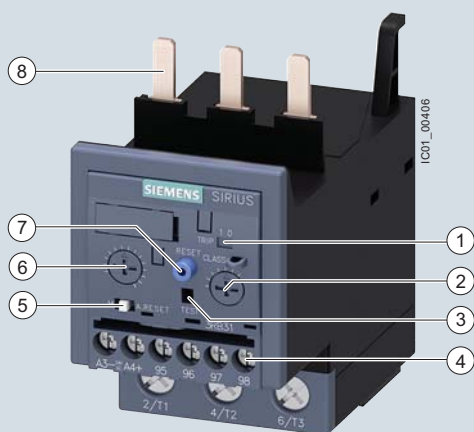


Overload Relays

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 up to 80 A for standard applications

Overview



- 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 3RU3133-4.B0 electronic overload relay

The 3RB30/3RB31 electronic overload relays up to 80 A with internal power supply have been designed for inverse-time delayed protection of loads with normal and heavy starting (for "Function", see the manual "SIRIUS Innovations – SIRIUS 3RU2/3RB3 Overload Relays", <http://support.automation.siemens.com/WW/view/en/60298164>) against excessive temperature rises due to overload, phase unbalance or phase failure. An overload, phase unbalance 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 current setting I_n and is stored in the form of a long-term stable tripping characteristic (see "Characteristic Curves" <http://support.automation.siemens.com/WW/view/en/34290881/134300>).

In addition to inverse-time delayed protection of loads against excessive temperature rises due to overload, phase unbalance 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. Resetting takes place either manually or automatically after the recovery time has elapsed ("Function", see manual "SIRIUS Innovations – SIRIUS 3RU2/3RB3 Overload Relays", <http://support.automation.siemens.com/WW/view/en/60298164>).

The 3RB3 electronic overload relays are suitable for operation with frequency converters. Please follow the instructions in the manual "SIRIUS Innovations – 3RU2/3RB3 Overload Relays", see <http://support.automation.siemens.com/WW/view/en/60298164>.

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 S2 to S10/S12, see page 7/130 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:

- Ex II (2) G [Ex e] [Ex d] [Ex px]
- Ex 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.

Overload Relays

SIRIUS 3RB3 Electronic Overload Relays

3RB30, 3RB31 up to 80 A for standard applications

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
 - Size S2:
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 unbalance 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



Size contactor ²⁾	Trip class	Current setting value of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination "2", operational class gG ¹⁾	DT	Screw terminals	DT	Spring-type terminals	
	CLASS	A	A		Article No.	Price per PU	Article No.	Price per PU
Size S00								
S00	Devices for mounting onto contactor ²⁾							
	10E	0.1 ... 0.4	4	▶	3RB3016-1RB0	A	3RB3016-1RE0	
	10E	0.32 ... 1.25	6	▶	3RB3016-1NB0	A	3RB3016-1NE0	
	10E	1 ... 4	20	▶	3RB3016-1PB0	A	3RB3016-1PE0	
	10E	3 ... 12	25	▶	3RB3016-1SB0	A	3RB3016-1SE0	
	10E	4 ... 16	25	▶	3RB3016-1TB0	A	3RB3016-1TE0	
Size S0								
S0	Devices for mounting onto contactor ²⁾							
	10E	0.1 ... 0.4	4	▶	3RB3026-1RB0	A	3RB3026-1RE0	
	10E	0.32 ... 1.25	6	▶	3RB3026-1NB0	A	3RB3026-1NE0	
	10E	1 ... 4	20	▶	3RB3026-1PB0	A	3RB3026-1PE0	
	10E	3 ... 12	25	▶	3RB3026-1SB0	A	3RB3026-1SE0	
	10E	6 ... 25	50	▶	3RB3026-1QB0	A	3RB3026-1QE0	
	10E	10 ... 40	50	▶	3RB3026-1VB0	A	3RB3026-1VE0	
Size S2								
S2	Devices with screw terminals (main current side) and for mounting onto contactor ²⁾							
	10E	12 ... 50	250	NEW A	3RB3036-1UB0	A	3RB3036-1UD0	
	10E	20 ... 80	250	NEW A	3RB3036-1WB0	A	3RB3036-1WD0	
	Devices with straight-through transformer for stand-alone installation							
	10E	12 ... 50	250	NEW A	3RB3036-1UW1	A	3RB3036-1UX1	
	10E	20 ... 80	250	NEW A	3RB3036-1WW1	A	3RB3036-1WX1	

¹⁾ Maximum protection by fuse only for overload relay, type of coordination "2". Fuse values in connection with contactors, see Configuration Manual "Configuring SIRIUS Innovations – Selection Data for Fuseless and Fused Load Feeders" <http://support.automation.siemens.com/WW/view/en/39714188>.

²⁾ With the appropriate terminal supports (see "Accessories", page 7/122), these overload relays can also be installed as stand-alone units.