

Reference: 3RU2116-1FB0

OVERLOAD RELAY 3.5...5.0 A FOR  
MOTOR PROTECTION SZ 500, CLASS 10,  
F. MOUNTING ONTO CONTACTOR MAIN  
CIRCUIT: SCREW TERMINAL AUX.  
CIRCUIT: SCREW TERMINAL MANUAL-  
AUTOMATIC-RESET

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product brand name	SIRIUS
Product designation	3RU2 thermal overload relay
General technical data:	
Size of overload relay	S00
Size of contactor can be combined company-specific	S00
Power loss [W] total typical	6.1 W
Insulation voltage with degree of pollution 3 rated value	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
in networks with grounded star point between auxiliary and auxiliary circuit	440 V
in networks with grounded star point between auxiliary and auxiliary circuit	440 V
in networks with grounded star point between main and auxiliary circuit	440 V
in networks with grounded star point between main and auxiliary circuit	440 V
Protection class IP	
on the front	IP20
of the terminal	IP20
Shock resistance	
acc. to IEC 60068-2-27	8g / 11 ms

Type of protection	Ex e
Certificate of suitability relating to ATEX	DMT 98 ATEX G 001
Protection against electrical shock	finger-safe
Equipment marking acc. to DIN EN 81346-2	F
Ambient conditions:	
Installation altitude at height above sea level 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
Main circuit:	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current-dependent overload release	3.5 ... 5 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	5 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 110 V	0.22 A
at 125 V	0.22 A
at 220 V	0.11 A
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	
at 480 V rated value	5 A
at 600 V rated value	5 A
Contact rating of auxiliary contacts according to UL	B600 / R300
Installation/ mounting/ dimensions:	
Mounting position	any
Mounting type	direct mounting
Height	76 mm
Witd>	45 mm
Depth	70 mm
Required spacing	
with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	6 mm
— downwards	6 mm
— at the side	6 mm
for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	6 mm
— at the side	6 mm
— downwards	6 mm
for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	6 mm
— downwards	6 mm
— at the side	6 mm
Connections/Terminals:	

Product function	
removable terminal for auxiliary and control circuit	No
Type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control current circuit	screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections	
for main contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup>
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
at AWG conductors for main contacts	2x (20 ... 16), 2x (18 ... 14), 2x 12
Type of connectable conductor cross-sections	
for auxiliary contacts	
— single or multi-stranded	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )
— finely stranded with core end processing	2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )
at AWG conductors for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
Tightening torque	
for main contacts with screw-type terminals	0.8 ... 1.2 N·m
for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
Design of screwdriver shaft	5 ... 6 mm diameter
Design of the thread of the connection screw	
for main contacts	M3
of the auxiliary and control contacts	M3
Safety related data:	
Failure rate [FIT]	
with low demand rate acc. to SN 31920	50 FIT
MTTF with high demand rate	2 280 y
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Display:	
Display version	
for switching status	Slide switch