

Overload relay 2.8...4.0 A Thermal For motor protection Size S00,  
Class 10 Stand-alone installation Main circuit: Screw Auxiliary circuit:  
Screw Manual-Automatic-Reset



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

General technical data	
Size of overload relay	S00
Size of contactor can be combined company-specific	S00
Power loss [W] for rated value of the current	
• at AC in hot operating state	5.7 W
• at AC in hot operating state per pole	1.9 W
Insulation voltage with degree of pollution 3 at AC 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

<ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul>	440 V
<ul style="list-style-type: none"> <li>• protection class IP on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>• Protection class IP of the terminal</li> </ul>	IP20
<b>Shock resistance</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>	8g / 11 ms
<b>Type of protection according to ATEX directive 2014/34/EU</b>	Ex II (2) GD
Certificate of suitability according to ATEX directive 2014/34/EU	DMT 98 ATEX G 001
<b>Reference code acc. to DIN EN 81346-2</b>	F

#### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	-40 ... +70 °C
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	-55 ... +80 °C
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	-55 ... +80 °C
<b>Temperature compensation</b>	-40 ... +60 °C
Relative humidity during operation	10 ... 95 %

#### Main circuit

<b>Number of poles for main current circuit</b>	3
<b>adjustable pick-up value current of the current-dependent overload release</b>	2.8 ... 4 A
<b>Operating voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	690 V
<ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	4 A
Operating power at AC-3	
<ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>	1.5 kW
<ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>	2.2 kW
<ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>	3 kW

#### Auxiliary circuit

<b>Design of the auxiliary switch</b>	integrated
<b>Number of NC contacts for auxiliary contacts</b>	1
<ul style="list-style-type: none"> <li>• Note</li> </ul>	for contactor disconnection
<b>Number of NO contacts for auxiliary contacts</b>	1
<ul style="list-style-type: none"> <li>• Note</li> </ul>	for message "Tripped"
<b>Number of CO contacts</b>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	0

• operating current of auxiliary contacts at AC-15 at 24 V	3 A
• Operating current of auxiliary contacts at AC-15 at 110 V	3 A
• Operating current of auxiliary contacts at AC-15 at 120 V	3 A
• Operating current of auxiliary contacts at AC-15 at 125 V	3 A
• Operating current of auxiliary contacts at AC-15 at 230 V	2 A
• operating current of auxiliary contacts at AC-15 at 400 V	1 A
• operating current of auxiliary contacts at DC-13 at 24 V	2 A
• Operating current of auxiliary contacts at DC-13 at 60 V	0.3 A
• Operating current of auxiliary contacts at DC-13 at 110 V	0.22 A
• operating current of auxiliary contacts at DC-13 at 125 V	0.22 A
• Operating current of auxiliary contacts at DC-13 at 220 V	0.11 A
<b>Contact rating of auxiliary contacts according to UL</b>	B600 / R300

Protective and monitoring functions	
<b>Trip class</b>	CLASS 10
<b>Design of the overload release</b>	thermal

UL/CSA ratings	
<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	4 A
• at 600 V rated value	4 A

Short-circuit protection	
<b>Design of the fuse link</b>	
• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A, quick: 10 A

Installation/ mounting/ dimensions	
• <b>mounting position</b>	any
<b>Mounting type</b>	stand-alone installation
<b>Height</b>	89 mm
<b>Width</b>	45 mm
<b>Depth</b>	80 mm

Connections/ Terminals	
<b>Product function</b>	

<ul style="list-style-type: none"> <li>removable terminal for auxiliary and control circuit</li> </ul>	No
<ul style="list-style-type: none"> <li>Type of electrical connection for main current circuit</li> </ul>	screw-type terminals
<ul style="list-style-type: none"> <li>Type of electrical connection for auxiliary and control current circuit</li> </ul>	screw-type terminals
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for main contacts</li> </ul>	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup> 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14), 2x 12
<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>for auxiliary contacts <ul style="list-style-type: none"> <li>single or multi-stranded</li> <li>finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ) 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ) 2x (20 ... 16), 2x (18 ... 14)
<b>Tightening torque</b>	
<ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 ... 1.2 N·m 0.8 ... 1.2 N·m
<b>Design of screwdriver shaft</b>	Diameter 5 ... 6 mm
<b>Size of the screwdriver tip</b>	Pozidriv PZ 2
<b>Design of the thread of the connection screw</b>	
<ul style="list-style-type: none"> <li>for main contacts</li> <li>of the auxiliary and control contacts</li> </ul>	M3 M3

#### Safety related data

<b>Failure rate [FIT]</b>	
<ul style="list-style-type: none"> <li>with low demand rate acc. to SN 31920</li> </ul>	50 FIT
<b>MTTF with high demand rate</b>	2 280 y
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y

#### Display

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

#### Certificates/ approvals

General Product Approval	For use in hazardous locations
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Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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[Confirmation](#)

Railway
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[Vibration and Shock](#)

Further information
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**Information- and Downloadcenter (Catalogs, Brochures,...)**

<https://www.siemens.com/ic10>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2116-1EB1>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1EB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1EB1>

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

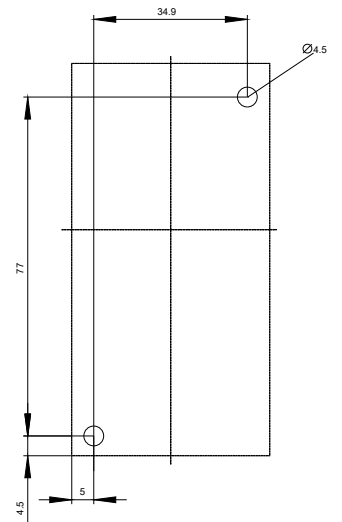
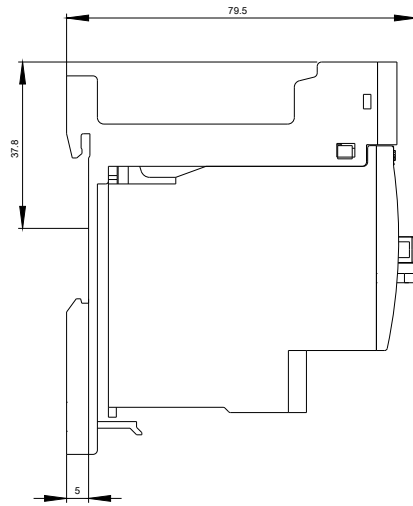
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2116-1EB1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1EB1&lang=en)

**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

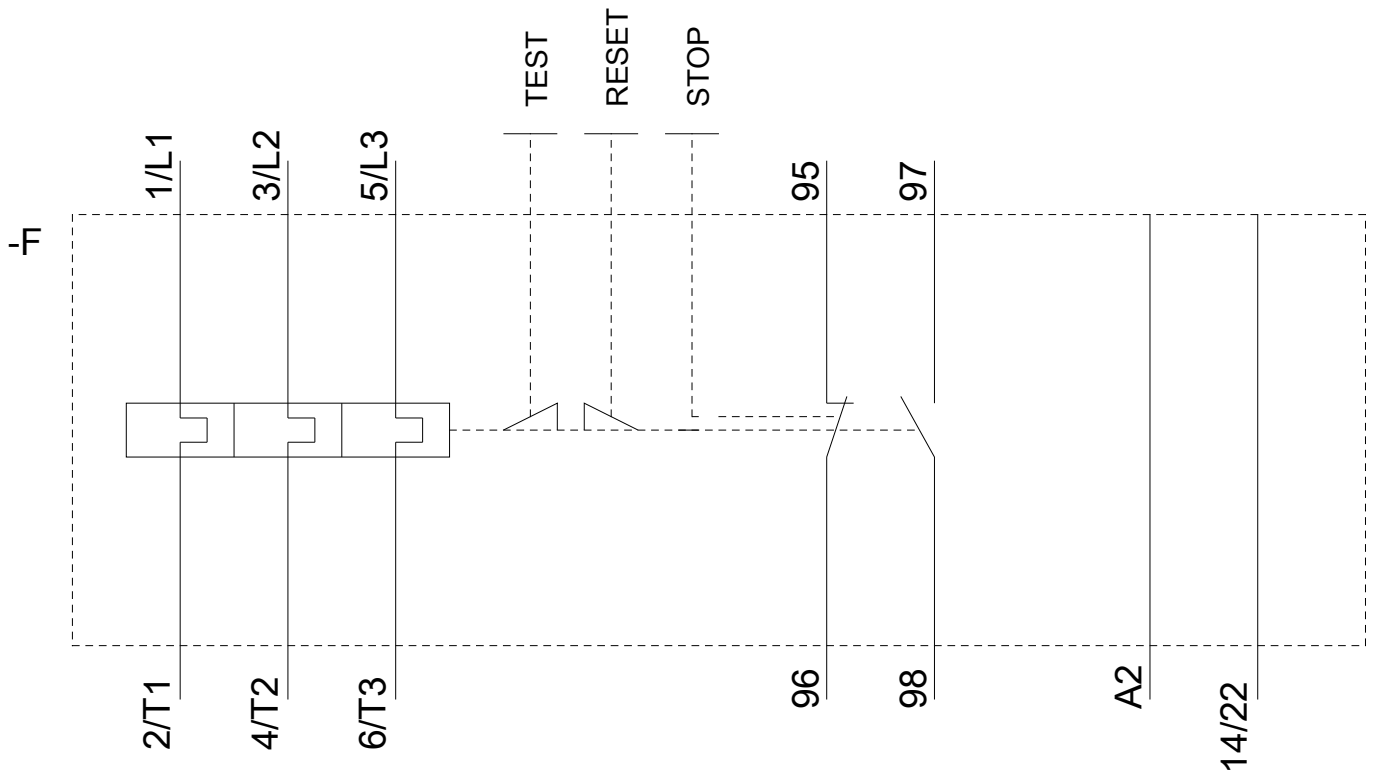
<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1EB1/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1EB1&objecttype=14&gridview=view1>







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08/19/2020