

THERM. OVERLOAD RELAY 36...50 A FOR MOTOR PROTECTION
 SIZE S3, CLASS 10 FOR CONTACTOR MOUNTING MAIN
 CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SCREW TERM.
 MANUAL-AUTOMATIC-RESET

Product brand name	SIRIUS
Product designation	thermal overload relay
Product type designation	3RU2

General technical data

Size of overload relay	S3
Size of contactor can be combined company-specific	S3
Insulation voltage with degree of pollution 3 rated value	1 000 V
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
<ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit 	440 V
<ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit 	440 V
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	440 V
<ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit 	440 V
Protection class IP	
<ul style="list-style-type: none"> on the front 	IP20
<ul style="list-style-type: none"> of the terminal 	IP00
Shock resistance	
<ul style="list-style-type: none"> acc. to IEC 60068-2-27 	8g / 11 ms
Recovery time	
<ul style="list-style-type: none"> after overload trip with automatic reset typical 	10 min
<ul style="list-style-type: none"> after overload trip with remote-reset 	10 min
<ul style="list-style-type: none"> after overload trip with manual reset 	10 min
Type of protection	on request
Certificate of suitability relating to ATEX	on request
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking acc. to DIN EN 81346-2	F

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> maximum 	2 000 m

Ambient temperature	
• during operation	-40 ... +70 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
Temperature compensation	-40 ... +60 °C
Relative humidity during operation	0 ... 90 %

Main circuit	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	36 ... 50 A
Operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	50 A

Auxiliary circuit	
Design of the auxiliary switch	integrated
Number of NC contacts	
• for auxiliary contacts	1
— Note	for contactor disconnection
Number of NO contacts	
• for auxiliary contacts	1
— Note	for message "Tripped"
Number of CO contacts	
• for auxiliary contacts	0
Operating current of auxiliary contacts at AC-15	
• at 24 V	3 A
• at 110 V	3 A
• at 120 V	3 A
• at 125 V	3 A
• at 230 V	2 A
• at 400 V	1 A
Operating current of auxiliary contacts at DC-13	
• at 24 V	2 A
• at 60 V	0.3 A
• at 110 V	0.22 A
• at 125 V	0.22 A
• at 220 V	0.11 A
Design of the miniature circuit breaker	
• for short-circuit protection of the auxiliary switch required	6A (SCC less than equal to 0.5 kA; U less than equal to 260V)
Contact rating of auxiliary contacts according to UL	B600 / R300

Protective and monitoring functions	
Trip class	CLASS 10
Design of the overload release	thermal
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	<p>40 A</p> <p>41 A</p>
Short-circuit protection	
Design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required 	<p>gG: 160 A</p> <p>gG: 125 A</p> <p>fuse gG: 6 A, quick: 10 A</p>
Installation/ mounting/ dimensions	
Mounting position	any
Mounting type	direct mounting
Height	105 mm
Width	70 mm
Depth	125 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	<p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>6 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>6 mm</p>
Connections/Terminals	

Product function	
<ul style="list-style-type: none"> removable terminal for auxiliary and control circuit 	No
Type of electrical connection	
<ul style="list-style-type: none"> for main current circuit for auxiliary and control current circuit 	screw-type terminals screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> — solid — stranded — single or multi-stranded — finely stranded with core end processing at AWG conductors for main contacts 	2x (2.5 ... 16 mm ²) 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 1/0), 1x (10 ... 2/0)
Type of connectable conductor cross-sections	
<ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing at AWG conductors for auxiliary contacts 	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
Tightening torque	
<ul style="list-style-type: none"> for ring cable lug <ul style="list-style-type: none"> — for main contacts 	4.5 ... 6 N·m
Outer diameter of the usable ring cable lug maximum	19 mm
Tightening torque	
<ul style="list-style-type: none"> for main contacts with screw-type terminals for auxiliary contacts with screw-type terminals 	4.5 ... 6 N·m 0.8 ... 1.2 N·m
Design of screwdriver shaft	Hexagonal socket
Size of the screwdriver tip	4 mm hexagon socket
Design of the thread of the connection screw	
<ul style="list-style-type: none"> for main contacts of the auxiliary and control contacts 	M8 M3

Safety related data

T1 value for proof test interval or service life acc. to IEC 61508	20 y
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Display

Display version	
<ul style="list-style-type: none"> for switching status 	Slide switch

Certificates/approvals

General Product Approval				Declaration of Conformity	Test Certificates
 CCC	 CSA	 UL		 EG-Konf.	Type Test Certificates/Test Report

Test Certificates	other
Special Test Certificate	Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3RU2146-4HB0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RU2146-4HB0>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4HB0>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RU2146-4HB0&lang=en

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