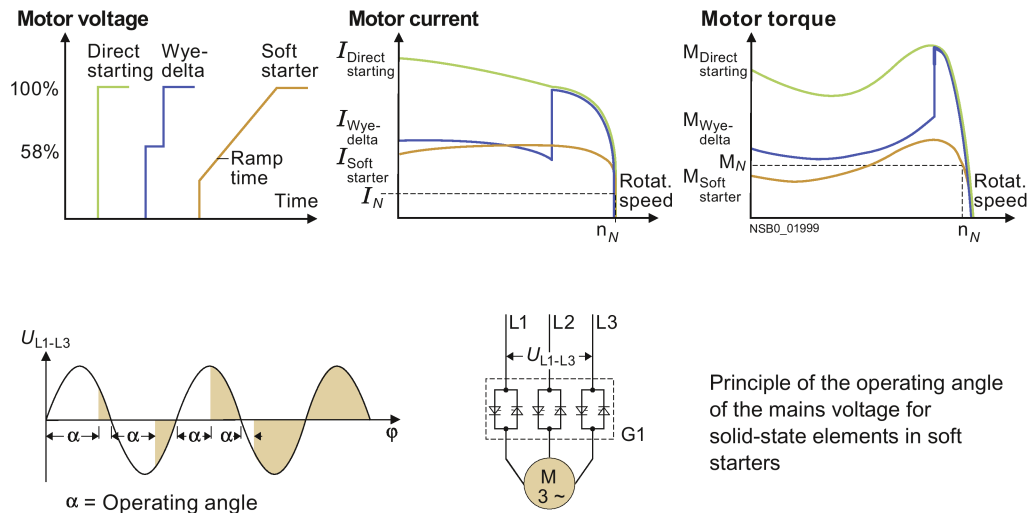
The control current wiring and switching from Y to Δ are implemented with plug-on function modules for the SIRIUS innovations. The switching time can be set between 1 and 100 s. The function modules thus perform the function of the timing relay.

In the tables, circuit breakers are used for starter combinations (without overload releases). However, 3RV20 motor starter protectors for motor protection with the same rated current can also be used instead. In this case, the rated motor current of the motor starter protector must be set to the maximum value. This prevents a simultaneous tripping of the motor starter protector and overload relay.

Soft starting with soft starters

What is the basic principle of a soft starter?

Soft starters limit the starting current and starting torque. This reliably prevents mechanical stress and mains voltage dips. The motor voltage is reduced using phase control and is increased from an adjustable starting voltage up to the mains voltage within a specific ramp time. Soft starting and stopping reduces the stress on connected equipment, thus ensuring prolonged smooth and trouble-free production.



- 3RW30 soft starters for the soft starting of three-phase asynchronous motors for simple applications
 - performance range: up to 55 kW at 400 V (75 hp at 460 V)
- 3RW40 soft starters with integrated functions; electronic motor overload and intrinsic device protection and adjustable current limiting
 - performance range: up to 250 kW at 400 V (300 hp at 460 V)
- The 3RW44 solid-state soft starters offer the following:
 - soft starting and stopping
 - electronic motor overload and intrinsic device protection
 - adjustable current limiting
 - numerous functions for higher-level requirements
 - performance range:
 - up to 710 kW at 400 V in standard circuit
 - up to 1200 kW at 400 V (1700 hp at 460 V) in the inside-delta circuit

More information can be found on the Internet (<http://www.siemens.com/softstarter>).

For the correct dimensioning of soft starters for motors with high starting current ratios ($I/I_e \geq 8$), we recommend our "Simulation Tool for Soft Starters (STS)":

- Download (<http://support.automation.siemens.com/WW/view/en/101494917>)
- Readme (<http://support.automation.siemens.com/WW/view/en/101494773>)

Load feeders with soft starters

Soft starters can also be used to prevent current peaks in the line supply instead of the star(wye)-delta starting combinations. Three versions of these soft starters are available:

- 3RW30
- 3RW40
- 3RW44

The 3RW4 soft starters come as standard with an integrated solid-state overload relay. This means that, in fuseless combinations, a motor starter protector is only required for short-circuit protection. In the case of 3RW30 soft starters, the motor starter protector must also cover the overload protection.

3RB22 / 23 / 24 overload relays and SIMOCODE pro

The modular, electronic overload relays with external power supply type 3RB22 / 23/ 24 for high-feature applications up to 630 A have been designed for inverse-time delayed protection of loads with normal and heavy starting against excessive temperature rises due to overload, phase unbalance or phase failure.

SIMOCODE pro is a flexible, modular motor management system for motors with constant speeds in the low-voltage performance range. It provides the intelligent, communication-capable interface between the higher-level automation system and the motor feeder.

A configuration with 3RB22 / 23 / 24 overload relays and with SIMOCODE pro requires in each case a basic unit, a connection cable, and a current measuring module. The article numbers of the current measuring modules are listed in the tables. Details of the basic units and connection cables are given in the following:

3RB22 / 23 / 24

- Basic unit (= evaluation module)
 - Monostable, screw: 3RB2283-4AA1
 - Bistable, screw: 3RB2383-4AA1
 - Monostable, spring-loaded: 3RB2283-4AC1
 - Bistable, spring-loaded: 3RB2383-4AC1
 - Monostable, screw: 3RB2483-4AA1
 - Monostable, spring-loaded: 3RB2483-4AC1
- Connection cable
 - 0.1 m (S00-S3): 3RB2987-2B
 - 0.5 m (S00-S12): 3RB2987-2D
- For other accessories for 3RB22 / 23 / 24 overload relays see Catalog IC 10 Chapter 7.

SIMOCODE pro

- **SIMOCODE pro C, Basic Unit 1**
PROFIBUS DP interface, 12 Mbit/s, RS485 4I / 3O freely assignable, input for thermistor connection, monostable relay outputs
 - 24 V DC: 3UF7000-1AB00-0
 - 110 ... 240 V AC / DC: 3UF7000-1AU00-0
- **SIMOCODE pro V, Basic Unit 2**
PROFIBUS DP interface, 12 Mbit/s, RS485 4I / 3O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules
 - 24 V DC: 3UF7010-1AB00-0
 - 110 ... 240 V AC / DC: 3UF7010-1AU00-0
- **SIMOCODE pro C**
PROFIBUS DP interface, 12 Mbps, RS485 4I / 3O freely assignable, input for thermistor connection, monostable relay outputs
 - 24 V DC: 3UF7000-1AB00-0
 - 110 ... 240 V AC/DC: 3UF7000-1AU00-0
- **SIMOCODE pro S**
PROFIBUS DP interface, 15 Mbps, RS485 4I / 2O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by multifunction module
 - 24 V DC: 3UF7020-1AB01-0
 - 110 ... 240 V AC/DC: 3UF7020-1AU01-0
- **SIMOCODE pro V**
PROFIBUS DP interface, 12 Mbps, RS485 4I / 3O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules
 - 24 V DC: 3UF7010-1AB00-0
 - 110 ... 240 V AC/DC: 3UF7010-1AU00-0

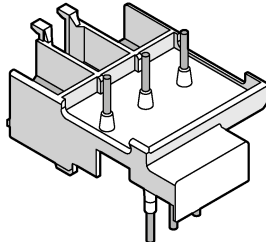
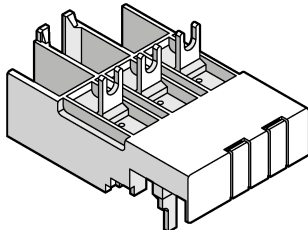
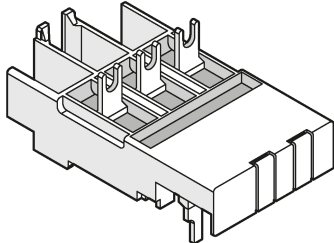
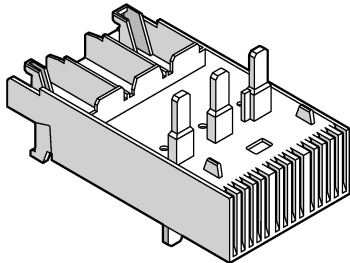
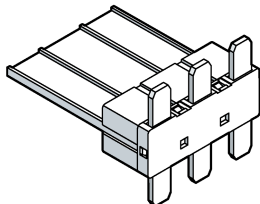
- SIMOCODE pro V PROFINET
ETHERNET/PROFINET IO, OPC UA server and web server, 100 Mbps, 2 x connection to bus through RJ45, PROFINET system redundancy, media redundancy protocol, 4 I/3 O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules, web server in German/English/Chinese/Russian
 - 24 V DC: UF7011-1AB00-0
 - 110 ... 240 V AC/DC: 3UF7011-1AU00-0
- SIMOCODE pro V Modbus RTU
Modbus RTU interface, 57.6 Mbps, RS485 4I / 3O freely assignable, input for thermistor connection, monostable relay outputs, can be expanded by expansion modules
 - 24 V DC: 3UF7012-1AB00-0
 - 110 ... 240 V AC/DC: 3UF7012-1AU00-0
- Connection cable
 - 0.1 m, flat: 3UF7931-0AA00-0
 - 0.3 m, flat: 3UF7935-0AA00-0
 - 0.5 m, flat: 3UF7932-0AA00-0
 - 0.5 m, round: 3UF7932-0BA00-0
 - 1.0 m, round: 3UF7937-0BA00-0
 - 2.5 m, round: 3UF7933-0BA00-0
- For other accessories and software for SIMOCODE pro see Catalog IC 10 Chapter 10.

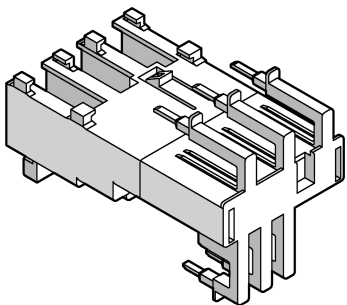
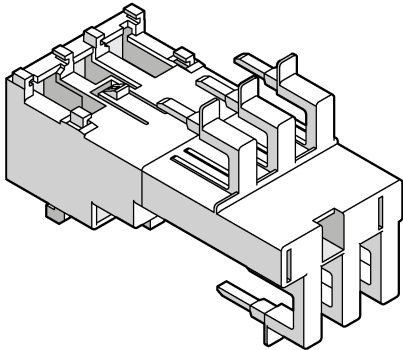
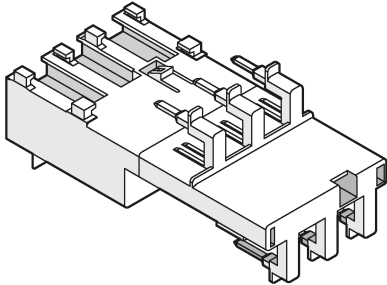
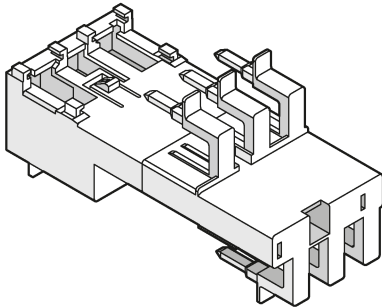
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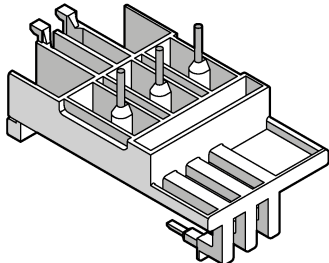
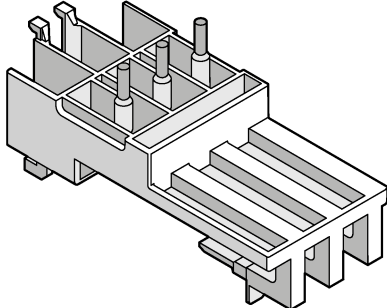
The coordination tests with SIMOCODE pro current measuring modules 3UF710 apply to the same extent for current measuring modules / voltage measuring modules 3UF711.. of the same rated current range.

Link modules

Table 2- 1 Link module versions

Connection system	Link module version		Article number
Screw-type connection system	Motor starter protector – contactor in size S00		3RA1921-1DA00
	Motor starter protector – contactor in size S0 AC		3RA2921-1AA00
	Motor starter protector – contactor in size S0 DC		3RA2921-1BA00
	Motor starter protector – soft starter in size S00		
	Motor starter protector – soft starter in size S0		
	Motor starter protector – solid-state contactor		
	Motor starter protector – contactor in size S2		3RA2931-1AA00
	Motor starter protector – soft starter in size S2		
	Motor starter protector – contactor in size S3		3RA1941-1AA00

Connection system	Link module version		Article number
Spring-loaded connection system	Motor starter protector – contactor in size S00		3RA2911-2AA00
	Motor starter protector – contactor in size S0		3RA2921-2AA00
	Motor starter protector – soft starter in size S00		3RA2911-2GA00
	Motor starter protector – soft starter in size S0		3RA2921-2GA00

Connection system	Link module version		Article number
Hybrid connection system ¹⁾	Motor starter protector – contactor in size S00		3RA2911-2FA00
	Motor starter protector – contactor in size S0		3RA2921-2FA00

¹⁾ The motor starter protector has a screw terminal. The contactor has a spring-loaded terminal.

Fused selection tables up to 690 V

3.1 Short-circuit protection: 3RT, 3TF6 contactor, types of coordination 1 and 2

Short-circuit protection up to 100 kA (sizes S6 / S10 / S12 / 14: 50 kA),
types of coordination 1 and 2

Table 3- 1 Fuse links for protection according to IEC 60947-4-1

Contactor		Fuse links ¹⁾					
		gG [A]		aM [A]		British Standards BS88 ³⁾ (415 V / 80 kA) [A]	
Article No.	P [kW]	Type of coordination ²⁾					
		1	2	1	2	1	2
Size S00							
3RT2015	3	35	20	20	16	35	20
3RT2016	4	35	20	20	16	35	20
3RT2017	5.5	50	20	20	16	35	20
3RT2018	7.5	50	25	25	20	50	25
Size S0							
3RT2023	4	63	25	32	20	63	25
3RT2024	5.5	63	25	32	20	63	25
3RT2025	7.5	63	25	32	20	63	25
3RT2026	11	100	35	50	20	100	35
3RT2027	15	125	50	50	25	125	50
3RT2028	18.5	125	50	50	25	125	50
Size S2							
3RT2035	18.5	160	80	80	50	125	63
3RT2036	22	160	80	80	50	125	63
3RT2037	30	250	125	160	63	200	100
3RT2038	37	250	160	160	80	200	125
Size S3							
3RT2045	37	250	160	160	80	200	125
3RT2046	45	250	160	160	100	200	125
3RT2047	55	250	200	160	100	200	160
Size S6 (up to 50 kA)							
3RT1054	55	355	315	–	160	–	250
3RT1055	75	355	315	–	200	–	315
3RT1056	90	355	315	–	200	–	315

3.1 Short-circuit protection: 3RT, 3TF6 contactor, types of coordination 1 and 2

Contactor		Fuse links ¹⁾					
		gG [A]		aM [A]		British Standards BS88 ³⁾ (415 V / 80 kA) [A]	
Article No.	P [kW]	Type of coordination ²⁾					
		1	2	1	2	1	2
Size S10 (up to 50 kA)							
3RT1064	110	500	400	–	250	–	400
3RT1264	110	500	500	–	400	–	450
3RT1065	132	500	400	–	315	–	400
3RT1265	132	500	500	–	400	–	450
3RT1066	160	500	400	–	315	–	400
3RT1266	160	500	500	–	400	–	450
Size S12 (up to 50 kA)							
3RT1075	200	630	500	–	400	–	450
3RT1275	200	800	800	–	630	–	800
3RT1076	250	630	500	–	500	–	500
3RT1276	250	800	800	–	630	–	800
Size 14 (up to 50 kA)							
3TF68	335	1,000	500	–	630	–	500
3TF69	450	1,250	630	–	630	–	630

¹⁾ Please take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.2 Short-circuit protection 3RU2 thermal overload relay, type of coordination 1 and 2

Short-circuit protection up to 690 V / 100 kA
Types of coordination 1 and 2

Table 3- 2 Fuse links for protection according to IEC 60947-4-1

Thermal overload relay		Fuse links ¹⁾					
		gG [A]		aM [A]		British Standards BS88 ³⁾ (415 V / 80 kA) [A]	
Article No.	Setting range [A]	Type of coordination ²⁾					
		1	2	1	2	1	2
Size S00							
3RU2116-0A..	0.11 ... 0.16	35	0.5	35	–	25	–
3RU2116-0B..	0.14 ... 0.20	35	1	35	–	25	–
3RU2116-0C..	0.18 ... 0.25	35	1	35	–	25	–
3RU2116-0D..	0.22 ... 0.32	35	1.6	35	–	25	2
3RU2116-0E..	0.28 ... 0.40	35	2	35	–	25	2
3RU2116-0F..	0.35 ... 0.50	35	2	35	–	25	2
3RU2116-0G..	0.45 ... 0.63	35	2	35	–	25	4
3RU2116-0H..	0.55 ... 0.80	35	4	35	–	25	4
3RU2116-0J..	0.70 ... 1.0	35	4	35	–	25	6
3RU2116-0K..	0.90 ... 1.25	35	4	35	–	25	6
3RU2116-1A..	1.10 ... 1.60	40	6	35	–	40	10
3RU2116-1B..	1.4 ... 2.0	40	6	35	–	40	10
3RU2116-1C..	1.8 ... 2.5	40	10	35	–	40	10
3RU2116-1D..	2.2 ... 3.2	40	10	35	–	40	16
3RU2116-1E..	2.8 ... 4.0	40	16	35	6	40	16
3RU2116-1F..	3.5 ... 5.0	40	20	35	6	40	20
3RU2116-1G..	4.5 ... 6.3	40	20	35	10	40	25
3RU2116-1H..	5.5 ... 8.0	40	25	35	10	40	32
3RU2116-1J..	7.0 ... 10	40	35	35	16	40	35
3RU2116-1K..	9.0 ... 12.5	40	35	35	20	40	35
3RU2116-4A..	11 ... 16	50	40	40	20	50	40

3.2 Short-circuit protection 3RU2 thermal overload relay, type of coordination 1 and 2

Thermal overload relay		Fuse links ¹⁾					
		gG [A]		aM [A]		British Standards BS88 ³⁾ (415 V / 80 kA) [A]	
Article No.	Setting range [A]	Type of coordination ²⁾					
		1	2	1	2	1	2
Size S0							
3RU2126-1C..	1.8 ... 2.5	125	10	35	–	125	10
3RU2126-1D..	2.2 ... 3.2	125	10	35	–	125	16
3RU2126-1E..	2.8 ... 4.0	125	16	35	6	125	16
3RU2126-1F..	3.5 ... 5.0	125	20	35	6	125	20
3RU2126-1G..	4.5 ... 6.3	125	20	35	10	125	25
3RU2126-1H..	5.5 ... 8.0	125	25	35	10	125	32
3RU2126-1J..	7.0 ... 10	125	35	35	16	125	35
3RU2126-1K..	9.0 ... 12.5	125	35	35	20	125	35
3RU2126-4A..	11 ... 16	125	40	35	20	125	40
3RU2126-4B..	14 ... 20	125	50	35	25	125	50
3RU2126-4C..	17 ... 22	125	63	63	35	125	63
3RU2126-4D..	20 ... 25	125	63	63	35	125	63
3RU2126-4N..	23 ... 28	125	80	63	40	125	63
3RU2126-4E..	27 ... 32	125	80	63	40	125	63
3RU2126-4P..	30 ... 36	125	80	63	50	125	63
3RU2126-4F..	34 ... 40	125	80	63	50	125	80

3.2 Short-circuit protection 3RU2 thermal overload relay, type of coordination 1 and 2

Thermal overload relay		Fuse links ¹⁾					
		gG [A]		aM [A]		British Standards BS88 ³⁾ (415 V / 80 kA) [A]	
Article No.	Setting range [A]	Type of coordination ²⁾					
		1	2	1	2	1	2
Size S2							
3RU2136-4A..	11 ... 16	80	40	50	20	80	40
3RU2136-4B..	14 ... 20	125	50	100	25	125	50
3RU2136-4D..	18 ... 25	125	63	100	35	125	63
3RU2136-4E..	22 ... 32	125	80	100	50	125	80
3RU2136-4F..	28 ... 40	125	80	100	50	125	80
3RU2136-4G..	36 ... 45	125	100	100	63	125	100
3RU2136-4H..	40 ... 50	125	100	100	80	125	100
3RU2136-4Q..	47 ... 57	200	100	160	80	200	100
3RU2136-4J..	54 ... 65	250	125	224	100	250	125
3RU2136-4K..	62 ... 73	250	160	224	125	250	160
3RU2136-4R..	70 ... 80	250	160	224	125	250	160
Size S3							
3RU2146-4F..	28 ... 40	160	80	125	50	160	80
3RU2146-4H..	36 ... 50	160	125	125	100	160	125
3RU2146-4J..	45 ... 63	200	125	160	100	200	125
3RU2146-4K..	57 ... 75	250	160	224	125	250	160
3RU2146-4L..	70 ... 90	250	160	224	125	250	160
3RU2146-4M..	80 ... 100	250	200	224	160	250	200

¹⁾ Please take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Short-circuit protection up to 690 V / 100 kA Types of coordination 1 and 2

Table 3- 3 Fuse links according to IEC 60947-4-1 operating class gG, (NH DIAZED, NEOZED; type 3NA, 5SB, 5SE)

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2116-0A..	0.11 ... 0.16	Stand-alone as- sembly	0.16	0.16	0.16	35	0.5	35	-	25	-
3RU2116-0A..	0.11 ... 0.16	3RT2015..	0.16	0.16	0.16	35	0.5	20	-	25	-
3RU2116-0B..	0.14 ... 0.20	Stand-alone as- sembly	0.2	0.2	0.2	35	1	35	-	25	-
3RU2116-0B..	0.14 ... 0.20	3RT2015..	0.2	0.2	0.2	35	1	20	-	25	-
3RU2116-0C..	0.18 ... 0.25	Stand-alone as- sembly	0.25	0.25	0.25	35	1	35	-	25	-
3RU2116-0C..	0.18 ... 0.25	3RT2015..	0.25	0.25	0.25	35	1	20	-	25	-
3RU2116-0D..	0.22 ... 0.32	Stand-alone as- sembly	0.32	0.32	0.32	35	1.6	35	-	25	2
3RU2116-0D..	0.22 ... 0.32	3RT2015..	0.32	0.32	0.32	35	1.6	20	-	25	2
3RU2116-0E..	0.28 ... 0.40	Stand-alone as- sembly	0.4	0.4	0.4	35	2	35	-	25	2
3RU2116-0E..	0.28 ... 0.40	3RT2015..	0.4	0.4	0.4	35	2	20	-	25	2
3RU2116-0F..	0.35 ... 0.50	Stand-alone as- sembly	0.5	0.5	0.5	35	2	35	-	25	2
3RU2116-0F..	0.35 ... 0.50	3RT2015..	0.5	0.5	0.5	35	2	20	-	25	2

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
			Type of coordination ²⁾								
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2116-0G..	0.45 ... 0.63	Stand-alone as- sembly	0.63	0.63	0.63	35	2	35	-	25	4
3RU2116-0G..	0.45 ... 0.63	3RT2015..	0.63	0.63	0.63	35	2	20	-	25	4
3RU2116-0H..	0.55 ... 0.80	Stand-alone as- sembly	0.8	0.8	0.8	35	4	35	-	25	4
3RU2116-0H..	0.55 ... 0.80	3RT2015..	0.8	0.8	0.8	35	4	20	-	25	4
3RU2116-0J..	0.70 ... 1.0	Stand-alone as- sembly	1	1	1	35	4	35	-	25	6
3RU2116-0J..	0.70 ... 1.0	3RT2015..	1	1	1	35	4	20	-	25	6
3RU2116-0K..	0.90 ... 1.25	Stand-alone as- sembly	1.25	1.25	1.25	35	4	35	-	25	6
3RU2116-0K..	0.90 ... 1.25	3RT2015..	1.25	1.25	1.25	35	4	20	-	25	6
3RU2116-1A..	1.10 ... 1.60	Stand-alone as- sembly	1.6	1.6	1.6	40	6	35	-	40	10
3RU2116-1A..	1.10 ... 1.60	3RT2015..	1.6	1.6	1.6	35	6	20	-	35	10
3RU2116-1B..	1.4 ... 2.0	Stand-alone as- sembly	2	2	2	40	6	35	-	40	10
3RU2116-1B..	1.4 ... 2.0	3RT2015..	2	2	2	35	6	20	-	35	10
3RU2116-1C..	1.8 ... 2.5	Stand-alone as- sembly	2.5	2.5	2.5	40	10	35	-	40	10
3RU2116-1C..	1.8 ... 2.5	3RT2015..	2.5	2.5	2.5	35	10	20	-	35	10
3RU2116-1D..	2.2 ... 3.2	Stand-alone as- sembly	3.2	3.2	3.2	40	10	35	-	40	16
3RU2116-1D..	2.2 ... 3.2	3RT2015..	3.2	3.2	3.2	35	10	20	-	35	16

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2116-1E..	2.8 ... 4.0	Stand-alone as- sembly	4	4	4	40	16	35	6	40	16
3RU2116-1E..	2.8 ... 4.0	3RT2015..	4	4	4	35	16	20	6	35	16
3RU2116-1F..	3.5 ... 5.0	Stand-alone as- sembly	5	5	5	40	20	35	6	40	20
3RU2116-1F..	3.5 ... 5.0	3RT2015..	5	5	-	35	20	20	6	35	20
3RU2116-1F..	3.5 ... 5.0	3RT2016..	5	5	5	35	20	20	6	35	20
3RU2116-1G..	4.5 ... 6.3	Stand-alone as- sembly	6.3	6.3	6.3	40	20	35	10	40	25
3RU2116-1G..	4.5 ... 6.3	3RT2015..	6.3	-	-	35	20	20	10	35	20
3RU2116-1G..	4.5 ... 6.3	3RT2016..	6.3	6.3	6.3	35	20	20	10	35	20
3RU2116-1H..	5.5 ... 8.0	Stand-alone as- sembly	8	8	8	40	25	35	10	40	32
3RU2116-1H..	5.5 ... 8.0	3RT2015..	-	-	-	-	-	-	-	-	-
3RU2116-1H..	5.5 ... 8.0	3RT2016..	8	-	-	35	20	20	10	35	20
3RU2116-1H..	5.5 ... 8.0	3RT2017..	8	8	-	40	20	20	10	35	20
3RU2116-1H..	5.5 ... 8.0	3RT2018..	8	8	8	40	25	25	10	40	25
3RU2116-1J..	7.0 ... 10	Stand-alone as- sembly	10	10	10	40	35	35	16	40	35
3RU2116-1J..	7.0 ... 10	3RT2016..	-	-	-	-	-	-	-	-	-
3RU2116-1J..	7.0 ... 10	3RT2017..	10	-	-	40	20	20	16	35	20
3RU2116-1J..	7.0 ... 10	3RT2018..	10	10	-	40	25	25	16	40	25

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2116-1J.. ⁴⁾	7.0 ... 10	3RT2024..	10	10	-	40	25	32	16	40	25
3RU2116-1J.. ⁴⁾	7.0 ... 10	3RT2025..	10	10	10	40	25	32	16	40	25
3RU2116-1K..	9.0 ... 12.5	Stand-alone as- sembly	12.5	12.5	12.5	40	35	35	20	40	35
3RU2116-1K..	9.0 ... 12.5	3RT2017..	-	-	-	-	-	-	-	-	-
3RU2116-1K..	9.0 ... 12.5	3RT2018..	12.5	-	-	40	25	25	20	40	25
3RU2116-1K.. ⁴⁾	9.0 ... 12.5	3RT2024..	-	-	-	-	-	-	-	-	-
3RU2116-1K.. ⁴⁾	9.0 ... 12.5	3RT2025..	12.5	12.5	12.5	40	25	32	20	40	25
3RU2116-1K.. ⁴⁾	9.0 ... 12.5	3RT2026..	12.5	12.5	12.5	40	35	35	20	40	35
3RU2116-4A..	11 ... 16	Stand-alone as- sembly	16	16	16	50	40	40	20	50	40
3RU2116-4A..	11 ... 16	3RT2017..	-	-	-	-	-	-	-	-	-
3RU2116-4A..	11 ... 16	3RT2018..	16	-	-	50	25	25	20	50	25
3RU2116-4A.. ⁴⁾	11 ... 16	3RT2024..	-	-	-	-	-	-	-	-	-
3RU2116-4A.. ⁴⁾	11 ... 16	3RT2025..	16	16	-	50	25	32	20	50	25
3RU2116-4A.. ⁴⁾	11 ... 16	3RT2026..	16	16	-	50	35	40	20	50	35
3RU2116-4A.. ⁴⁾	11 ... 16	3RT2027..	16	16	16	50	40	40	20	50	40
3RU2116-4A.. ⁴⁾	11 ... 16	3RT2028..	16	16	16	50	40	40	20	50	40
3RU2126-1C..	1.8 ... 2.5	Stand-alone as- sembly	2.5	2.5	2.5	125	10	35	-	125	10
3RU2126-1C.. ⁴⁾	1.8 ... 2.5	3RT2015..	2.5	2.5	2.5	35	10	20	-	35	10

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2126-1C..	1.8 ... 2.5	3RT2024..	2.5	2.5	2.5	63	10	32	-	63	10
3RU2126-1D..	2.2 ... 3.2	Stand-alone as- sembly	3.2	3.2	3.2	125	10	35	-	125	16
3RU2126-1D.. ⁴⁾	2.2 ... 3.2	3RT2015..	3.2	3.2	3.2	35	10	20	-	35	16
3RU2126-1D..	2.2 ... 3.2	3RT2024..	3.2	3.2	3.2	63	10	32	-	63	16
3RU2126-1E..	2.8 ... 4.0	Stand-alone as- sembly	4	4	4	125	16	35	6	125	16
3RU2126-1E.. ⁴⁾	2.8 ... 4.0	3RT2015..	4	4	4	35	16	20	6	35	16
3RU2126-1E..	2.8 ... 4.0	3RT2024..	4	4	4	63	16	32	6	63	16
3RU2126-1F..	3.5 ... 5.0	Stand-alone as- sembly	5	5	5	125	20	35	6	125	20
3RU2126-1F.. ⁴⁾	3.5 ... 5.0	3RT2015..	5	5	-	35	20	20	6	35	20
3RU2126-1F.. ⁴⁾	3.5 ... 5.0	3RT2016..	5	5	5	35	20	20	6	35	20
3RU2126-1F..	3.5 ... 5.0	3RT2024..	5	5	5	63	20	32	6	63	20
3RU2126-1G..	4.5 ... 6.3	Stand-alone as- sembly	6.3	6.3	6.3	125	20	35	10	125	25
3RU2126-1G.. ⁴⁾	4.5 ... 6.3	3RT2015..	6.3	-	-	35	20	20	10	35	20
3RU2126-1G.. ⁴⁾	4.5 ... 6.3	3RT2016..	6.3	6.3	6.3	35	20	20	10	35	20
3RU2126-1G..	4.5 ... 6.3	3RT2024..	6.3	6.3	6.3	63	20	32	10	63	25
3RU2126-1H..	5.5 ... 8.0	Stand-alone as- sembly	8	8	8	125	25	35	10	125	32
3RU2126-1H.. ⁴⁾	5.5 ... 8.0	3RT2015..	-	-	-	-	-	-	-	-	-
3RU2126-1H.. ⁴⁾	5.5 ... 8.0	3RT2016..	8	-	-	35	20	20	10	35	20

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2126-1H.. ⁴⁾	5.5 ... 8.0	3RT2017..	8	8	-	50	20	20	10	35	20
3RU2126-1H.. ⁴⁾	5.5 ... 8.0	3RT2018..	8	8	8	50	25	25	10	50	25
3RU2126-1H..	5.5 ... 8.0	3RT2024..	8	8	8	63	25	32	10	63	25
3RU2126-1J..	7.0 ... 10	Stand-alone as- sembly	10	10	10	125	35	35	16	125	35
3RU2126-1J.. ⁴⁾	7.0 ... 10	3RT2016..	-	-	-	-	-	-	-	-	-
3RU2126-1J.. ⁴⁾	7.0 ... 10	3RT2017..	10	-	-	50	20	20	16	35	20
3RU2126-1J.. ⁴⁾	7.0 ... 10	3RT2018..	10	10	-	50	25	25	16	50	25
3RU2126-1J..	7.0 ... 10	3RT2024..	10	10	-	63	25	32	16	63	25
3RU2126-1J..	7.0 ... 10	3RT2025..	10	10	10	63	25	32	16	63	25
3RU2126-1K..	9.0 ... 12.5	Stand-alone as- sembly	12.5	12.5	12.5	125	35	35	20	125	35
3RU2126-1K.. ⁴⁾	9.0 ... 12.5	3RT2017..	-	-	-	-	-	-	-	-	-
3RU2126-1K.. ⁴⁾	9.0 ... 12.5	3RT2018..	12.5	-	-	50	25	25	20	50	25
3RU2126-1K..	9.0 ... 12.5	3RT2024..	-	-	-	-	-	-	-	-	-
3RU2126-1K..	9.0 ... 12.5	3RT2025..	12.5	12.5	12.5	63	25	32	20	63	25
3RU2126-4A..	11 ... 16	Stand-alone as- sembly	16	16	16	125	40	35	20	125	40
3RU2126-4A.. ⁴⁾	11 ... 16	3RT2017..	-	-	-	-	-	-	-	-	-
3RU2126-4A.. ⁴⁾	11 ... 16	3RT2018..	16	-	-	50	25	25	20	50	25
3RU2126-4A..	11 ... 16	3RT2024..	-	-	-	-	-	-	-	-	-

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2126-4A..	11 ... 16	3RT2025..	16	16	-	63	25	32	20	63	25
3RU2126-4A..	11 ... 16	3RT2026..	16	16	-	100	35	35	20	100	35
3RU2126-4A..	11 ... 16	3RT2027..	16	16	16	125	40	35	20	125	40
3RU2126-4A..	11 ... 16	3RT2028..	16	16	16	125	40	35	20	125	40
3RU2126-4B..	14 ... 20	Stand-alone as-sembly	20	20	20	125	50	35	25	125	50
3RU2126-4B..	14 ... 20	3RT2025..	-	-	-	-	-	-	-	-	-
3RU2126-4B..	14 ... 20	3RT2026..	20	-	-	100	35	35	20	100	35
3RU2126-4B..	14 ... 20	3RT2027..	20	20	20	125	50	35	25	125	50
3RU2126-4B..	14 ... 20	3RT2028..	20	20	20	125	50	35	25	125	50
3RU2126-4C..	17 ... 22	Stand-alone as-sembly	22	22	22	125	63	63	35	125	63
3RU2126-4C..	17 ... 22	3RT2025..	-	-	-	-	-	-	-	-	-
3RU2126-4C..	17 ... 22	3RT2026..	22	-	-	100	35	50	20	100	35
3RU2126-4C..	17 ... 22	3RT2027..	22	22	-	125	50	50	25	125	50
3RU2126-4C..	17 ... 22	3RT2028..	22	22	-	125	50	50	25	125	50
3RU2126-4C.. ⁴⁾	17 ... 22	3RT2035..	22	22	22	125	63	63	35	125	63
3RU2126-4D..	20 ... 25	Stand-alone as-sembly	25	25	25	125	63	63	35	125	63
3RU2126-4D..	20 ... 25	3RT2025..	-	-	-	-	-	-	-	-	-
3RU2126-4D..	20 ... 25	3RT2026..	25	-	-	100	35	50	20	100	35

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2126-4D..	20 ... 25	3RT2027..	25	25	-	125	50	50	25	125	50
3RU2126-4D..	20 ... 25	3RT2028..	25	25	-	125	50	50	25	125	50
3RU2126-4D.. ⁴⁾	20 ... 25	3RT2035..	25	25	-	125	63	63	35	125	63
3RU2126-4D.. ⁴⁾	20 ... 25	3RT2036..	25	25	-	125	63	63	35	125	63
3RU2126-4D.. ⁴⁾	20 ... 25	3RT2037..	25	25	25	125	63	63	35	125	63
3RU2126-4N..	23 ... 28	Stand-alone as- sembly	28	28	28	125	80	63	40	125	63
3RU2126-4N..	23 ... 28	3RT2026..	-	-	-	-	-	-	-	-	-
3RU2126-4N..	23 ... 28	3RT2027..	28	28	-	125	50	50	25	125	50
3RU2126-4N..	23 ... 28	3RT2028..	28	28	-	125	50	50	25	125	50
3RU2126-4N.. ⁴⁾	23 ... 28	3RT2035..	28	28	-	125	80	63	40	125	63
3RU2126-4N.. ⁴⁾	23 ... 28	3RT2036..	28	28	-	125	80	63	40	125	63
3RU2126-4N.. ⁴⁾	23 ... 28	3RT2037..	28	28	28	125	80	63	40	125	63
3RU2126-4E..	27 ... 32	Stand-alone as- sembly	32	32	32	125	80	63	40	125	63
3RU2126-4E..	27 ... 32	3RT2026..	-	-	-	-	-	-	-	-	-
3RU2126-4E..	27 ... 32	3RT2027..	32	32	-	125	50	50	25	125	50
3RU2126-4E..	27 ... 32	3RT2028..	32	32	-	125	50	50	25	125	50
3RU2126-4E.. ⁴⁾	27 ... 32	3RT2035..	32	32	-	125	80	63	40	125	63
3RU2126-4E.. ⁴⁾	27 ... 32	3RT2036..	32	32	-	125	80	63	40	125	63

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2126-4E.. ⁴⁾	27 ... 32	3RT2037..	32	32	32	125	80	63	40	125	63
3RU2126-4P..	30 ... 36	Stand-alone as- sembly	36	36	36	125	80	63	50	125	63
3RU2126-4P..	30 ... 36	3RT2027..	-	-	-	-	-	-	-	-	-
3RU2126-4P..	30 ... 36	3RT2028..	36	-	-	125	50	50	25	125	50
3RU2126-4P.. ⁴⁾	30 ... 36	3RT2035..	36	36	-	125	80	63	50	125	63
3RU2126-4P.. ⁴⁾	30 ... 36	3RT2036..	36	36	-	125	80	63	50	125	63
3RU2126-4P.. ⁴⁾	30 ... 36	3RT2037..	36	36	36	125	80	63	50	125	63
3RU2126-4F..	34 ... 40	Stand-alone as- sembly	40	40	40	125	80	63	50	125	80
3RU2126-4F..	34 ... 40	3RT2028..	-	-	-	-	-	-	-	-	-
3RU2126-4F.. ⁴⁾	34 ... 40	3RT2035..	40	40	-	125	80	63	50	125	63
3RU2126-4F.. ⁴⁾	34 ... 40	3RT2036..	40	40	-	125	80	63	50	125	63
3RU2126-4F.. ⁴⁾	34 ... 40	3RT2037..	40	40	40	125	80	63	50	125	80
3RU2136-4A..	11 ... 16	Stand-alone as- sembly	16	16	16	80	40	50	20	80	40
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2017..	-	-	-	-	-	-	-	-	-
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2018..	16	-	-	50	25	25	20	50	25
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2024..	-	-	-	-	-	-	-	-	-
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2025..	16	16	-	63	25	32	20	63	25
3RU2136-4A.. ⁴⁾	11... 16	3RT2026..	16	16	-	80	35	50	20	80	35

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2027..	16	16	16	80	40	50	20	80	40
3RU2136-4A.. ⁴⁾	11 ... 16	3RT2028..	16	16	16	80	40	50	20	80	40
3RU2136-4A..	11 ... 16	3RT2035..	16	16	16	80	40	50	20	80	40
3RU2136-4B..	14 ... 20	Stand-alone as- sembly	20	20	20	125	50	100	25	125	50
3RU2136-4B.. ⁴⁾	14 ... 20	3RT2025..	-	-	-	-	-	-	-	-	-
3RU2136-4B.. ⁴⁾	14 ... 20	3RT2026..	20	-	-	100	35	50	20	100	35
3RU2136-4B.. ⁴⁾	14 ... 20	3RT2027..	20	20	20	125	50	50	25	125	50
3RU2136-4B..	14 ... 20	3RT2028..	20	20	20	125	50	50	25	125	50
3RU2136-4D..	18 ... 25	Stand-alone as- sembly	25	25	25	125	63	100	35	125	63
3RU2136-4D.. ⁴⁾	18 ... 25	3RT2025..	-	-	-	-	-	-	-	-	-
3RU2136-4D.. ⁴⁾	18 ... 25	3RT2026..	25	-	-	100	35	50	20	100	35
3RU2136-4D.. ⁴⁾	18 ... 25	3RT2027..	25	25	-	125	50	50	25	125	50
3RU2136-4D.. ⁴⁾	18 ... 25	3RT2028..	25	25	-	125	50	50	25	125	50
3RU2136-4D..	18 ... 25	3RT2035..	25	25	-	125	63	80	35	125	63
3RU2136-4D..	18 ... 25	3RT2036..	25	25	-	125	63	80	35	125	63
3RU2136-4D..	18 ... 25	3RT2037..	25	25	25	125	63	100	35	125	63
3RU2136-4E..	22 ... 32	Stand-alone as- sembly	32	32	32	125	80	100	50	125	80
3RU2136-4E.. ⁴⁾	22 ... 32	3RT2026..	-	-	-	-	-	-	-	-	-

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2136-4E.. ⁴⁾	22 ... 32	3RT2027..	32	32	-	125	50	50	25	125	50
3RU2136-4E.. ⁴⁾	22 ... 32	3RT2028..	32	32	-	125	50	50	25	125	50
3RU2136-4E..	22 ... 32	3RT2035..	32	32	-	125	80	80	50	125	63
3RU2136-4E..	22 ... 32	3RT2036..	32	32	-	125	80	80	50	125	63
3RU2136-4E..	22 ... 32	3RT2037..	32	32	32	125	80	100	50	125	80
3RU2136-4F..	28 ... 40	Stand-alone as- sembly	40	40	40	125	80	100	50	125	80
3RU2136-4F.. ⁴⁾	28 ... 40	3RT2028..	-	-	-	-	-	-	-	-	-
3RU2136-4F..	28 ... 40	3RT2035..	40	40	-	125	80	80	50	125	63
3RU2136-4F..	28 ... 40	3RT2036..	40	40	-	125	80	80	50	125	63
3RU2136-4F..	28 ... 40	3RT2037..	40	40	40	125	80	100	50	125	80
3RU2136-4G..	36 ... 45	Stand-alone as- sembly	45	45	45	125	100	100	63	125	100
3RU2136-4G..	36 ... 45	3RT2035..	-	-	-	-	-	-	-	-	-
3RU2136-4G..	36 ... 45	3RT2036..	45	45	-	125	80	80	50	125	63
3RU2136-4G..	36 ... 45	3RT2037..	45	45	45	125	100	100	63	125	100
3RU2136-4H..	40 ... 50	Stand-alone as- sembly	50	50	50	125	100	100	80	125	100
3RU2136-4H..	40 ... 50	3RT2035..	-	-	-	-	-	-	-	-	-
3RU2136-4H..	40 ... 50	3RT2036..	50	50	-	125	80	80	50	125	63
3RU2136-4H..	40 ... 50	3RT2037..	50	50	-	125	100	100	63	125	100

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2136-4H..	40 ... 50	3RT2038..	50	50	50	125	100	100	80	125	100
3RU2136-4Q..	47 ... 57	Stand-alone as- sembly	57	57	57	200	100	160	80	200	100
3RU2136-4Q..	47 ... 57	3RT2036..	-	-	-	-	-	-	-	-	-
3RU2136-4Q..	47 ... 57	3RT2037..	57	57	-	200	100	160	63	200	100
3RU2136-4Q..	47 ... 57	3RT2038..	57	57	57	200	100	160	80	200	100
3RU2136-4J..	54 ... 65	Stand-alone as- sembly	65	65	65	250	125	224	100	250	125
3RU2136-4J..	54 ... 65	3RT2036..	-	-	-	-	-	-	-	-	-
3RU2136-4J..	54 ... 65	3RT2037..	65	65	-	250	125	160	63	200	100
3RU2136-4J..	54 ... 65	3RT2038..	65	65	-	250	125	160	80	200	125
3RU2136-4J.. ⁴⁾	54 ... 65	3RT2045..	65	65	-	250	125	160	80	200	125
3RU2136-4J.. ⁴⁾	54 ... 65	3RT2046..	65	65	65	250	125	160	100	200	125
3RU2136-4K..	62 ... 73	Stand-alone as- sembly	73	73	73	250	160	224	125	250	160
3RU2136-4K..	62 ... 73	3RT2037..	-	-	-	-	-	-	-	-	-
3RU2136-4K..	62 ... 73	3RT2038..	73	73	-	250	160	160	80	200	125
3RU2136-4K.. ⁴⁾	62 ... 73	3RT2045..	73	73	-	250	160	160	80	200	125
3RU2136-4K.. ⁴⁾	62 ... 73	3RT2046..	73	73	73	250	160	160	100	200	125
3RU2136-4R..	70 ... 80	Stand-alone as- sembly	80	80	80	250	160	224	125	250	160
3RU2136-4R..	70 ... 80	3RT2037..	-	-	-	-	-	-	-	-	-

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2136-4R..	70 ... 80	3RT2038..	80	80	-	250	160	160	80	200	125
3RU2136-4R.. ⁴⁾	70 ... 80	3RT2045..	80	80	-	250	160	160	80	200	125
3RU2136-4R.. ⁴⁾	70 ... 80	3RT2046..	80	80	-	250	160	160	100	200	125
3RU2136-4R.. ⁴⁾	70 ... 80	3RT2047..	80	80	80	250	160	160	100	200	160
3RU2146-4F..	28 ... 40	Stand-alone as-sembly	40	40	40	160	80	125	50	160	80
3RU2146-4F.. ⁴⁾	28 ... 40	3RT2028..	-	-	-	-	-	-	-	-	-
3RU2146-4F.. ⁴⁾	28 ... 40	3RT2035..	40	40	-	160	80	80	50	125	63
3RU2146-4F.. ⁴⁾	28 ... 40	3RT2036..	40	40	-	160	80	80	50	125	63
3RU2146-4F.. ⁴⁾	28 ... 40	3RT2037..	40	40	40	160	80	125	50	160	80
3RU2146-4F..	28 ... 40	3RT2045..	40	40	40	160	80	125	50	160	80
3RU2146-4H..	36 ... 50	Stand-alone as-sembly	50	50	50	160	125	125	100	160	125
3RU2146-4H.. ⁴⁾	36 ... 50	3RT2035..	-	-	-	-	-	-	-	-	-
3RU2146-4H.. ⁴⁾	36 ... 50	3RT2036..	50	50	-	160	80	80	50	125	63
3RU2146-4H.. ⁴⁾	36 ... 50	3RT2037..	50	50	-	160	125	125	63	160	100
3RU2146-4H..	36 ... 50	3RT2045..	50	50	50	160	125	125	80	160	125
3RU2146-4J..	45 ... 63	Stand-alone as-sembly	63	63	63	200	125	160	100	200	125
3RU2146-4J.. ⁴⁾	45 ... 63	3RT2036..	-	-	-	-	-	-	-	-	-
3RU2146-4J.. ⁴⁾	45 ... 63	3RT2037..	63	63	-	200	125	160	63	200	100

3.3 Short-circuit protection: 3RT2 contactor + 3RU2 thermal overload relay, types of coordination 1 and 2

Thermal overload relay	Overload relay Setting range	Contactor CLASS 10				Fuse links ¹⁾					
Article No.	[A]	Article No.	AC-3 derating values [A]			Operating class gG [A]		Operating class aM [A]		British Standards BS88 ³⁾ [A]	
						Type of coordination ²⁾					
			400 V	500 V	690 V	1	2	1	2	1	2
3RU2146-4J..	45 ... 63	3RT2045..	63	63	-	200	125	160	80	200	125
3RU2146-4J..	45 ... 63	3RT2046..	63	63	63	200	125	160	100	200	125
3RU2146-4K..	57 ... 75	Stand-alone as- sembly	75	75	75	250	160	224	125	250	160
3RU2146-4K.. ⁴⁾	57 ... 75	3RT2037..	-	-	-	-	-	-	-	-	-
3RU2146-4K..	57 ... 75	3RT2045..	75	75	-	250	160	160	80	200	125
3RU2146-4K..	57 ... 75	3RT2046..	75	75	75	250	160	160	100	200	125
3RU2146-4L..	70 ... 90	Stand-alone as- sembly	90	90	90	250	160	224	125	250	160
3RU2146-4L..	70 ... 90	3RT2045..	-	-	-	-	-	-	-	-	-
3RU2146-4L..	70 ... 90	3RT2046..	90	90	-	250	160	160	100	200	125
3RU2146-4L..	70 ... 90	3RT2047..	90	90	90	250	160	160	100	200	160
3RU2146-4M..	80 ... 100	Stand-alone as- sembly	100	100	100	250	200	224	160	250	200
3RU2146-4M..	80 ... 100	3RT2046..	-	-	-	-	-	-	-	-	-
3RU2146-4M..	80 ... 100	3RT2047..	100	100	-	250	200	160	100	200	160
3RU2146-4M.. ⁴⁾	80 ... 100	3RT1054..	100	100	100	250 ⁵⁾	200 ⁵⁾	-	160 ⁵⁾	-	200 ⁵⁾

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

⁴⁾ The thermal overload relay is only available for stand-alone installation.

⁵⁾ The specified data are valid for maximum 50 kA at 690 V.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Short-circuit protection with fuses for motor feeders with 3RB30 and 3RB31, contactor mounting, and stand-alone assembly

Table 3- 4 Derating values for overload relay and contactor size S00

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB3.1.-.R..	0.1 ... 0.4	Stand-alone assembly		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
		3RT2015	3.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
3RB3.1.-.N..	0.32 ... 1.25	Stand-alone assembly		1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
		3RT2015	3.0	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
3RB3.1.-.P..	1 ... 4	Stand-alone assembly		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		3RT2015	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		3RT2016	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		3RT2017	5.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
3RB3.1.-.S..	3 ... 12	Stand-alone assembly		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		3RT2015	3.0	7.0	6.0	4.9	7.0	6.0	4.9	7.0	6.0	4.9	4.9
		3RT2016	4.0	9.0	7.7	6.7	9.0	7.7	6.7	9.0	7.7	6.7	6.7
		3RT2017	5.5	12.0	9.2	6.7	10.0	9.2	6.7	9.0	9.0	6.7	6.7
3RB3.1.-.T..	4 ... 16	Stand-alone assembly		16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
		3RT2017	5.5	12.0	9.2	6.7	10.0	9.2	6.7	9.0	9.0	6.7	6.7
		3RT2018	7.5	16.0	12.4	8.9	11.5	11.5	8.9	9.5	9.5	8.9	8.9

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 5 Derating values for overload relay and contactor size S0

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB3.2.-.R.	0.1 ... 0.4	Stand-alone assembly		0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
		3RT2024	5.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
3RB3.2.-.N..	0.32 ... 1.25	Stand-alone assembly		1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
		3RT2024	5.5	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
3RB3.2.-.P..	1 ... 4	Stand-alone assembly		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
		3RT2024	5.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
3RB3.2.-.S..	3 ... 12	Stand-alone assembly		12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
		3RT2024	5.5	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0	9.0
		3RT2025	7.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
3RB3.2.-.Q..	6 ... 25	Stand-alone assembly		25.0	25.0	25.0	25.0	25.0	25.0	23.0	23.0	23.0	23.0
		3RT2025	7.5	17.0	17.0	13.0	16.0	16.0	13.0	14.0	14.0	13.0	13.0
		3RT2026	11.0	25.0	18.0	13.0	16.0	16.0	13.0	14.0	14.0	13.0	13.0
		3RT2027	15.0	25.0	25.0	21.0	20.0	20.0	17.0	17.0	17.0	15.0	15.0
		3RT2028	18.5	25.0	25.0	21.0	20.0	20.0	17.0	17.0	17.0	15.0	15.0
3RB3.2.-.V..	10 ... 40	Stand-alone assembly		40.0	40.0	40.0	28.0	28.0	28.0	23.0	23.0	23.0	23.0
		3RT2027	15.0	32.0	32.0	21.0	20.0	20.0	17.0	17.0	17.0	15.0	15.0
		3RT2028	18.5	38.0	32.0	21.0	20.0	20.0	17.0	17.0	17.0	15.0	15.0

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 6 Derating values for overload relay and contactor size S2

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB3.3.-.U..	12.5 ... 50	Stand-alone assembly	Through hole technology	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
			Screw terminals	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		3RT2035	18.5	40.0	40.0	24.0	40.0	40.0	24.0	36.0	36.0	24.0	
		3RT2036	22.0	50.0	50.0	24.0	45.0	45.0	24.0	38.0	38.0	24.0	
		3RT2037	30.0	50.0	50.0	47.0	48.0	48.0	47.0	42.0	42.0	42.0	
		3RT2038	37.0	50.0	50.0	50.0	49.0	49.0	49.0	43.0	43.0	43.0	
3RB3.3.-.W..	20 ... 80	Stand-alone assembly	Through hole technology	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	
			Screw terminals	80.0	80.0	80.0	60.0	60.0	60.0	50.0	50.0	50.0	
		3RT2035	18.5	40.0	40.0	24.0	40.0	40.0	24.0	36.0	36.0	24.0	
		3RT2036	22.0	50.0	50.0	24.0	45.0	45.0	24.0	39.0	39.0	24.0	
		3RT2037	30.0	65.0	65.0	47.0	46.0	46.0	46.0	40.0	40.0	40.0	
		3RT2038	37.0	80.0	80.0	58.0	48.0	48.0	48.0	42.0	42.0	42.0	

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 7 Derating values for overload relay and contactor size S3

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB3.4.-.U..	12.5 ... 50	Stand-alone assembly	Through hole technology	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
			Screw terminals	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		3RT2045	37.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		3RT2046	45.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
		3RT2047	55.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
3RB3.4.-.X..	32 ... 115	Stand-alone assembly	Through hole technology	115.0	115.0	115.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
			Screw terminals	115.0	115.0	115.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
		3RT2045	37.0	80.0	80.0	58.0	63.0	63.0	58.0	54.0	54.0	54.0	54.0
		3RT2046	45.0	95.0	95.0	78.0	65.0	65.0	65.0	56.0	56.0	56.0	56.0
		3RT2047	55.0	110.0	110.0	95.0	67.0	67.0	67.0	58.0	58.0	58.0	58.0

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 8 Derating values for overload relay and contactor size S6

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB2.5.-.F..	50 ... 200	Stand-alone assembly	Through hole technology	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
			Screw terminals	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
		3RT1054	55	115.0	115.0	115.0	81.7	81.7	81.7	69.0	69.0	69.0	
		3RT1055	75	150.0	150.0	150.0	107.0	107.0	107.0	90.0	90.0	90.0	
		3RT1056	90	185.0	185.0	185.0	131.0	131.0	131.0	111.0	111.0	111.0	

Table 3- 9 Derating values for overload relay and contactor size S10

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB2.6.-.G..	55 ... 250	Stand-alone assembly	Through hole technology	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
			Screw terminals	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0	250.0
		3RT1064	110	225.0	225.0	225.0	160.0	160.0	160.0	135.0	135.0	135.0	
		3RT1264	110	225.0	225.0	225.0	225.0	225.0	225.0	173.0	173.0	173.0	
		3RT1065	132	250.0	250.0	250.0	188.0	188.0	188.0	159.0	159.0	159.0	
		3RT1265	132	250.0	250.0	250.0	250.0	250.0	250.0	204.0	204.0	204.0	
		3RT1066	160	250.0	250.0	250.0	213.0	213.0	213.0	180.0	180.0	180.0	
		3RT1266	160	250.0	250.0	250.0	250.0	250.0	250.0	231.0	231.0	231.0	

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 10 Derating values for overload relay and contactor size S12

Overload relay	Overload relay Setting range	Contactor		CLASS									
				5E / 10E			20E			30E			
				AC-3 derating values [A]									
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V	
3RB2.6.-.M..	160 ... 630	Stand-alone assembly	Through hole technology	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
			Screw terminals	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
		3RT1064	110	225.0	225.0	225.0	160.0	160.0	160.0	–	–	–	
		3RT1264	110	225.0	225.0	225.0	225.0	225.0	225.0	173.0	173.0	173.0	
		3RT1065	132	265.0	265.0	265.0	188.0	188.0	188.0	–	–	–	
		3RT1265	132	265.0	265.0	265.0	265.0	265.0	265.0	204.0	204.0	204.0	
		3RT1066	160	300.0	300.0	280.0	213.0	213.0	213.0	180.0	180.0	180.0	
		3RT1266	160	300.0	300.0	300.0	300.0	300.0	300.0	231.0	231.0	231.0	
		3RT1075	200	400.0	400.0	400.0	284.0	284.0	284.0	240.0	240.0	240.0	
		3RT1275	200	400.0	400.0	400.0	400.0	400.0	400.0	316.0	316.0	316.0	
		3RT1076	250	500.0	500.0	450.0	355.0	355.0	355.0	300.0	300.0	300.0	
		3RT1276	250	500.0	500.0	500.0	500.0	500.0	500.0	385.0	385.0	385.0	
		3TF68 ¹⁾	335	630.0	630.0	630.0	440.0	440.0	440.0	376.0	376.0	376.0	
		3TF69 ¹⁾	450	630.0	630.0	630.0	572.0	572.0	572.0	500.0	500.0	500.0	

¹⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

Table 3- 11 Derating values for overload relay and contactor size 14

Overload relay	Overload relay Setting range	Contactor		CLASS								
				5E / 10E			20E			30E		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
3RB3.1.-.N..	0.32 ... 1.25 ²⁾	3TF69 ¹⁾	450	820.0	820.0	820.0	572.0	572.0	572.0	500.0	500.0	500.0

¹⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

²⁾ With 3UF1868-3GA00 current transformer.

Environmental conditions

For the 3RB20 and 3RB21 electronic overload relays in the sizes S6, S10 and S12, the upper setting of the setting range must be reduced by a certain factor for ambient temperatures of > 50 °C.

Table 3- 12 Derating values for overload relay sizes S6 to S12

Overload relay	Overload relay Setting range	Configuration	
Article No.	[A]		
		Derating values for the upper setting of the setting range with stand-alone assembly and the following ambient temperature:	
		+ 50 °C	60 °C
3RB2056 / 3RB2153	50 ... 200	100 %	100 %
3RB2066-1G 3RB2066-2G 3RB2163-4G	55 ... 250	100 %	100 %
3RB2066-1M 3RB2066-2M 3RB2163-4M	160 ... 630	100 %	100 %
		Derating values for the upper setting of the setting range with contactor mounting and the following ambient temperature:	
		+ 50 °C	60 °C
3RB2056 / 3RB2153	50 ... 200	100 %	70 %
3RB2066-1G 3RB2066-2G 3RB2163-4G	55 ... 250	100 %	70 %
3RB2066-1M 3RB2066-2M 3RB2163-4M	160 ... 630	100 %	70 %

Fuse links according to IEC 60947-4-1

Short-circuit protection up to 690 V / 100 kA

Type of coordination 1 and 2

Table 3- 13 Fuse links for overload relay and contactor size S00

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND							
Type of coordination ²⁾									
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB3.1-.R..	0.1 ... 0.4	Stand-alone assembly		35	4	20	4	35	4
		3RT2015	3.0	35	4	20	4	35	4
3RB3.1-.N..	0.32 ... 1.25	Stand-alone assembly		35	6	20	6	35	6
		3RT2015	3.0	35	6	20	6	35	6
3RB3.1-.P..	1 ... 4	Stand-alone assembly		35	20	20	16	35	20
		3RT2015	3.0	35	20	20	16	35	20
		3RT2016	4.0	35	20	20	16	35	20
		3RT2017	5.5	35	20	20	16	35	20
3RB3.1-.S..	3 ... 12	Stand-alone assembly		50	50	20	16	35	20
		3RT2015	3.0	35	20	20	16	35	20
		3RT2016	4.0	35	20	20	16	35	20
		3RT2017	5.5	50	25	20	16	35	20
3RB3.1-.T..	4 ... 16	Stand-alone assembly		50	50	25	20	50	25
		3RT2017	5.5	50	25	20	16	35	20
		3RT2018	7.5	50	25	25	20	50	25

¹⁾ Take account of the operating voltage.²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 14 Fuse links for overload relay and contactor size S0

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
				Type of coordination ²⁾					
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB3.2.-.R..	0.1 ... 0.4	Stand-alone assembly		35	4	32	4	63	4
		3RT2024	5.5	35	4	32	4	63	4
3RB3.2.-.N..	0.32 ... 1.25	Stand-alone assembly		35	6	32	6	63	6
		3RT2024	5.5	35	6	32	6	63	6
3RB3.2.-.P..	1 ...4	Stand-alone assembly		35	20	32	20	63	25
		3RT2024	5.5	35	20	32	20	63	25
3RB3.2.-.S..	3 ... 12	Stand-alone assembly		63	50	32	20	63	25
		3RT2024	5.5	63	25	32	20	63	25
		3RT2025	7.5	63	25	32	20	63	25
3RB3.2.-.Q..	6 ... 25	Stand-alone assembly		125	63	50	25	63	50
		3RT2025	7.5	63	25	32	20	63	25
		3RT2026	11.0	100	35	50	20	63	35
		3RT2027	15.0	125	50	50	25	63	50
		3RT2028	18.5	125	50	50	25	63	50
3RB3.2.-.V..	10 ... 40	Stand-alone assembly		125	80	50	25	125	50
		3RT2027	15.0	125	50	50	25	125	50
		3RT2028	18.5	125	50	50	25	125	50

1) Take account of the operating voltage.

2) Assignment and short-circuit protective devices acc. to IEC 60947-4-1

3) Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

Table 3- 15 Fuse links for overload relay and contactor size S2

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND							
Type of coordination ²⁾									
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB3.3-.U..	12.5 ... 50	Stand-alone assembly	Through hole technology	250	200	160	80	200	125
			Screw terminals	250	200	160	80	200	125
		3RT2035	18.5	160	80	80	50	125	63
		3RT2036	22.0	160	80	80	50	125	63
		3RT2037	30.0	250	125	160	63	200	100
		3RT2038	37.0	250	160	160	80	200	125
3RB3.3-.W..	20 ... 80	Stand-alone assembly	Through hole technology	250	250	160	80	200	125
			Screw terminals	250	250	160	80	200	125
		3RT2035	18.5	160	80	80	50	125	63
		3RT2036	22.0	160	80	80	50	125	63
		3RT2037	30.0	250	125	160	63	200	100
		3RT2038	37.0	250	160	160	80	200	125

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 16 Fuse links for overload relay and contactor size S3

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
				Type of coordination ²⁾					
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB3.4-.U..	12.5 ... 50	Stand-alone assembly	Through hole technology	200	200	160	100	200	160
			Screw terminals	200	200	160	100	200	160
		3RT2045	37.0	200	160	160	80	200	125
		3RT2046	45.0	200	160	160	100	200	125
		3RT2047	55.0	200	200	160	100	200	160
3RB3.4-.X..	20 ... 80	Stand-alone assembly	Through hole technology	315	315	160	100	200	160
			Screw terminals	315	315	160	100	200	160
		3RT2045	37.0	250	160	160	80	200	125
		3RT2046	45.0	250	160	160	100	200	125
		3RT2047	55.0	250	200	160	100	200	160

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

Table 3- 17 Fuse links for overload relay and contactor size S6

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND							
Type of coordination ²⁾									
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB2.5-..F..	50 ... 200	Stand-alone assembly	Through hole technology	355	315	–	200	–	315
			Screw terminals	355	315	–	200	–	315
		3RT1054	55	315	315	–	160	–	250
		3RT1055	75	315	315	–	200	–	315
		3RT1056	90	315	315	–	200	–	315

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 18 Fuse links for overload relay and contactor size S10

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND							
Type of coordination ²⁾									
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB2.6-..G..	55 ... 250	Stand-alone assembly	Screw terminals	500	500	–	400	–	450
		3RT1064	110			–		–	
		3RT1264	110	400	400	–	250	–	400
		3RT1065	132	500	500	–	400	–	450
		3RT1265	132	400	400	–	315	–	400
		3RT1066	160	500	500	–	400	–	450
		3RT1266	160	400	400	–	315	–	400

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 19 Fuse links for overload relay and contactor size S12

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ⁵⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ⁵⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
				NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND			
Type of coordination ²⁾									
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB2.6- .M..	160 ... 630	Stand-alone assembly	Screw terminals	800	630	–	630	–	630
		3RT1064	110	400	400	–		–	
		3RT1264	110	500	500	–	250	–	400
		3RT1065	132	400	400	–	400	–	450
		3RT1265	132	500	500	–	315	–	400
		3RT1066	160	400	400	–	400	–	450
		3RT1266	160	500	500	–	315	–	400
		3RT1075	200	500	500	–	400	–	450
		3RT1275	200	800	500	–	400	–	450
		3RT1076	250	500	500	–	630	–	800
		3RT1276	250	800	500	–	500	–	500
		3TF68 ³⁾	335	500	500 ⁴⁾	–	630	–	800
		3TF69 ³⁾	450	630 ⁴⁾	500	–	630	–	500

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

⁴⁾ Make sure that there is a sufficiently large safety margin between the maximum AC-3 operating current and the nominal current of the fuses.

⁵⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

3.4 Short-circuit protection: 3RT contactor, 3TF6 + 3RB3 electronic overload relay

Table 3- 20 Fuse links for overload relay and contactor size 14

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1 ³⁾					
				Operating class gG (690 V / 100 kA) [A]		Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]		British Standards BS88 ³⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]	
				NH type 3NA DIAZED type 5SB NEOZED type 5SE		NH type 3ND			
				Type of coordination ²⁾					
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
3RB3.1-.N..	0.32 ... 1.25 ⁵⁾	Stand-alone assembly	Screw terminals	800	630	–	630	–	630
		3TF69 ⁴⁾	450	630 ⁶⁾	500	–	630	–	630

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

⁴⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

⁵⁾ With 3UF1868-3GA00 current transformer.

⁶⁾ Make sure that there is a sufficiently large safety margin between the maximum AC-3 operating current and the nominal current of the fuses.

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Short-circuit protection with fuses for motor feeders with 3UF7 and 3RB22/23/24 contactor mounting, and stand-alone installation

Table 3- 21 Derating values CLASS 5 / 10, 15 and 20

Overload relay	Overload relay Setting range	Contactor		CLASS								
				5 / 10			15 (3UF7 only)			20		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
Size S00												
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0	Stand-alone assembly		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2015	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2016	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2017	5.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2018	7.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	Stand-alone assembly		25	25	25	25	25	25	25	25	25
		3RT2015	3.0	7.0	6.0	4.9	7.0	6.0	4.9	7.0	6.0	4.9
		3RT2016	4.0	9.0	7.7	6.7	9.0	7.7	6.7	9.0	7.7	6.7
		3RT2017	5.5	12.0	9.2	6.7	10.7	9.2	6.7	10.0	9.2	6.7
		3RT2018	7.5	16.0	12.4	8.9	13.0	12.4	8.9	11.5	11.5	8.9
Size S0												
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	Stand-alone assembly		25	25	25	25	25	25	25	25	25
		3RT2023	4.0	9.0	7.6	6.7	9.0	7.6	6.7	9.0	7.6	6.7
		3RT2024	5.5	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0
		3RT2025	7.5	17.0	17.0	13.0	17.0	17.0	13.0	16.0	16.0	13.0
		3RT2026	11.0	25.0	18.0	13.0	18.0	18.0	13.0	16.0	16.0	13.0
		3RT2027	15.0	25.0	25.0	21.0	23.0	20.0	20.0	20.0	20.0	17.0
		3RT2028	18.5	25.0	25.0	21.0	23.0	20.0	20.0	20.0	20.0	17.0
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ... 100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2024	5.5	12.0	12.0	–	12.0	12.0	–	12.0	12.0	–
		3RT2025	7.5	17.0	17.0	13.0	17.0	17.0	13.0	16.0	16.0	13.0
		3RT2026	11.0	25.0	18.0	13.0	18.0	18.0	13.0	16.0	16.0	13.0
		3RT2027	15.0	32.0	32.0	21.0	23.0	20.0	20.0	20.0	20.0	17.0
		3RT2028	18.5	38.0	32.0	21.0	23.0	20.0	20.0	20.0	20.0	17.0

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Overload relay	Overload relay Setting range	Contactor		CLASS								
				5 / 10			15 (3UF7 only)			20		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
Size S2												
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ... 100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2035	18.5	40.0	40.0	24.0	40.0	40.0	24.0	40.0	40.0	24.0
		3RT2036	22.0	50.0	50.0	24.0	49.0	49.0	24.0	45.0	45.0	24.0
		3RT2037	30.0	65.0	65.0	47.0	50.0	50.0	47.0	46.0	46.0	46.0
		3RT2038	37.0	80.0	80.0	58.0	57.0	57.0	57.0	48.0	48.0	48.0
Size S3												
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ... 100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2045	37	80	80	58	70	70	58	63	63	58
		3RT2046	45	95	95	78	74	74	78	65	65	65
		3RT2047	55	110	110	98	76	76	98	67	67	67
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ... 200	Stand-alone assembly		200	200	200	200	200	200	200	200	200
		3RT1054	55	115	115	115	93.2	93.2	93.2	81.7	81.7	81.7
Size S6												
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ... 200	Stand-alone assembly		200	200	200	200	200	200	200	200	200
		3RT1054	55	115	115	115	93.2	93.2	93.2	81.7	81.7	81.7
		3RT1055	75	150	150	150	122	122	122	107	107	107
		3RT1056	90	185	185	170	150	150	150	131	131	131

Overload relay	Overload relay Setting range	Contactor		CLASS								
				5 / 10			15 (3UF7 only)			20		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
Sizes S10 / S12												
3UF7104-1BA00-0/ 3UF7113-1AA00-0/ 3RB2966-2WH2	63 ... 630	Stand-alone assembly		630	630	630	630	630	630	630	630	630
		3RT1064	110	225	225	225	182	182	182	160	160	160
		3RT1264	110	225	225	225	225	225	225	225	225	225
		3RT1065	132	265	265	265	215	215	215	188	188	188
		3RT1265	132	265	265	265	265	265	265	265	265	265
		3RT1066	160	300	300	280	243	243	243	213	213	213
		3RT1266	160	300	300	300	300	300	300	300	300	300
		3RT1075	200	400	400	400	324	324	324	284	284	284
		3RT1275	200	400	400	400	400	400	400	400	400	400
		3RT1076	250	500	500	450	405	405	405	355	355	355
		3RT1276	250	500	500	500	500	500	500	500	500	500
		3TF68 ¹⁾	335	630	630	630	502	502	502	440	440	440
3TF69 ¹⁾	450	630	630	630	630	630	630	572	572	572		
Size 14												
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0 ²⁾	3TF69 ¹⁾	450	820	820	820	662	662	662	572	572	572

¹⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

²⁾ With 3UF1868-3GA00 current transformer.

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Table 3- 22 Derating values CLASS 25, 30 and 35

Overload relay	Overload relay Setting range	Contactor		CLASS								
				25 (3UF7 only)			30			35 (3UF7 only)		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
Size S00												
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0	Stand-alone assembly		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2015	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2016	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2017	5.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
		3RT2018	7.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	Stand-alone assembly		25	25	25	25	25	25	25	25	25
		3RT2015	3.0	7.0	6.0	4.9	7.0	6.0	4.9	7.0	6.0	4.9
		3RT2016	4.0	9.0	7.7	6.7	9.0	7.7	6.7	8.5	7.7	6.7
		3RT2017	5.5	9.5	9.2	6.7	9.0	9.0	6.7	8.5	8.5	6.7
		3RT2018	7.5	10.3	10.3	8.9	9.5	9.5	8.9	8.8	8.8	8.8
Size S0												
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	Stand-alone assembly		25	25	25	25	25	25	25	25	25
		3RT2023	4.0	9.0	7.6	6.7	9.0	7.6	6.7	9.0	7.6	6.7
		3RT2024	5.5	12.0	12.0	9.0	12.0	12.0	9.0	12.0	12.0	9.0
		3RT2025	7.5	14.8	14.8	13.0	14.0	14.0	13.0	13.4	13.4	13.0
		3RT2026	11.0	14.8	14.8	13.0	14.0	14.0	13.0	13.4	13.4	13.0
		3RT2027	15.0	18.0	18.0	15.0	17.0	17.0	15.0	16.0	16.0	15.0
		3RT2028	18.5	18.0	18.0	15.0	17.0	17.0	15.0	16.0	16.0	15.0
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ... 100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2024	5.5	12.0	12.0	9	12.0	12.0	9	12.0	12.0	9
		3RT2025	7.5	14.8	14.8	13.0	14.0	14.0	13.0	13.4	13.4	13.0
		3RT2026	11.0	14.8	14.8	13.0	14.0	14.0	13.0	13.4	13.4	13.0
		3RT2027	15.0	18.0	18.0	15.0	17.0	17.0	15.0	16.0	16.0	15.0
		3RT2028	18.5	18.0	18.0	15.0	17.0	17.0	15.0	16.0	16.0	15.0
		Size S2										
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ...100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2035	18.5	38.0	38.0	24.0	36.0	36.0	24.0	35.0	35.0	24.0
		3RT2036	22.0	41.0	41.0	24.0	39.0	39.0	24.0	38.0	38.0	24.0
		3RT2037	30.0	42.0	42.0	42.0	40.0	40.0	40.0	39.0	39.0	39.0
		3RT2038	37.0	43.0	43.0	43.0	42.0	42.0	42.0	40.0	40.0	40.0

Overload relay	Overload relay Setting range	Contactor		CLASS								
				25 (3UF7 only)			30			35 (3UF7 only)		
				AC-3 derating values [A]								
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V	400 V	500 V	690 V	400 V	500 V	690 V
Size S3												
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ... 100	Stand-alone assembly		100	100	100	100	100	100	100	100	100
		3RT2045	37	57	57	57	54	54	54	52	52	52
		3RT2046	45	59	59	59	56	56	56	54	54	54
		3RT2047	55	61	61	61	58	58	58	55	55	55
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ... 200	Stand-alone assembly		200	200	200	200	200	200	200	200	200
		3RT1054	55	74.8	74.8	74.8	69	69	69	64.0	64.0	64.0
Size S6												
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ... 200	Stand-alone assembly		200	200	200	200	200	200	200	200	200
		3RT1054	55	74.8	74.8	74.8	69	69	69	64.0	64.0	64.0
		3RT1055	75	98	98	98	90	90	90	82	82	82
		3RT1056	90	120	120	120	111	111	111	102	102	102
Sizes S10 / S12												
3UF7104-1BA00-0/ 3UF7113-1AA00-0/ 3RB2966-2WH2	63 ... 630	Stand-alone assembly		630	630	630	630	630	630	630	630	630
		3RT1064	110	146	146	146	135	135	135	126	126	126
		3RT1264	110	194	194	194	173	173	173	152	152	152
		3RT1065	132	172	172	172	159	159	159	146	146	146
		3RT1265	132	228	228	228	204	204	204	180	180	180
		3RT1066	160	195	195	195	180	180	180	165	165	165
		3RT1266	160	258	258	258	231	231	231	204	204	204
		3RT1075	200	260	260	260	240	240	240	220	220	220
		3RT1275	200	344	344	344	316	316	316	270	270	270
		3RT1076	250	325	325	325	300	300	300	275	275	275
		3RT1276	250	430	430	430	385	385	385	340	340	340
		3TF68 ¹⁾	335	408	408	408	376	376	376	344	344	344
3TF69 ¹⁾	450	531	531	531	500	500	500	469	469	469		
Size 14												
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0 ²⁾	3TF69 ¹⁾	450	531	531	531	500	500	500	469	469	469

¹⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

²⁾ With 3UF1868-3GA00 current transformer.

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Table 3- 23 Derating values CLASS 40

Overload relay	Overload relay Setting range	Contactor		CLASS		
				40 (3UF7 only)		
				AC-3 derating values [A]		
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V
Size S00						
3UF7100-1AA00-0/ 3UF7110-1AA00-0	0.3 ... 3.0	Stand-alone assembly		3.0	3.0	3.0
		3RT2015	3.0	3.0	3.0	3.0
		3RT2016	4.0	3.0	3.0	3.0
		3RT2017	5.5	3.0	3.0	3.0
		3RT2018	7.5	3.0	3.0	3.0
3UF7101-1AA00-0/ 3UF7111-1AA00-0	2.4 ... 25	Stand-alone assembly		25	25	25
		3RT2015	3.0	7.0	6.0	4.9
		3RT2016	4.0	8.0	7.7	6.7
		3RT2017	5.5	8.0	8.0	6.7
		3RT2018	7.5	8.3	8.3	8.3
Size S0						
3UF7101-1AA00-0/ 3UF7111-1AA00-0	2.4 ... 25	Stand-alone assembly		25	25	25
		3RT2023	4.0	9.0	7.6	6.7
		3RT2024	5.5	12.0	12.0	9.0
		3RT2025	7.5	13.0	13.0	13.0
		3RT2026	11.0	13.0	13.0	13.0
		3RT2027	15.0	15.0	15.0	15.0
		3RT2028	18.5	15.0	15.0	15.0
3UF7102-1AA00-0/ 3UF7112-1AA00-0	10 ... 100	Stand-alone assembly		100	100	100
		3RT2024	5.5	12.0	12.0	9
		3RT2025	7.5	13.0	13.0	13.0
		3RT2026	11.0	13.0	13.0	13.0
		3RT2027	15.0	15.0	15.0	15.0
		3RT2028	18.5	15.0	15.0	15.0
Size S2						
3UF7102-1AA00-0/ 3UF7112-1AA00-0	10 ...100	Stand-alone assembly		100	100	100
		3RT2035	18.5	33.0	33.0	24.0
		3RT2036	22.0	35.0	35.0	24.0
		3RT2037	30.0	37.0	37.0	37.0
		3RT2038	37.0	38.0	38.0	38.0

Overload relay	Overload relay Setting range	Contactor		CLASS		
				40 (3UF7 only)		
				AC-3 derating values [A]		
Article No.	[A]	Article No.	[kW]	400 V	500 V	690 V
Size S3						
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ...100	Stand-alone assembly		100	100	100
		3RT2045	37	50	50	50
		3RT2046	45	52	52	52
		3RT2047	55	53	53	53
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ...200	Stand-alone assembly		200	200	200
		3RT1054	55	57	57	57
Size S6						
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ... 200	Stand-alone assembly		200	200	200
		3RT1054	55	57	57	57
		3RT1055	75	74	74	74
		3RT1055	90	93	93	93
Sizes S10 / S12						
3UF7104-1BA00-0/ 3UF7113-1AA00-0/ 3RB2966-2WH2	63 ... 630	Stand-alone assembly		630	630	630
		3RT1064	110	111	111	111
		3RT1264	110	131	131	131
		3RT1065	132	133	133	133
		3RT1265	132	156	156	156
		3RT1066	160	150	150	150
		3RT1266	160	177	177	177
		3RT1075	200	200	200	200
		3RT1275	200		233	233
		3RT1076	250	250	250	250
		3RT1276	250	316	316	316
		3TF68 ¹⁾	335	317	317	317
		3TF69 ¹⁾	450	438	438	438
Size 14						
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0 ²⁾	3TF69 ¹⁾	450	438	438	438

¹⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

²⁾ With 3UF1868-3GA00 current transformer.

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Fuse links according to IEC 60947-4-1

Short-circuit protection up to 690 V / 100 kA, types of coordination 1 and 2

Table 3- 24 Fuse links for overload relay and contactor sizes S00 to 14

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1					
				Operating class gG ³⁾ (690 V / 100 kA) [A]	Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]	British Standards BS88 ⁴⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]			
						Type of coordination ²⁾			
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
Size S00									
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0	Stand-alone assembly		35	35	20	16	35	20
		3RT2015	3.0	35	20	20	16	35	20
		3RT2016	4.0	35	20	20	16	35	20
		3RT2017	5.5	35	20	20	16	35	20
		3RT2018	7.5	35	20	20	16	35	20
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	3RT2015	3.0	35	20	20	16	35	20
		3RT2016	4.0	35	20	20	16	35	20
		3RT2017	5.5	50	25	20	16	35	20
		3RT2018	7.5	50	25	25	20	50	25
Size S0									
3UF7101-1AA00-0/ 3UF7111-1AA00-0/ 3RB2906-2DG1	2.4 ... 25	Stand-alone assembly		160	160	50	25	125	50
		3RT2023	4.0	63	25	32	20	63	25
		3RT2024	5.5	63	25	32	20	63	25
		3RT2025	7.5	63	25	32	20	63	25
		3RT2026	11.0	100	35	50	20	100	35
		3RT2027	15.0	125	50	50	25	125	50
		3RT2028	18.5	125	50	50	25	125	50
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ...100	3RT2024	5.5	63	25	32	20	63	25
		3RT2025	7.5	63	25	32	20	63	25
		3RT2026	11.0	100	35	50	20	100	35
		3RT2027	15.0	125	50	50	25	125	50
		3RT2028	18.5	125	50	50	25	125	50
Size S2									
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ...100	3RT2035	18.5	160	80	80	50	125	63
		3RT2036	22.0	160	80	80	50	125	63
		3RT2037	30.0	250	125	160	63	200	100
		3RT2038	37.0	250	125	160	80	200	125

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1					
				Operating class gG ³⁾ (690 V / 100 kA) [A]	Operating class aM (690 V / 100 kA) (≥ S6 690 V / 50 kA) [A]	British Standards BS88 ⁴⁾ (415 V / 80 kA) (≥ S6 415 V / 50 kA) [A]			
						Type of coordination ²⁾			
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
Size S3									
3UF7102-1AA00-0/ 3UF7112-1AA00-0/ 3RB2906-2JG1	10 ...100	Stand-alone assembly		315	315	160	100	200	160
		3RT2045	37	250	160	160	80	200	125
		3RT2046	45	250	160	160	100	200	125
		3RT2047	55	250	200	160	100	200	160
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ...200	3RT1054	55	355	315	–	160	–	250
Size S6									
3UF7103-1.A00-0/ 3UF7113-1.A00-0/ 3RB2956-2T.2	20 ...200	Stand-alone assembly		400	400	–	200	–	315
		3RT1054	55	355	315	–	160	–	250
		3RT1055	75	355	315	–	200	–	315
		3RT1055	90	355	315	–	200	–	315
Sizes S10 / S12									
3UF7104-1BA00-0/ 3UF7113-1AA00-0/ 3RB2966-2WH2	63 ... 630	Stand-alone assembly		800	800	–	630	–	630
		3RT1064	110	500	400	–	250	–	400
		3RT1264	110	500	500	–	400	–	450
		3RT1065	132	500	400	–	315	–	400
		3RT1265	132	500	500	–	400	–	450
		3RT1066	160	500	400	–	315	–	400
		3RT1266	160	500	500	–	400	–	450
		3RT1075	200	630	500	–	400	–	450
		3RT1275	200	800	800	–	630	–	800
		3RT1076	250	630	500	–	500	–	500
		3RT1276	250	800	800	–	630	–	800
		3TF68 ⁵⁾	335	800	500	–	630	–	500
		3TF69 ⁵⁾	450	800	630	–	630	–	630

3.5 Short-circuit protection: 3RT, 3TF6 contactor + 3RB22, 3RB23, 3RB24 electronic overload relay, and 3UF7

Overload relay	Overload relay Setting range	Contactor		Fuse links ¹⁾					
				According to IEC 60947-4-1					
				Operating class gG ³⁾ (690 V / 100 kA) [A]	Operating class aM (690 V / 100 kA) ≥ S6 690 V / 50 kA) [A]	British Standards BS88 ⁴⁾ (415 V / 80 kA) ≥ S6 415 V / 50 kA) [A]			
				Type of coordination ²⁾					
Article No.	[A]	Article No.	[kW]	1	2	1	2	1	2
Size 14									
3UF7100-1AA00-0/ 3UF7110-1AA00-0/ 3RB2906-2BG1	0.3 ... 3.0 ⁶⁾	3TF69 ⁵⁾	450	630	500	–	630	–	630

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ NH type 3NA, DIAZED type 5SB, NEOZED type 5SE, operating class gG

⁴⁾ Fuse links as specified in the table "BS88 fuse links (Page 74)" must be used for BS88 fuses.

⁵⁾ 3TF68 and 3TF69 vacuum contactors cannot be mounted directly.

⁶⁾ With 3UF1868-3GA00 current transformer.

3.6 Short-circuit protection: 3RT2 contactor + 3RR2 monitoring relay, types of coordination 1 and 2

Short-circuit protection with fuses for motor feeders with 3RR2, contactor mounting, and stand-alone assembly

Fuse links according to IEC 60947-4-1
Short-circuit protection up to 690 V / 100 kA, operating class gG,
types of coordination 1 and 2

Table 3- 25 Fuse links for monitoring relay and contactor size S00, S0, and S2

Monitoring relay	Overload relay Setting range	Contactor		Fuse links ¹⁾	
				[A]	
				According to IEC 60947-4-1 ³⁾	
				Type of coordination ²⁾	
Article No.	[A]	Article No.	[kW]	1	2
Size S00					
3RR2.41	1.6 ... 16	Stand-alone assembly		50	50
		3RT2015	35	35	20
		3RT2016	35	35	20
		3RT2017	50	50	25
		3RT2018	50	50	25
Size S0					
3RR2.42	4 ... 40	Stand-alone assembly		125	80
		3RT2024	5.5	63	25
		3RT2025	7.5	63	25
		3RT2026	11.0	100	35
		3RT2027	15.0	125	50
		3RT2028	18.5	125	50
Size S2					
3RR2.43	8 ... 80	Stand-alone assembly		250	250
		3RT2035	18.5	160	80
		3RT2036	22.0	160	80
		3RT2037	30.0	250	125
		3RT2038	37.0	250	160

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-1

³⁾ NH type 3NA, DIAZED type 5SB, NEOZED type 5SE, operating class gG

3.7 Short-circuit protection: 3RW30 soft starter + 3RT2 contactor + 3RU2 thermal overload relay

3.7 Short-circuit protection: 3RW30 soft starter + 3RT2 contactor + 3RU2 thermal overload relay

Short-circuit protection with fuses for motor feeders with 3RW30 soft starter and 3RU21 thermal overload relay with contactor mounting up to 400 V / 65 kA, type of coordination 1

Table 3- 26 Fuse links according to IEC 60947-4-2 operating class gG,
(NH DIAZED, NEOZED; type 3NA, 5SB, 5SE)

Overload relay		Contactor		Soft starter		Fuse links ¹⁾ [A]
						Type of coordination ²⁾
Article No.	Setting range [A]	Article No.	[kW]	Article No.	[kW]	1
Size S00						
3RT2015	1.8 ... 2.5	3RT2015	3	3RW3013	1.5	20
3RT2015	2.2 ... 3.2	3RT2015	3	3RW3013	1.5	20
3RT2015	2.8 ... 4.0	3RT2015	3	3RW3013	1.5	20
3RT2015	3.5 ... 5.0	3RT2015	3	3RW3014	3	20
3RT2015	4.5 ... 6.3	3RT2015	3	3RW3014	3	20
3RT2016	5.5 ... 8.0	3RT2016	4	3RW3016	4	20
3RT2016	7.0 ... 10	3RT2016	4	3RW3016	4	20
3RT2017	9.0 ... 12.5	3RT2017	5.5	3RW3017	5.5	25
3RT2018	11 ... 16	3RT2018	7.5	3RW3018	7.5	35
Size S0						
3RU2126-4B..	14 ... 20	3RT2026	11	3RW3026	11	63
3RU2126-4C..	17 ... 22	3RT2026	11	3RW3026	11	63
3RU2126-4D..	20 ... 25	3RT2026	11	3RW3026	11	63
3RU2126-4N..	23 ... 28	3RT2027	15	3RW3027	15	80
3RU2126-4E..	27 ... 32	3RT2027	15	3RW3027	15	80
3RU2126-4P..	30 ... 36	3RT2028	18.5	3RW3028	18.5	80
3RU2126-4F..	34 ... 40	3RT2028	18.5	3RW3028	18.5	80
Size S2						
3RU2136-4F..	28 ... 40	3RT2035	18.5	3RW3036	22	100
3RU2136-4G..	36 ... 45	3RT2036	22	3RW3036	22	100
3RU2136-4H..	40 - 50	3RT2036	22	3RW3036	22	100
3RU2136-4Q..	47 ... 57	3RT2037	30	3RW3037	30	125
3RU2136-4J..	54 ... 65	3RT2037	30	3RW3037	30	125
3RU2136-4K..	62 ... 73	3RT2038	37	3RW3038	37	125
3RU2136-4R..	70 ... 80	3RT2038	37	3RW3038	37	125

3.7 Short-circuit protection: 3RW30 soft starter + 3RT2 contactor + 3RU2 thermal overload relay

Overload relay		Contactor		Soft starter		Fuse links ¹⁾ [A]
						Type of coordination ²⁾
Article No.	Setting range [A]	Article No.	[kW]	Article No.	[kW]	1
Size S3						
3RU2146-4F..	28 ... 40	3RT2045	37	3RW3046	45	160
3RU2146-4H..	36 ... 50	3RT2045	37	3RW3046	45	160
3RU2146-4J..	45 ... 63	3RT2045	37	3RW3046	45	160
3RU2146-4K..	57 ... 75	3RT2045	37	3RW3046	45	160
3RU2146-4L..	70 ... 90	3RT2046	45	3RW3047	55	160
3RU2146-4M..	80 ... 100	3RT2047	55	3RW3047	55	160

¹⁾ Please take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-2

3.8 Short-circuit protection: Solid-state contactor, type of coordination 1 and 2

Short-circuit protection with fuses for 3RF34 solid-state contactor

Fuse links according to IEC 60947-4-2

Short-circuit protection up to 600 V / 50 kA, types of coordination 1 and 2

Table 3- 27 Fuse links for solid-state contactor sizes S00 and S0

Solid-state contactor		Fuse links ¹⁾ [A]	
		According to IEC 60947-4-2 ³⁾	
Article No.	I _e @ 40 °C [A]	500 V 3NW / 600 V 3NA 50 kA	
		Type of coordination ²⁾	
		1	2
3RF3405-1BB54	5.2	25	On request
3RF3410-1BB54	9.2	40	
3RF3412-1BB54	12.5	40	
3RF3416-1BB54	16	40	
Reversing contactors			
3RF3403-1BD54	3.8	25	On request
3RF3405-1BD54	5.4	40	
3RF3410-1BD54	7.4	40	

¹⁾ Take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-2

³⁾ NH type 3NA, DIAZED type 5SB, NEOZED type 5SE, operating class gG

3.9 Short-circuit protection: Motor feeders with 3RW3 + 3RT2 + 3RB30/3RB31

Short-circuit protection with fuses for motor feeders with 3RW30 soft starter and 3RB30 / 3RB31 electronic overload relay up to 480 V / 65 kA, type of coordination 1

Table 3- 28 Fuse links according to IEC 60947-4-2 operating class gG,
(NH DIAZED, NEOZED; type 3NA, 5SB, 5SE)

Overload relay		Contactor	Soft starter	Current carrying capacity [A]			Fuse links ¹⁾ [A]
				I _e at 400 V and			Type of coordina- tion ²⁾
Article No.	Setting range [A]	Article No.	Article No.	40 °C	50 °C	60 °C	1
Size S00							
3RB3016-1P..	1 ... 4	3RT2015	3RW3013	3.6	3.3	3.0	20
		3RT2016	3RW3013	3.6	3.3	3.0	20
3RB3016-1P..	3 ... 12	3RT2015	3RW3014	6.5	6.0	5.5	20
		3RT2016	3RW3014	6.5	6.0	5.5	20
		3RT2017	3RW3016	9.0	8.0	7.0	20
3RB3016-1T..	4 ... 16	3RT2017	3RW3017	12.5	12.0	11.0	25
		3RT2018	3RW3018	17.6	17.0	14.0	35
Size S0							
3RB3026-1Q..	6 ... 25	3RT2025	3RW3026	17.0	17.0	17.0	63
		3RT2026	3RW3026	25.3	23.0	21.0	63
		3RT2027	3RW3027	32.2	29.0	26.0	80
3RB3026-1V..	10 ... 40	3RT2025	3RW3026	17.0	17.0	17.0	63
		3RT2026	3RW3026	25.3	23.0	21.0	63
		3RT2027	3RW3027	32.2	29.0	26.0	80
		3RT2028	3RW3028	38.0	34.0	31.0	80

3.9 Short-circuit protection: Motor feeders with 3RW3 + 3RT2 + 3RB30/3RB31

Overload relay		Contactor	Soft starter	Current carrying capacity [A]			Fuse links ¹⁾ [A]
				I _e at 400 V and			Type of coordination ²⁾
Article No.	Setting range [A]	Article No.	Article No.	40 °C	50 °C	60 °C	1
Size S2							
3RB3036-1U..	12 ... 50	3RT2035	3RW3036	45.0	42.0	39.0	100
		3RT2036	3RW3036	45.0	42.0	39.0	100
3RB3036-1W..	20 ... 80	3RT2035	3RW3036	45.0	42.0	39.0	100
		3RT2036	3RW3036	45.0	42.0	39.0	100
		3RT2037	3RW3037	65.0	58.0	53.0	125
		3RT2038	3RW3038	72.0	62.1	60.0	125
Size S3							
3RB3046-1U..	12.5 ... 50	3RT2045	3RW3046	50	50	50	160
3RB3046-1X..	32 ... 115	3RT2045	3RW3046	80	73	66	160
		3RT2046	3RW3047	106	98	90	160
		3RT2047	3RW3047	106	98	90	160

¹⁾ Please take account of the operating voltage.

²⁾ Assignment and short-circuit protective devices acc. to IEC 60947-4-2

3.10 BS88 fuse links

BS88 fuse links

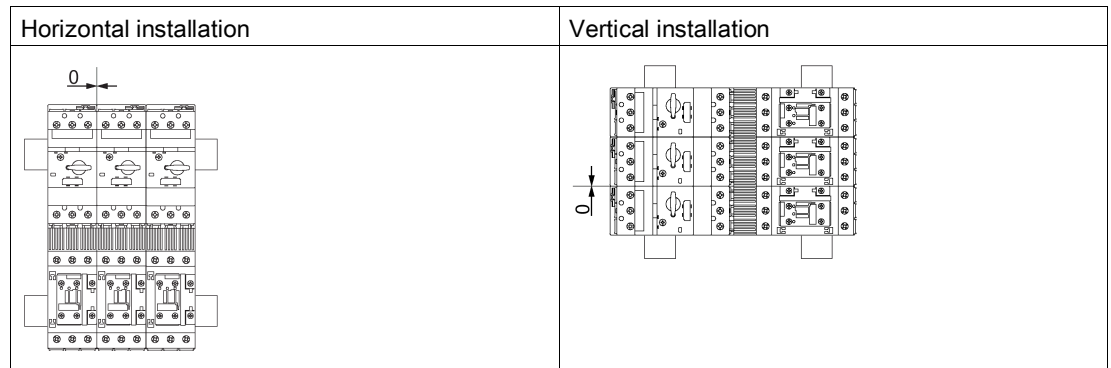
Table 3- 29 BS88 fuse links

Rated current [A]	Fuse link
4	NIT4
6	NIT6
10	NIT10
16	NIT16
20	NIT20
25	NIT20M25
32	NIT20M32
35	TIA32M35
40	TIA32M40
50	TIA32M50
63	TIA32M63
80	TIA63M80
100	TIS63M100
125	TCP100M125
160	TCP100M160
200	TCP100M200
250	TFP200M250
315	TFP200M315
400	TMF400
450	TMF400M450
500	TTM500
630	TTM630
800	TLM800

Installation guidelines

4.1 Mounting variants under different conditions and frequency of use

The load feeders can be mounted horizontally or vertically.



The following table shows the installation guidelines for the fuseless load feeders.

Table 4- 1 Mounting variants - fuseless load feeders with link module

Combination					
	Setting range	Distance between feeders			
			Permissible installation: h = horizontal, v = vertical		
				Max. ambient temperature T _a	
					Use under increased vibration and shock load ¹⁾
Motor starter protector and contactor	A	mm	h, v	°C	
Direct-on-line starter, screw terminal, DIN rail or base plate					
S00	≤ 14	0	h, v	60	Unlimited
	> 14 ... 16	10	h	60	
		0	h, v	40	
S0	≤ 29	0	h, v	60	Unlimited
	> 29 ... 32	10	h	60	
		0	h, v	40	
S2	≤ 65	0	h, v	60	Unlimited
S3 (with DIN rail adapter 3RA2942-1AA00 only)	≤ 87	0	h, v	60	On request
	> 87 ... 100	0	h, v	40	

4.1 Mounting variants under different conditions and frequency of use

Combination					
	Setting range				
		Distance between feeders			
			Permissible installation: h = horizontal, v = vertical		
				Max. ambient temperature T _a	
					Use under increased vibration and shock load ¹⁾
Motor starter protector and contactor	A	mm	h, v	°C	
Direct-on-line starter, screw terminal, busbar					
S00	≤ 14	0	h	40	Vibration and shock kit 8US1998-1CA10 required
		10	h	60	
		10	v	40	
	> 14 ... 16	10	h	60	
		10	h, v	40	
S0	≤ 29	0	h	40	Vibration and shock kit 8US1998-1CA10 required
		10	h	60	
		10	v	40	
	> 29 ... 32	10	h	60	
		10	h, v	40	
S2	≤ 65	10	h, v	60	Vibration and shock kit 8US1998-1DA10 required
	≤ 65	0	h, v	40	Vibration and shock kit 8US1998-1DA10 required
Reversing starter, screw terminal, DIN rail or base plate					
S00	≤ 14	0	h, v	60	Unlimited
	> 14 ... 16	10	h	60	
		0	h, v	40	
S0	≤ 29	0	h, v	60	DIN rail adapter required (already included with 3RA22)
	> 29 ... 32	10	h	60	
		0	h, v	40	
S2	≤ 65	0	h, v	60	Unlimited
S3 (with DIN rail adapter 3RA2942-1AA00 only)	≤ 87	0	h, v	60	On request
	> 87 ... 100	0	h, v	40	

4.1 Mounting variants under different conditions and frequency of use

Combination					
	Setting range				
		Distance between feeders			
			Permissible installation: h = horizontal, v = vertical		
				Max. ambient temperature T _a	
					Use under increased vibration and shock load ¹⁾
Motor starter protector and contactor	A	mm	h, v	°C	
Reversing starter, screw terminal, busbar					
S00	≤ 14	0	h	60	Vibration and shock kit 8US1998-1CA10 required
		0	v	40	
	> 14 ... 16	10	h	60	
		10	v	40	
S0	≤ 29	0	h	60	Vibration and shock kit 8US1998-1CA10 required
		0	v	40	
	> 29 ... 32	10	h	60	
		10	v	40	
S2	≤ 65	10	h, v	60	Vibration and shock kit 8US1998-1DA10 required
	≤ 65	0	h, v	40	Vibration and shock kit 8US1998-1DA10 required
Direct-on-line starter, spring-loaded connection, DIN rail or base plate					
S00	≤ 14	0	h, v	60	Unlimited
	> 14 ... 16	10	h	60	
		0	h, v	40	
S0	≤ 29	0	h, v	60	Unlimited
	> 29 ... 32	10	h	60	
		0	h, v	40	
Direct-on-line starter, spring-loaded connection, busbar					
S00	≤ 14	0	h	40	Vibration and shock kit 8US1998-1CA10 required
		10	h	60	
		10	v	40	
	> 14 ... 16	10	h	60	
		10	v	40	
S0	≤ 29	0	h	40	Vibration and shock kit 8US1998-1CA10 required
		10	h	60	
		10	v	40	
	> 29 ... 32	10	h	60	
		10	v	40	

4.1 Mounting variants under different conditions and frequency of use

Combination					
	Setting range				
		Distance between feeders			
			Permissible installation: h = horizontal, v = vertical		
				Max. ambient temperature T _a	
					Use under increased vibration and shock load ¹⁾
Motor starter protector and contactor	A	mm	h, v	°C	
Reversing starter, spring-loaded connection, DIN rail or base plate					
S00	≤ 14	0	h, v	60	Unlimited
	> 14 ... 16	10	h	60	
		0	h, v	40	
S0	≤ 29	0	h, v	60	DIN rail adapter required (already included with 3RA22)
	> 29 ... 32	10	h	60	
		0	h, v	40	
Reversing starter, spring-loaded connection, busbar					
S00	≤ 14	0	h	60	Vibration and shock kit 8US1998-1CA10 required
		0	v	40	
	> 14 ... 16	10	h	60	
		10	v	40	
S0	≤ 29	0	h	60	Vibration and shock kit 8US1998-1CA10 required
		0	v	40	
	> 29 ... 32	10	h	60	
		10	v	40	
Motor starter protector and soft starter, screw terminal, DIN rail or base plate					
S00	16	²⁾		²⁾	The feeder must be screwed tight to the top of the motor starter protector with two screws and fastened to the bottom of the soft starter with a self-locking screw. Not approved for railways, power plants, or shipbuilding.
S0	32	²⁾		²⁾	The feeder must be screwed tight to the top of the motor starter protector with two screws and fastened to the bottom of the soft starter with a self-locking screw. Not approved for railways, power plants, or shipbuilding.
S2 (only with DIN rail adapter 3RA2932-1CA00)	65	²⁾	²⁾	²⁾	Unlimited
S3 (on base plate only)	On request				

4.1 Mounting variants under different conditions and frequency of use

Combination					
	Setting range				
		Distance between feeders			
			Permissible installation: h = horizontal, v = vertical		
				Max. ambient temperature T _a	
					Use under increased vibration and shock load ¹⁾
Motor starter protector and contactor	A	mm	h, v	°C	
Motor starter protector and soft starter, spring-loaded terminal, DIN rail or base plate					
S00	16	²⁾		²⁾	The feeder must be screwed tight to the top of the motor starter protector with two screws and fastened to the bottom of the soft starter with a self-locking screw. Not approved for railways, power plants, or shipbuilding.
S0	32	²⁾		²⁾	The feeder must be screwed tight to the top of the motor starter protector with two screws and fastened to the bottom of the soft starter with a self-locking screw. Not approved for railways, power plants, or shipbuilding.
Motor starter protector and solid-state contactor, screw terminal, DIN rail or base plate					
Direct-on-line starters (sizes S00 / S0)	16	²⁾		²⁾	Unlimited Not approved for railways, power plants, or shipbuilding.
Reversing starters (sizes S00 / S0)	7.4	²⁾		²⁾	Unlimited Not approved for railways, power plants, or shipbuilding.
¹⁾ Vibration and shock tests are carried out in accordance with SN 31205 as well as with the relevant standards for railways, shipbuilding, and power plants. ²⁾ Please consult Technical Assistance (http://www.siemens.com/sirius/technical-assistance).					

4.2 Minimum clearances to grounded or live parts (400 V / 500 V / 690 V AC)

Maintain the following clearances when mounting the 3RA21 / 3RA22 assemblies:

Table 4- 2 Installation guidelines for 400 V / 500 V / 690 V AC (size S00 / S0)

Clearance from grounded or live parts as well as from molded-plastic cable ducts according to IEC 60947-4				
Motor starter protector	Contactor	Y [mm]	X2 ¹⁾ [mm]	Z [mm]
Rated operating voltage 400 V				
3RV2.1	3RT201	20	10	9
3RV2.2	3RT201	30	10	9
	3RT2.2	30	10	9
Rated operating voltage 500 V				
3RV201 3RV211	3RT201	20	10	9
3RV202 3RV212	3RT202	30	10	20
3RV202 + limiter (32 A) 3RV212 + limiter (32 A)	3RT202	30	10	9

4.2 Minimum clearances to grounded or live parts (400 V / 500 V / 690 V AC)

Clearance from grounded or live parts as well as from molded-plastic cable ducts according to IEC 60947-4				
Rated operating voltage 690 V				
3RV2.1	3RT201	50	10	20
3RV2.1 / 3RV2.2 + limiter (32 A)	3RT201 / 3RT202	80	10	20
3RV2.1 / 3RV2.2 + limiter (50 A)	3RT202	50	10	20

- ¹⁾ Minimum clearance from contactor at the front. There is no minimum clearance requirement at the front for the motor starter protector.

Note**Installation instructions for S0 motor starter protectors from 36 A**

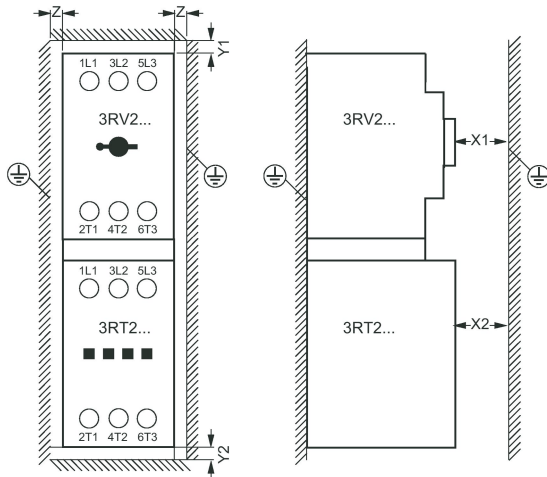
Minimum cable length between motor starter protector and contactor: 150 mm.

Minimum clearance between motor starter protector and contactor: 100 mm.

4.2 Minimum clearances to grounded or live parts (400 V / 500 V / 690 V AC)

Table 4- 3 Installation guidelines for 400 V / 500 V / 690 V AC (size S2)

Clearance from grounded or live parts as well as from molded-plastic cable ducts according to IEC 60947-4						
Motor starter protector	Contactors	Y1 [mm]	Y2 [mm]	X1 [mm]	X2 [mm]	Z [mm]
Rated operating voltage 400 V						
3RV2.3	3RT203	50	10	---	10	10
Rated operating voltage 500 V						
3RV203 3RV213	3RT203	20	10	---	10	9
3RV203 + limiter (80 A) 3RV213 + limiter (80 A)	3RT203	50	10	---	10	10
Rated operating voltage 690 V						
3RV2.32 + limiter (80 A)	3RT203	50	10	10	32	10

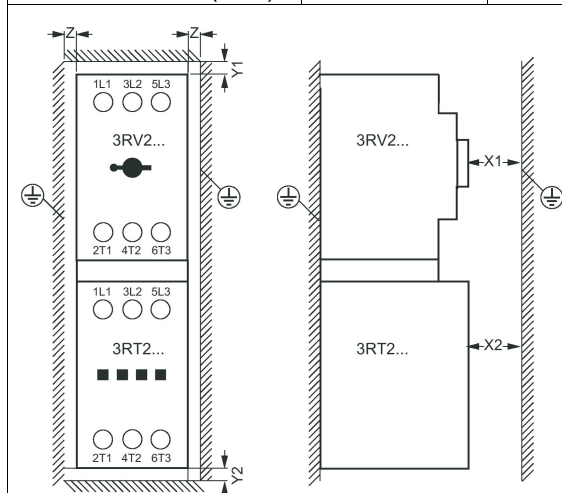


4.2 Minimum clearances to grounded or live parts (400 V / 500 V / 690 V AC)

Table 4- 4 Installation guidelines for 400 V / 500 V / 690 V AC (size S3)

Clearance from grounded or live parts as well as from molded-plastic cable ducts according to IEC 60947-4						
Motor starter protector	Contactor	Y1 [mm]	Y2 [mm]	X1 [mm]	X2 [mm]	Z [mm]
Rated operating voltage 400 V						
3RV2.4	3RT204	On request				
Rated operating voltage 500 V						
3RV2.4	3RT204	On request				
3RV2.4 + limiter (80 A)	3RT204	On request				
Rated operating voltage 690 V						
3RV2.42 + limiter (80 A)	3RT204	On request				

The diagrams illustrate the required clearances for motor starter protectors and contactors. The left diagram shows a vertical stack of components: a 3RV2... motor starter protector (with terminals 1L1, 3L2, 5L3 and 2T1, 4T2, 6T3) and a 3RT2... contactor (with terminals 1L1, 3L2, 5L3 and 2T1, 4T2, 6T3). The right diagram shows a 3RV2... motor starter protector and a 3RT2... contactor. The dimensions are defined as follows: Z is the horizontal clearance from the side of the enclosure; Y1 and Y2 are the vertical clearances from the top and bottom of the enclosure; X1 is the horizontal clearance from the side of the enclosure; and X2 is the horizontal clearance from the side of the enclosure.



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- **Product announcements**
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5.2 SIRIUS Innovations system configurator

Reference

To assist you with configuration, the "SIRIUS Innovations system configurator" is at your disposal on the Internet. Here, you can gather together all necessary products before the actual configuration process and you can realize complete projects virtually.

You can find the "SIRIUS Innovations system configurator" on the Internet (<http://www.siemens.com/sirius/configurators>).

Up-to-the-minute information

You can obtain further assistance by calling the following numbers:

Technical Assistance:

Telephone: +49 (911) 895-5900 (8 a.m. to 5 p.m. CET)

Fax: +49 (911) 895-5907

or on the Internet at:

E-mail: (<mailto:technical-assistance@siemens.com>)

Internet: (<http://www.siemens.com/sirius/technical-assistance>)

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