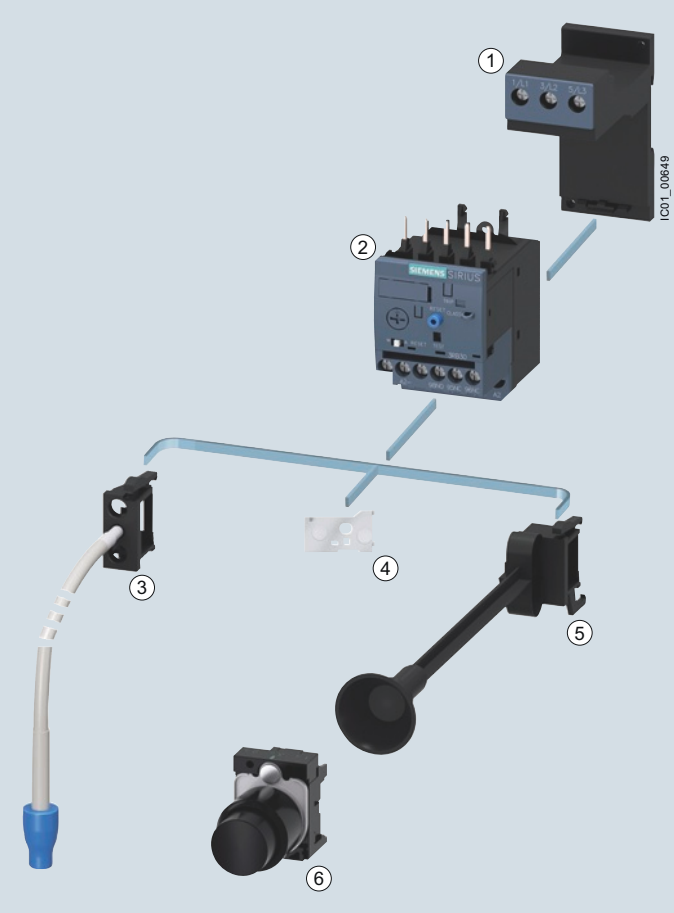
Overview

More information	
Home page, see http://www.siemens.com/sirius-overloadrelays Industry Mall, see www.siemens.com/product?3RB3 Conversion tool, e.g. from 3RB20/3RB211 to 3RB30/3RB31, see www.siemens.com/sirius/conversion-tool	Application Manual "SIRIUS Controls with IE3/IE4 Motors", see https://support.industry.siemens.com/cs/ww/en/view/94770820 Manual "SIRIUS – SIRIUS 3RU Thermal Overload Relays / SIRIUS 3RB Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/60298164 Characteristics and certificates, see https://support.industry.siemens.com/cs/ww/en/ps/16276

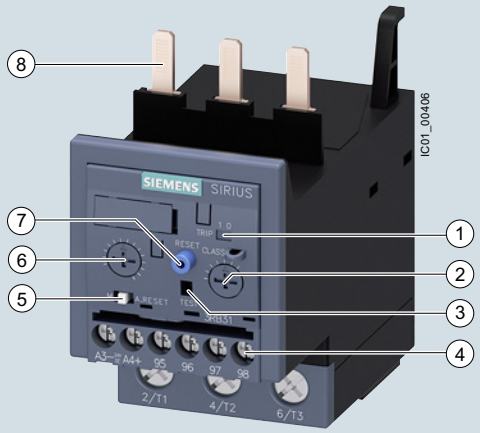


1. Stand-alone assembly support for 3RU2 and 3RB3
2. 3RB30, 3RB31 electronic overload relay, sizes S00 to S3

Mountable accessories

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

Mountable accessories for 3RB30 and 3RB31 electronic overload relays



1. Switch position indicator and TEST function of the wiring:
   Indicates a trip and enables the wiring test.
2. Trip class setting/internal ground-fault detection (only 3RB31):
   Using the rotary switch you can set the required trip class and activate the internal ground-fault detection dependent on the start-up conditions.
3. Solid-state test (device test):
   Enables a test of all important device components and functions.
4. Connecting terminals (removable joint block for auxiliary circuits):
   Depending on the device version, the terminals for screw and spring-type connection are configured for the main and auxiliary circuit.
5. Selector switch for manual/automatic RESET:
   With the slide switch you can choose between manual and automatic RESET.
6. Motor current setting:
   Setting the device to the rated motor current is easy with the large rotary knob.
7. A device set to manual RESET can be reset locally by pressing the RESET button. On 3RB31 overload relays an electrical remote RESET is integrated.
8. Connection for mounting onto contactors:
   Optimally adapted in electrical, mechanical and design terms to the contactors 3RT2. The overload relay can be connected directly using these connection 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 3RB3133-4.B0 electronic overload relay

The 3RB30/3RB31 electronic overload relays up to 115 A with internal power supply have been designed for current-dependent protection of loads with normal and heavy starting, and to protect 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 Characteristic curves).

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase asymmetry and phase failure, the 3RB31 electronic overload relays also allow internal ground-fault detection (not possible in conjunction with contactor assemblies for wye-delta starting). This provides protection of loads against high-resistance short circuits 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 electronic 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.

3RB20 and 3RB21 overload relays in sizes S6 to S10/S12, see page 7/109 onwards.

Use in hazardous areas

The 3RB30/3RB31 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 test certificate for Group II, Category (2) G/D exists. It has the number PTB 09 ATEX 3001.

Article No. scheme

Product versions		Article number							
Electronic overload relays		**3RB3**	□	□	□	–	□	□	□	□
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/auto 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 contactor									□
Example		**3RB3**	**0**	**1**	**6**	**–**	**1**	**R**	**B**	**0**

Note:

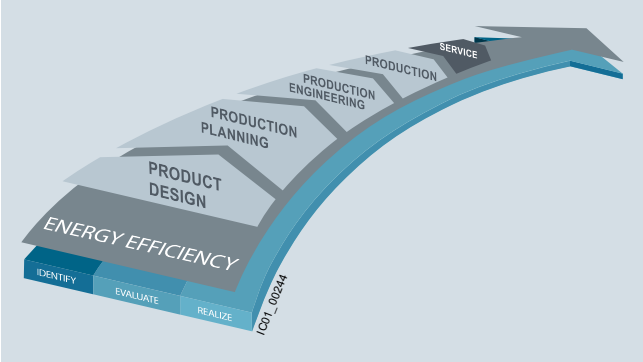
The Article No. scheme shows an overview of product versions for better understanding of the logic behind the article numbers.

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

Benefits

The most important features and benefits of the 3RB30/3RB31 electronic overload relays are listed in the overview table (see "General Data" page 7/71 onwards).

Advantages through energy efficiency



Overview of the energy management process

We offer you a unique portfolio for industrial energy management, using an energy management system that helps to optimally define your energy needs. We split up our industrial energy management into three phases – identify, evaluate, and realize – and we support you with the appropriate hardware and software solutions in every process phase.

The innovative products of the SIRIUS industrial controls portfolio can also make a substantial contribution to a plant's energy efficiency (see www.siemens.com/sirius/energysaving).

3RB30/3RB31 electronic overload relays contribute to energy efficiency throughout the plant as follows:

- Reduced inherent power loss
- Less heating of the control cabinet
- Smaller control cabinet air conditioners can be used

Application

Industries

The 3RB30/3RB31 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 3RB30/3RB31 electronic overload relays have been designed for the protection of three-phase motors in sinusoidal 50/60 Hz voltage networks. The relays are not suitable for the protection of single-phase AC or DC loads.

The 3RU21 thermal overload relay or the 3RB22/3RB23/3RB24 electronic overload relay can be used for single-phase AC loads. For DC loads we recommend the 3RU21 thermal overload relay.

Ambient conditions

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

For the temperature range from –25 °C to +60 °C, the 3RB30/3RB31 electronic overload relays compensate the temperature in accordance with IEC 60947-4-1.

Use of SIRIUS protection devices in conjunction with IE3/IE4 motors

Note:

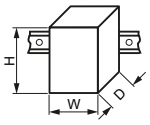
For the use of 3RB30/3RB31 electronic overload relays in conjunction with highly energy-efficient IE3/IE4 motors, please observe the information on dimensioning and configuring, see Application Manual.

For more information, see Preface on page 7.

Technical specifications

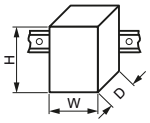
More information	
System Manual "SIRIUS – System Overview", see https://support.industry.siemens.com/cs/ww/en/view/60311318	Manual "SIRIUS – SIRIUS 3RU Thermal Overload Relays / SIRIUS 3RB Electronic Overload Relays", see https://support.industry.siemens.com/cs/ww/en/view/60298164
Configuration Manual "Configuring SIRIUS Innovations – Selection Data for Fuseless and Fused 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/16276/td

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



Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**
Size		S00	S0	S2	S3
Dimensions (W x H x D) (overload relay with stand-alone installation support)					
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124
• Spring-type 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 only)			
Trip class acc. to IEC 60947-4-1	CLASS	3RB30: 10E, 20E; 3RB31: 5E, 10E, 20E or 30E adjustable			
Phase failure sensitivity		Yes			
Reset and recovery					
• Reset options after tripping		Manual and automatic RESET, 3RB31 has 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 slide/self-monitoring			
• RESET button		Yes			
• STOP button		No			
Protection and operation of explosion-proof motors					
EC type-examination certificate number according to directive 2014/34/EU (ATEX)		PTB 09 ATEX 3001 Ex II (2) G [Ex e] [Ex d] [Ex px] Ex II (2) G [Ex t] [Ex p] see https://support.industry.siemens.com/cs/ww/en/view/40591327			
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	%	100			
- Temperature inside control cabinet 70 °C	%	On request			
Repeat terminals					
• Coil repeat terminals		Yes	Not required		
• Auxiliary contact repeat terminal		Yes	Not required		
Degree of protection acc. to IEC 60529					
• Screw terminals/spring-type terminals		IP20		- IP20 (front side) - Terminal IP00 (use additional terminal covers for higher degree of protection)	
• Straight-through transformers		--		IP20	
Touch protection acc. to IEC 60529		Finger-safe		Finger-safe, for vertical contact from the front	
Shock resistance with sine acc. to IEC 60068-2-27	*g*/ms	15/11 (signaling contact 97/98 in "Tripped" position: 9 *g*/11 ms)		15/11 (signaling contact 97/98 in "Tripped" position: 8 *g*/11 ms)	

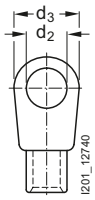
3RB30, 3RB31 for standard applications



Type		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
Dimensions (W x H x D) (overload relay with stand-alone installation support)					
• Screw terminals	mm	45 x 89 x 80	45 x 97 x 94	55 x 105 x 117	70 x 106 x 124
• Spring-type 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)					
Electromagnetic compatibility (EMC) – Interference immunity					
• Conductor-related interference					
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)	kV	2 (power ports), 1 (signal port)			
- Surge acc. to IEC 61000-4-5 (corresponds to degree of severity 3)	kV	2 (line to earth), 1 (line to line)			
• Electrostatic discharge according to IEC 61000-4-2 (corresponds to degree of severity 3)	kV	8 (air discharge), 6 (contact discharge)			
• Field-related interference acc. to IEC 61000-4-3 (corresponds to degree of severity 3)	V/m	10			
Electromagnetic compatibility (EMC) – Emitted interference		Degree of severity B acc. to EN 55011 (CISPR 11) and EN 55022 (CISPR 22)			
Resistance to extreme climates – air humidity	%	95			
Installation altitude above sea level	m	Up to 2 000			
Mounting position		Any			
Type of mounting		Direct mounting/stand-alone installation with terminal support			

Type		3RB3016, 3RB3113	3RB3026, 3RB3123	3RB3036, 3RB3133	3RB3046, 3RB3143
Size		S00	S0	S2	S3
Main circuit					
Rated insulation voltage U_i (pollution degree 3)	V	690		690 1 000 with straight-through transformer	1000
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	1000
Type of current					
• Direct current		No			
• Alternating current		Yes, 50/60 Hz ± 5 %			
Current setting	A A	0.1 ... 0.4 up to 4 ... 16	0.1 ... 0.4 up to 10 ... 40	12.5 … 50 and 20 ... 80	12.5 … 50 and 32 ... 115
Heavy starting		see Manual			
Power loss per unit (max.)	W	0.1 ... 1.1	0.1 ... 4.5	0.5 ... 4.6	0.9 ... 4.6
Short-circuit protection					
• With fuse without contactor		See "Selection and ordering data", pages 7/97 ... 7/99			
• With fuse and contactor		"Short-Circuit Protection with Fuses/Motor Starter Protectors for Motor Feeders" see Configuration Manual.			
Protective separation between main and auxiliary current paths acc. to IEC 60947-1 (pollution degree 2)					
• For systems with grounded neutral point	V	690			
• For systems with ungrounded neutral point	V	600			

Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**
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		4 mm Allen screw
Operating devices	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.), 1 or 2 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 46228-1)	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 ring terminal lugs	mm	--	--	--	d_2 = min. 6.3 d_3 = max. 19
Connection type		**Spring-type terminals**			
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5			
Conductor cross-sections (min./max.), 1 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 46228-1)	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)	--	
Connection type		**Straight-through transformers**			
Diameter of opening	mm	--		15	18



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 7/101.

4) When conductors larger than 25 mm^2 are connected, the 3RT2946-4EA2 cover is needed to maintain the required phase clearance, see page 7/101.

3RB30, 3RB31 for standard applications

Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**
Size		S00	S0	S2	S3
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 contact with alternating current AC-14/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 DC 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)		The information refers to sinusoidal residual currents at 50/60 Hz.			
• Tripping value I_Δ		> 0.75 × I_{motor}			
• Operating range I		Lower current setting < I_{motor} < 3.5 × upper current setting			
• Response time t_{trip} (in steady-state condition)	s	< 1			
Integrated electrical remote RESET (only 3RB31)					
Connecting terminals A3, A4		24 V DC, max. 200 mA for approx. 20 ms, then < 10 mA			
Protective separation between auxiliary current paths acc. to IEC 60947-1	V	300			

Type		**3RB3016, 3RB3113**	**3RB3026, 3RB3123**	**3RB3036, 3RB3133**	**3RB3046, 3RB3143**
Size		S00	S0	S2	S3
CSA, UL, UR rated data					
Auxiliary circuit – switching capacity		B600, R300			
Conductor cross-sections for auxiliary circuit					
Connection type		**Screw terminals**			
Terminal screw		M3, Pozidriv size 2			
Operating devices	mm	⌀ 5 ... 6			
Prescribed tightening torque	Nm	0.8 ... 1.2			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm^2	1 × (0.5 ... 4)[1], 2 × (0.5 ... 2.5)[1]			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	1 × (0.5 ... 2.5)[1], 2 × (0.5 ... 1.5)[1]			
• AWG cables, solid or stranded	AWG	2 × (20 ... 14)			
Connection type		**Spring-type terminals**			
Operating devices	mm	3.0 x 0.5			
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected					
• Solid or stranded	mm^2	2 × (0.25 ... 1.5)			
• Finely stranded without end sleeve	mm^2	2 × (0.25 ... 1.5)			
• Finely stranded with end sleeve (DIN 46228-1)	mm^2	2 × (0.25 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 × (24 ... 16)			

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

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-type terminals
  - Sizes S2 and S3:
    Main circuit: Screw terminals with box terminal or as straight-through transformer,
    Auxiliary circuit: Either screw or spring-type 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]	SD	Screw terminals		SD	Spring-type terminals	
	kW	A	A	d	Article No.	Price per PU	d	Article No.	Price per PU
Size S00									
S00	***Devices for mounting onto contactor[3]***								
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3016-1RB0**		2	**3RB3016-1RE0**	
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3016-1NB0**		2	**3RB3016-1NE0**	
	0.55 ... 1.5	1 … 4	20	▶	**3RB3016-1PB0**		2	**3RB3016-1PE0**	
	1.1 ... 5.5	3 … 12	25	▶	**3RB3016-1SB0**		2	**3RB3016-1SE0**	
	2.2 ... 7.5	4 ... 16	25	▶	**3RB3016-1TB0**		2	**3RB3016-1TE0**	
Size S0									
S0	***Devices for mounting onto contactor[3]***								
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3026-1RB0**		2	**3RB3026-1RE0**	
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3026-1NB0**		2	**3RB3026-1NE0**	
	0.55 ... 1.5	1 … 4	20	▶	**3RB3026-1PB0**		2	**3RB3026-1PE0**	
	1.1 ... 5.5	3 … 12	25	▶	**3RB3026-1SB0**		2	**3RB3026-1SE0**	
	3 ... 11	6 ... 25	50	▶	**3RB3026-1QB0**		2	**3RB3026-1QE0**	
	5.5 ... 18.5	10 ... 40	50	▶	**3RB3026-1VB0**		2	**3RB3026-1VE0**	
Size S2									
S2	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***								
	7.5 … 22	12.5 … 50	250	▶	**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	250	▶	**3RB3036-1UW1**		▶	**3RB3036-1UX1**	
	11 ... 37	20 ... 80	250	▶	**3RB3036-1WW1**		▶	**3RB3036-1WX1**	
Size S3 NEW									
S3	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***								
	7.5 … 22	12.5 … 50	200	X	**3RB3046-1UB0**		X	**3RB3046-1UD0**	
	18.5 … 55	32 ... 115	315	X	**3RB3046-1XB0**		X	**3RB3046-1XD0**	
	Devices with straight-through transformer for stand-alone installation								
	7.5 … 22	12.5 … 50	200	X	**3RB3046-1UW1**		X	**3RB3046-1UX1**	
	18.5 … 55	32 ... 115	315	X	**3RB3046-1XW1**		X	**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 Configuration Manual.

[3] With the appropriate terminal supports (see "Accessories", page 7/100), these overload relays can also be installed as stand-alone units.

Note:

For reliable operational current, note derating information, see Manual.

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

3RB30 electronic overload relays, CLASS 20E

Features and technical specifications:

- Connection methods
  - Sizes S00 and S0:
    Main and auxiliary circuit: Either screw or spring-type terminals
  - Sizes S2 and S3:
    Main circuit: Screw terminals with box terminal or as straight-through transformer,
    Auxiliary circuit: Either screw or spring-type 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]	SD	Screw terminals	SD	Spring-type terminals
					Article No. / Price per PU		Article No. / Price per PU
	kW	A	A	d		d	
Size S00							
S00	***Devices for mounting onto contactor[3]***						
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3016-2RB0**	2	**3RB3016-2RE0**
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3016-2NB0**	2	**3RB3016-2NE0**
	0.55 ... 1.5	1 … 4	20	▶	**3RB3016-2PB0**	2	**3RB3016-2PE0**
	1.1 ... 5.5	3 … 12	25	▶	**3RB3016-2SB0**	2	**3RB3016-2SE0**
	2.2 ... 7.5	4 ... 16	25	▶	**3RB3016-2TB0**	2	**3RB3016-2TE0**
Size S0							
S0	***Devices for mounting onto contactor[3]***						
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3026-2RB0**	2	**3RB3026-2RE0**
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3026-2NB0**	2	**3RB3026-2NE0**
	0.55 ... 1.5	1 … 4	20	▶	**3RB3026-2PB0**	2	**3RB3026-2PE0**
	1.1 ... 5.5	3 … 12	25	▶	**3RB3026-2SB0**	2	**3RB3026-2SE0**
	3 ... 11	6 ... 25	50	▶	**3RB3026-2QB0**	2	**3RB3026-2QE0**
	5.5 ... 18.5	10 ... 40	50	▶	**3RB3026-2VB0**	2	**3RB3026-2VE0**
Size S2							
S2	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***						
	7.5 … 22	12.5 … 50	250	▶	**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	250	▶	**3RB3036-2UW1**	▶	**3RB3036-2UX1**
	11 ... 37	20 ... 80	250	▶	**3RB3036-2WW1**	▶	**3RB3036-2WX1**
Size S3 *NEW*							
S3	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***						
	7.5 … 22	12.5 … 50	200	X	**3RB3046-2UB0**	X	**3RB3046-2UD0**
	18.5 … 55	32 ... 115	315	X	**3RB3046-2XB0**	X	**3RB3046-2XD0**
	Devices with straight-through transformer for stand-alone installation						
	7.5 … 22	12.5 … 50	200	X	**3RB3046-2UW1**	X	**3RB3046-2UX1**
	18.5 … 55	32 ... 115	315	X	**3RB3046-2XW1**	X	**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 Configuration Manual.

[3] With the appropriate terminal supports (see "Accessories", page 7/100), these overload relays can also be installed as stand-alone units.

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

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-type terminals
  - Sizes S2 and S3:
    Main circuit: Screw terminals with box terminal or as straight-through transformer,
    Auxiliary circuit: Either screw or spring-type 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


3RB3113-4TB0


3RB3123-4VB0


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]	SD	Screw terminals	SD	Spring-type terminals
	kW	A	A	d	Article No. / Price per PU	d	Article No. / Price per PU
Size S00							
S00	***Devices for mounting onto contactor[3]***						
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3113-4RB0**	2	**3RB3113-4RE0**
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3113-4NB0**	2	**3RB3113-4NE0**
	0.55 ... 1.5	1 … 4	20	▶	**3RB3113-4PB0**	2	**3RB3113-4PE0**
	1.1 ... 5.5	3 … 12	25	▶	**3RB3113-4SB0**	2	**3RB3113-4SE0**
	2.2 ... 7.5	4 ... 16	25	▶	**3RB3113-4TB0**	2	**3RB3113-4TE0**
Size S0							
S0	***Devices for mounting onto contactor[3]***						
	0.04 ... 0.09	0.1 … 0.4	4	▶	**3RB3123-4RB0**	2	**3RB3123-4RE0**
	0.12 ... 0.37	0.32 … 1.25	6	▶	**3RB3123-4NB0**	2	**3RB3123-4NE0**
	0.55 ... 1.5	1 … 4	20	▶	**3RB3123-4PB0**	2	**3RB3123-4PE0**
	1.1 ... 5.5	3 … 12	25	▶	**3RB3123-4SB0**	2	**3RB3123-4SE0**
	3 ... 11	6 ... 25	50	▶	**3RB3123-4QB0**	2	**3RB3123-4QE0**
	5.5 ... 18.5	10 ... 40	50	▶	**3RB3123-4VB0**	2	**3RB3123-4VE0**
Size S2							
S2	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***						
	7.5 … 22	12.5 … 50	250	▶	**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	250	▶	**3RB3133-4UW1**	▶	**3RB3133-4UX1**
	11 ... 37	20 ... 80	250	▶	**3RB3133-4WW1**	▶	**3RB3133-4WX1**
Size S3 *NEW*							
S3	***Devices with screw terminals (main current side) and for mounting onto contactor[3]***						
	7.5 … 22	12.5 … 50	200	X	**3RB3143-4UB0**	X	**3RB3143-4UD0**
	18.5 … 55	32 ... 115	315	X	**3RB3143-4XB0**	X	**3RB3143-4XD0**
	Devices with straight-through transformer for stand-alone installation						
	7.5 … 22	12.5 … 50	200	X	**3RB3143-4UW1**	X	**3RB3143-4UX1**
	18.5 … 55	32 ... 115	315	X	**3RB3143-4XW1**	X	**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 Configuration Manual.

[3] With the appropriate terminal supports (see "Accessories", page 7/100), these overload relays can also be installed as stand-alone units.

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

Overview

The following optional accessories are available for the 3RB30/3RB31 electronic overload relays:

- Size-specific terminal support for stand-alone installation, in sizes S00 and S0 also with spring-type terminals
- Mechanical RESET (for all sizes)
- Cable release for resetting devices which are difficult to access (for all sizes)
- Sealable cover (for all sizes)

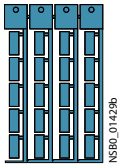
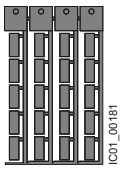
Selection and ordering data

	Version	Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Terminal supports for stand-alone installation								
 3RU2916-3AA01	**Terminal supports for overload relays with screw terminals**			**Screw terminals**				
	For separate mounting of the overload relays; screw and snap-on mounting onto standard mounting rail	S00	▶	**3RU2916-3AA01**		1	1 unit	41F
		S0	▶	**3RU2926-3AA01**		1	1 unit	41F
		S2	▶	**3RU2936-3AA01**		1	1 unit	41F
		S3 NEW	1	**3RU2946-3AA01**		1	1 unit	41F
 3RU2926-3AA01	**Terminal supports for overload relays with spring-type terminals**			**Spring-type terminals**				
	For separate mounting of the overload relays; screw and snap-on mounting onto standard mounting rail	S00	5	**3RU2916-3AC01**		1	1 unit	41F
		S0	5	**3RU2926-3AC01**		1	1 unit	41F
 3RU2936-3AA01								
 3RU2946-3AA01								
 3RU2916-3AC01								
 3RU2926-3AC01								
Mechanical RESET								
 3RB3980-0A with pushbutton and extension plungers	**Resetting plungers, holders and formers**	S00 ... S3	▶	**3RB3980-0A**		1	1 unit	41F
	Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S00 ... S3	▶	**3SU1200-0FB10-0AA0**		1	1 unit	41J
	Extension plungers For compensation of the distance between a pushbutton and the unlatching button of the relay	S00 ... S3	▶	**3SU1900-0KG10-0AA0**		1	1 unit	41J

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

	Version	Size	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
			d					
Cable releases with holder for RESET								
 3RB3980-0.	For ⌀ 6.5 mm holes in the control panel; max. control panel thickness 8 mm							
	• Length 400 mm	S00 ... S3	▶	**3RB3980-0B**		1	1 unit	41F
	• Length 600 mm	S00 ... S3	▶	**3RB3980-0C**		1	1 unit	41F
Sealable covers								
3RB3984-0	For covering the setting knobs	S00 ... S3	▶	**3RB3984-0**		1	1 unit	41F
Terminal covers								
 3RT2936-4EA2	**Covers for devices with screw terminals (box terminals)** Additional touch protection for fastening to the box terminals			**Screw terminals**				
	• Main current level	S2	2	**3RT2936-4EA2**		1	1 unit	41B
		S3 NEW	▶	**3RT2946-4EA2**		1	1 unit	41B

General accessories

	Version	Size	Color	For overload relays	SD	Article No.	Price per PU	PU (UNIT, SET, M)	PS*	PG
					d					
Tools for opening spring-type terminals										
						Spring-type terminals				
 3RA2908-1A	**Screwdrivers** For all SIRIUS devices with spring-type terminals	Length, approx. 200 mm, 3.0 mm x 0.5 mm	Titanium gray/ black, partially insulated	Main and auxiliary circuit connection: 3RB3	2	**3RA2908-1A**		1	1 unit	41B
Blank labels										
 3RT1900-1SB20	**Unit labeling plates**[1] For SIRIUS devices	20 mm x 7 mm	Pastel turquoise	3RB3	20	**3RT1900-1SB20**		100	340 units	41B
		20 mm x 7 mm	Titanium gray	3RB3	20	**3RT2900-1SB20**		100	340 units	41B
	Adhesive inscription labels[1] For SIRIUS devices	19 mm x 6 mm	Pastel turquoise	3RU2	15	**3RT1900-1SB60**		100	3 060 units	41B
		19 mm x 6 mm	Zinc yellow	3RU2	15	**3RT1900-1SD60**		100	3 060 units	41B
 3RT2900-1SB20										

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systemtechnik GmbH (see page 16/20).