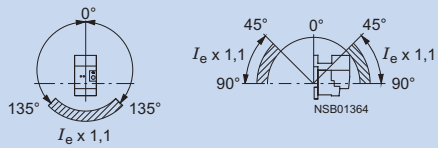
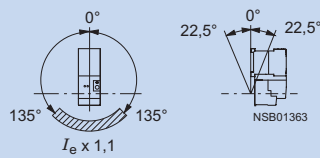


SIRIUS Overload Relays

SIRIUS Thermal Overload Relays

Up to 100 A, CLASS 10, non-adjustable

Technical specifications			
Type	3RU11 16	3RU11 26	3RU11 36
Size	S00	S0	S2
Overall width	45 mm	45 mm	55 mm
3RU11 46	S3		70 mm
General specifications			
Trips in the event of			
Trip class	acc. to IEC 60947-4-1	CLASS	10
Phase failure sensitivity			Yes
Overload warning			No
Reset and recovery			Manual, remote, and automatic RESET ¹⁾
• Reset options after tripping	For automatic RESET	min.	depends on the strength of the tripping current and characteristics
• Recovery time	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 status on device			Yes, by means of TEST function/switch position indicator slide
• TEST function			Yes
• RESET button			Yes
• STOP button			Yes
For safe operation of motors with "increased safety" type of protection	EU type test certificate number acc. to guideline 94/9/EU		KEMA test certificate No. EX-97.Y.3235 DMT 98 ATEX 6001
Ambient temperature			
• Storage/transport		°C	-55 ... + 80
• Operation		°C	-20 ... + 70
• Temperature compensation		°C	up to 60
• Permissible rated current at	Temperature inside cubicle 60 °C	%	100 (over 60 °C current reduction is not required)
	Temperature inside cubicle 70 °C	%	87
Repeat terminals			
• Coil repeat terminals			Yes
• Auxiliary contact repeat terminal			Not required
Degree of protection	acc. to IEC 60529		IP20
Touch protection	acc. to EN 50274		Finger-safe
Shock resistance with sine	acc. to IEC 60068-2-27	g/ms	8/10
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
EMC interference emission			EMC interference immunity is not relevant for thermal overload relays
Resistance to extreme climates (air humidity)		%	100
Dimensions			see dimension drawings
Site altitude		m	up to 2000 m above sea level; above that level, please enquire
Mounting position			The diagrams show the permissible mounting positions for direct mounting and stand-alone installation. The mounting positions shown in the shaded area must be adjusted by 10 %.
			Stand-alone installation
			
			Contactor + overload relay
			
Installation type/mounting			Direct mounting ³⁾ /stand-alone installation with terminal bracket ⁴⁾
			Direct mounting/stand-alone installation with terminal bracket ⁴⁾

1) Remote RESET in combination with the corresponding accessories.
 2) Terminal compartment: IP00 degree of protection.
 3) The 3RU11 16 overload relay with Cage Clamp connection can only be installed as a stand-alone unit.

4) For screw and snap-on mounting onto 35 mm standard mounting rail; size S3 also for 75 mm standard mounting rail. For more detailed information about terminal brackets, please see Technical specifications/terminal brackets for stand-alone installation.

SIRIUS Overload Relays

SIRIUS Thermal Overload Relays

Up to 100 A, CLASS 10, non-adjustable

Type Size		3RU11 16 S00 45 mm	3RU11 26 S0 45 mm	3RU11 36 S2 55 mm	3RU11 46 S3 70 mm
Main circuit					
Rated insulation voltage U_i (pollution degree 3)	V	690			1000
Rated impulse withstand voltage U_{imp}	kV	6			8
Rated operating voltage U_e	V	690			1000
Type of current • DC • AC		Yes Yes, frequency range up to 400 Hz			
Current setting	A	0.11-0.16 ... 9-12	1.8-2.5 ... 20-25	5.5-8 ... 40-50	18-25 ... 80-100
Power loss per unit (max.)	W	3.9 ... 6.6	3.9 ... 6	6 ... 9	10 ... 16.5
Short-circuit protection	with fuse without contactor with fuse and contactor	see selection and ordering data see Technical specifications (short-circuit protection with fuses/circuit-breakers for motor feeders)			
Safe isolation between main and auxiliary conducting path	acc. to IEC 60947-1	V	500	690	
Connection for main circuit					
Type of connection		Screw connection/Cage Clamp connection ¹⁾	Screw connection	Screw connection with box terminal	Screw connection with box terminal/rail connection ²⁾
Screw connection • Terminal screw		Poizdrive size 2			
• Tightening torque	Nm	0.8 ... 1.2	2 ... 2.5	3 ... 4.5	4 mm Allen screw 4 ... 6
• Conductor cross-section (min./max.), 1 or 2 conductors	mm ²	2 x (0.5 ... 1.5) 2 x (0.75 ... 2.5) max. 2 x (1 ... 4)	2 x (1 ... 2.5) 2 x (2.5 ... 6) max. 2 x (2.5 ... 10)	2 x (0.75 ... 16)	2 x (2.5 ... 16)
	mm ²	Finely stranded without end sleeve	2 x (1 ... 2.5)	2 x (0.75 ... 16)	2 x (2.5 ... 35)
	mm ²	Finely stranded with end sleeve	2 x (2.5 ... 6)	2 x (2.5 ... 25)	1 x (2.5 ... 50)
	mm ²	Stranded	2 x (1 ... 2.5)	2 x (0.75 ... 25)	2 x (10 ... 50)
	mm ²		2 x (2.5 ... 6)	1 x (0.75 ... 35)	1 x (10 ... 70)
	mm ²		max. 2 x (2.5 ... 10)		
	AWG	AWG conductor connections, solid or stranded	2 x (18 ... 14)	2 x (18 ... 3)	2 x (10 ... 1/0)
	mm	Ribbon cables (number x width x circumference)	2 x (14 ... 10)	1 x (18 ... 1)	1 x (10 ... 2/0)
				2 x (6 x 9 x 0.8)	2 x (6 x 9 x 0.8)
Rail connection • Terminal screw	Nm	-			M 6 x 20
• Tightening torque	mm ²	-			4 ... 6
• Conductor cross-section (min./max.)	mm ²	Finely stranded with cable lug	-		
	mm ²	Stranded with cable lug	-		
	AWG	AWG conductor connections, solid or stranded, with cable lug	-		
	mm	With connecting bar (max. width)	-		
Straight-through transformer connection • Diameter of opening	mm	-			
• Conductor cross-section (max.)	mm ²	-			
	mm ²	-			
		-			
Auxiliary circuit					
Auxiliary contacts: Number x (version)		1 x (1 NO + 1 NC)			
Assignment of auxiliary contacts		1 NO for the "tripped due to overload" signal; 1 NC for switching off the contactor			
Rated insulation voltage U_i (pollution degree 3)	V	690			
Rated impulse withstand voltage U_{imp}	kV	6			

1) For conductor cross-sections for Cage Clamp connections, see connection of the auxiliary circuit.

2) The box terminal is removable. Rail and cable lug connections are possible if the box terminal is removed.

SIRIUS Overload Relays

SIRIUS Thermal Overload Relays

Up to 100 A, CLASS 10, non-adjustable

Type Size Overall width			3RU11 16 S00 45 mm	3RU11 26 S0 45 mm	3RU11 36 S2 55 mm	3RU11 46 S3 70 mm
Auxiliary circuit						
Contact rating of the auxiliary contacts						
• NC at AC, AC-14/AC-15	Rated operating 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	0.6		
		- 690 V	A	0.5		
• NO at AC, AC-14/AC-15	Rated operating 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	0.6		
		- 690 V	A	0.5		
• NC, NO at DC, DC-13	Rated operating current I_e at U_e :	- 24 V	A	1		
		- 60 V	A	1 ¹⁾		
		- 110 V	A	0.22		
		- 125 V	A	0.22		
		- 220 V	A	0.11		
• Conventional thermal current I_{th}		A	6			
• Contact reliability	(suitable for PLC control; 17 V, 5 mA)		Yes			
Short-circuit protection						
• With fuse	Operational class gL/gG Quick	A	6			
		A	10			
• With miniature circuit-breaker (C-characteristic)		A	6 ²⁾			
Safe isolation between auxiliary circuits	acc. to IEC 60947-1	V	415			
Connection for auxiliary circuit						
Type of connection						
Screw connection or Cage Clamp connection						
Connection features						
Screw connection						
Cage Clamp connection						
• Terminal screw	Nm	mm ²	Pozidrive size 2		-	
			0.8 ... 1.2		-	
• Tightening torque	Solid	mm ²	2 x (0.5 ... 1.5)		-	
			2 x (0.75 ... 2.5)		2 x (0.25 ... 2.5)	
• Conductor cross-sections (min./max.), 1 or 2 conductors	Finely stranded without end sleeve	mm ²	-		2 x (0.25 ... 2.5)	
			2 x (0.5 ... 1.5)		2 x (0.25 ... 1.5)	
	Finely stranded with end sleeve	mm ²	2 x (0.5 ... 1.5)		-	
			2 x (0.75 ... 2.5)		2 x (0.25 ... 1.5)	
	Stranded	mm ²	2 x (0.5 ... 1.5)		-	
			2 x (0.75 ... 2.5)		-	
	AWG conductor connections, solid or stranded	AWG	2 x (18 ... 14)		2 x (24 ... 14)	

CSA, UL, and UR ratings

Auxiliary circuit	Switching capacity	B600, R300
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1) on request

2) Up to $I_k \leq 0.5$ kA; ≤ 260 V.

Terminal brackets for stand-alone installation

Type			3RU19 16-3AA01	3RU19 26-3AA01	3RU19 36-3AA01	3RU19 46-3AA01
for overload relay			3RU11 16	3RU11 26	3RU11 36	3RU11 46
Mounting type			For screw and snap-on mounting onto 35 mm standard mounting rail; Size S3, also for 75 mm standard mounting rail.			
Connection for main circuit						
Type of connection						
Screw connection						
Screw connection with box terminal						
Screw connection						
• Terminal screw	Solid	mm ²	Pozidrive size 2		4 mm Allen screw	
			1 x (0.5 ... 2.5) max. 1 x (... 4)		1 x (1 ... 6) max. 1 x (... 10)	
• Conductor cross-section (min./max.), 1 or 2 conductors	Finely stranded without end sleeve	mm ²	-		2 x (0.75 ... 16)	
			1 x (0.5 ... 2.5)		2 x (2.5 ... 16)	
	Finely stranded with end sleeve	mm ²	1 x (1 ... 6)		2 x (0.75 ... 16)	
			1 x (0.5 ... 2.5)		1 x (0.75 ... 25) 2 x (0.75 ... 25)	
	Stranded	mm ²	1 x (1 ... 6)		2 x (10 ... 50)	
			1 x (0.5 ... 2.5) max. 1 x (... 4)		1 x (10 ... 70)	
	AWG conductor connections, solid or stranded	AWG	1 x (14 ... 10)		2 x (10 ... 1/0)	
			1 x (18 ... 14)		2 x (10 ... 2/0)	
	Ribbon cables (number x width x circumference)	mm	-		2 x (6 x 9 x 0.8)	
			-		2 x (6 x 9 x 0.8)	

SIRIUS Overload Relays

SIRIUS Thermal Overload Relays

Up to 100 A, CLASS 10, non-adjustable

Short-circuit protection/circuit-breakers for motor feeders

With short-circuit currents up to 50 kA at AC 50/60 Hz 690 V.

Permissible short-circuit protection fuse for motor starters comprising overload relay and contactor, type of coordination 2¹⁾

Setting range	Size S2									UL-listed fuses RK5	Circuit-breakers for starter protection at $I_q = 50 \text{ kA/AC } 400 \text{ V}$
	15 kW \cong 3RT10 34 $I_{e \max} = 32 \text{ A}$ (at AC 50 Hz 400 V)			18.5 kW \cong 3RT10 35 $I_{e \max} = 40 \text{ A}$ (at AC 50 Hz 400 V)			22 kW \cong 3RT10 36 $I_{e \max} = 50 \text{ A}$ (at AC 50 Hz 400 V)				
A	gL/gG	aM	BS88	gL/gG	aM	BS88	gL/gG	aM	BS88	A	
5.5 ... 8	25	10	25	25	10	25	25	10	25	30	–
7 ... 10	32	16	32	32	16	32	32	16	32	40	–
9 ... 12.5	35	16	35	35	16	35	35	16	35	50	–
11 ... 16	40	20	40	40	20	40	40	20	40	60	–
14 ... 20	50	25	50	50	25	50	50	25	50	80	–
18 ... 25	63	32	63	63	32	63	63	32	63	100	3RV13 31-4DC10
22 ... 32	63	35	63	63	35	63	80	35	80	125	3RV13 31-4EC10
28 ... 40	63	50	63	63	50	63	80	50	80	150	3RV13 31-4FC10
36 ... 45	–	–	–	63	50	80	80	50	80	175	3RV13 31-4GC10
40 ... 50	–	–	–	–	–	–	80	50	80	200	3RV13 31-4HC10

Setting range	Size S3									UL-listed fuses RK5	Circuit-breaker for starter protection at $I_q = 50 \text{ kA/AC } 400 \text{ V}$
	30 kW \cong 3RT10 44 $I_{e \max} = 65 \text{ A}$ (at AC 50 Hz 400 V)			37 kW \cong 3RT10 45 $I_{e \max} = 80 \text{ A}$ (at AC 50 Hz 400 V)			45 kW \cong 3RT10 46 $I_{e \max} = 95 \text{ A}$ (at AC 50 Hz 400 V)				
A	gL/gG	aM	BS88	gL/gG	aM	BS88	gL/gG	aM	BS88	A	
18 ... 25	63	32	63	63	32	63	63	32	63	100	–
22 ... 32	80	35	80	80	35	80	80	35	80	125	–
28 ... 40	80	50	80	80	50	80	80	50	80	150	–
36 ... 50	125	50	125	125	50	125	125	50	125	200	–
45 ... 63	125	63	125	160	63	160	160	63	160	250	3RV13 41-4JC10
57 ... 75	–	–	–	160	80	160	160	80	160	300	3RV13 41-4KC10
70 ... 90	–	–	–	–	–	–	160	100	160	350	3RV13 41-4LC10
80 ... 100	–	–	–	–	–	–	160	100	160	350	3RV13 41-4MC10

For type of coordination 1¹⁾, see short-circuit protection of the contactors without overload relay under "Contactors and contactor assemblies".

1) Coordination and short-circuit equipment according to EN 60947-4-1:

Type of coordination 1: The contactor or starter must not endanger persons or the installation in the event of a short-circuit. They do not need to be suitable for further operation without repair and the renewal of parts.

Type of coordination 2: The contactor or starter must not endanger persons or the installation in the event of a short-circuit. They must be suitable for further use. There is a danger of contact welding.

SIRIUS Overload Relays

SIRIUS Thermal Overload Relays

Up to 100 A, CLASS 10, non-adjustable

Short-circuit protection/circuit-breakers for motor feeders

With short-circuit currents up to 50 kA at AC 50/60 Hz 690 V.

Permissible short-circuit protection fuse for motor starters comprising overload relay and contactor, type of coordination 2¹⁾

Setting range	Size S00									UL-listed fuses RK5	Circuit-breaker for starter protection at $I_q = 50 \text{ kA/AC } 400 \text{ V}$
	3 kW \cong 3RT10 15 $I_{e \text{ max}} = 7 \text{ A}$ (at AC 50 Hz 400 V)			4 kW \cong 3RT10 16 $I_{e \text{ max}} = 9 \text{ A}$ (at AC 50 Hz 400 V)			5.5 kW \cong 3RT10 17 $I_{e \text{ max}} = 12 \text{ A}$ (at AC 50 Hz 400 V)				
A	gL/gG	aM	BS88	gL/gG	aM	BS88	gL/gG	aM	BS88	A	
0.11 ... 0.16	0.5	-	-	0.5	-	-	0.5	-	-	1	-
0.14 ... 0.2	1	-	-	1	-	-	1	-	-	1	3RV13 21-0BC10
0.18 ... 0.25	1	-	-	1	-	-	1	-	-	1	3RV13 21-0CC10
0.22 ... 0.32	1.6	-	2	1.6	-	2	1.6	-	2	1	3RV13 21-0DC10
0.28 ... 0.4	2	-	2	2	-	2	2	-	2	1.6	3RV13 21-0EC10
0.35 ... 0.5	2	-	2	2	-	2	2	-	2	2	3RV13 21-0FC10
0.45 ... 0.63	2	-	4	2	-	4	2	-	4	2.5	3RV13 21-0GC10
0.55 ... 0.8	4	-	4	4	-	4	4	-	4	3	3RV13 21-0HC10
0.7 ... 1	4	-	6	4	-	6	4	-	6	4	3RV13 21-0JC10
0.9 ... 1.25	4	-	6	4	-	6	4	-	6	5	3RV13 21-0KC10
1.1 ... 1.6	6	-	10	6	-	10	6	-	10	6	3RV13 21-1AC10
1.4 ... 2	6	-	10	6	-	10	6	-	10	8	3RV13 21-1BC10
1.8 ... 2.5	10	-	10	10	-	10	10	-	10	10	-
2.2 ... 3.2	10	-	16	10	-	16	10	-	16	12	-
2.8 ... 4	16	-	16	16	-	16	16	-	16	16	-
3.5 ... 5	20	6	20	20	6	20	20	6	20	20	-
4.5 ... 6.3	20	6	20	20	6	20	20	6	20	25	-
5.5 ... 8	20	10	20	20	10	20	20	10	20	30	-
7 ... 10	-	-	-	20	16	20	20	16	20	40	-
9 ... 12	-	-	-	-	-	-	20	16	25	45	-

Setting range	Size S0									UL-listed fuses RK5	Circuit-breaker for starter protection at $I_q = 50 \text{ kA/AC } 400 \text{ V}$
	5.5 kW \cong 3RT10 24 $I_{e \text{ max}} = 12 \text{ A}$ (at AC 50 Hz 400 V)			7.5 kW \cong 3RT10 25 $I_{e \text{ max}} = 17 \text{ A}$ (at AC 50 Hz 400 V)			11 kW \cong 3RT10 26 $I_{e \text{ max}} = 25 \text{ A}$ (at AC 50 Hz 400 V)				
A	gL/gG	aM	BS88	gL/gG	aM	BS88	gL/gG	aM	BS88	A	
1.8 ... 2.5	10	-	10	10	-	10	10	-	10	10	3RV13 21-1CC10
2.2 ... 3.2	10	-	16	10	-	16	10	-	16	12	3RV13 21-1DC10
2.8 ... 4	16	-	16	16	-	16	16	-	16	16	3RV13 21-1EC10
3.5 ... 5	20	6	20	20	6	20	20	6	20	20	3RV13 21-1FC10
4.5 ... 6.3	20	6	25	20	6	25	20	6	25	25	3RV13 21-1GC10
5.5 ... 8	25	10	25/32 ²⁾	25	10	25/32 ²⁾	25	10	32	30	3RV13 21-1HC10
7 ... 10	25	16	25/32 ²⁾	25	16	25/32 ²⁾	32	16	35	40	3RV13 21-1JC10
9 ... 12.5	25	20	25/32 ²⁾	25	20	25/32 ²⁾	35	20	35	45	3RV13 21-1KC10
11 ... 16	25	20	25/32 ²⁾	25	20	25/32 ²⁾	35	20	35	60	3RV13 21-4AC10
14 ... 20	-	-	-	25	20	25/32 ²⁾	35	20	35	80	3RV13 21-4BC10
17 ... 22	-	-	-	-	-	-	35	20	35	80	3RV13 21-4CC10
20 ... 25	-	-	-	-	-	-	35	20	35	100	-

For type of coordination 1¹⁾, see short-circuit protection of the contactors without overload relay under "Contactors and contactor assemblies".

1) Coordination and short-circuit equipment in accordance with EN 60947-4-1:

Type of coordination 1: The contactor or starter must not endanger persons or the installation in the event of a short-circuit. They do not need to be suitable for further operation without repair and the renewal of parts.

Type of coordination 2: The contactor or starter must not endanger persons or the installation in the event of a short-circuit. They must be suitable for further use. There is a danger of contact welding.