General data

Overview

Features	3RU21	3RB30/3RB31	Benefits
General data			
Sizes	S00, S0	S00, S0	• 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 motor starters in widths of 45 mm (S00 and S0) • Simplify configuration
Seamless current range	0.11 ... 40 A	0.1 ... 40 A	• Allows easy and consistent configuration with one series of overload relays (for small to large loads)
Protection functions			
Tripping in the event of overload	✓	✓	• Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to overload
Tripping in the event of phase unbalance	✓	✓	• Provides optimum inverse-time delayed protection of loads against excessive temperature rises due to phase unbalance
Tripping in the event of phase failure	✓	✓	• Minimizes heating of induction motors during phase failure
Protection of single-phase loads	✓	--	• Enables the protection of single-phase loads
Tripping in the event of a ground fault by **internal ground-fault detection (activatable)**	--	✓ (only 3RB31)	• Provides optimum protection of loads against high-resistance short-circuits or 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 relay
Remote RESET function	✓ (by means of separate module)	✓ (only 3RB31 with 24 V DC)	• Allows the remote resetting of the relay
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
Integrated auxiliary contacts (1 NO + 1 NC)	✓	✓	• Allows the load to be switched off if necessary • Can be used to output signals

✓ Available

-- Not available

Features	3RU21	3RB30/3RB31	Benefits
Design of motor starters			
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 3RT2 contactors	✓	✓	• Simplifies configuration • Reduces wiring outlay and costs • Enables stand-alone installation as well as space-saving direct mounting
Spring-type terminal connection system for main circuit	✓	✓	• Enables fast connections • Permits vibration-resistant connections • Enables maintenance-free connections
Spring-type terminal connection system for auxiliary circuits	✓	✓	• Enables fast connections • Permits vibration-resistant connections • Enables maintenance-free connections
Other features			
Temperature compensation	✓	✓	• 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/motor starters • Simplifies configuration • Enables space to be saved in the control cabinet
High long-term stability	✓	✓	• Provides safe protection for the loads even after years of use in severe operating conditions
Wide setting ranges	--	✓ (1:4)	• Reduce the number of variants • Minimize the configuration outlay and costs • Minimize storage overhead, storage costs, tied-up capital
Trip class CLASS 5	--	✓ (only 3RB31)	• Enables solutions for very fast starting motors requiring special protection
Trip classes > CLASS 10	--	✓	• Enable heavy starting solutions
Low power loss	--	✓	• 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)
Internal power supply	--[1)]	✓	• Eliminates the need for configuration and connecting an additional control circuit
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.)	--	✓ (only 3RB31)	• Reduces the number of variants • Minimizes the configuring outlay and costs • Minimizes storage overhead, storage costs, and tied-up capital

✓ Available

-- Not available

[1)] The SIRIUS 3RU21 thermal overload relays use a bimetal contactor and therefore do not require a control supply voltage.

5

General data

	Overload relays	Current measurement	Current range	**Contactors** (type, size, rating in HP)	
				3RT20 1	**3RT20 2**
				S00	S0
	Type	Type	A	3/5/7.5/10	7.5/10/15/20/25
3RU21 thermal overload relays[1)]					
	3RU21 1	Integrated	0.11 … 16	✓	--
	3RU21 2	Integrated	1.8 … 40	--	✓
3RB30[1)] solid-state overload relays					
	3RB30 1	Integrated	0.1 … 16	✓	--
	3RB30 2	Integrated	0.1 … 40	--	✓
3RB21[1)] solid-state overload relays					
	3RB31 1	Integrated	0.1 … 16	✓	--
	3RB31 2	Integrated	0.1 … 40	--	✓

✓ Available
-- Not available

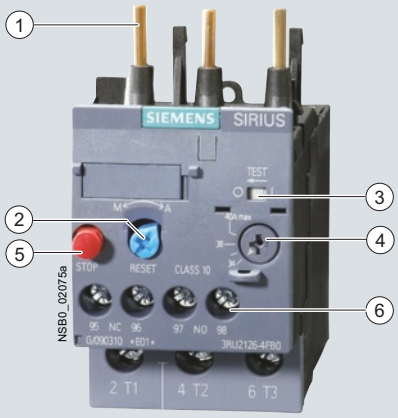
[1)] "Technical Specifications" for use of the overload relays with trip class ≥ CLASS 20 can be found under "Short-circuit protection with fuses for motor starters", see the note on Technical Information on page 5/1.

Connection methods

Depending on the device version of the 3RU2 and 3RB3 overload relays, the terminals for screw, spring-type or ring lug terminal connection are configured for both the main and auxiliary circuit.

⊕	Screw terminals
⊕	Spring-type terminals
⊕	Ring lug terminal connection
	These terminals are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Overview



(1) Connection for mounting onto contactors:
Optimally adapted in electrical, mechanical and design terms to the contactors. The overload relay can be connected directly to these contactor using these pins. Stand-alone installation is possible as an alternative (in conjunction with a terminal bracket for stand-alone installation).

(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) Supply terminals:
Depending on the device version, the terminals for screw, spring-type or ring lug terminal connection are configured for the main and auxiliary circuit.

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

3RU21 26-4FB00 thermal overload relays

The 3RU21 thermal overload relays up to 40 A have been designed for current-dependent protection of loads with normal starting (for "Function" see note on Technical Information on page 5/1) 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 switch-off time depends on the ratio between the tripping current and set current I_e and is stored in the form of a long-term stable tripping characteristic (for "Characteristic Curves" see the note on Technical Information on page 5/1).

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 (for "Function" see note on Technical Information on page 5/1).

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 3RU21 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 9 "Appendix" --> "Standards and approvals" --> "Type overview of approved devices for explosion-protected areas (ATEX Explosion Protection)".

EC type test certificate for Category (2) G/D has been submitted. More details on request.

Benefits

The most important features and benefits of the 3RU21 thermal overload relays are listed in the overview table (see "General data" on page 5/34).

General data

Application

Industries

The 3RU21 thermal overload relays are suitable for customers from all industries who want to guarantee optimum current-dependent protection of their electrical loads (e. g. motors) under normal starting conditions (CLASS 10).

Application

The 3RU21 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 3RU21 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 3RU21 thermal overload relays have temperature compensation in accordance with IEC 60947-4-1 for the temperature range of -40 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	Derating factor for the upper set value	
	Current ranges	
°C	0.11 ... 20 A	17 ... 40 A
+60	1.0	1.0
+65	0.94	0.97
+70	0.87	0.94
+75	0.81	0.90
+80	0.73	0.86

Accessories

The following optional accessories are available for the 3RU21 thermal overload relays:

- Terminal bracket for stand-alone installation with screw or spring-type terminals for each size
- Mechanical RESET for all sizes
- Cable release for resetting devices which are difficult to access for all sizes
- Electrical remote RESET module in three voltage variants for all sizes
- Sealable cover for all sizes
- Terminal covers for devices with ring lug terminal connection

More information

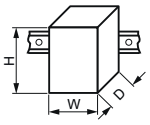
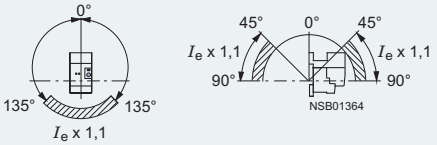
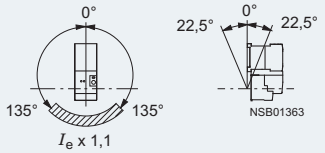
Order No. scheme

Digit of the Order No.	1st - 3rd	4th	5th	6th	7th		8th	9th	10th	11th
	□□□	□	□	□	□	–	□	□	□	□
Thermal overload relays	**3 R U**									
SIRIUS 2nd generation		**2**								
Device series			□							
Size, rated operational current and power				□	□					
Setting range of the overload release							□	□		
Connection method									□	
Installation type										□
Example	**3 R U**	**2**	**1**	**1**	**6**	**–**	**0**	**A**	**B**	**0**

Note:

The Order No. scheme is presented here merely for information purposes and for better understanding of the logic behind the order numbers.

For your orders, please use the order numbers quote in the catalog under the Selection and ordering data section.

Type			**3RU21 16**	**3RU21 26**
Size			S00	S0
Dimensions (W x H x D) (overload relay with stand-alone installation support)				
• Screw terminals		mm	45 x 89 x 79	45 x 97 x 95
• Spring-type terminals		mm	45 x 102 x 80	45 x 114 x 97
General technical specifications				
Trips in the event of			Overload and phase failure	
Trip class acc. to IEC 60947-4-1		CLASS	10	
Phase failure sensitivity			Yes	
Overload warning			No	
Reset and recovery				
• Reset options after tripping			Manual, automatic and remote RESET[1]	
• 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	
Safe operation of motors with "increased safety" type of protection				
EC type test certificate number acc. to directive 94/9/EC (ATEX)			On request	
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 (over +60 °C current reduction is not required)	
- Temperature inside control cabinet 70 °C		%	87	
Repeat terminals				
• Coil repeat terminals			Yes	Not required
• Auxiliary contact repeat terminal			Yes	Not required
Degree of protection acc. to IEC 60529			IP20	
Touch protection acc. to IEC 61140			Screw and spring-type terminals: Finger-safe Ring lug terminal connection: Finger-safe only with optional terminal covers	
Shock resistance with sine acc. to IEC 60068-2-27		*g*/ms	15/11[2]	
Electromagnetic compatibility (EMC) – Interference immunity				
• Conductor-related interference				
- Burst acc. to IEC 61000-4-4 (corresponds to degree of severity 3)		kV	EMC interference immunity is not relevant for thermal overload relays	
- Surge acc.to IEC 61000-4-5 (corresponds to degree of severity 3)		kV	EMC interference immunity is not relevant for thermal overload relays	
• Electrostatic discharge acc. to IEC 61000-4-2 (corresponds to degree of severity 3)		kV	EMC interference immunity is not relevant for thermal overload relays	
• Field-related interference acc. to IEC 61000-4-3 (corresponds to degree of severity 3)		V/m	EMC interference immunity is not relevant for thermal overload relays	
Electromagnetic compatibility (EMC) – Emitted interference			EMC interference immunity is not relevant for thermal overload relays	
Resistance to extreme climates – Air humidity		%	90	
Dimensions			For "Dimensional drawings" see the note on Technical Information on page 5/1.	
Installation altitude above sea level		m	Up to 2000; above this, please enquire	
Mounting position			The diagrams show the permissible mounting positions for mounting onto contactors and stand-alone installation. For installation in the shaded area, a setting correction of 10 % must be implemented. Stand-alone installation:  Contactor + overload relay:  	
Type of mounting			Mounting onto contactor/stand-alone installation with terminal bracket[3]	

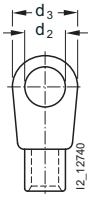
[1] Remote RESET in combination with the appropriate accessories.

[2] Auxiliary contacts 95/96 and 97/98: 8 *g*/11 ms.

[3] For screw and snap-on mounting on TH 35 standard mounting rail. For the technical specifications of the terminal brackets see the note on Technical Information on page 5/1.

General data

Type		3RU21 16	3RU21 26
Size		S00	S0
Width		45 mm	45 mm
Main circuit			
Rated insulation voltage U_i (pollution degree 3)	V	690	
Rated impulse withstand voltage U_{imp}	kV	6	
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 A	0.11 ... 0.16 to 11 ... 16	1.8 ... 2.5 to 34 ... 40
Power loss per unit (max.)	W	3.9 ... 6.6	3.9 ... 6
Short-circuit protection			
• With fuse without contactor		See "Selection and ordering data"	
• With fuse and contactor		See "Technical specifications" --> "Short-circuit protection with fuses/motor starter protectors for motor starters", see note on Technical Information on page 5/1.	
Protective separation between main and auxiliary conducting path acc. to IEC 60947-1	V	≥ 440	
Conductor cross-sections of main circuit			
Connection type screw terminals		**Screw terminals**	
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2
Operating devices	mm	⌀ 5 ... 6	⌀ 5 ... 6
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5
Conductor cross-sections (min./max.), 1 or 2 conductors can be connected			
• Solid	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]
• Finely stranded with end sleeves (DIN 46228 T1)	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
• 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]
Connection type spring-type terminals		**Spring-type terminals**	
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5	
Conductor cross-sections (min./max.)			
• Solid	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 sleeves (DIN 46228 T1)	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 ring lug terminals		**Ring lug terminal connection**	
Terminal screw		M3, Pozidriv size 2	M4, Pozidriv size 2
Operating devices	mm	⌀ 5 ... 6	⌀ 5 ... 6
Prescribed tightening torque	Nm	0.8 ... 1.2	2 ... 2.5
Usable ring lug terminals	mm	d_2 = min. 3.2, d_3 = max. 7.5	d_2 = min. 4.3, d_3 = max. 12.2
• DIN 46234 without insulation sleeve			
• DIN 46225 without insulation sleeve			
• DIN 46237 with insulation sleeve			
• JIS C2805 Type R without insulation sleeve			
• JIS C2805 Type RAV with insulation sleeve			
• JIS C2805 Type RAP with insulation sleeve			



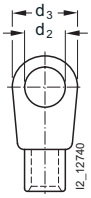
[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in the range specified. If identical cross-sections are used, this restriction does not apply.

Type		3RU21 16	3RU21 26
Size		S00	S0
Width		45 mm	45 mm
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 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	
- 230 V	A	3	
- 400 V	A	2	
- 600 V	A	0.75	
- 690 V	A	0.75	
• NO contact with alternating current AC-14/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 contact, NO contact with direct current DC-13, rated operational current I_e at U_e:			
- 24 V	A	1	
- 60 V	A	On request	
- 110 V	A	0.22	
- 125 V	A	0.22	
- 220 V	A	0.11	
• Conventional thermal current I_{th}	A	6	
• 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[1)]	
Protective separation between main and auxiliary conducting path acc. to IEC 60947-1	V	≥ 440	
CSA, UL, UR rated data			
Auxiliary circuit – Switching capacity		B600, R300	

1) Up to $I_k \leq 0.5$ kA; ≤ 260 V.

General data

Type		3RU21 16	3RU21 26
Size		S00	S0
Width		45 mm	45 mm
Conductor cross-sections for auxiliary circuit			
Connection type screw terminals		**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	mm^2	2 x (0.5 ... 1.5)[1], 2 x (0.75 ... 2.5)[1]	
• Finely stranded with end sleeves (DIN 46228 T1)	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-type terminals		**Spring-type terminals**	
Operating devices	mm	3.0 x 0.5 and 3.5 x 0.5	
Conductor cross-sections (min./max.)			
• Solid	mm^2	2 x (0.5 ... 2.5)	
• Finely stranded without end sleeve	mm^2	2 x (0.5 ... 1.5)	
• Finely stranded with end sleeves (DIN 46228 T1)	mm^2	2 x (0.5 ... 1.5)	
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)	
Connection type ring terminal end		**Ring lug terminal connection**	
Terminal screw		M3, Pozidriv size 2	
Operating devices	mm	⌀ 5 ... 6	
Prescribed tightening torque	Nm	0.8 ... 1.2	
Usable ring lug terminals	mm	d_2 = min. 3.2, d_3 = max. 7.5	
• DIN 46234 without insulation sleeve			
• DIN 46225 without insulation sleeve			
• DIN 46237 with insulation sleeve			
• JIS C2805 Type R without insulation sleeve			
• JIS C2805 Type RAV with insulation sleeve			
• JIS C2805 Type RAP with insulation sleeve			



[1] If two different conductor cross-sections are connected to one clamping point, both cross-sections must lie in the range specified. If identical cross-sections are used, this restriction does not apply.

Selection and ordering data

3RU21 thermal overload relays for mounting onto contactor[1], CLASS 10

Features and technical specifications:
- Screw, spring-type or ring lug terminal connection[2]
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicators
- TEST function
- STOP button
- Sealable covers (optional accessory)
- Terminal covers for devices with ring lug terminal connection (optional accessory)


3RU21 16-4AB0


3RU21 16-4AC0


3RU21 26-4FB0


3RU21 26-4AC0

Size contactor[3]	Current setting value of the current-dependent overload release	Screw terminals	Weight approx.	Spring-type terminals	Weight approx.
		Order No.		Order No.	
	A		kg		kg
Size S00					
S00	0.11 ... 0.16	**3RU21 16-0AB0**	0.130	**3RU21 16-0AC0**	0.150
	0.14 ... 0.2	**3RU21 16-0BB0**	0.130	**3RU21 16-0BC0**	0.150
	0.18 ... 0.25	**3RU21 16-0CB0**	0.130	**3RU21 16-0CC0**	0.150
	0.22 ... 0.32	**3RU21 16-0DB0**	0.130	**3RU21 16-0DC0**	0.150
	0.28 ... 0.4	**3RU21 16-0EB0**	0.130	**3RU21 16-0EC0**	0.150
	0.35 ... 0.5	**3RU21 16-0FB0**	0.130	**3RU21 16-0FC0**	0.150
	0.45 ... 0.63	**3RU21 16-0GB0**	0.130	**3RU21 16-0GC0**	0.150
	0.55 ... 0.8	**3RU21 16-0HB0**	0.130	**3RU21 16-0HC0**	0.150
	0.7 ... 1	**3RU21 16-0JB0**	0.130	**3RU21 16-0JC0**	0.150
	0.9 ... 1.25	**3RU21 16-0KB0**	0.130	**3RU21 16-0KC0**	0.150
	1.1 ... 1.6	**3RU21 16-1AB0**	0.130	**3RU21 16-1AC0**	0.150
	1.4 ... 2	**3RU21 16-1BB0**	0.130	**3RU21 16-1BC0**	0.150
	1.8 ... 2.5	**3RU21 16-1CB0**	0.130	**3RU21 16-1CC0**	0.150
	2.2 ... 3.2	**3RU21 16-1DB0**	0.130	**3RU21 16-1DC0**	0.150
	2.8 ... 4	**3RU21 16-1EB0**	0.130	**3RU21 16-1EC0**	0.150
	3.5 ... 5	**3RU21 16-1FB0**	0.130	**3RU21 16-1FC0**	0.150
	4.5 ... 6.3	**3RU21 16-1GB0**	0.130	**3RU21 16-1GC0**	0.150
	5.5 ... 8	**3RU21 16-1HB0**	0.130	**3RU21 16-1HC0**	0.150
	7 ... 10	**3RU21 16-1JB0**	0.130	**3RU21 16-1JC0**	0.150
	9 ... 12.5	**3RU21 16-1KB0**	0.130	**3RU21 16-1KC0**	0.150
	11 ... 16	**3RU21 16-4AB0**	0.130	**3RU21 16-4AC0**	0.150
Size S0					
S0	1.8 ... 2.5	**3RU21 26-1CB0**	0.160	**3RU21 26-1CC0**	0.220
	2.2 ... 3.2	**3RU21 26-1DB0**	0.160	**3RU21 26-1DC0**	0.220
	2.8 ... 4	**3RU21 26-1EB0**	0.160	**3RU21 26-1EC0**	0.220
	3.5 ... 5	**3RU21 26-1FB0**	0.160	**3RU21 26-1FC0**	0.220
	4.5 ... 6.3	**3RU21 26-1GB0**	0.160	**3RU21 26-1GC0**	0.220
	5.5 ... 8	**3RU21 26-1HB0**	0.160	**3RU21 26-1HC0**	0.220
	7 ... 10	**3RU21 26-1JB0**	0.160	**3RU21 26-1JC0**	0.220
	9 ... 12.5	**3RU21 26-1KB0**	0.160	**3RU21 26-1KC0**	0.220
	11 ... 16	**3RU21 26-4AB0**	0.160	**3RU21 26-4AC0**	0.220
	14 ... 20	**3RU21 26-4BB0**	0.160	**3RU21 26-4BC0**	0.220
	17 ... 22	**3RU21 26-4CB0**	0.160	**3RU21 26-4CC0**	0.220
	20 ... 25	**3RU21 26-4DB0**	0.160	**3RU21 26-4DC0**	0.220
	23 ... 28	**3RU21 26-4NB0**	0.160	**3RU21 26-4NC0**	0.220
	27 ... 32	**3RU21 26-4EB0**	0.160	**3RU21 26-4EC0**	0.220
	30 ... 36	**3RU21 26-4PB0**	0.160	**3RU21 26-4PC0**	0.220
	34 ... 40	**3RU21 26-4FB0**	0.160	**3RU21 26-4FC0**	0.220

1) For matching terminal brackets see "Accessories" on page 5/45.

2) The 3RU21 overload relays are also available with ring lug terminal connection. The Order No. must be changed in the 10th position to **"J"**: e. g. 3RU21 16-0A**J**0.

3) Observe maximum rated operational current of the devices.

SIRIUS 3RU2 Thermal Overload Relays

3RU2 up to 40 A for standard applications

3RU21 thermal overload relays for stand-alone installation[1], CLASS 10

Features and technical specifications:
- Screw or spring-type terminals
- Overload and phase failure protection
- Auxiliary contacts 1 NO + 1 NC
- Manual and automatic RESET
- Switch position indicators
- TEST function
- STOP button
- Sealable covers (optional accessory)


3RU21 16-4AB1


3RU21 16-4AC1


3RU21 26-4FB1


3RU21 26-4FC1

Size contactor[2]	Current setting value of the current-dependent overload release	Screw terminals Order No.	Weight approx.	Spring-type terminals Order No.	Weight approx.
	A		kg		kg
Size S00					
S00	0.11 ... 0.16	**3RU21 16-0AB1**	0.170	**3RU21 16-0AC1**	0.190
	0.14 ... 0.2	**3RU21 16-0BB1**	0.170	**3RU21 16-0BC1**	0.190
	0.18 ... 0.25	**3RU21 16-0CB1**	0.170	**3RU21 16-0CC1**	0.190
	0.22 ... 0.32	**3RU21 16-0DB1**	0.170	**3RU21 16-0DC1**	0.190
	0.28 ... 0.4	**3RU21 16-0EB1**	0.170	**3RU21 16-0EC1**	0.190
	0.35 ... 0.5	**3RU21 16-0FB1**	0.170	**3RU21 16-0FC1**	0.190
	0.45 ... 0.63	**3RU21 16-0GB1**	0.170	**3RU21 16-0GC1**	0.190
	0.55 ... 0.8	**3RU21 16-0HB1**	0.170	**3RU21 16-0HC1**	0.190
	0.7 ... 1	**3RU21 16-0JB1**	0.170	**3RU21 16-0JC1**	0.190
	0.9 ... 1.25	**3RU21 16-0KB1**	0.170	**3RU21 16-0KC1**	0.190
	1.1 ... 1.6	**3RU21 16-1AB1**	0.170	**3RU21 16-1AC1**	0.190
	1.4 ... 2	**3RU21 16-1BB1**	0.170	**3RU21 16-1BC1**	0.190
	1.8 ... 2.5	**3RU21 16-1CB1**	0.170	**3RU21 16-1CC1**	0.190
	2.2 ... 3.2	**3RU21 16-1DB1**	0.170	**3RU21 16-1DC1**	0.190
	2.8 ... 4	**3RU21 16-1EB1**	0.170	**3RU21 16-1EC1**	0.190
	3.5 ... 5	**3RU21 16-1FB1**	0.170	**3RU21 16-1FC1**	0.190
	4.5 ... 6.3	**3RU21 16-1GB1**	0.170	**3RU21 16-1GC1**	0.190
	5.5 ... 8	**3RU21 16-1HB1**	0.170	**3RU21 16-1HC1**	0.190
	7 ... 10	**3RU21 16-1JB1**	0.170	**3RU21 16-1JC1**	0.190
	9 ... 12.5	**3RU21 16-1KB1**	0.170	**3RU21 16-1KC1**	0.190
	11 ... 16	**3RU21 16-4AB1**	0.170	**3RU21 16-4AC1**	0.280
Size S0					
S0	14 ... 20	**3RU21 26-4BB1**	0.200	**3RU21 26-4BC1**	0.280
	17 ... 22	**3RU21 26-4CB1**	0.200	**3RU21 26-4CC1**	0.280
	20 ... 25	**3RU21 26-4DB1**	0.200	**3RU21 26-4DC1**	0.280
	23 ... 28	**3RU21 26-4NB1**	0.200	**3RU21 26-4NC1**	0.280
	27 ... 32	**3RU21 26-4EB1**	0.200	**3RU21 26-4EC1**	0.280
	30 ... 36	**3RU21 26-4PB1**	0.200	**3RU21 26-4PC1**	0.280
	34 ... 40	**3RU21 26-4FB1**	0.200	**3RU21 26-4FC1**	0.280

[1] Screw and snap-on mounting onto TH 35 standard mounting rail

[2] Observe maximum rated operational current of the devices.

Illustrations are approximate

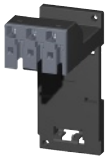
Overview

Overload relays for standard applications

The following optional accessories are available for the 3RU21 thermal overload relays:

- Terminal bracket for stand-alone installation with screw or spring-type terminals for each size
- Mechanical RESET for all sizes
- Cable release for resetting devices which are difficult to access for all sizes
- Electrical remote RESET module in three voltage variants for all sizes
- Sealable cover for all sizes
- Terminal covers for devices with ring lug terminal connection

Selection and ordering data

	Version	Size	Order No.	Weight approx. kg
Terminal brackets for stand-alone installation[1]				
 3RU29 16-3AA01	**Terminal brackets for overload relays with screw terminals**		**Screw terminals**	
 3RU29 26-3AA01	For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00 S0	**3RU29 16-3AA01** **3RU29 26-3AA01**	0.040 0.050
 3RU29 16-3AC01	**Terminal brackets for overload relays with spring-type terminals**		**Spring-type terminals**	
 3RU29 26-3AC01	For separate mounting of the overload relays; screw and snap-on mounting onto TH 35 standard mounting rail	S00 S0	**3RU29 16-3AC01** **3RU29 26-3AC01**	0.040 0.060
Mechanical RESET				
 3RU29 00-1A with pushbutton and extension plunger	**Resetting plungers, holders and formers**	S00, S0	**3RU29 00-1A**	0.038
	Pushbuttons with extended stroke (12 mm), IP65, ⌀ 22 mm	S00, S0	**3SB30 00-0EA11**	0.020
	Extension plungers For compensation of the distance between the pushbutton and the unlatching button of the relay	S00, S0	**3SX1 335**	0.004
Cable releases with holder for RESET				
 3RU29 00-1.	For ⌀ 6.5 mm hole in the control panel; max. control panel thickness 8 mm			
	• Length 400 mm	S00, S0	**3RU29 00-1B**	0.063
	• Length 600 mm	S00, S0	**3RU29 00-1C**	0.073

[1] The accessories are identical to those of the 3RB30/3RB31 solid-state overload relays.

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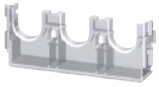
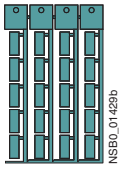
Accessories

	Version	Size	Order No.	PU (UNIT, SET, M)	PS*	Weight approx.
Modules for remote RESET, electrical						
 3RU19 00-2A.71	Operating range 0.85 ... 1.1 x U_s, power consumption AC 80 VA, DC 70 W, ON period 0.2 ... 4 s, switching frequency 60/h					
	• 24 ... 30 V AC/DC	S00, S0	**3RU19 00-2AB71**			0.066
	• 110 ... 127 V AC/DC	S00, S0	**3RU19 00-2AF71**			0.067
	• 220 ... 250 V AC/DC	S00, S0	**3RU19 00-2AM71**			0.066
Sealable covers						
 3RV29 08-0P	For covering the setting knobs	S00, S0	**3RV29 08-0P**	1	10 units	0.100
Terminal covers						
 3RU29 16-3BJ21	**Covers for devices with ring lug terminal connection** (ensure finger-safety)		**Ring lug terminal connection**			
	• Main current level					
 3RU29 26-3BJ21	- Cover between contactor and overload relay for direct mounting of the overload relay	S00 S0	**3RU29 16-3BJ21** **3RU29 26-3BJ21**	1 1	10 units 10 units	0.001 0.001
 3RU29 16-3BJ20	- Cover for overload relay on load side	S00 S0	**3RU29 16-3BJ20** **3RV29 28-4AA00**	1 1	10 units 1 unit	0.001 0.010
 3RV29 28-4AA00	• Auxiliary current level	S00, S0	**3RT29 16-4EA13**	1	10 units	0.001
 3RT29 16-4EA13						

General accessories

	Version	Use	Order No.	PU (UNIT, SET, M)	PS*	Weight approx. kg
Tools for opening spring-type terminals						
 3RA29 08-1A	**Screwdrivers** for all SIRIUS devices with spring-type terminals		**Spring-type terminals**			
	Length approx. 200 mm, 3.0 mm x 0.5 mm, titanium gray/black, partially insulated	Main and auxiliary circuit connection: 3RU2, 3RB3	**3RA29 08-1A**	1	1 unit	0.045
Blank labels						
 3RT19 00-1SB20	**Unit labeling plates**[1] for SIRIUS devices 20 mm x 7 mm, pastel turquoise	3RU2, 3RB3	**3RT19 00-1SB20**	100	340 units	0.200

[1] PC labeling system for individual inscription of unit labeling plates available from: murrplastik Systems, Inc. www.murrplastik.com .

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