General data

Overview

More information	
Homepage, see www.siemens.com/sirius-control SiePortal, see • www.siemens.com/product_catalog_siep?3RU2 • www.siemens.com/product_catalog_siep?3RB TIA Selection Tool Cloud (TST Cloud) for • 3RU2 thermal overload relays, see www.siemens.com/tstcloud/?node=ThermalOverloadRelay • 3RB electronic overload relays, see www.siemens.com/tstcloud/?node=ElectronicOverloadRelay	Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188 Conversion tool, see www.siemens.com/conversion-tool



Features	3RU2	3RB3	3RB2	Benefits
General data				
Sizes	S00 ... S3	S00 ... S3	S6 ... S12	• Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, etc.) • Permit the mounting of slim-line and compact load feeders in widths of 45 mm (S00, S0), 55 mm (S2), 70 mm (S3), 120 mm (S6) and 145 mm (S10/S12) • Simplify configuration
Seamless current range	0.11 ... 100 A	0.1 ... 115 A	50 ... 630 A	• Allows easy and consistent configuration with one series of overload relays (for small to large loads)
Protection functions				
Tripping due to overload	✓	✓	✓	• Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload
Tripping due to phase asymmetry	--	✓	✓	• Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to phase asymmetry
Tripping due to phase failure	✓	✓	✓	• Minimizes heating of three-phase motors during phase failure
Protection of 1-phase loads	✓	--	--	• Enables the protection of 1-phase loads
Tripping due to overtemperature	--[1)]	--[1)]	--[1)]	• Provides optimum temperature-dependent protection of loads against excessive temperature rises, e.g. for stator-critical motors or in the event of insufficient coolant flow, contamination of the motor surface or long starting or braking operations
Tripping in the event of a ground fault through internal ground fault detection (can be activated)	--	✓ (only 3RB31)	✓ (only 3RB21)	• Provides optimum protection of loads against incomplete ground faults due to moisture, condensed water, damage to the insulation material, etc. • Eliminates the need for additional special equipment • Saves space in the control cabinet • Reduces wiring outlay and costs
Features				
RESET function	✓	✓	✓	• Allows manual or automatic resetting of the device
Remote RESET function	✓ (by means of separate module)	✓ (only with 3RB31 and external auxiliary voltage 24 V DC)	✓ (only with 3RB21 and external auxiliary voltage 24 V DC)	• Allows the remote resetting of the device
TEST function for auxiliary contacts	✓	✓	✓	• Allows easy checking of the function and wiring
TEST function for electronics	--	✓	✓	• Allows checking of the electronics
Status display	✓	✓	✓	• Displays the current operating state
Large current adjustment button	✓	✓	✓	• Makes it easier to set the relay exactly to the correct current value
Integrated auxiliary contacts (1 NO + 1 NC)	✓	✓	✓	• Allow the load to be switched off in the event of an irregularity • Can be used to output signals

✓ Available
-- Not available

[1)] The SIRIUS 3RN thermistor motor protection devices can be used to provide additional temperature-dependent protection.



Features	3RU2	3RB3	3RB2	Benefits
Design of load feeders				
Short-circuit strength up to 100 kA at 690 V (in conjunction with the corresponding fuses or the corresponding motor starter protector)	✓	✓	✓	• Provides optimum protection of the loads and operating personnel in the event of short circuits due to insulation faults or faulty switching operations
Electrical and mechanical matching to 3RT contactors	✓	✓	✓	• Simplifies configuration • Reduces wiring outlay and costs • Enables stand-alone installation as well as space-saving direct mounting
Straight-through transformers for main circuit[1] (in this case the cables are routed through the feed-through openings of the overload relay and connected directly to the box terminals of the contactor)	--	✓ (S2, S3)	✓ (S6)	• Reduce the contact resistance (only one point of contact) • Save wiring costs (easy, no need for tools, and fast) • Save material costs • Reduce installation costs
Spring-loaded terminals for main circuit[1]	✓ (S00, S0)	✓ (S00, S0)	--	• Enable fast connections • Permit vibration-resistant connections • Enable maintenance-free connections
Spring-loaded terminals for auxiliary circuits[1]	✓	✓	✓	• Enable fast connections • Permit vibration-resistant connections • Enable maintenance-free connections
Other features				
Temperature compensation	✓	✓	✓	• Allows the use of the relays even at high temperatures without derating • Prevents premature tripping • Allows compact installation of the control cabinet without distance between the devices/load feeders • Simplifies configuration • Enables space to be saved in the control cabinet
Very high long-term stability	✓	✓	✓	• Provides safe protection for the loads even after years of use in harsh operating conditions
Wide setting ranges	--	✓ (1:4)	✓ (1:4)	• Minimize the configuration overhead and costs • Minimize storage overhead, storage costs, and tied-up capital
Fixed trip class	Class 10, Class 10A	3RB30: Class 10E or Class 20E	3RB20: Class 10E or Class 20E	• Optimum motor protection for standard starts
Class 5E, 10E, 20E, 30E trip classes adjustable on the device	--	✓ (only 3RB31)	✓ (only 3RB21)	• Enable solutions for very fast starting motors requiring special protection (e.g. Ex motors) • Enable heavy starting solutions • Reduce the number of versions • Minimize the configuration overhead and costs • Minimize storage overhead, storage costs, and tied-up capital
Low power loss	--	✓	✓	• Reduces power consumption and energy costs (up to 98% less power is used than for thermal overload relays) • Minimizes temperature rises of the contactor and control cabinet – in some cases this may eliminate the need for control cabinet cooling • Direct mounting to contactor saves space, even for high motor currents (i.e. no heat decoupling is required)
Internal power supply	--[2]	✓	✓	• Eliminates the need for configuration and connecting an additional control circuit

✓ Available
-- Not available

[1] Available as an alternative to screw terminals.
[2] SIRIUS 3RU2 thermal overload relays operate according to the bimetallic principle and therefore do not require a control supply voltage.

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General data

Overview of overload relays – matching contactors

	Overload relays	Current measure-ment	Current range	**Contactors** (type, size, operating power in kW) **3RT201.**	**3RT202.**	**3RT203.**	**3RT204.**	**3RT105.**	**3RT106.**	**3RT107.**	**3TF68/3TF69**
				S00	S0	S2	S3	S6	S10	S12	14
	Type		A	3/4/5.5/7.5	5.5/7.5/11/15/18.5	15/18.5/22/30/37	37/45/55	55/75/90	110/132/160	200/250	375/450
SIRIUS 3RU2 thermal overload relays											
 3RU2	3RU211	Integrated	0.11 … 16	✓	--	--	--	--	--	--	--
	3RU212	Integrated	1.8 … 40	--	✓	--	--	--	--	--	--
	3RU213	Integrated	11 … 80	--	--	✓	--	--	--	--	--
	3RU214	Integrated	28 ... 100	--	--	--	✓	--	--	--	--
SIRIUS 3RB30 electronic overload relays[1]											
 3RB30	3RB301	Integrated	0.1 … 16	✓	--	--	--	--	--	--	--
	3RB302	Integrated	0.1 … 40	--	✓	--	--	--	--	--	--
	3RB303	Integrated	12.5 … 80	--	--	✓	--	--	--	--	--
	3RB304	Integrated	32 ... 115	--	--	--	✓	--	--	--	--
SIRIUS 3RB31 electronic overload relays[1]											
 3RB31	3RB311	Integrated	0.1 … 16	✓	--	--	--	--	--	--	--
	3RB312	Integrated	0.1 … 40	--	✓	--	--	--	--	--	--
	3RB313	Integrated	12.5 … 80	--	--	✓	--	--	--	--	--
	3RB314	Integrated	32 ... 115	--	--	--	✓	--	--	--	--
SIRIUS 3RB20 electronic overload relays[1]											
 3RB20	3RB205	Integrated	50 … 200	--	--	--	--	✓	--	--	--
	3RB206	Integrated	55 … 630	--	--	--	--	--	✓	✓	✓
	3RB201 + 3UF18	Integrated	630 … 820	--	--	--	--	--	--	--	✓
SIRIUS 3RB21 electronic overload relays[1]											
 3RB21	3RB215	Integrated	50 … 200	--	--	--	--	✓	--	--	--
	3RB216	Integrated	55 … 630	--	--	--	--	--	✓	✓	✓
	3RB211 + 3UF18	Integrated	630 … 820	--	--	--	--	--	--	--	✓

✓ Can be used
-- Cannot be used

[1] Technical specifications for the use of overload relays with trip class ≥ Class 20E, see Short-circuit protection with fuses for motor feeders
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

Connection methods

3RU2 thermal overload relays

- Sizes S00 and S0:
  - Main and auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S2 and S3:
  - Main circuit: Screw terminals with box terminal
  - Auxiliary circuit: Either screw or spring-loaded terminals

3RB3 electronic overload relays

- Sizes S00 and S0:
  - Main and auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S2 and S3:
  - Main circuit: Screw terminals with box terminal or as straight-through transformer
  - Auxiliary circuit: Either screw or spring-loaded terminals

3RB2 electronic overload relays

- Size S6:
  - Main circuit: With busbar connection or as straight-through transformer
  - Auxiliary circuit: Either screw or spring-loaded terminals
- Sizes S10/S12:
  - Main circuit: With busbar connection
  - Auxiliary circuit: Either screw or spring-loaded terminals

Screw terminals

Spring-loaded terminals

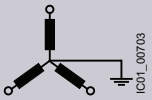
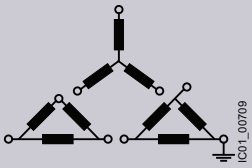
Busbar connections

Straight-through transformers

The various connection methods and straight-through transformers are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Voltage data

The data for 3-phase power systems according to IEC 60947-4-1 are valid for the following line system configurations:

Voltage U_e	Line system configurations	
	Three-phase four-wire systems 	Three-phase three-wire systems 
V	V	V
230	--	230
400	230/400	400
440	260/440	440
500	--	500
690	400/690	690 (only from size S3)
1 000	--	1 000

-- Not specified

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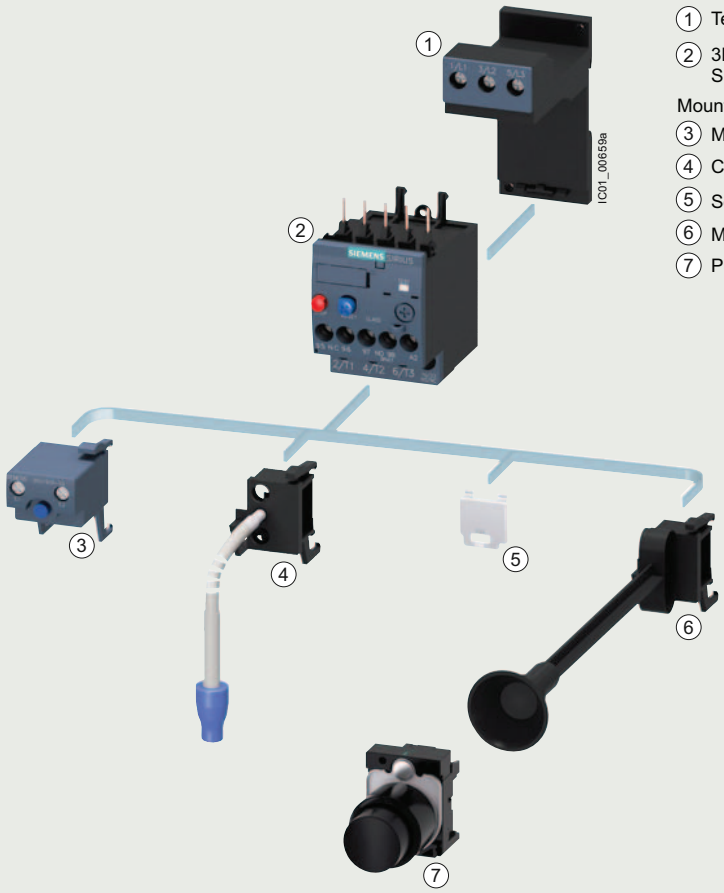
SIRIUS 3RU2 thermal overload relays

Overview

More information	
Homepage, see www.siemens.com/sirius-control	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164
SiePortal, see www.siemens.com/product_catalog_siep?3RU2	Characteristics and certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16270
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=ThermalOverloadRelay	
Conversion tool, see www.siemens.com/conversion-tool	

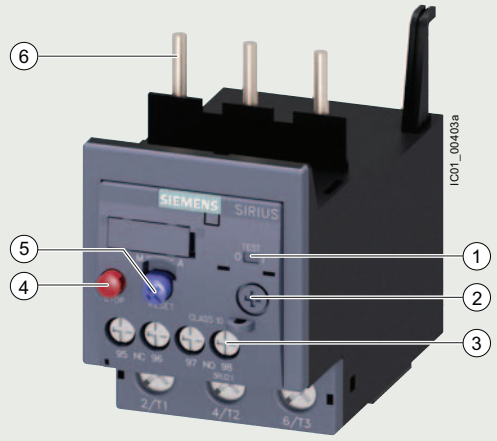


1. Terminal support for stand-alone installation for 3RU2 and 3RB3
2. 3RU2 thermal overload relay, Sizes S00 to S3

Mountable accessories

3. Module for Remote RESET
4. Cable release with holder for RESET
5. Sealable cover
6. Mechanical RESET
7. Pushbutton

Mountable accessories for 3RU2 thermal overload relay



1. Switch position indicator and TEST function of the wiring: Indicates a trip and enables the wiring test.
2. Motor current setting: Setting the device to the rated motor current is easy with the large rotary knob.
3. Connecting terminals: Depending on the device version, the connecting terminals are screw terminals or spring-loaded terminals for the main and auxiliary circuits.
4. STOP button: If the STOP button is pressed, the NC contact is opened. This switches off the contactor downstream. The NC contact is closed again when the button is released.
5. Selector switch for Manual/Automatic RESET and RESET button: With this switch you can choose between Manual and Automatic RESET. A device set to Manual RESET can be reset locally by pressing the RESET button. A Remote RESET is possible using the RESET modules (accessories), which are independent of size.
6. Connector for mounting on contactors: Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be connected directly using these connector pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal support for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

SIRIUS 3RU2136-4.B0 thermal overload relay

3RU2 thermal overload relays up to 100 A have been designed to provide inverse-time delayed protection for loads with normal starting against impermissibly high temperature rises due to overload or phase failure.

An overload or phase failure results in an increase of the motor current beyond the set rated motor current. Via heating elements, this current rise heats up the bimetal strips inside the device which then bend and as a result trigger the auxiliary contacts by means of a tripping mechanism. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting I_e and is stored in the form of a long-term stable tripping characteristic curve, see Characteristic curves.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after a recovery time has elapsed.

The 3RU2 thermal overload relays are suitable for operation with frequency converters.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RU2 overload relays are certified in accordance with both the European Explosion Protection Directive (ATEX) and the International Explosion Protection Standard (IECEx), see Certificates.

Article number scheme

Product versions		Article number
Thermal overload relay		**3RU2** □ □ □ – □ □ □ □
Device type	e.g. 1 = Class 10, 1 NO + 1 NC	□
Size, rated operational current and power	e.g. 16 = 16 A (7.5 kW) for size S00	□ □
Setting range for overload release	e.g. 0A = 0.11 ... 0.16 A	□ □
Connection methods	e.g. B = screw terminals	□
Installation type	e.g. 0 = mounting on contactors	□
Example		**3RU2 1 1 6 – 0 A B 0**

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

SIRIUS 3RU2 thermal overload relays

Benefits

The most important features and benefits of the 3RU2 thermal overload relays are listed in the overview table (see General data, page 7/76 onwards).

Application

Industries

The 3RU2 thermal overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal starting conditions (Class 10, 10A).

Application

The 3RU2 thermal overload relays have been designed for the protection of three-phase and single-phase AC and DC motors.

If single-phase AC or DC loads are to be protected by the 3RU2 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main conducting paths of the relay must be connected in series.

Ambient conditions

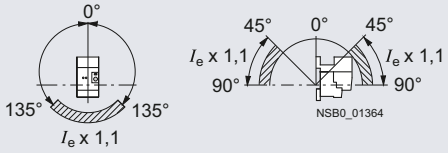
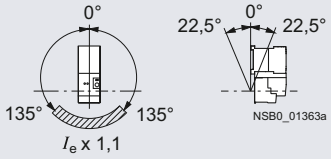
3RU2 thermal overload relays compensate temperature in the temperature range from -40 to +60 °C according to IEC 60947-4-1. At temperatures from +60 to +70 °C, the upper set value of the setting range has to be reduced by a specific factor.

Technical specifications

More information	
Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164
Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188	Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/16270/td

The following technical information is intended to provide an initial overview of the various device versions and functions.

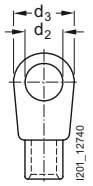
Type		**3RU2116**	**3RU2126**	**3RU2136**	**3RU2146**
Size		S00	S0	S2	S3
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)					
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 95	55 x 105 x 117	70 x 106 x 124
• Spring-loaded terminals	mm	45 x 102 x 79	45 x 114 x 95	55 x 105 x 117	70 x 106 x 124
General data					
Tripping in the event of		Overload and phase failure			
Trip class according to IEC 60947-4-1	Class	10		10, 10A	
Phase failure sensitivity		Yes			
Overload warning		No			
Reset and recovery					
• Reset options after tripping		Manual, automatic and remote RESET (Remote RESET in conjunction with the appropriate accessories)			
• Recovery time					
- For automatic RESET	min.	Depends on the strength of the tripping current and characteristic			
- For manual RESET	min.	Depends on the strength of the tripping current and characteristic			
- For remote RESET	min.	Depends on the strength of the tripping current and characteristic			
Features					
• Display of operating state on device		Yes, by means of TEST function/switch position indicator slide			
• TEST function		Yes			
• RESET button		Yes			
• STOP button		Yes			
Protection of motors in hazardous environments					
• Certificate of suitability/explosion protection type according to ATEX Product Directive 2014/34/EU		DMT 98 ATEX G 001/ Ex II (2) GD			
• According to international standard IECEx		IECEx BVS 15.0046, see https://support.industry.siemens.com/cs/ww/en/ps/16270/cert			

Type		**3RU2116**	**3RU2126**	**3RU2136**	**3RU2146**
Size		S00	S0	S2	S3
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)					
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 95	55 x 105 x 117	70 x 106 x 124
• Spring-loaded terminals	mm	45 x 102 x 79	45 x 114 x 95	55 x 105 x 117	70 x 106 x 124
General data (continued)					
Ambient temperature					
• Storage/transport	°C	-55 ... +80			
• Operation	°C	-40 ... +70			
• Temperature compensation	°C	Up to +60			
• Permissible rated current at					
- Temperature inside control cabinet 60 °C	%	100 (current reduction is required above +60 °C)			
- Temperature inside control cabinet 70 °C	%	87			
Repeat terminals					
• Coil repeat terminals		Yes	Not required		
• Auxiliary contact repeat terminals		Yes	Not required		
Degree of protection IP on the front according to IEC 60529		IP20 (screw terminals and spring-loaded terminals)			
Touch protection on the front according to IEC 60529		Finger-safe for vertical touching from the front (screw and spring-loaded terminals)			
Shock resistance with sine according to IEC 60068-2-27	*g*/ms	15/11 (auxiliary contacts 95/96 and 97/98: 8 *g*/11 ms)			
Electromagnetic compatibility (EMC)					
• Interference immunity		Not relevant			
• Emitted interference		Not relevant			
Installation altitude above sea level	m	Up to 2 000			
Mounting position		The diagrams show the permissible mounting positions for mounting on contactors and stand-alone installation. For mounting position in the hatched area, a setting correction of 10% must be implemented. Stand-alone installation:  Contactor + overload relay:  			
Type of mounting		For mounting on contactors or stand-alone installation with terminal support, screw and snap-on mounting on DIN rail.			

SIRIUS 3RU2 thermal overload relays

Type		3RU2116	3RU2126	3RU2136	3RU2146
Size		S00	S0	S2	S3
Main circuit					
Rated insulation voltage U_i (pollution degree 3)	V	690			1 000
Rated impulse withstand voltage U_{imp}	kV	6			8
Rated operational voltage U_e	V	690			
Type of current					
• Direct current		Yes			
• Alternating current		Yes, frequency range up to 400 Hz			
Current setting	A	0.11 ... 0.16 to	1.8 ... 2.5 to	11 ... 16 to	28 ... 40 to
	A	11 ... 16	34 ... 40	70 ... 80	80 ... 100
Power loss per unit (max.)	W	4.8 ... 7.5	5.7 ... 9.6	10.5 ... 18.9	13.5 ... 21
Short-circuit protection					
• With fuse without contactor		See Selection and ordering data, pages 7/86 ... 7/89			
• With fuse and contactor		Short-circuit protection with fuses/motor starter protectors for motor feeders, see • Digital Configuration Manual for load feeders • Configuration Manual for load feeders			
Protective separation between main and auxiliary conducting paths according to IEC 60947-1					
• Screw terminals	V	440	690: Setting range ≤ 25 A	690	
• Spring-loaded terminals	V	440	440: Setting range > 25 A	690	
Auxiliary circuit					
Number of NO contacts		1			
Number of NC contacts		1			
Auxiliary contacts – Assignment		1 NO for the signal "tripped"; 1 NC for disconnecting the contactor			
Rated insulation voltage U_i (pollution degree 3)	V	690			
Rated impulse withstand voltage U_{imp}	kV	6			
Contact rating of the auxiliary contacts					
• NC, NO contacts with alternating current AC-15, rated operational current I_e at U_e					
- 24 V	A	3			
- 120 V	A	3			
- 125 V	A	3			
- 230 V	A	2			
- 400 V	A	1			
- 600 V	A	0.75			
- 690 V	A	0.75			
• NC, NO contacts with direct current DC-13, rated operational current I_e at U_e					
- 24 V	A	1			
- 110 V	A	0.22			
- 125 V	A	0.22			
- 220 V	A	0.11			
• Contact reliability (suitability for PLC control; 17 V, 5 mA)		Yes			
Short-circuit protection					
• With fuse					
- Operational class gG	A	6			
- Quick	A	10			
• With miniature circuit breaker (C characteristic)	A	6 (up to $I_k \leq 0.5$ kA; $U \leq 260$ V)			
Reliable operational voltage for protective separation between auxiliary conducting paths according to IEC 60947-1	V	440			
CSA, UL and UR rated data					
Auxiliary circuit – Switching capacity		B600, R300			

Type		**3RU2116**	**3RU2126**	**3RU2136**	**3RU2146**
Size		S00	S0	S2	S3
Conductor cross-sections of main circuit					
Connection type		**Screw terminals**			**Screw terminals with box terminal**
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2	M6, Pozidriv size 2	4 mm Allen screw
Operating tools	mm	⌀ 5 ... 6	⌀ 5 ... 6	⌀ 5 ... 6	4 mm Allen screw
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5	3 ... 4.5	4.5 ... 6
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1], max. 2 x 4	2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1]	2 x (1 ... 35)[1], 1 x (1 ... 50)[1]	2 x (2.5 ... 16)[1], 2 x (10 ... 50)[1], 1 x (10 ... 70)[1]
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]	2 x (1 ... 2.5)[1], 2 x (2.5 ... 6)[1]; max. 1 x 10	2 x (1 ... 25)[1], 1 x (1 ... 35)[1]	2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1]
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1], 2 x (18 ... 14)[1], 2 x 12	2 x (16 ... 12)[1], 2 x (14 ... 8)[1]	2 x (18 ... 2)[1], 1 x (18 ... 1)[1]	2 x (10 ... 1/0)[1], 1 x (10 ... 2/0)[1]
Removable box terminals[2]					
• With copper bars[3]	mm	--			2 x 12 x 4
• With cable lugs[4]					
- Terminal screw		--			M6
- Prescribed tightening torque	Nm	--			4.5 ... 6
- Usable cable lugs	mm	--			d_2 = min. 6.3 d_3 = max. 19
Connection type		**Spring-loaded terminals**			
Operating tools	mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), one conductor can be connected					
• Solid or stranded	mm^2	1 x (0.5 ... 4)	1 x (1 ... 10)	--	
• Finely stranded without end sleeve	mm^2	1 x (0.5 ... 2.5)	1 x (1 ... 6)	--	
• Finely stranded with end sleeve (DIN 46228)	mm^2	1 x (0.5 ... 2.5)	1 x (1 ... 6)	--	
• AWG cables, solid or stranded	AWG	1 x (20 ... 12)	1 x (18 ... 8)	--	
• Max. outer diameter of the conductor insulation	mm	3.6	6.4	--	
Conductor cross-sections for auxiliary circuit					
Connection type		**Screw terminals**			
Terminal screw		M3, Pozidriv size 2			
Operating tools	mm	⌀ 5 ... 6			
Prescribed tightening torque	Nm	0.8 ... 1.2			
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]			
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]			
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1], 2 x (18 ... 14)[1]			
Connection type		**Spring-loaded terminals**			
Operating tools	mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 2.5)			
• Finely stranded without end sleeve	mm^2	2 x (0.5 ... 2.5)			
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)			
• Max. outer diameter of the conductor insulation	mm	3.6			



1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

2) Cable lug and busbar connection possible after removing the box terminals.

3) If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/105.

4) If conductors larger than 25 mm^2 are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/105.

Selection and ordering data

3RU2 thermal overload relays for mounting on contactors[1], sizes S00 and S0, Class 10

Features and technical specifications:

- Connection methods
  Main and auxiliary circuit: Either screw or spring-loaded terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41F


3RU2116-..B0


3RU2116-..C0


3RU2126-..B0


3RU2126-..C0

Size contactor	Trip class	Rated power for three-phase motors, rated value[2]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[3]	**Screw terminals**		**Spring-loaded terminals**	
					Article No.	Price per PU	Article No.	Price per PU
	Class	kW	A	A				
Size S00								
S00	10	0.04	0.11 ... 0.16	0.5	**3RU2116-0AB0**		**3RU2116-0AC0**	
	10	0.06	0.14 ... 0.2	1	**3RU2116-0BB0**		**3RU2116-0BC0**	
	10	0.06	0.18 ... 0.25	1	**3RU2116-0CB0**		**3RU2116-0CC0**	
	10	0.09	0.22 ... 0.32	1.6	**3RU2116-0DB0**		**3RU2116-0DC0**	
	10	0.09	0.28 ... 0.4	2	**3RU2116-0EB0**		**3RU2116-0EC0**	
	10	0.12	0.35 ... 0.5	2	**3RU2116-0FB0**		**3RU2116-0FC0**	
	10	0.18	0.45 ... 0.63	2	**3RU2116-0GB0**		**3RU2116-0GC0**	
	10	0.18	0.55 ... 0.8	4	**3RU2116-0HB0**		**3RU2116-0HC0**	
	10	0.25	0.7 ... 1	4	**3RU2116-0JB0**		**3RU2116-0JC0**	
	10	0.37	0.9 ... 1.25	4	**3RU2116-0KB0**		**3RU2116-0KC0**	
	10	0.55	1.1 ... 1.6	6	**3RU2116-1AB0**		**3RU2116-1AC0**	
	10	0.75	1.4 ... 2	6	**3RU2116-1BB0**		**3RU2116-1BC0**	
	10	0.75	1.8 ... 2.5	10	**3RU2116-1CB0**		**3RU2116-1CC0**	
	10	1.1	2.2 ... 3.2	10	**3RU2116-1DB0**		**3RU2116-1DC0**	
	10	1.5	2.8 ... 4	16	**3RU2116-1EB0**		**3RU2116-1EC0**	
	10	1.5	3.5 ... 5	20	**3RU2116-1FB0**		**3RU2116-1FC0**	
	10	2.2	4.5 ... 6.3	20	**3RU2116-1GB0**		**3RU2116-1GC0**	
	10	3	5.5 ... 8	25	**3RU2116-1HB0**		**3RU2116-1HC0**	
	10	4	7 ... 10	35	**3RU2116-1JB0**		**3RU2116-1JC0**	
	10	5.5	9 ... 12.5	35	**3RU2116-1KB0**		**3RU2116-1KC0**	
	10	7.5	11 ... 16	40	**3RU2116-4AB0**		**3RU2116-4AC0**	
Size S0								
S0	10	0.75	1.8 ... 2.5	10	**3RU2126-1CB0**		**3RU2126-1CC0**	
	10	1.1	2.2 ... 3.2	10	**3RU2126-1DB0**		**3RU2126-1DC0**	
	10	1.5	2.8 ... 4	16	**3RU2126-1EB0**		**3RU2126-1EC0**	
	10	1.5	3.5 ... 5	20	**3RU2126-1FB0**		**3RU2126-1FC0**	
	10	2.2	4.5 ... 6.3	20	**3RU2126-1GB0**		**3RU2126-1GC0**	
	10	3	5.5 ... 8	25	**3RU2126-1HB0**		**3RU2126-1HC0**	
	10	4	7 ... 10	35	**3RU2126-1JB0**		**3RU2126-1JC0**	
	10	5.5	9 ... 12.5	35	**3RU2126-1KB0**		**3RU2126-1KC0**	
	10	7.5	11 ... 16	40	**3RU2126-4AB0**		**3RU2126-4AC0**	
	10	7.5	14 ... 20	50	**3RU2126-4BB0**		**3RU2126-4BC0**	
	10	11	17 ... 22	63	**3RU2126-4CB0**		**3RU2126-4CC0**	
	10	11	20 ... 25	63	**3RU2126-4DB0**		**3RU2126-4DC0**	
	10	15	23 ... 28	63	**3RU2126-4NB0**		**3RU2126-4NC0**	
	10	15	27 ... 32	80	**3RU2126-4EB0**		**3RU2126-4EC0**	
	10	18.5	30 ... 36	80	**3RU2126-4PB0**		**3RU2126-4PC0**	
	10	18.5	34 ... 40	80	**3RU2126-4FB0**		**3RU2126-4FC0**	

1) With the appropriate terminal supports (see page 7/104), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

2) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

3RU2 thermal overload relays for mounting on contactors[1], sizes S2 and S3, Class 10 or 10A

Features and technical specifications:

- Connection methods
  - Main circuit: Screw terminals with box terminal
  - Auxiliary circuit: Either screw or spring-loaded terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41F

3RU2136-..B0

3RU2136-..D0

3RU2146-4.B0

3RU2146-4.D0

Size contactor	Trip class	Rated power for three-phase motors, rated value[2]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[3]	**Screw terminals**		**Spring-loaded terminals** (on auxiliary current side)	
					Article No.	Price per PU	Article No.	Price per PU
	Class	kW	A	A				
Size S2								
S2	10	3	5.5 ... 8	25	**3RU2136-1HB0**		**3RU2136-1HD0**	
	10	4	7 ... 10	35	**3RU2136-1JB0**		**3RU2136-1JD0**	
	10	5.5	9 ... 12.5	35	**3RU2136-1KB0**		**3RU2136-1KD0**	
	10	7.5	11 ... 16	40	**3RU2136-4AB0**		**3RU2136-4AD0**	
	10	7.5	14 ... 20	50	**3RU2136-4BB0**		**3RU2136-4BD0**	
	10	11	18 ... 25	63	**3RU2136-4DB0**		**3RU2136-4DD0**	
	10	15	22 ... 32	80	**3RU2136-4EB0**		**3RU2136-4ED0**	
	10	18.5	28 ... 40	80	**3RU2136-4FB0**		**3RU2136-4FD0**	
	10	22	36 ... 45	100	**3RU2136-4GB0**		**3RU2136-4GD0**	
	10	22	40 ... 50	100	**3RU2136-4HB0**		**3RU2136-4HD0**	
	10	30	47 ... 57	100	**3RU2136-4QB0**		**3RU2136-4QD0**	
	10	30	54 ... 65	125	**3RU2136-4JB0**		**3RU2136-4JD0**	
	10A	37	62 ... 73	160	**3RU2136-4KB0**		**3RU2136-4KD0**	
	10A	37	70 ... 80	160	**3RU2136-4RB0**		**3RU2136-4RD0**	
Size S3								
S3	10	18.5	28 ... 40	80	**3RU2146-4FB0**		**3RU2146-4FD0**	
	10	22	36 ... 50	125	**3RU2146-4HB0**		**3RU2146-4HD0**	
	10	30	45 ... 63	125	**3RU2146-4JB0**		**3RU2146-4JD0**	
	10	37	57 ... 75	160	**3RU2146-4KB0**		**3RU2146-4KD0**	
	10	45	70 ... 90	160	**3RU2146-4LB0**		**3RU2146-4LD0**	
	10	45	80 ... 100[4]	200	**3RU2146-4MB0**		**3RU2146-4MD0**	

1) With the appropriate terminal supports (see page 7/104), the 3RU2 overload relays for mounting on contactors can also be installed as stand-alone units.

2) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

3) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

4) For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/90 onwards.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

SIRIUS 3RU2 thermal overload relays *IE3/IE4* ready

3RU2 thermal overload relays for stand-alone installation, sizes S00 and S0, Class 10

Features and technical specifications:

- Connection methods
  Main and auxiliary circuit: Either screw or spring-loaded terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41F

3RU2116-..B1

3RU2116-..C1

3RU2126-4.B1

3RU2126-4.C1

Size contactor	Trip class	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	Screw terminals		Spring-loaded terminals	
					Article No.	Price per PU	Article No.	Price per PU
	Class	kW	A	A				
Size S00								
S00	10	0.04	0.11 ... 0.16	0.5	**3RU2116-0AB1**		**3RU2116-0AC1**	
	10	0.06	0.14 ... 0.2	1	**3RU2116-0BB1**		**3RU2116-0BC1**	
	10	0.06	0.18 ... 0.25	1	**3RU2116-0CB1**		**3RU2116-0CC1**	
	10	0.09	0.22 ... 0.32	1.6	**3RU2116-0DB1**		**3RU2116-0DC1**	
	10	0.09	0.28 ... 0.4	2	**3RU2116-0EB1**		**3RU2116-0EC1**	
	10	0.12	0.35 ... 0.5	2	**3RU2116-0FB1**		**3RU2116-0FC1**	
	10	0.18	0.45 ... 0.63	2	**3RU2116-0GB1**		**3RU2116-0GC1**	
	10	0.18	0.55 ... 0.8	4	**3RU2116-0HB1**		**3RU2116-0HC1**	
	10	0.25	0.7 ... 1	4	**3RU2116-0JB1**		**3RU2116-0JC1**	
	10	0.37	0.9 ... 1.25	4	**3RU2116-0KB1**		**3RU2116-0KC1**	
	10	0.55	1.1 ... 1.6	6	**3RU2116-1AB1**		**3RU2116-1AC1**	
	10	0.75	1.4 ... 2	6	**3RU2116-1BB1**		**3RU2116-1BC1**	
	10	0.75	1.8 ... 2.5	10	**3RU2116-1CB1**		**3RU2116-1CC1**	
	10	1.1	2.2 ... 3.2	10	**3RU2116-1DB1**		**3RU2116-1DC1**	
	10	1.5	2.8 ... 4	16	**3RU2116-1EB1**		**3RU2116-1EC1**	
	10	1.5	3.5 ... 5	20	**3RU2116-1FB1**		**3RU2116-1FC1**	
	10	2.2	4.5 ... 6.3	20	**3RU2116-1GB1**		**3RU2116-1GC1**	
	10	3	5.5 ... 8	25	**3RU2116-1HB1**		**3RU2116-1HC1**	
	10	4	7 ... 10	35	**3RU2116-1JB1**		**3RU2116-1JC1**	
	10	5.5	9 ... 12.5	35	**3RU2116-1KB1**		**3RU2116-1KC1**	
	10	7.5	11 ... 16	40	**3RU2116-4AB1**		**3RU2116-4AC1**	
Size S0								
S0	10	7.5	14 ... 20	50	**3RU2126-4BB1**		**3RU2126-4BC1**	
	10	11	17 ... 22	63	**3RU2126-4CB1**		**3RU2126-4CC1**	
	10	11	20 ... 25	63	**3RU2126-4DB1**		**3RU2126-4DC1**	
	10	15	23 ... 28	63	**3RU2126-4NB1**		**3RU2126-4NC1**	
	10	15	27 ... 32	80	**3RU2126-4EB1**		**3RU2126-4EC1**	
	10	18.5	30 ... 36	80	**3RU2126-4PB1**		**3RU2126-4PC1**	
	10	18.5	34 ... 40	80	**3RU2126-4FB1**		**3RU2126-4FC1**	

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

3RU2 thermal overload relays for stand-alone installation, sizes S2 and S3, Class 10 or 10A

Features and technical specifications:

- Connection methods
  - Main circuit: Screw terminals with box terminal
  - Auxiliary circuit: Either screw or spring-loaded terminals
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function
- STOP button
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41F

3RU2136-4.B1

3RU2136-4.D1

3RU2146-4.B1

3RU2146-4.D1

Size contactor	Trip class	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	Screw terminals		Spring-loaded terminals	
					Article No.	Price per PU	Article No.	Price per PU
	Class	kW	A	A				
Size S2								
S2	10	15	22 ... 32	80	**3RU2136-4EB1**		**3RU2136-4ED1**	
	10	18.5	28 ... 40	80	**3RU2136-4FB1**		**3RU2136-4FD1**	
	10	22	36 ... 45	100	**3RU2136-4GB1**		**3RU2136-4GD1**	
	10	22	40 ... 50	100	**3RU2136-4HB1**		**3RU2136-4HD1**	
	10	30	47 ... 57	100	**3RU2136-4QB1**		**3RU2136-4QD1**	
	10	30	54 ... 65	125	**3RU2136-4JB1**		**3RU2136-4JD1**	
	10A	37	62 ... 73	160	**3RU2136-4KB1**		**3RU2136-4KD1**	
	10A	37	70 ... 80	160	**3RU2136-4RB1**		**3RU2136-4RD1**	
Size S3								
S3	10	30	45 ... 63	125	**3RU2146-4JB1**		**3RU2146-4JD1**	
	10	37	57 ... 75	160	**3RU2146-4KB1**		**3RU2146-4KD1**	
	10	45	70 ... 90	160	**3RU2146-4LB1**		**3RU2146-4LD1**	
	10	45	80 ... 100[3]	200	**3RU2146-4MB1**		**3RU2146-4MD1**	

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

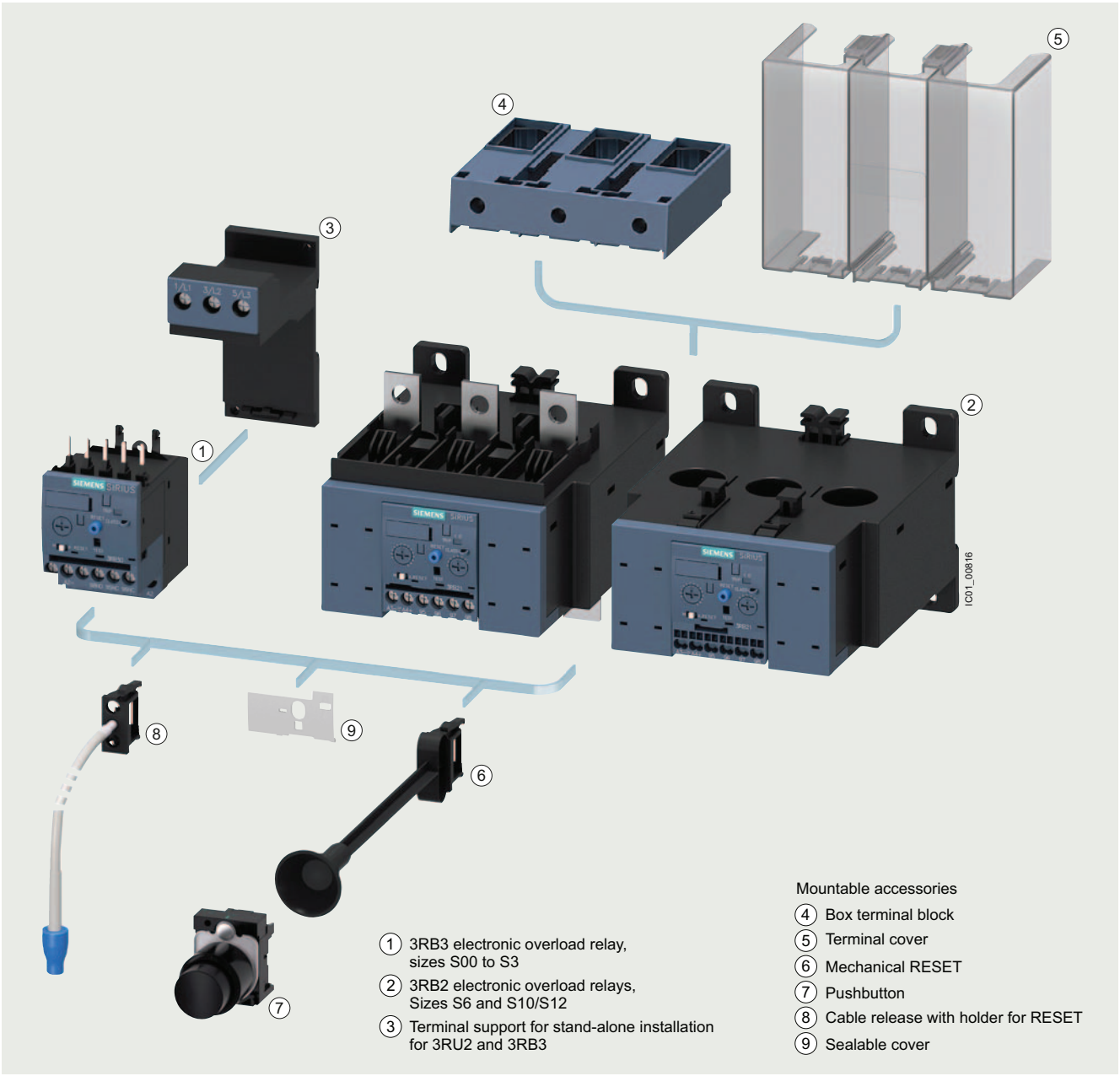
3) For overload relays > 100 A, see 3RB2 electronic overload relays, page 7/90 onwards.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

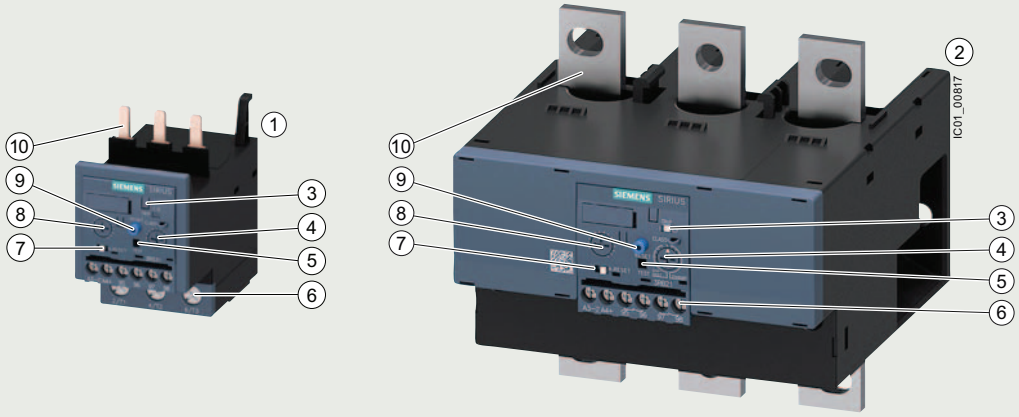
SIRIUS 3RB electronic overload relays

Overview

More information	
Homepage, see www.siemens.com/sirius-control	Conversion tool, see www.siemens.com/conversion-tool
SiePortal, see www.siemens.com/product_catalog_siep?3RB	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164
TIA Selection Tool Cloud (TST Cloud), see www.siemens.com/tstcloud/?node=ElectronicOverloadRelay	Characteristics and certificates, see https://support.industry.siemens.com/cs/ww/en/ps/29662



Mountable accessories for 3RB3 and 3RB2 electronic overload relays (see pages 7/104 to 7/106)



(1) 3RB3133-4.B0 overload relay, size S2

(2) 3RB2153-4FW2 overload relay, size S6

(3) Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.

(4) Trip class setting/internal ground fault detection (only 3RB31 and 3RB21):
The rotary switch can be used to set the required trip class and activate the internal ground fault detection, depending on the starting conditions.

(5) Solid-state test (device test):
Enables a test of all important device components and functions.

(6) Connecting terminals (removable terminal block for auxiliary circuits):
Depending on the device version, the connecting terminals are screw terminals or spring-loaded terminals for the main and auxiliary circuits.

(7) Selector switch for Manual/Automatic RESET:
With the slide switch you can choose between Manual and Automatic RESET.

(8) Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.

(9) A device set to Manual RESET can be reset locally by pressing the RESET button. On 3RB31 and 3RB21 overload relays an electrical Remote RESET is integrated.

(10) Connection for mounting on contactors:
Optimally adapted in electrical, mechanical and design terms to the 3RT contactors. The overload relay can be connected directly using these connector pins. Stand-alone installation is possible as an alternative (in some cases in conjunction with a terminal support for stand-alone installation).

A sealable transparent cover can be optionally mounted (accessory). It secures the motor current setting against adjustment.

3RB3 and 3RB2 electronic overload relays

The 3RB3 electronic overload relays up to 115 A and the 3RB2 electronic overload relays up to 630 A with internal power supply have been designed for inverse-time delayed protection of loads with normal and heavy starting (see Equipment Manual) against excessive temperature rises due to overload, phase asymmetry or phase failure.

An overload, phase asymmetry or phase failure result in an increase of the motor current beyond the set rated motor current. This current rise is detected by the current transformers integrated into the devices and evaluated by corresponding solid-state circuits which then output a pulse to the auxiliary contacts. The auxiliary contacts then switch off the load by means of a contactor. The break time depends on the ratio between the tripping current and the current setting I_e and is stored in the form of a long-term stable tripping characteristic curve, see Characteristics.

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase asymmetry and phase failure, the 3RB31 and 3RB21 electronic overload relays also allow internal ground fault detection (not possible in conjunction with contactor assemblies for star-delta (wye-delta) starting). This provides protection of loads against incomplete ground faults due to damage to the insulation material, moisture, condensed water, etc.

The "tripped" status is signaled by means of a switch position indicator. The relay is reset manually or automatically after the recovery time has elapsed.

The 3RB3 and 3RB2 electronic overload relays are suitable for operation with frequency converters, see Equipment Manual.

The devices are manufactured in accordance with environmental guidelines and contain environmentally friendly and reusable materials. They comply with all important worldwide standards and approvals.

Use in hazardous areas

The 3RB electronic overload relays are suitable for the overload protection of motors with the following types of protection:

- Ⓔx II (2) G [Ex e] [Ex d] [Ex px]
- Ⓔx II (2) D [Ex t] [Ex p]

EC type-examination certificate for Group II, Category (2) G/D exists:

- PTB 09 ATEX 3001 for 3RB3
- PTB 06 ATEX 3001 for 3RB2

SIRIUS 3RB electronic overload relays

Article number scheme

Product versions		Article number	
Electronic overload relays		**3RB3** □□□ – □□□□	Sizes S00 to S3
		3RB2 □□□ – □□□□	Sizes S6 and S10/S12, 14
Device type	e.g. 0 = standard device, with internal supply, for three-phase loads	□	
Size, rated operational current and power	e.g. 1 = 16 A (7.5 kW) for size S00	□	
Version of the automatic RESET, electrical remote RESET	e.g. 6 = switchable between manual/automatic RESET	□	
Trip class (Class)	e.g. 1 = Class 10E	□	
Setting range of the overload release	e.g. R = 0.1 ... 0.4 A	□	
Connection methods	e.g. B = screw terminals for main and auxiliary circuits	□	
Installation type	e.g. 0 = mounting on contactors	□	
Example		**3RB3 0 1 6 – 1 R B 0**	

Note:

The article number scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

For your orders, please use the article numbers quoted in the selection and ordering data.

Benefits

The most important features and benefits of the 3RB3 and 3RB2 electronic overload relays are listed in the overview table (see General data, page 7/76 onwards).

Application

Industries

The 3RB3 and 3RB2 electronic overload relays are suitable for customers from all industries who want to guarantee optimum inverse-time delayed protection of their electrical loads (e.g. motors) under normal and heavy starting conditions (Class 5E to 30E), minimize project completion times, inventories and energy consumption, and optimize plant availability and maintenance management.

Application

The 3RB3 and 3RB2 electronic overload relays have been designed for the protection of three-phase motors in sinusoidal 50/60 Hz voltage networks. These relays are not suitable for the protection of 1-phase AC or DC loads. The 3RU2 thermal overload relays are recommended for that purpose.

Ambient conditions

The devices are insensitive to external influences such as shocks, corrosive ambient conditions, aging and temperature fluctuations.

For the temperature range from -25 to +60 °C, the 3RB3 and 3RB2 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

For the 3RB2 electronic overload relays with the sizes S6 and S10/S12, the upper set value of the setting range must be reduced for ambient temperatures > 50 °C by a certain factor.

Technical specifications

More information	
Digital Configuration Manual for load feeders, see https://imp.siemens.com/digital-engineering-manual/dem	Equipment Manual, see https://support.industry.siemens.com/cs/ww/en/view/60298164
Configuration Manual for load feeders, see https://support.industry.siemens.com/cs/ww/en/view/39714188	Technical specifications, see https://support.industry.siemens.com/cs/ww/en/ps/29662/td

The following technical information is intended to provide an initial overview of the various device versions and functions.

Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**	**3RB2056, 3RB2153**	**3RB2066, 3RB2163**
Size		S00	S0	S2	S3	S6	S10/S12
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)							
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124	120 x 119 x 155	145 x 147 x 156
• Spring-loaded terminals	mm	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124	--	--
General data							
Tripping in the event of		Overload, phase failure, and phase asymmetry + ground fault (for 3RB31 and 3RB21 only)					
Trip class according to IEC 60947-4-1	Class	3RB30: 10E, 20E; 3RB31: 5E, 10E, 20E or 30E (adjustable)				3RB20: 10E or 20E; 3RB21: 5E, 10E, 20E and 30E (adjustable)	
Phase failure sensitivity		Yes					
Reset and recovery							
• Reset options after tripping		Manual and automatic RESET, 3RB31 and 3RB21 have an integrated connection for electrical remote RESET (24 V DC)					
• Recovery time							
- For automatic RESET		Approx. 3 min					
- For manual RESET		Immediately					
- For remote RESET		Immediately					
Features							
• Display of operating state on device		Yes, by means of switch position indicator slide					
• TEST function		Yes, test of electronics by pressing the TEST button/ test of auxiliary contacts and wiring of control circuit by actuating the switch position indicator/self-monitoring slide					
• RESET button		Yes					
• STOP button		No					
Protection and operation of explosion-proof motors							
Certificate of suitability/explosion protection type according to ATEX Product Directive 2014/34/EU		PTB 09 ATEX 3001 II (2) G [Ex e] [Ex d] [Ex px] II (2) G [Ex t] [Ex p] See https://support.industry.siemens.com/cs/ww/en/view/40591327				PTB 06 ATEX 3001 II (2) G [Ex e] [Ex d] [Ex px] II (2) G [Ex t] [Ex p] See https://support.industry.siemens.com/cs/ww/en/view/23814648	
Ambient temperatures							
• Storage/transport	°C	-40 ... +80					
• Operation	°C	-25 ... +60					
• Temperature compensation	°C	+60					
• Permissible rated current at							
- Temperature inside control cabinet 60 °C, mounted on contactors	%	100				70	
- Temperature inside control cabinet 60 °C, stand-alone installation		100					100 or 90[1]
- Temperature inside control cabinet 70 °C	%	On request					
Repeat terminals							
• Coil repeat terminal		Yes	Not required			--	
• Auxiliary contact repeat terminal		Yes	Not required			--	
Degree of protection IP on the front according to IEC 60529							
• Screw terminals/spring-loaded terminals		IP20				--	
• Screw terminals/spring-loaded terminals		--				IP00 (IP20 with box terminal/ cover)	
• Straight-through transformers		--		IP20		IP20	--

[1] 90% for relay with current setting range 160 to 630 A.

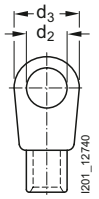
SIRIUS 3RB electronic overload relays

Type		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143	3RB2056, 3RB2153	3RB2066, 3RB2163
Size		S00	S0	S2	S3	S6	S10/S12
Dimensions (W x H x D) (overload relay with terminal support for stand-alone assembly)							
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124	120 x 119 x 155	145 x 147 x 156
• Spring-loaded terminals	mm	45 x 102 x 80	45 x 116 x 95	55 x 105 x 117	70 x 106 x 124		
General data (continued)							
Touch protection on the front according to IEC 60529							
• Screw terminals/spring-loaded terminals		Finger-safe for vertical touching from the front				--	
• Screw terminals/spring-loaded terminals		--				Finger-safe for vertical touching from the front (with box terminal/cover)	
• Straight-through transformers		--		Finger-safe for vertical touching from the front		--	
Shock resistance with sine according to IEC 60068-2-27	*g*/ms	15/11 (signaling contact 97/98 in position "tripped":		15/11 (signaling contact 97/98 in position "tripped":		15/11 (signaling contact 97/98 in position "tripped":	
	g/ms	9/11)		8/11)		4/11)	
Electromagnetic compatibility (EMC) – Interference immunity							
• Conductor-related interference							
- Burst according to IEC 61000-4-4 (corresponds to test level 3)	kV	2 (power ports), 1 (signal port)					
- Surge according to IEC 61000-4-5 (corresponds to test level 3)	kV	2 (line to earth), 1 (line to line)					
• Electrostatic discharge according to IEC 61000-4-2 (corresponds to test level 3)	kV	8 (air discharge), 6 (contact discharge)					
• Field-based interference according to IEC 61000-4-3 (corresponds to test level 3)	V/m	10					
Electromagnetic compatibility (EMC) – Emitted interference		Level B according to EN 55011 (CISPR 11) and EN 55022 (CISPR 22)					
Installation altitude above sea level	m	Up to 2 000					
Mounting position		Any					
Type of mounting		Direct mounting/stand-alone installation with terminal support				Direct mounting/stand-alone installation	

Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**	**3RB2056, 3RB2153**	**3RB2066, 3RB2163**
Size		S00	S0	S2	S3	S6	S10/S12
Main circuit							
Rated insulation voltage U_i (pollution degree 3)	V	690		690 1 000 with straight-through transformer	1 000		
Rated impulse withstand voltage U_{imp}	kV	6		6 8 with straight-through transformer	8		
Rated operational voltage U_e	V	690		690 1 000 with straight-through transformer	1 000		
Type of current							
• Direct current		No					
• Alternating current		Yes, 50/60 Hz ± 5%					
Current setting	A	0.1 ... 0.4	0.1 ... 0.4	12.5 ... 50	12.5 ... 50	50 ... 200	55 ... 250
	to	to	to	and	and		and
	A	4 ... 16	10 ... 40	20 ... 80	32 ... 115		160 ... 630
Heavy starting		See Equipment Manual					
Power loss per unit (max.)	W	0.1 ... 1.1	0.1 ... 4.5	0.5 ... 4.6	0.9 ... 4.6	0.05	
Short-circuit protection							
• With fuse without contactor		See Selection and ordering data, pages 7/98 ... 7/102					
• With fuse and contactor		Short-circuit protection with fuses/motor starter protectors for motor feeders, see • Digital Configuration Manual for load feeders • Configuration Manual for load feeders					
Protective separation between main and auxiliary conducting paths according to IEC 60947-1 (pollution degree 2)							
• For systems with grounded neutral point	V	690					
• For systems with ungrounded neutral point	V	600					
Auxiliary circuit							
Number of NO contacts		1					
Number of NC contacts		1					
Auxiliary contacts – Assignment		1 NO for the signal "tripped"; 1 NC for disconnecting the contactor					
Rated insulation voltage U_i (pollution degree 3)	V	300					
Rated impulse withstand voltage U_{imp}	kV	4					
Auxiliary contacts – Contact rating							
• NC, NO contacts with alternating current AC-15, rated operational current I_e at U_e							
- 24 V	A	4					
- 120 V	A	4					
- 125 V	A	4					
- 250 V	A	3					
• NC, NO contacts with direct current DC-13, rated operational current I_e at U_e							
- 24 V	A	2					
- 60 V	A	0.55					
- 110 V	A	0.3					
- 125 V	A	0.3					
- 250 V	A	0.11					
• Conventional thermal current I_{th}	A	5					
• Contact reliability (suitability for PLC control; 17 V, 5 mA)		Yes					
Short-circuit protection							
• With fuse, operational class gG	A	6					
Ground fault protection (only 3RB31/3RB21)		The information refers to sinusoidal residual currents at 50/60 Hz.					
• Tripping value I_Δ		> 0.75 x I_{motor}					
• Operating range I		Lower current setting < I_{motor} < 3.5 x upper current setting					
• Response time t_{trip} (in steady-state condition)	s	< 1					
Integrated electrical remote RESET (only 3RB31/3RB21)							
Connecting terminals A3, A4		24 V DC, max. 200 mA for approx. 20 ms, then < 10 mA				24 V DC, 100 mA, 2.4 W short-term	
Protective separation between auxiliary conducting paths according to IEC 60947-1	V	300					
CSA, UL and UR rated data							
Auxiliary circuit – Switching capacity		B600, R300					

SIRIUS 3RB electronic overload relays

Type		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
Conductor cross-sections for main circuit					
Connection type		**Screw terminals**			**Screw terminals with box terminal**
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2		4 mm Allen screw
Operating tools	mm	⌀ 5 ... 6	⌀ 5 ... 6		4 mm Allen screw
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5		4.5 ... 6
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1], 2 x (0.5 ... 4)[1]	2 x (1 ... 2.5)[1], 2 x (2.5 ... 10)[1]	1 x (1 ... 50)[1], 2 x (1 ... 35)[1]	2 x (2.5 ... 16)[1], 2 x (10 ... 50)[1], 1 x (10 ... 70)[1]
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]	2 x (1 ... 2.5)[1], 2 x (2.5 ... 6)[1], max. 1 x 10	2 x (1 ... 25)[1], 1 x (1 ... 35)[1]	2 x (2.5 ... 35)[1], 1 x (2.5 ... 50)[1]
• AWG cables, solid or stranded	AWG	2 x (20 ... 16)[1], 2 x (18 ... 14)[1], 2 x 12	2 x (16 ... 12)[1], 2 x (14 ... 8)[1]	2 x (18 ... 2)[1], 1 x (18 ... 1)[1]	2 x (10 ... 1/0)[1], 1 x (10 ... 2/0)[1]
Removable box terminals[2]					
• With copper bars[3]	mm	--			2 x 12 x 4
• With cable lugs[4]					
- Terminal screw		--			M6
- Prescribed tightening torque	Nm	--			4.5 ... 6
- Usable cable lugs	mm	--			d_2 = min. 6.3 d_3 = max. 19
Connection type		**Spring-loaded terminals**			
Operating tools	mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), one conductor can be connected					
• Solid or stranded	mm^2	1 x (0.5 ... 4)	1 x (1 ... 10)	--	
• Finely stranded without end sleeve	mm^2	1 x (0.5 ... 2.5)	1 x (1 ... 6)	--	
• Finely stranded with end sleeve (DIN 46228)	mm^2	1 x (0.5 ... 2.5)	1 x (1 ... 6)	--	
• AWG cables, solid or stranded	AWG	1 x (20 ... 12)	1 x (18 ... 8)	--	
• Max. outer diameter of the conductor insulation	mm	3.6	6.4	--	
Connection type		**Straight-through transformers**			
Diameter of opening	mm	--		15	18
Conductor cross-sections for auxiliary circuit					
Connection type		**Screw terminals**			
Terminal screw		M3, Pozidriv size 2			
Operating tools	mm	⌀ 5 ... 6			
Prescribed tightening torque	Nm	0.8 ... 1.2			
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	1 x (0.5 ... 4)[1], 2 x (0.5 ... 2.5)[1]			
• Finely stranded with end sleeve (DIN 46228)	mm^2	1 x (0.5 ... 2.5)[1], 2 x (0.5 ... 1.5)[1]			
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)			
Connection type		**Spring-loaded terminals**			
Operating tools	mm	3.0 x 0.5			
Conductor cross-sections (min./max.), one or two conductors can be connected					
• Solid or stranded	mm^2	2 x (0.25 ... 1.5)			
• Finely stranded without end sleeve	mm^2	2 x (0.25 ... 1.5)			
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.25 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)			



1) If two different conductor cross-sections are connected to one clamping point, both cross-sections must be in the range specified.

2) Cable lug and busbar connection possible after removing the box terminals.

3) If bars larger than 12 mm x 10 mm are connected, a 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/105.

4) If conductors larger than 25 mm^2 are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/105.

Type		**3RB2056, 3RB2153**	**3RB2066, 3RB2163**
Size		S6	S10/S12
Conductor cross-sections of main circuit			
Connection type		**Screw terminals with box terminal**	
Terminal screw	mm	4 mm Allen screw	5 mm Allen screw
Operating tools	mm	4 mm Allen screw	5 mm Allen screw
Prescribed tightening torque	Nm	10 ... 12	20 ... 22
Conductor cross-sections (min./max.), one or two conductors can be connected			
• Solid	mm^2	--	--
• Finely stranded without end sleeve	mm^2	With 3RT1955-4G box terminal: 2 x (1 x max. 50, 1 x max. 70), 1 x (10 ... 70); With 3RT1956-4G box terminal: 2 x (1 x max. 95, 1 x max. 120), 1 x (10 ... 120)	2 x (50 ... 185), Front clamping point only: 1 x (70 ... 240); Rear clamping point only: 1 x (120 ... 185)
• Finely stranded with end sleeve (DIN 46228)	mm^2	With 3RT1955-4G box terminal: 2 x (1 x max. 50, 1 x max. 70), 1 x (10 ... 70); With 3RT1956-4G box terminal: 2 x (1 x max. 95, 1 x max. 120), 1 x (10 ... 120)	2 x (50 ... 185), Front clamping point only: 1 x (70 ... 240); Rear clamping point only: 1 x (120 ... 185)
• Stranded	mm^2	With 3RT1955-4G box terminal: 2 x (max. 70), 1 x (16 ... 70); With 3RT1956-4G box terminal: 2 x (max. 120), 1 x (16 ... 120)	2 x (70 ... 240), Front clamping point only: 1 x (95 ... 300); Rear clamping point only: 1 x (120 ... 240)
• AWG cables, solid or stranded	AWG	With 3RT1955-4G box terminal: 2 x (max. 1/0), 1 x (6 ... 2/0); With 3RT1956-4G box terminal: 2 x (max. 3/0), 1 x (6 ... 250 kcmil)	2 x (2/0 ... 500 kcmil), Front clamping point only: 1 x (3/0 ... 600 kcmil); Rear clamping point only: 1 x (250 ... 500 kcmil)
• Flat ribbon cables (number x width x thickness)	mm	With 3RT1955-4G box terminal: 2 x (6 x 15.5 x 0.8), 1 x (3 x 9 x 0.8 ... 6 x 15.5 x 0.8); With 3RT1956-4G box terminal: 2 x (10 x 15.5 0.8), 1 x (3 x 9 x 0.8 ... 10 x 15.5 x 0.8)	2 x (20 x 24 x 0.5), 1 x (6 x 9 x 0.8 ... 20 x 24 x 0.5)
Connection type		**Busbar connection**	
Terminal screw		M8 x 25	M10 x 30
Prescribed tightening torque	Nm	10 ... 14	14 ... 24
Conductor cross-sections (min./max.)			
• Finely stranded with cable lug	mm^2	16 ... 95[1]	50 ... 240[2]
• Stranded with cable lug	mm^2	25 ... 120[1]	70 ... 240[2]
• AWG cables, solid or stranded, with cable lug	AWG	4 ... 250 kcmil	2/0 ... 500 kcmil
• With connecting bars (max. width)	mm	15	25
Connection type		**Straight-through transformers**	
Diameter of opening	mm	24.5	--
Conductor cross-sections for auxiliary circuit			
Connection type		**Screw terminals**	
Terminal screw		M3, Pozidriv size 2	
Operating tools	mm	⌀ 5 ... 6	
Prescribed tightening torque	Nm	0.8 ... 1.2	
Conductor cross-sections (min./max.), one or two conductors can be connected			
• Solid or stranded	mm^2	1 x (0.5 ... 4)[1], 2 x (0.5 ... 2.5)[1]	
• Finely stranded with end sleeve (DIN 46228)	mm^2	1 x (0.5 ... 2.5)[1], 2 x (0.5 ... 1.5)[1]	
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)	
Connection type		**Spring-loaded terminals**	
Operating tools	mm	3.0 x 0.5	
Conductor cross-sections (min./max.), one or two conductors can be connected			
• Solid or stranded	mm^2	2 x (0.25 ... 1.5)	
• Finely stranded without end sleeve	mm^2	2 x (0.25 ... 1.5)	
• Finely stranded with end sleeve (DIN 46228)	mm^2	2 x (0.25 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)	

[1] When connecting cable lugs according to DIN 46235 with conductor cross-sections of 95 mm^2 and more, the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/105.

[2] When connecting cable lugs according to DIN 46234 for conductor cross-sections from 240 mm^2, as well as DIN 46235 for conductor cross-sections from 185 mm^2, the 3RT1956-4EA1 terminal cover must be used to ensure phase clearance, see page 7/105.

Selection and ordering data

3RB30 electronic overload relays, Class 10E

Features and technical specifications:

- Connection methods
  - Sizes S00 and S0
    Main and auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S2 and S3
    Main circuit: Screw terminals with box terminal or as straight-through transformer
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G


3RB3016-1.B0


3RB3026-1.B0


3RB3036-1.B0


3RB3036-1.W1


3RB3046-1.B0


3RB3046-1.W1

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	Screw terminals		Spring-loaded terminals	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S00							
S00	***Devices for mounting on contactors***[3]						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3016-1RB0**		**3RB3016-1RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3016-1NB0**		**3RB3016-1NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3016-1PB0**		**3RB3016-1PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3016-1SB0**		**3RB3016-1SE0**	
	2.2 ... 7.5	4 ... 16	50	**3RB3016-1TB0**		**3RB3016-1TE0**	
Size S0							
S0	***Devices for mounting on contactors***[3]						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3026-1RB0**		**3RB3026-1RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3026-1NB0**		**3RB3026-1NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3026-1PB0**		**3RB3026-1PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3026-1SB0**		**3RB3026-1SE0**	
	3 ... 11	6 ... 25	63	**3RB3026-1QB0**		**3RB3026-1QE0**	
	5.5 ... 18.5	10 ... 40	80	**3RB3026-1VB0**		**3RB3026-1VE0**	
Size S2							
S2	***Devices with screw terminals (main current side) and for mounting on contactors***[3]						
	7.5 ... 22	12.5 ... 50	200	**3RB3036-1UB0**		**3RB3036-1UD0**	
	11 ... 37	20 ... 80	250	**3RB3036-1WB0**		**3RB3036-1WD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3036-1UW1**		**3RB3036-1UX1**	
	11 ... 37	20 ... 80	250	**3RB3036-1WW1**		**3RB3036-1WX1**	
Size S3							
S3	***Devices with screw terminals (main current side) and for mounting on contactors***[3]						
	7.5 ... 22	12.5 ... 50	200	**3RB3046-1UB0**		**3RB3046-1UD0**	
	18.5 ... 55	32 ... 115	315	**3RB3046-1XB0**		**3RB3046-1XD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3046-1UW1**		**3RB3046-1UX1**	
	18.5 ... 55	32 ... 115	315	**3RB3046-1XW1**		**3RB3046-1XX1**	

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

3) With the appropriate terminal supports (see page 7/104), these overload relays can also be installed as stand-alone units.

Note:

For reliable operational current, observe derating information, see Equipment Manual.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

3RB20 electronic overload relays for mounting on contactors and stand-alone installation, Class 10E

Features and technical specifications:

- Connection methods
  - Size S6
    Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),
    Auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S10/S12
    Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G

3RB2056-1FW2

3RB2066-1MF2

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	**Screw terminals** (on auxiliary current side)		**Spring-loaded terminals** (on auxiliary current side)	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S6							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S6	30 ... 90	50 … 200	315	**3RB2056-1FC2**		**3RB2056-1FF2**	
Devices with straight-through transformer, for mounting on contactors and stand-alone installation							
For mounting on S6 contactors with box terminals	30 ... 90	50 … 200	315	**3RB2056-1FW2**		**3RB2056-1FX2**	
Size S10/S12							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S10/S12 and size 14 (3TF68/ 3TF69)[3]	30 ... 132	55 … 250	400	**3RB2066-1GC2**		**3RB2066-1GF2**	
	90 ... 355	160 … 630	800	**3RB2066-1MC2**		**3RB2066-1MF2**	

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

3) For 3TF68/3TF69 contactors, direct mounting is not possible.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

SIRIUS 3RB electronic overload relays *IE3/IE4* ready

3RB30 electronic overload relays, Class 20E

Features and technical specifications:

- Connection methods
  - Sizes S00 and S0
    Main and auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S2 and S3
    Main circuit: Screw terminals with box terminal or as straight-through transformer
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G


3RB3016-2.B0


3RB3026-2.B0


3RB3036-2.B0


3RB3036-2.W1


3RB3046-2.B0


3RB3046-2.W1

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	Screw terminals		Spring-loaded terminals	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S00							
S00	***Devices for mounting on contactors***[3]						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3016-2RB0**		**3RB3016-2RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3016-2NB0**		**3RB3016-2NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3016-2PB0**		**3RB3016-2PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3016-2SB0**		**3RB3016-2SE0**	
	2.2 ... 7.5	4 ... 16	50	**3RB3016-2TB0**		**3RB3016-2TE0**	
Size S0							
S0	***Devices for mounting on contactors***[3]						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3026-2RB0**		**3RB3026-2RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3026-2NB0**		**3RB3026-2NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3026-2PB0**		**3RB3026-2PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3026-2SB0**		**3RB3026-2SE0**	
	3 ... 11	6 ... 25	63	**3RB3026-2QB0**		**3RB3026-2QE0**	
	5.5 ... 18.5	10 ... 40	80	**3RB3026-2VB0**		**3RB3026-2VE0**	
Size S2							
S2	***Devices with screw terminals (main current side) and for mounting on contactors***[3]						
	7.5 ... 22	12.5 ... 50	200	**3RB3036-2UB0**		**3RB3036-2UD0**	
	11 ... 37	20 ... 80	250	**3RB3036-2WB0**		**3RB3036-2WD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3036-2UW1**		**3RB3036-2UX1**	
	11 ... 37	20 ... 80	250	**3RB3036-2WW1**		**3RB3036-2WX1**	
Size S3							
S3	***Devices with screw terminals (main current side) and for mounting on contactors***[3]						
	7.5 ... 22	12.5 ... 50	200	**3RB3046-2UB0**		**3RB3046-2UD0**	
	18.5 ... 55	32 ... 115	315	**3RB3046-2XB0**		**3RB3046-2XD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3046-2UW1**		**3RB3046-2UX1**	
	18.5 ... 55	32 ... 115	315	**3RB3046-2XW1**		**3RB3046-2XX1**	

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

[3] With the appropriate terminal supports (see page 7/104), these overload relays can also be installed as stand-alone units.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

3RB20 electronic overload relays for mounting on contactors and stand-alone installation, Class 20E

Features and technical specifications:

- Connection methods
  - Size S6
    Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),
    Auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S10/S12
    Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G

3RB2056-2FW2

3RB2066-2MF2

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	**Screw terminals** (on auxiliary current side)		**Spring-loaded terminals** (on auxiliary current side)	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S6							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S6	30 ... 90	50 … 200	315	**3RB2056-2FC2**		**3RB2056-2FF2**	
Devices with straight-through transformer, for mounting on contactors and stand-alone installation							
For mounting on S6 contactors with box terminals	30 ... 90	50 … 200	315	**3RB2056-2FW2**		**3RB2056-2FX2**	
Size S10/S12[2]							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S10/S12 and size 14 (3TF68/ 3TF69)[3]	30 ... 132	55 … 250	400	**3RB2066-2GC2**		**3RB2066-2GF2**	
	90 ... 355	160 … 630	800	**3RB2066-2MC2**		**3RB2066-2MF2**	

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

3) For 3TF68/3TF69 contactors, direct mounting is not possible.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

SIRIUS 3RB electronic overload relays *IE3/IE4* ready

3RB31 electronic overload relays, Class 5E, 10E, 20E or 30E (adjustable)

Features and technical specifications:

- Connection methods
  - Sizes S00 and S0
    Main and auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S2 and S3
    Main circuit: Screw terminals with box terminal or as straight-through transformer
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal ground fault detection (activatable)
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Electrical remote RESET integrated
- Switch position indicator
- TEST function and self-monitoring
- Sealable covers (optional accessory)

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G


3RB3113-4.B0


3RB3123-4.B0


3RB3133-4.B0


3RB3133-4.W1


3RB3143-4.B0


3RB3143-4.W1

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	Screw terminals		Spring-loaded terminals	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S00							
S00	***Devices for mounting on contactors[3]***						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3113-4RB0**		**3RB3113-4RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3113-4NB0**		**3RB3113-4NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3113-4PB0**		**3RB3113-4PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3113-4SB0**		**3RB3113-4SE0**	
	2.2 ... 7.5	4 ... 16	50	**3RB3113-4TB0**		**3RB3113-4TE0**	
Size S0							
S0	***Devices for mounting on contactors[3]***						
	0.04 ... 0.09	0.1 ... 0.4	4	**3RB3123-4RB0**		**3RB3123-4RE0**	
	0.12 ... 0.37	0.32 ... 1.25	6	**3RB3123-4NB0**		**3RB3123-4NE0**	
	0.37 ... 1.5	1 ... 4	20	**3RB3123-4PB0**		**3RB3123-4PE0**	
	1.5 ... 5.5	3 ... 12	50	**3RB3123-4SB0**		**3RB3123-4SE0**	
	3 ... 11	6 ... 25	63	**3RB3123-4QB0**		**3RB3123-4QE0**	
	5.5 ... 18.5	10 ... 40	80	**3RB3123-4VB0**		**3RB3123-4VE0**	
Size S2							
S2	***Devices with screw terminals (main current side) and for mounting on contactors[3]***						
	7.5 ... 22	12.5 ... 50	200	**3RB3133-4UB0**		**3RB3133-4UD0**	
	11 ... 37	20 ... 80	250	**3RB3133-4WB0**		**3RB3133-4WD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3133-4UW1**		**3RB3133-4UX1**	
	11 ... 37	20 ... 80	250	**3RB3133-4WW1**		**3RB3133-4WX1**	
Size S3							
S3	***Devices with screw terminals (main current side) and for mounting on contactors[3]***						
	7.5 ... 22	12.5 ... 50	200	**3RB3143-4UB0**		**3RB3143-4UD0**	
	18.5 ... 55	32 ... 115	315	**3RB3143-4XB0**		**3RB3143-4XD0**	
	Devices with straight-through transformer for stand-alone installation						
	7.5 ... 22	12.5 ... 50	200	**3RB3143-4UW1**		**3RB3143-4UX1**	
	18.5 ... 55	32 ... 115	315	**3RB3143-4XW1**		**3RB3143-4XX1**	

[1] Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

[2] Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

[3] With the appropriate terminal supports (see page 7/104), these overload relays can also be installed as stand-alone units.

*** You can order this quantity or a multiple thereof.**
Illustrations are approximate

3RB21 electronic overload relays for mounting on contactors and stand-alone installation, Class 5E, 10E, 20E and 30E (adjustable)

Features and technical specifications:

- Connection methods
  - Size S6
    Main circuit: With busbar connection or as straight-through transformer (an appropriate connection kit with screws, spring washers and nuts is enclosed with the devices with busbar connection),
    Auxiliary circuit: Either screw or spring-loaded terminals
  - Sizes S10/S12
    Main circuit: With busbar connection (an appropriate connection kit with screws, spring washers and nuts is enclosed),
    Auxiliary circuit: Either screw or spring-loaded terminals
- Overload protection, phase failure protection and asymmetry protection
- Internal ground fault detection (activatable)
- Internal power supply
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Electrical remote RESET integrated
- Switch position indicator
- TEST function and self-monitoring

PU (UNIT, SET, M) = 1
PS* = 1 unit
PG = 41G

3RB2153-4FW2

3RB2163-4MF2

Size contactor	Rated power for three-phase motors, rated value[1]	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG[2]	**Screw terminals** (on auxiliary current side)		**Spring-loaded terminals** (on auxiliary current side)	
				Article No.	Price per PU	Article No.	Price per PU
	kW	A	A				
Size S6							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S6	30 ... 90	50 … 200	315	**3RB2153-4FC2**		**3RB2153-4FF2**	
Devices with straight-through transformer, for mounting on contactors and stand-alone installation							
For mounting on S6 contactors with box terminals	30 ... 90	50 … 200	315	**3RB2153-4FW2**		**3RB2153-4FX2**	
Size S10/S12[2]							
Devices with busbar connection, for mounting on contactors and stand-alone installation							
S10/S12 and size 14 (3TF68/ 3TF69)[3]	30 ... 132	55 … 250	400	**3RB2163-4GC2**		**3RB2163-4GF2**	
	90 ... 355	160 … 630	800	**3RB2163-4MC2**		**3RB2163-4MF2**	

1) Guide value for 4-pole standard motors at 50 Hz 400 V AC. The actual starting and rated data of the motor to be protected must be considered when selecting the units.

2) Maximum protection by fuse only for overload relays, type of coordination "2". For fuse values in connection with contactors, see
- Digital Configuration Manual for load feeders,
- Configuration Manual for load feeders.

3) For 3TF68/3TF69 contactors, direct mounting is not possible.

Accessories

Overview

Depending on the type of overload relay, an extensive range of accessories can be ordered as an option:

- Terminal supports for stand-alone installation
- Mechanical RESET
- Cable releases with holder for RESET to reset devices that are difficult to access
- Electrical remote RESET module
- Sealable covers
- Terminal covers
- Box terminal blocks
- Tools for opening spring-loaded terminals
- Blank labels

Selection and ordering data

Version	Size	For overload relays Type	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Terminal supports for stand-alone installation							
Terminal supports for overload relays with screw terminals			**Screw terminals**				
For separate mounting of the overload relays; screw and snap-on mounting on DIN rail	S00	3RU2, 3RB3	**3RU2916-3AA01**		1	1 unit	41F
	S0		**3RU2926-3AA01**		1	1 unit	41F
	S2		**3RU2936-3AA01**		1	1 unit	41F
	S3		**3RU2946-3AA01**		1	1 unit	41F
Terminal supports for overload relays with spring-loaded terminals			**Spring-loaded terminals**				
For separate mounting of the overload relays; screw and snap-on mounting on DIN rail	S00	3RU2, 3RB3	**3RU2916-3AC01**		1	1 unit	41F
	S0		**3RU2926-3AC01**		1	1 unit	41F
Mechanical RESET							
Resetting plungers, holders and formers							
	S00 ... S3	3RU2	**3RU2900-1A**		1	1 unit	41F
	S00 ... S12	3RB	**3RB3980-0A**		1	1 unit	41F
Pushbuttons with extended stroke (12 mm)							
IP65, ⌀ 22 mm	S00 ... S12	3RU2, 3RB	**3SU1200-0FB10-0AA0**		1	1 unit	41J
Extension plunger							
For compensation of the distance between the pushbutton and the resetting plunger of an overload relay	S00 ... S12	3RU2, 3RB	**3SU1900-0KG10-0AA0**		1	1 unit	41J


3RU2916-3AA01


3RU2916-3AC01


3RU2926-3AA01


3RU2926-3AC01


3RU2936-3AA01


3RU2946-3AA01

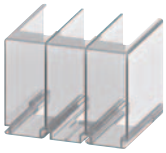

3RU2900-1A


3RB3980-0A


3SU1200-0FB10-0AA0


3SU1900-0KG10-0AA0

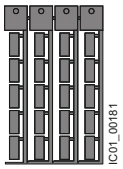
* You can order this quantity or a multiple thereof.
Illustrations are approximate

	Version	Size	For overload relays Type	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Cable releases with holder for RESET								
 3RU2900-1B 3RB3980-0B	For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm							
	• Length 400 mm	S00 ... S3	3RU2	**3RU2900-1B**		1	1 unit	41F
		S00 ... S12	3RB3, 3RB2	**3RB3980-0B**		1	1 unit	41F
	• Length 600 mm	S00 ... S3	3RU2	**3RU2900-1C**		1	1 unit	41F
		S00 ... S12	3RB3, 3RB2	**3RB3980-0C**		1	1 unit	41F
	Protective sleeves for cable release (spare part)			**3RB2900-1D**		1	5 units	41F
Modules for remote RESET, electrical								
 3RU1900-2A.71 mounted on the overload relay	Operating range 0.85 ... 1.1 x U_c, power consumption 80 VA AC, 70 W DC, ON period 0.2 ... 4 s, switching frequency 60/h							
	• 24 ... 30 V AC/DC	S00 ... S3	3RU2	**3RU1900-2AB71**		1	1 unit	41F
	• 110 ... 127 V AC/DC	S00 ... S3	3RU2	**3RU1900-2AF71**		1	1 unit	41F
	• 220 ... 250 V AC/DC	S00 ... S3	3RU2	**3RU1900-2AM71**		1	1 unit	41F
Sealable covers								
 3RV2908-0P	For covering the setting knobs	S00 ... S3	3RU2	**3RV2908-0P**		100	10 units	41E
 3RB3984-0	For covering the setting knobs	S00 ... S12	3RB3, 3RB2	**3RB3984-0**		1	1 unit	41F
Terminal covers								
 3RT1946-4EA1	For complying with the phase clearances and as touch protection if box terminal is removed							
	Covers for cable lugs and busbar connections							
	• Length 100 mm	S3	3RU2, 3RB3	**3RT1946-4EA1**		1	1 unit	41B
	• Length 100 mm	S6	3RB2	**3RT1956-4EA1**		1	1 unit	41B
	• Length 120 mm	S10/S12	3RB2	**3RT1966-4EA1**		1	1 unit	41B
 3RT1956-4EA2	**Covers for devices for box terminals**							
	• Length 25 mm	S6	3RB2	**3RT1956-4EA2**		1	1 unit	41B
	• Length 30 mm	S10/S12	3RB2	**3RT1966-4EA2**		1	1 unit	41B
 3RT1966-4EA3	**Covers for devices for busbar connections**							
	Between contactor and overload relay, without box terminals (1 unit required per combination)	S6	3RB2	**3RT1956-4EA3**		1	1 unit	41B
		S10/S12	3RB2	**3RT1966-4EA3**		1	1 unit	41B
 3RT2936-4EA2	**Covers for devices with screw terminals (box terminals)** Additional touch protection for fastening to the box terminals							
	• Main current level	S2	3RU2, 3RB3	**3RT2936-4EA2**		1	1 unit	41B
		S3	3RU2, 3RB3	**3RT2946-4EA2**		1	1 unit	41B
Box terminal blocks								
 3RT1955-4G	For round and flat ribbon cables							
	• Up to 70 mm²	S6[1)]	3RB2	**3RT1955-4G**		1	1 unit	41B
	• Up to 120 mm²	S6	3RB2	**3RT1956-4G**		1	1 unit	41B
	• Up to 240 mm²	S10/S12	3RB2	**3RT1966-4G**		1	1 unit	41B

1) In the scope of supply for 3RT1054-1 contactors (55 kW).

Accessories

General accessories

	Version	For overload relays Type	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
Tools for opening spring-loaded terminals							
 3RA2908-1A	**Screwdriver** For all SIRIUS devices with spring-loaded terminals		**Spring-loaded terminals**				
	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Main and auxiliary circuit connection: 3RU2, 3RB3, 3RB2	**3RA2908-1A**		1	1 unit	41B
Blank labels							
 3RT2900-1SB20	**Unit labeling plates**[1] For SIRIUS devices, 20 mm x 7 mm, titanium gray	3RU2, 3RB3, 3RB2	**3RT2900-1SB20**		100	340 units	41B
	Adhesive labels For SIRIUS devices, 19 mm x 6 mm, titanium gray	3RU2, 3RB3, 3RB2	**3RT2900-1SB60**		100	3060 units	41B

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/18).

* You can order this quantity or a multiple thereof.
Illustrations are approximate