SIEMENS

product brand name

Data sheet 3RU2116-1AC0



OVERLOAD RELAY 1.1...1.6 A FOR MOTOR PROTECTION SZ S00, CLASS 10, F. MOUNTING ONTO CONTACTOR MAIN CIRCUIT: SPRING TERMINAL AUX. CIRCUIT: SPRING TERMINAL MANUAL-AUTOMATIC-RESET

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	5.1 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	

IP20

SIRIUS

Protection class IP

• on the front

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

mbient conditions	
Installation altitude at height above sea level	2 000 m
maximum	
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-	1.1 1.6 A
dependent overload release	
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	1.6 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

Mounting positionanyMounting typedirect mountingHeight87 mmWidth45 mmDepth70 mmRequired spacing*** with side-by-side mounting**• with side-by-side mounting0 mm— forwards0 mm— Backwards0 mm— upwards6 mm— at the side6 mm• for grounded parts6 mm— forwards0 mm— Backwards0 mm— Backwards0 mm— upwards6 mm— at the side6 mm		
• at 110 V	Operating current of auxiliary contacts at DC-13	
• at 125 V • at 220 V Protective and monitoring functions Trip class CLASS 10 thermal Design of the overload release thermal Desi	• at 24 V	2 A
• at 220 V • at 220 V 0.11 A Protective and monitoring functions Trip class CLASS 10 Design of the overload release thermal DUCSA ratings Full-load current (FLA) for three-phase AC motor • at 480 V rated value • at 600 V rated value 1.6 A Contact rating of auxiliary contacts according to UL B600 / R300 Installation/ mounting/ dimensions Mounting position Mounting type direct mounting ### A5 mm ### Midth ### A5 mm Depth Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — upwards — Backwards — upwards — at the side • for grounded parts — forwards — upwards — at the side • for mm — upwards — at the side • for mm — at the side • form — upwards — upwards — upwards — upwards — upwards — at the side • form — upwards — at the side • form — upwards — upwards — upwards — upwards — upwards — upwards — on mm — upwards — at the side	● at 110 V	0.22 A
Protective and monitoring functions Trip class Design of the overload release IL/CSA ratings Full-load current (FLA) for three-phase AC motor • at 480 V rated value • at 600 V rated value 1.6 A Contact rating of auxillary contacts according to UL B600 / R300 Installation / mounting / dimensions Mounting position Mounting type direct mounting ### A5 mm Width ### 45 mm Depth ### Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — Backwards — omm ### Backwards • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — upwards — at the side • for grounded parts — forwards — upwards — at the side • for mm — upwards — at the side • form — upwards — upwards — upwards — upwards — at the side • form — upwards — at the side • form — upwards — at the side • form	● at 125 V	0.22 A
Trip class Design of the overload release Design of the overload release Full-load current (FLA) for three-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value Ontact rating of auxiliary contacts according to UL Secondary mounting/ dimensions Mounting position Mounting type Height ### A5 mm ### Depth Depth To mm Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — at the side • for grounded parts — forwards — Backwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — Backwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — Backwards — upwards — Backwards — O mm — Height — forwards — O mm —	• at 220 V	0.11 A
Trip class Design of the overload release Design of the overload release Full-load current (FLA) for three-phase AC motor • at 480 V rated value • at 600 V rated value • at 600 V rated value Ontact rating of auxiliary contacts according to UL Secondary mounting/ dimensions Mounting position Mounting type Height ### A5 mm ### Depth Depth To mm Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — at the side • for grounded parts — forwards — Backwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — Backwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side • for grounded parts — forwards — Backwards — upwards — Backwards — O mm — Height — forwards — O mm —	Protective and manitoring functions	
Design of the overload release thermal Discrimination Discrimination		CLASS 10
Full-load current (FLA) for three-phase AC motor • at 480 V rated value • at 600 V rated value 1.6 A Contact rating of auxiliary contacts according to UL B600 / R300 Installation/ mounting/ dimensions Mounting position Mounting type Height Width 45 mm Depth Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — at the side • for grounded parts — forwards — at the side • forwards — at the side • for grounded parts — forwards — Backwards — at the side • for grounded parts — forwards — at the side • for grounded parts — forwards — at the side • form — at the side • form — at the side		
Full-load current (FLA) for three-phase AC motor		
• at 480 V rated value 1.6 A • at 600 V rated value 1.6 A Contact rating of auxiliary contacts according to UL Installation/ mounting/ dimensions Mounting position Mounting type direct mounting Height 87 mm Width 45 mm Depth 70 mm Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — Backwards — Backwards — at the side • for grounded parts — forwards — Backwards — Backwards — at the side • for grounded parts — forwards — backwards — upwards — at the side • for grounded parts — forwards — a the side • for grounded parts — forwards — a the side • for grounded parts — forwards — a the side • for grounded parts — forwards — a the side • for grounded parts — forwards — a the side • for mm		
at 600 V rated value Contact rating of auxiliary contacts according to UL B600 / R300 Installation/ mounting/ dimensions Mounting position Mounting type direct mounting Height 87 mm Width 45 mm Depth 70 mm Required spacing with side-by-side mounting — forwards — Backwards — upwards — at the side for grounded parts — forwards — Backwards — o mm for grounded parts — forwards — backwards — upwards — at the side for grounded parts — towards — backwards — backwards — at the side for mm — at the side form		16 A
Contact rating of auxiliary contacts according to UL Installation/ mounting/ dimensions Mounting position Mounting type Height Width Pepth Popth Required spacing • with side-by-side mounting — forwards — upwards — downwards — at the side • for grounded parts — Backwards — Backwards — backwards — of mm • for grounded parts — forwards — backwards — at the side • for grounded parts — backwards — backwards — backwards — at the side • for mm • forwards — backwards — backwards — at the side • for mm • forwards — backwards — backwards — backwards — backwards — at the side • form • form • form • form • form • forwards — backwards — backwards — backwards — at the side • form		
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Mounting positionanyMounting typedirect mountingHeight87 mmWidth45 mmDepth70 mmRequired spacing*** with side-by-side mounting**• with side-by-side mounting0 mm— forwards0 mm— Backwards0 mm— upwards6 mm— at the side6 mm• for grounded parts6 mm— forwards0 mm— Backwards0 mm— Backwards0 mm— upwards6 mm— at the side6 mm	Contact rating of auxiliary contacts according to OL	B600 / R300
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Width 45 mm Depth 70 mm Required spacing • with side-by-side mounting — forwards 0 mm — Backwards 6 mm — upwards 6 mm — at the side 6 mm • for grounded parts — forwards 0 mm — Backwards 0 mm — at the side 6 mm — to grounded parts — forwards 0 mm — upwards 0 mm — at the side 0 mm — at the side 0 mm		-
Depth 70 mm Required spacing ● with side-by-side mounting 0 mm — forwards 0 mm — Backwards 0 mm — upwards 6 mm — downwards 6 mm — at the side 6 mm ● for grounded parts 0 mm — forwards 0 mm — Backwards 0 mm — upwards 6 mm — at the side 6 mm 6 mm 6 mm		
Required spacing • with side-by-side mounting — forwards — Backwards — upwards — downwards — at the side • for grounded parts — forwards — Backwards — upwards • for grounded parts — forwards — at the side • for mm — at the side • forwards — at the side • forwards — at the side • form		
 with side-by-side mounting forwards Backwards upwards downwards at the side for grounded parts forwards Backwards 0 mm mm at the side 6 mm mm at the side 6 mm mm at the side 6 mm 6 mm 		70 mm
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— Backwards — upwards — upwards — downwards — at the side • for grounded parts — forwards — Backwards — upwards — upwards — upwards — at the side • 6 mm 6 mm 6 mm		0
 — upwards — downwards — at the side • for grounded parts — forwards — Backwards — upwards — at the side 6 mm 6 mm 		
 — downwards — at the side ● for grounded parts — forwards — Backwards — upwards — at the side 6 mm 6 mm 6 mm 		
 — at the side ● for grounded parts — forwards — Backwards — upwards — at the side 6 mm 6 mm 	·	
 for grounded parts forwards Backwards upwards at the side for grounded parts 0 mm 6 mm 6 mm 		
— forwards 0 mm — Backwards 0 mm — upwards 6 mm — at the side 6 mm		ь mm
 Backwards upwards at the side 0 mm 6 mm 6 mm 		
upwardsat the side6 mm6 mm		
— at the side 6 mm		
— downwards 6 mm	— at the side	
	— downwards	6 mm

0 mm

0 mm 6 mm

6 mm

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		15/ L e L	

• for live parts

forwardsBackwards

upwardsdownwards

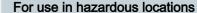
— at the side

Product function

 removable terminal for auxiliary and control circuit 	No
Type of electrical connection	
• for main current circuit	spring-loaded terminals
 for auxiliary and control current circuit 	spring-loaded 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 	1x (0,5 4 mm²)
 finely stranded with core end processing 	1x (0.5 2.5 mm²)
 finely stranded without core end processing 	1x (0.5 2.5 mm²)
 at AWG conductors for main contacts 	1x (20 12)
Type of connectable conductor cross-sections	
 for auxiliary contacts 	
— single or multi-stranded	2x (0,5 2,5 mm²)
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 1.5 mm²)
 at AWG conductors for auxiliary contacts 	2x (20 14)
Design of screwdriver shaft	5 6 mm diameter
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

Certificates/approvals

General Product Approval















IECEx

Declaration	of
Conformity	

Test Certificates Shipping Approval



Typprüfbescheinigu ng/Werkszeugnis







Railway



Shipping Approval

other

Umweltbestätigung Be

Bestätigungen

Schwingen/Schocke

n





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?mlfb=3RU2116-1AC0

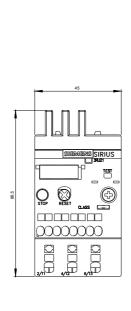
Cax online generator

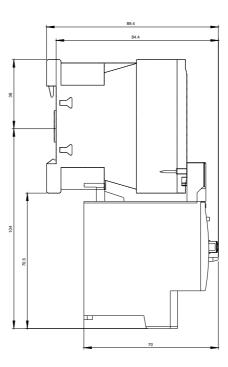
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1AC0

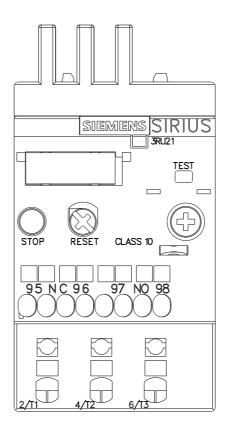
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

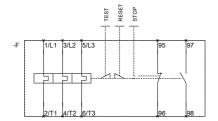
 $\underline{\text{https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1AC0}}$

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1AC0&lang=en









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