

Overview



Features	Benefits	3RU11	3RB20/3RB21	3RB22/3RB23
General data				
Sizes	<ul style="list-style-type: none"> Are coordinated with the dimensions, connections and technical characteristics of the other devices in the SIRIUS modular system (contactors, soft starters, ...) Permit the mounting of slim and compact load feeders in widths of 45 mm (S00), 45 mm (S0), 55 mm (S2), 70 mm (S3), 120 mm (S6) and 145 mm (S10/S12) Simplify configuration 	S00 ... S3	S00 ... S12	S00 ... S12
Seamless current range	<ul style="list-style-type: none"> Allows easy and consistent configuration with one series of overload relays (for small to large loads) 	0.11 ... 100 A	0.1 ... 630 A	0.3 ... 630 A (... 820 A) ¹⁾
Protection functions				
Tripping in the event of overload	<ul style="list-style-type: none"> Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload 	✓	✓	✓
Tripping in the event of phase unbalance	<ul style="list-style-type: none"> Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to phase unbalance 	(✓)	✓	✓
Tripping in the event of phase failure	<ul style="list-style-type: none"> Minimizes heating of induction motors during phase failure 	✓	✓	✓
Protection of single-phase loads	<ul style="list-style-type: none"> Enables the protection of single-phase loads 	✓	--	✓
Tripping in the event of overheating	<ul style="list-style-type: none"> 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 for long starting or braking operations Eliminates the need for additional special equipment Saves space in the control cabinet Reduces wiring outlay and costs 	-- ²⁾	-- ²⁾	✓
by Integrated thermistor motor protection function				
Tripping in the event of a ground fault	<ul style="list-style-type: none"> Provides optimum protection of loads against high-resistance short-circuits or ground faults due to moisture, condensed water, damage to the insulation material, etc. 	--	✓ (only 3RB21)	✓
by Internal ground-fault detection (activatable)	<ul style="list-style-type: none"> Eliminates the need for additional special equipment Saves space in the control cabinet Reduces wiring outlay and costs 			
Features				
RESET function	<ul style="list-style-type: none"> Allows manual or automatic resetting of the relay 	✓	✓	✓
Remote RESET function	<ul style="list-style-type: none"> Allows the remote resetting of the relay 	✓ (by means of separate module)	✓ (only 3RB21 with 24 V DC)	✓
TEST function for auxiliary contacts	<ul style="list-style-type: none"> Allows easy checking of the function and wiring 	✓	✓	✓
TEST function for electronics	<ul style="list-style-type: none"> Allows checking of the electronics 	--	✓	✓
Status display	<ul style="list-style-type: none"> Displays the current operating state 	✓	✓	✓
Large current adjustment button	<ul style="list-style-type: none"> Makes it easier to set the relay exactly to the correct current value 	✓	✓	✓
Integrated auxiliary contacts (1 NO + 1 NC)	<ul style="list-style-type: none"> Allows the load to be switched off if necessary Can be used to output signals 	✓	✓	✓ (2 ×)

¹⁾ Motor currents up to 820 A can be recorded and evaluated by a current measuring module, e. g. 3RB29 06-2BG1 (0.3 ... 3 A), in combination with a 3UF18 68-3GA00 (820 A / 1 A) series transformer.
For 3UF18 transformers, see Chapter 7, section "SIMOCODE".

²⁾ The SIRIUS 3RN thermistor motor protection devices can be used to provide additional temperature-dependent protection.

Overload Relays

General data



Features	Benefits	3RU11	3RB20/3RB21	3RB22/3RB23
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)	<ul style="list-style-type: none"> 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 3RT1 contactors	<ul style="list-style-type: none"> Simplifies configuration Reduces wiring outlay and costs Enables stand-alone installation as well as space-saving direct mounting 	✓	✓	✓ ¹⁾
Straight-through transformers for main circuit²⁾ (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)	<ul style="list-style-type: none"> Reduces the contact resistance (only one point of contact) Saves wiring costs (easy, no need for tools, and fast) Saves material costs Reduces installation costs 	--	✓ (S2 ... S6)	✓ (S00 ... S6)
Spring-loaded terminal connection system for main circuit²⁾	<ul style="list-style-type: none"> Enables fast connections Permits vibration-resistant connections Enables maintenance-free connections 	✓ (S00)	--	--
Spring-loaded terminal connection system for auxiliary circuits²⁾	<ul style="list-style-type: none"> Enables fast connections Permits vibration-resistant connections Enables maintenance-free connections 	✓	✓	✓
Other features				
Temperature compensation	<ul style="list-style-type: none"> Allows the use of the relays 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	<ul style="list-style-type: none"> Provides safe protection for the loads even after years of use in severe operating conditions 	✓ ^(✓)	✓	✓
Wide setting ranges	<ul style="list-style-type: none"> Reduce the number of variants Minimize the engineering outlay and costs Minimize storage overhead, storage costs, tied-up capital 	--	✓ (1:4)	✓ (1:10)
Trip class CLASS 5	<ul style="list-style-type: none"> Enables solutions for very fast starting motors requiring special protection (e. g. Ex motors) 	--	✓ (only 3RB21)	✓
Trip classes > CLASS 10	<ul style="list-style-type: none"> Enables heavy starting solutions 	--	✓	✓
Low power loss	<ul style="list-style-type: none"> Reduces power consumption and energy costs (up 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 controlgear cabinet cooling. Direct mounting to contactor saves space, even for high motor currents (i. e. no heat decoupling is required). 	--	✓	✓

¹⁾ Exception: up to size S3, only stand-alone installation is possible.

²⁾ Alternatively available for screw terminals.



Features	Benefits	3RU11	3RB20/3RB21	3RB22/3RB23
Other features				
Internal power supply	<ul style="list-style-type: none"> Eliminates the need for configuration and connecting an additional control circuit 	-- ¹⁾	✓	--
Variable adjustment of the trip classes (The required trip class can be adjusted by means of a rotary switch depending on the current start-up condition.)	<ul style="list-style-type: none"> Reduces the number of variants Minimizes the configuring outlay and costs Minimizes storage overhead, storage costs, and tied-up capital 	--	✓ (only 3RB21)	✓
Overload warning	<ul style="list-style-type: none"> Indicates imminent tripping of the relay directly on the device due to overload, phase unbalance or phase failure Allows the imminent tripping of the relay to be signaled Allows measures to be taken in time in the event of continuous inverse-time delayed overloads Eliminates the need for an additional device Saves space in the control cabinet Reduces wiring outlay and costs 	--	--	✓
Analog output	<ul style="list-style-type: none"> Allows the output of an analog output signal for actuating moving-coil instruments, feeding programmable logic controllers or transfer to bus systems Eliminates the need for an additional measuring transducer and signal converter Saves space in the control cabinet Reduces wiring outlay and costs 	--	--	✓

¹⁾ The SIRIUS 3RU11 thermal overload relays use a bimetal contactor and therefore do not require a control supply voltage.

Overload Relays

General data

Overload relays	Current measurement	Current range	Contactors (type, size, rating in kW)							
			3RT10 1	3RT10 2	3RT10 3	3RT10 4	3RT10 5	3RT10 6	3RT10 7	3TF68/69
Type	Type	A	S00 3/4/5.5	S0 5.5/7.5/11	S2 15/18.5/22	S3 30/37/45	S6 55/75/90	S10 110/132/160	S12 200/250	Size 14 375/450

3RU11 thermal overload relays



3RU11 1	Integrated	0.11 ... 12	✓	--	--	--	--	--	--	--
3RU11 2	Integrated	1.8 ... 25	--	✓	--	--	--	--	--	--
3RU11 3	Integrated	5.5 ... 50	--	--	✓	--	--	--	--	--
3RU11 4	Integrated	18 ... 100	--	--	--	✓	--	--	--	--

3RB20¹⁾ solid-state overload relays



3RB20 1	Integrated	0.1 ... 12	✓	--	--	--	--	--	--	--
3RB20 2	Integrated	0.1 ... 25	--	✓	--	--	--	--	--	--
3RB20 3	Integrated	6 ... 50	--	--	✓	--	--	--	--	--
3RB20 4	Integrated	12.5 ... 100	--	--	--	✓	--	--	--	--
3RB20 5	Integrated	50 ... 200	--	--	--	--	✓	--	--	--
3RB20 6	Integrated	55 ... 630	--	--	--	--	--	✓	✓	✓
3RB20 1 + 3UF18	Integrated	630 ... 820	--	--	--	--	--	--	--	✓

3RB21¹⁾ solid-state overload relays



3RB21 1	Integrated	0.1 ... 12	✓	--	--	--	--	--	--	--
3RB21 2	Integrated	0.1 ... 25	--	✓	--	--	--	--	--	--
3RB21 3	Integrated	6 ... 50	--	--	✓	--	--	--	--	--
3RB21 4	Integrated	12.5 ... 100	--	--	--	✓	--	--	--	--
3RB21 5	Integrated	50 ... 200	--	--	--	--	✓	--	--	--
3RB21 6	Integrated	55 ... 630	--	--	--	--	--	✓	✓	✓
3RB21 1 + 3UF18	Integrated	630 ... 820	--	--	--	--	--	--	--	✓

3RB22/3RB23¹⁾ solid-state overload relays



3RB22/3RB23 +	3RB29 0	0.3 ... 25	✓	✓	--	--	--	--	--	--
	3RB29 0	10 ... 100	--	--	✓	✓	--	--	--	--
	3RB29 5	20 ... 200	--	--	--	--	✓	--	--	--
	3RB29 6	63 ... 630	--	--	--	--	--	✓	✓	✓
	3RB29 0 + 3UF18	630 ... 820	--	--	--	--	--	--	--	✓

¹⁾ When using the overload relays with trip class \geq CLASS 20, see Technical Information LV 1 T "Technical specifications", "Short-Circuit Protection with Fuses for Motor Feeders", and the project planning aid "Configuring SIR-IUS Fuseless Load Feeders".

Connection methods

The 3RB20 and 3RB21 relays are available with screw terminals (box terminals) or spring-loaded terminals on the auxiliary current side; the same applies for the evaluation modules of the 3RB22/3RB23 relays. The 3RU11 relays come with screw terminals.



Screw terminals



Spring-type terminals or Cage Clamp terminals

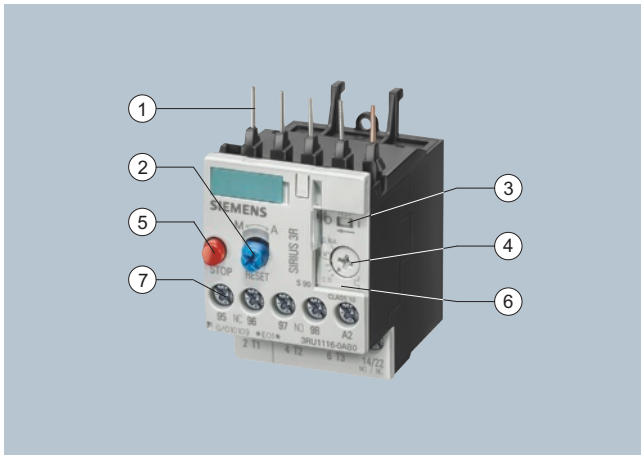
The terminals are indicated in the selection and ordering data by orange backgrounds.

Overload Relays

3RU1 Thermal Overload Relays

3RU11 for standard applications

Overview



- (1) Connection for mounting onto contactors:
Optimally adapted in electrical, mechanical and design terms to the contactors, these connecting pins can be used for direct mounting of the overload relays. Stand-alone installation is possible as an alternative (in some cases in conjunction with a stand-alone installation module).
- (2) 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.
- (3) Switch position indicator and TEST function of the wiring:
Indicates a trip and enables the wiring test.
- (4) Motor current setting:
Setting the device to the rated motor current is easy with the large rotary knob.
- (5) 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.
- (6) Transparent, sealable cover:
Secures the motor current setting and the TEST function against adjustment.
- (7) Supply terminals:
The generously sized terminals permit connection of two conductors with different cross-sections for the main and auxiliary circuits. The auxiliary circuit can be connected with screw terminals and alternatively with spring-loaded terminals.

The 3RU11 thermal overload relays up to 100 A have been designed for inverse-time delayed protection of loads with normal starting (see [Technical Information LV 1 T, "Function"](#)) against excessive 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 current setting I_{tr} and is stored in the form of a long-term stable tripping characteristic (see [Technical Information LV 1 T, "Characteristic Curves"](#)).

The "tripped" status is signaled by means of a switch position indicator. Resetting takes place either manually or automatically after a recovery time has elapsed (see [Technical Information LV 1 T, "Function"](#)).

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.

"Increased safety" type of protection EEx e according to ATEX directive 94/9/EC

The 3RU11 thermal overload relays are suitable for the overload protection of explosion-proof motors with "increased safety" type of protection EEx e. The relays meet the requirements of EN 60079-7 (Electrical apparatus for areas subject to explosion hazards – Increased safety "e"); see [Chapter 20 "Appendix" --> "Standards and approvals" --> "Type overview of approved devices for potentially explosive areas \(ATEX explosion protection\)"](#).

EC type test certificate for Category (2) G/D exists. It has the number DMT 98 ATEX G 001.

Benefits

The most important features and benefits of the 3RU11 thermal overload relays are listed in the overview table (see ["Overload Relays"](#), --> "General data").

Application

Industries

The 3RU11 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).

Application

The 3RU11 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 3RU11 thermal overload relays, all three bimetal strips must be heated. For this purpose, all main current paths of the relay must be connected in series.

Ambient conditions

The 3RU11 thermal overload relays have temperature compensation in accordance with IEC 60947-4-1 for the temperature range of -20 to $+60$ °C. For temperatures from $+60$ to $+80$ °C the upper set value of the setting range must be reduced by the factor listed in the table below.

Ambient temperature in °C	Derating factor for the upper set value
+60	1.0
+65	0.94
+70	0.87
+75	0.81
+80	0.73

Overload Relays

3RU1 Thermal Overload Relays





3RU11 for standard applications

Selection and ordering data

3RU11 thermal overload relays with screw terminals on the auxiliary current side¹⁾ for direct mounting, CLASS 10

Features and technical specifications:

- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicators
- TEST function
- STOP button
- Integrated, sealable cover

Size	contactor ²⁾	Rating for induction motor Rated value ³⁾	Current setting of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination 2, gL/gG operational class ⁴⁾	DT	Screw terminals (on auxiliary current side)		PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
						Order No.	Price per PU				
		kW	A	A							kg
Size S00											
	S00	0.04	0.11 ... 0.16	0.5	▶	3RU11 16-0AB0		1	1 unit	101	0.150
		0.06	0.14 ... 0.2	1	▶	3RU11 16-0BB0		1	1 unit	101	0.150
		0.06	0.18 ... 0.25	1	▶	3RU11 16-0CB0		1	1 unit	101	0.150
		0.09	0.22 ... 0.32	1.6	▶	3RU11 16-0DB0		1	1 unit	101	0.150
		0.09	0.28 ... 0.4	2	▶	3RU11 16-0EB0		1	1 unit	101	0.150
		0.12	0.35 ... 0.5	2	▶	3RU11 16-0FB0		1	1 unit	101	0.150
		0.18	0.45 ... 0.63	2	▶	3RU11 16-0GB0		1	1 unit	101	0.150
		0.18	0.55 ... 0.8	4	▶	3RU11 16-0HB0		1	1 unit	101	0.150
		0.25	0.7 ... 1	4	▶	3RU11 16-0JB0		1	1 unit	101	0.150
		0.37	0.9 ... 1.25	4	▶	3RU11 16-0KB0		1	1 unit	101	0.150
		0.55	1.1 ... 1.6	6	▶	3RU11 16-1AB0		1	1 unit	101	0.150
		0.75	1.4 ... 2	6	▶	3RU11 16-1BB0		1	1 unit	101	0.150
		0.75	1.8 ... 2.5	10	▶	3RU11 16-1CB0		1	1 unit	101	0.150
		1.1	2.2 ... 3.2	10	▶	3RU11 16-1DB0		1	1 unit	101	0.150
		1.5	2.8 ... 4	16	▶	3RU11 16-1EB0		1	1 unit	101	0.150
		1.5	3.5 ... 5	20	▶	3RU11 16-1FB0		1	1 unit	101	0.150
2.2	4.5 ... 6.3	20	▶	3RU11 16-1GB0		1	1 unit	101	0.150		
3	5.5 ... 8	25	▶	3RU11 16-1HB0		1	1 unit	101	0.150		
4	7 ... 10	35	▶	3RU11 16-1JB0		1	1 unit	101	0.150		
5.5	9 ... 12	35	▶	3RU11 16-1KB0		1	1 unit	101	0.150		
Size S0											
	S0	0.75	1.8 ... 2.5	10	▶	3RU11 26-1CB0		1	1 unit	101	0.190
		1.1	2.2 ... 3.2	10	▶	3RU11 26-1DB0		1	1 unit	101	0.190
		1.5	2.8 ... 4	16	▶	3RU11 26-1EB0		1	1 unit	101	0.190
		1.5	3.5 ... 5	20	▶	3RU11 26-1FB0		1	1 unit	101	0.190
		2.2	4.5 ... 6.3	20	▶	3RU11 26-1GB0		1	1 unit	101	0.190
		3	5.5 ... 8	25	▶	3RU11 26-1HB0		1	1 unit	101	0.190
		4	7 ... 10	35	▶	3RU11 26-1JB0		1	1 unit	101	0.190
		5.5	9 ... 12.5	35	▶	3RU11 26-1KB0		1	1 unit	101	0.190
		7.5	11 ... 16	40	▶	3RU11 26-4AB0		1	1 unit	101	0.190
		7.5	14 ... 20	50	▶	3RU11 26-4BB0		1	1 unit	101	0.190
		11	17 ... 22	63	▶	3RU11 26-4CB0		1	1 unit	101	0.190
11	20 ... 25	63	▶	3RU11 26-4DB0		1	1 unit	101	0.190		
Size S2											
	S2	3	5.5 ... 8	25	▶	3RU11 36-1HB0		1	1 unit	101	0.320
		4	7 ... 10	35	▶	3RU11 36-1JB0		1	1 unit	101	0.320
		5.5	9 ... 12.5	35	▶	3RU11 36-1KB0		1	1 unit	101	0.320
		7.5	11 ... 16	40	▶	3RU11 36-4AB0		1	1 unit	101	0.320
		7.5	14 ... 20	50	▶	3RU11 36-4BB0		1	1 unit	101	0.320
		11	18 ... 25	63	▶	3RU11 36-4DB0		1	1 unit	101	0.320
		15	22 ... 32	80	▶	3RU11 36-4EB0		1	1 unit	101	0.320
		18.5	28 ... 40	80	▶	3RU11 36-4FB0		1	1 unit	101	0.320
		22	36 ... 45	100	▶	3RU11 36-4GB0		1	1 unit	101	0.320
		22	40 ... 50	100	▶	3RU11 36-4HB0		1	1 unit	101	0.320
Size S3											
	S3	11	18 ... 25	63	▶	3RU11 46-4DB0		1	1 unit	101	0.550
		15	22 ... 32	80	▶	3RU11 46-4EB0		1	1 unit	101	0.550
		18.5	28 ... 40	80	▶	3RU11 46-4FB0		1	1 unit	101	0.550
		22	36 ... 50	125	▶	3RU11 46-4HB0		1	1 unit	101	0.550
		30	45 ... 63	125	▶	3RU11 46-4JB0		1	1 unit	101	0.550
		37	57 ... 75	160	▶	3RU11 46-4KB0		1	1 unit	101	0.550
		45	70 ... 90	160	▶	3RU11 46-4LB0		1	1 unit	101	0.550
		45	80 ... 100 ⁵⁾	200	▶	3RU11 46-4MB0		1	1 unit	101	0.550

¹⁾ With the suitable terminal brackets (see "Accessories", page 5/47), the 3RU11 overload relays for direct mounting can also be installed as stand-alone units.

²⁾ Observe maximum rated operational current of the devices.

³⁾ 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.

⁴⁾ Maximum protection by fuse for overload relay, type of coordination 2. For fuse values in conjunction with contactors, see Technical Information LV 1 T "Technical specifications" -> "Short-circuit protection with fuses/motor starter protectors for motor feeders".

⁵⁾ For overload relays > 100 A, see 3RB2.

Overload Relays





3RU1 Thermal Overload Relays

3RU11 for standard applications

3RU11 thermal overload relays with screw terminals on the auxiliary current side for stand-alone installation¹⁾, CLASS 10

Features and technical specifications:

- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicators
- TEST function
- STOP button
- Integrated, sealable cover

Size contactor ²⁾	Rating for induction motor Rated value ³⁾	Current setting of the inverse-time delayed over- load release	Short-circuit protection with fuse, type of coordi- nation 2, gL/gG opera- tional class ⁴⁾	DT	Screw terminals (on auxiliary current side)	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
					Order No.					Price per PU
kW		A	A						kg	
Size S00										
	S00	0.04	0.11 ... 0.16	0.5	B	3RU11 16-0AB1	1	1 unit	101	0.180
		0.06	0.14 ... 0.2	1	B	3RU11 16-0BB1	1	1 unit	101	0.180
		0.06	0.18 ... 0.25	1	B	3RU11 16-0CB1	1	1 unit	101	0.180
		0.09	0.22 ... 0.32	1.6	B	3RU11 16-0DB1	1	1 unit	101	0.180
		0.09	0.28 ... 0.4	2	▶	3RU11 16-0EB1	1	1 unit	101	0.180
		0.12	0.35 ... 0.5	2	▶	3RU11 16-0FB1	1	1 unit	101	0.180
		0.18	0.45 ... 0.63	2	▶	3RU11 16-0GB1	1	1 unit	101	0.180
		0.18	0.55 ... 0.8	4	▶	3RU11 16-0HB1	1	1 unit	101	0.180
		0.25	0.7 ... 1	4	▶	3RU11 16-0JB1	1	1 unit	101	0.180
		0.37	0.9 ... 1.25	4	▶	3RU11 16-0KB1	1	1 unit	101	0.180
		0.55	1.1 ... 1.6	6	▶	3RU11 16-1AB1	1	1 unit	101	0.180
		0.75	1.4 ... 2	6	▶	3RU11 16-1BB1	1	1 unit	101	0.180
		0.75	1.8 ... 2.5	10	▶	3RU11 16-1CB1	1	1 unit	101	0.180
		1.1	2.2 ... 3.2	10	▶	3RU11 16-1DB1	1	1 unit	101	0.180
		1.5	2.8 ... 4	16	▶	3RU11 16-1EB1	1	1 unit	101	0.180
		1.5	3.5 ... 5	20	▶	3RU11 16-1FB1	1	1 unit	101	0.180
	2.2	4.5 ... 6.3	20	▶	3RU11 16-1GB1	1	1 unit	101	0.180	
	3	5.5 ... 8	25	▶	3RU11 16-1HB1	1	1 unit	101	0.180	
	4	7 ... 10	35	▶	3RU11 16-1JB1	1	1 unit	101	0.180	
	5.5	9 ... 12	35	▶	3RU11 16-1KB1	1	1 unit	101	0.180	
Size S0										
	S0	7.5	11 ... 16	40	▶	3RU11 26-4AB1	1	1 unit	101	0.240
		7.5	14 ... 20	50	▶	3RU11 26-4BB1	1	1 unit	101	0.240
		11	17 ... 22	63	▶	3RU11 26-4CB1	1	1 unit	101	0.240
		11	20 ... 25	63	▶	3RU11 26-4DB1	1	1 unit	101	0.240
Size S2										
	S2	15	22 ... 32	80	▶	3RU11 36-4EB1	1	1 unit	101	0.480
		18.5	28 ... 40	80	▶	3RU11 36-4FB1	1	1 unit	101	0.480
		22	36 ... 45	100	▶	3RU11 36-4GB1	1	1 unit	101	0.480
		22	40 ... 50	100	▶	3RU11 36-4HB1	1	1 unit	101	0.480
Size S3										
	S3	30	45 ... 63	125	▶	3RU11 46-4JB1	1	1 unit	101	0.810
		37	57 ... 75	160	▶	3RU11 46-4KB1	1	1 unit	101	0.810
		45	70 ... 90	160	▶	3RU11 46-4LB1	1	1 unit	101	0.810
		45	80 ... 100 ⁵⁾	200	▶	3RU11 46-4MB1	1	1 unit	101	0.810

¹⁾ Sizes S00 to S3 for screw and snap-on mounting onto TH 35 standard mounting rails, size S3 also for TH 75 standard mounting rails.

²⁾ Observe maximum rated operational current of the devices.

³⁾ 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.

⁴⁾ Maximum protection by fuse for overload relay, type of coordination 2.

For fuse values in conjunction with contactors, see Technical Information LV 1 T "Technical specifications" -> "Short-circuit protection with fuses/motor starter protectors for motor feeders".

⁵⁾ For overload relays > 100 A, see 3RB2.

Overload Relays

3RU1 Thermal Overload Relays


3RU11 for standard applications


3RU11 thermal overload relays with Cage Clamp terminals for direct mounting¹⁾ and stand-alone installation²⁾, CLASS 10


Features and technical specifications:


- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicators
- TEST function
- STOP button
- Integrated, sealable cover

Size of contactor ³⁾	Rating for induction motor Rated value ⁴⁾	Current setting of the inverse-time delayed overload release	Short-circuit protection with fuse, type of coordination 2, gL/gG operational class ⁵⁾	DT	Cage Clamp terminals (on auxiliary current side)	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
					Order No.	Price per PU			

Size S00 for stand-alone installation ⁶⁾										
	kW	A	A						kg	
 3RU11 16-...C1	S00	0.04	0.11 ... 0.16	0.5	B	3RU11 16-0AC1	1	1 unit	101	0.190
		0.06	0.14 ... 0.2	1	B	3RU11 16-0BC1	1	1 unit	101	0.190
		0.06	0.18 ... 0.25	1	B	3RU11 16-0CC1	1	1 unit	101	0.190
		0.09	0.22 ... 0.32	1.6	B	3RU11 16-0DC1	1	1 unit	101	0.190
		0.09	0.28 ... 0.4	2	B	3RU11 16-0EC1	1	1 unit	101	0.190
		0.12	0.35 ... 0.5	2	B	3RU11 16-0FC1	1	1 unit	101	0.190
		0.18	0.45 ... 0.63	2	▶	3RU11 16-0GC1	1	1 unit	101	0.190
		0.18	0.55 ... 0.8	4	▶	3RU11 16-0HC1	1	1 unit	101	0.190
		0.25	0.7 ... 1	4	▶	3RU11 16-0JC1	1	1 unit	101	0.190
		0.37	0.9 ... 1.25	4	▶	3RU11 16-0KC1	1	1 unit	101	0.190
		0.55	1.1 ... 1.6	6	▶	3RU11 16-1AC1	1	1 unit	101	0.190
		0.75	1.4 ... 2	6	▶	3RU11 16-1BC1	1	1 unit	101	0.190
		0.75	1.8 ... 2.5	10	C	3RU11 16-1CC1	1	1 unit	101	0.190
		1.1	2.2 ... 3.2	10	▶	3RU11 16-1DC1	1	1 unit	101	0.190
		1.5	2.8 ... 4	16	B	3RU11 16-1EC1	1	1 unit	101	0.190
		1.5	3.5 ... 5	20	▶	3RU11 16-1FC1	1	1 unit	101	0.190
		2.2	4.5 ... 6.3	20	▶	3RU11 16-1GC1	1	1 unit	101	0.190
	3	5.5 ... 8	25	▶	3RU11 16-1HC1	1	1 unit	101	0.190	
	4	7 ... 10	35	▶	3RU11 16-1JC1	1	1 unit	101	0.190	
	5.5	9 ... 12	35	▶	3RU11 16-1KC1	1	1 unit	101	0.190	

Size S0 for direct mounting ¹⁾⁷⁾										
	kW	A	A						kg	
 3RU11 16-...D0	S0	0.75	1.8 ... 2.5	10	B	3RU11 26-1CD0	1	1 unit	101	0.190
		1.1	2.2 ... 3.2	10	B	3RU11 26-1DD0	1	1 unit	101	0.190
		1.5	2.8 ... 4	16	B	3RU11 26-1ED0	1	1 unit	101	0.190
		1.5	3.5 ... 5	20	B	3RU11 26-1FD0	1	1 unit	101	0.190
		2.2	4.5 ... 6.3	20	B	3RU11 26-1GD0	1	1 unit	101	0.190
		3	5.5 ... 8	25	B	3RU11 26-1HD0	1	1 unit	101	0.190
		4	7 ... 10	35	B	3RU11 26-1JD0	1	1 unit	101	0.190
		5.5	9 ... 12.5	35	B	3RU11 26-1KD0	1	1 unit	101	0.190
		7.5	11 ... 16	40	▶	3RU11 26-4AD0	1	1 unit	101	0.190
		7.5	14 ... 20	50	▶	3RU11 26-4BD0	1	1 unit	101	0.190
		11	17 ... 22	63	▶	3RU11 26-4CD0	1	1 unit	101	0.190
		11	20 ... 25	63	▶	3RU11 26-4DD0	1	1 unit	101	0.190

Size S2 for direct mounting ¹⁾⁷⁾										
	kW	A	A						kg	
 3RU11 36-...D0	S2	3	5.5 ... 8	25	B	3RU11 36-1HD0	1	1 unit	101	0.320
		4	7 ... 10	35	B	3RU11 36-1JD0	1	1 unit	101	0.320
		5.5	9 ... 12.5	35	B	3RU11 36-1KD0	1	1 unit	101	0.320
		7.5	11 ... 16	40	B	3RU11 36-4AD0	1	1 unit	101	0.320
		7.5	14 ... 20	50	B	3RU11 36-4BD0	1	1 unit	101	0.320
		11	18 ... 25	63	B	3RU11 36-4DD0	1	1 unit	101	0.320
		15	22 ... 32	80	▶	3RU11 36-4ED0	1	1 unit	101	0.320
		18.5	28 ... 40	80	▶	3RU11 36-4FD0	1	1 unit	101	0.320
		22	36 ... 45	100	▶	3RU11 36-4GD0	1	1 unit	101	0.320
		22	40 ... 50	100	▶	3RU11 36-4HD0	1	1 unit	101	0.320

Size S3 for direct mounting ¹⁾⁷⁾										
	kW	A	A						kg	
 3RU11 46-...D0	S3	11	18 ... 25	63	B	3RU11 46-4DD0	1	1 unit	101	0.550
		15	22 ... 32	80	B	3RU11 46-4ED0	1	1 unit	101	0.550
		18.5	28 ... 40	80	B	3RU11 46-4FD0	1	1 unit	101	0.550
		22	36 ... 50	125	B	3RU11 46-4HD0	1	1 unit	101	0.550
		30	45 ... 63	125	▶	3RU11 46-4JD0	1	1 unit	101	0.550
		37	57 ... 75	160	▶	3RU11 46-4KD0	1	1 unit	101	0.550
		45	70 ... 90	160	▶	3RU11 46-4LD0	1	1 unit	101	0.550
		45	80 ... 100	200	▶	3RU11 46-4MD0	1	1 unit	101	0.550

¹⁾ With the suitable terminal brackets (see "Accessories", page 5/47), the 3RU11 overload relays for direct mounting can also be installed as stand-alone units.

²⁾ Size S00 for screw and snap-on mounting onto TH 35 standard mounting rail.

³⁾ Observe maximum rated operational current of the devices.

⁴⁾ 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.

⁵⁾ Maximum protection by fuse for overload relay, type of coordination 2. For fuse values in conjunction with contactors, see Technical Information LV 1 T "Technical specifications" -> "Short-circuit protection with fuses/motor starter protectors for motor feeders".

⁶⁾ Auxiliary and main conductor connections with Cage Clamp terminal.

⁷⁾ Auxiliary conductor connections with Cage Clamp terminals and main conductor connections with screw terminals.

Overload Relays

3RU1 Thermal Overload Relays

Accessories

Overview

The following optional accessories are available for the 3RU11 thermal overload relays:

- For the four overload relay sizes S00 to S3 one terminal bracket each for stand-alone installation
- One electrical remote RESET module in three voltage variants for all sizes
- One mechanical RESET module for all sizes
- One cable release for resetting devices which are difficult to access (for all sizes)
- Terminal covers

Selection and ordering data

Version	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
Terminal brackets for stand-alone installation								
	For separate mounting of overload relays; screw and snap-on mounting onto TH 35 standard mounting rail; size S3 also for TH 75 standard mounting rail	S00	▶ 3RU19 16-3AA01		1	1 unit	101	0.060
		S0	▶ 3RU19 26-3AA01		1	1 unit	101	0.080
		S2	▶ 3RU19 36-3AA01		1	1 unit	101	0.180
		S3	▶ 3RU19 46-3AA01		1	1 unit	101	0.280
Mechanical RESET¹⁾								
	Resetting plungers, holders and formers	S00 ...S3	▶ 3RU19 00-1A		1	1 unit	101	0.038
	Pushbuttons with extended stroke (12 mm), IP65, Ø 22 mm		B ▶ 3SB30 00-0EA11		1	1 unit	102	0.020
	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of the relay		A ▶ 3SX1 335		1	1 unit	102	0.004
Cable releases with holder for RESET¹⁾								
	For Ø 6.5 mm holes in the control panel; max. control panel thickness 8 mm	S00 ...S3						
	• Length 400 mm • Length 600 mm		▶ 3RU19 00-1B ▶ 3RU19 00-1C		1 1	1 unit 1 unit	101 101	0.063 0.073
Modules for remote RESET, electrical								
	Operating range	24 ... 30 V	S00 ...S3	▶ 3RU19 00-2AB71	1	1 unit	101	0.066
	0.85 ... 1.1 x U _S ;	110 ... 127 V		▶ 3RU19 00-2AF71	1	1 unit	101	0.067
	power consumption AC: 80 VA, DC: 70 W; ON period 0.2 ... 4 s; switching frequency 60/h	220 ... 250 V		▶ 3RU19 00-2AM71	1	1 unit	101	0.066
Terminal covers¹⁾								
	Covers for cable lugs and busbar connections							
	• Length 55 mm	S3	▶ 3RT19 46-4EA1		1	1 unit	101	0.040
	Covers for box terminals							
	• Length 20.6 mm	S2	▶ 3RT19 36-4EA2		1	1 unit	101	0.020
	• Length 20.8 mm	S3	▶ 3RT19 46-4EA2		1	1 unit	101	0.025

For more accessories (screwdrivers and labeling plates), see page 5/62.

¹⁾ The accessories are identical to those of the 3RB2 solid-state overload relays.