

Overload relay 80...100 A Thermal For motor protection Size S3,  
Class 10 Stand-alone installation Main circuit: Screw Auxiliary circuit:  
Screw Manual-Automatic-Reset



<b>Product brand name</b>	SIRIUS
<b>Product designation</b>	thermal overload relay
<b>Product type designation</b>	3RU2
<b>General technical data</b>	
<b>Size of overload relay</b>	S3
<b>Size of contactor can be combined company-specific</b>	S3
Insulation voltage with degree of pollution 3 rated value	1 000 V
<b>Surge voltage resistance rated value</b>	8 kV
<b>maximum permissible voltage for safe isolation</b>	
<ul style="list-style-type: none"> <li>• in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	440 V
<ul style="list-style-type: none"> <li>• in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	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>• in networks with grounded star point between main and auxiliary circuit</li> </ul>	440 V
<b>Protection class IP</b>	
<ul style="list-style-type: none"> <li>• on the front</li> </ul>	IP20

• of the terminal	IP00
<b>Shock resistance</b>	
• acc. to IEC 60068-2-27	8g / 11 ms
<b>Recovery time</b>	
• after overload trip with automatic reset typical	10 min
• after overload trip with remote-reset	10 min
• after overload trip with manual reset	10 min
Certificate of suitability according to ATEX directive 2014/34/EU	DMT 98 ATEX G 001
<b>Protection against electrical shock</b>	finger-safe when touched vertically from front acc. to IEC 60529
<b>Reference code acc. to DIN EN 81346-2</b>	F

Ambient conditions	
<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Ambient temperature</b>	
• during operation	-40 ... +70 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
<b>Temperature compensation</b>	-40 ... +60 °C
Relative humidity during operation	0 ... 90 %

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>	80 ... 100 A
<b>Operating voltage</b>	
• rated value	690 V
• at AC-3 rated value maximum	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	100 A

Auxiliary circuit	
<b>Design of the auxiliary switch</b>	integrated
<b>Number of NC contacts for auxiliary contacts</b>	1
• Note	for contactor disconnection
<b>Number of NO contacts for auxiliary contacts</b>	1
• Note	for message "Tripped"
<b>Number of CO contacts</b>	
• for auxiliary contacts	0
<b>Operating current of auxiliary contacts at AC-15</b>	
• at 24 V	3 A
• at 110 V	3 A
• at 120 V	3 A

<ul style="list-style-type: none"> <li>• at 125 V</li> <li>• at 230 V</li> <li>• at 400 V</li> </ul>	3 A 2 A 1 A
<b>Operating current of auxiliary contacts at DC-13</b> <ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 60 V</li> <li>• at 110 V</li> <li>• at 125 V</li> <li>• at 220 V</li> </ul>	2 A 0.3 A 0.22 A 0.22 A 0.11 A
<b>Design of the miniature circuit breaker</b> <ul style="list-style-type: none"> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	6A (SCC less than equal to 0.5 kA; U less than equal to 260V)
<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> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>	96 A 99 A
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### Short-circuit protection

<b>Design of the fuse link</b> <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit               <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>	gG: 250 A gG: 200 A fuse gG: 6 A, quick: 10 A
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### Installation/ mounting/ dimensions

<b>Mounting position</b>	any
<b>Mounting type</b>	stand-alone installation
<b>Height</b>	120 mm
<b>Width</b>	70 mm
<b>Depth</b>	140 mm
<b>Required spacing</b> <ul style="list-style-type: none"> <li>• with side-by-side mounting               <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts</li> </ul>	0 mm 0 mm 0 mm 0 mm 0 mm

— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 mm

## Connections/ Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	No
<b>Type of electrical connection</b>	
• for main current circuit	screw-type terminals
• for auxiliary and control current circuit	screw-type terminals
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b>	
• for main contacts	
— solid	2x (2.5 ... 16 mm <sup>2</sup> )
— stranded	2x (6 ... 16 mm <sup>2</sup> ), 2x (10 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )
— single or multi-stranded	2x (2,5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )
— finely stranded with core end processing	2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )
• at AWG conductors for main contacts	2x (10 ... 1/0), 1x (10 ... 2/0)
<b>Type of connectable conductor cross-sections</b>	
• 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)
<b>Tightening torque</b>	
• for main contacts for ring cable lug	4.5 ... 6 N·m
<b>Outer diameter of the usable ring cable lug maximum</b>	19 mm
<b>Tightening torque</b>	
• for main contacts with screw-type terminals	4.5 ... 6 N·m
• for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
<b>Design of screwdriver shaft</b>	Hexagonal socket
<b>Size of the screwdriver tip</b>	4 mm hexagon socket
<b>Design of the thread of the connection screw</b>	
• for main contacts	M8

- of the auxiliary and control contacts

M3

### Safety related data

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

#### For use in hazardous locations



#### Declaration of Conformity

#### Test Certificates

#### Marine / Shipping



EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



LRS

#### Marine / Shipping

#### other



PRS



RINA



DNVGL.COM/AF

[Confirmation](#)

### Further information

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

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2146-4MB1>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4MB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4MB1>

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

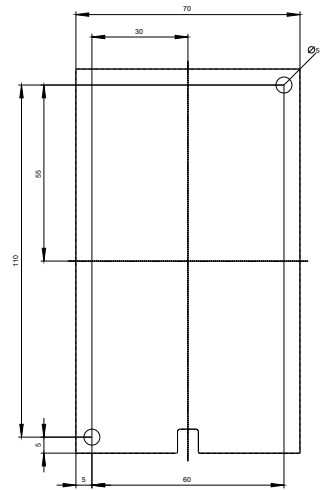
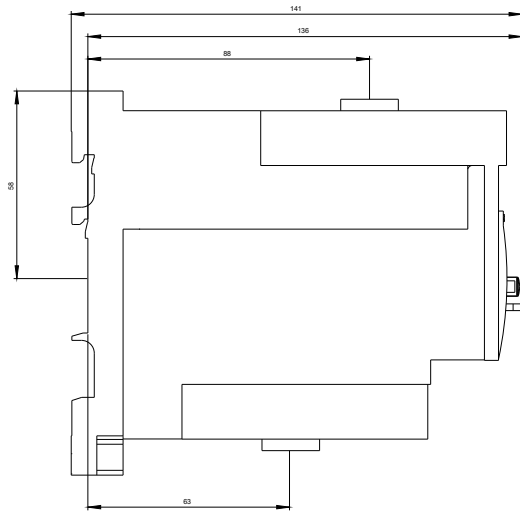
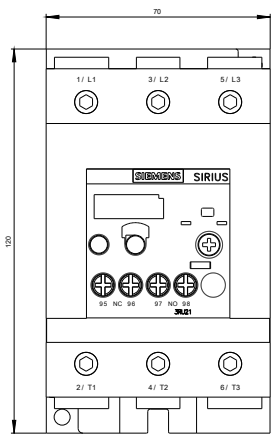
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2146-4MB1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4MB1&lang=en)

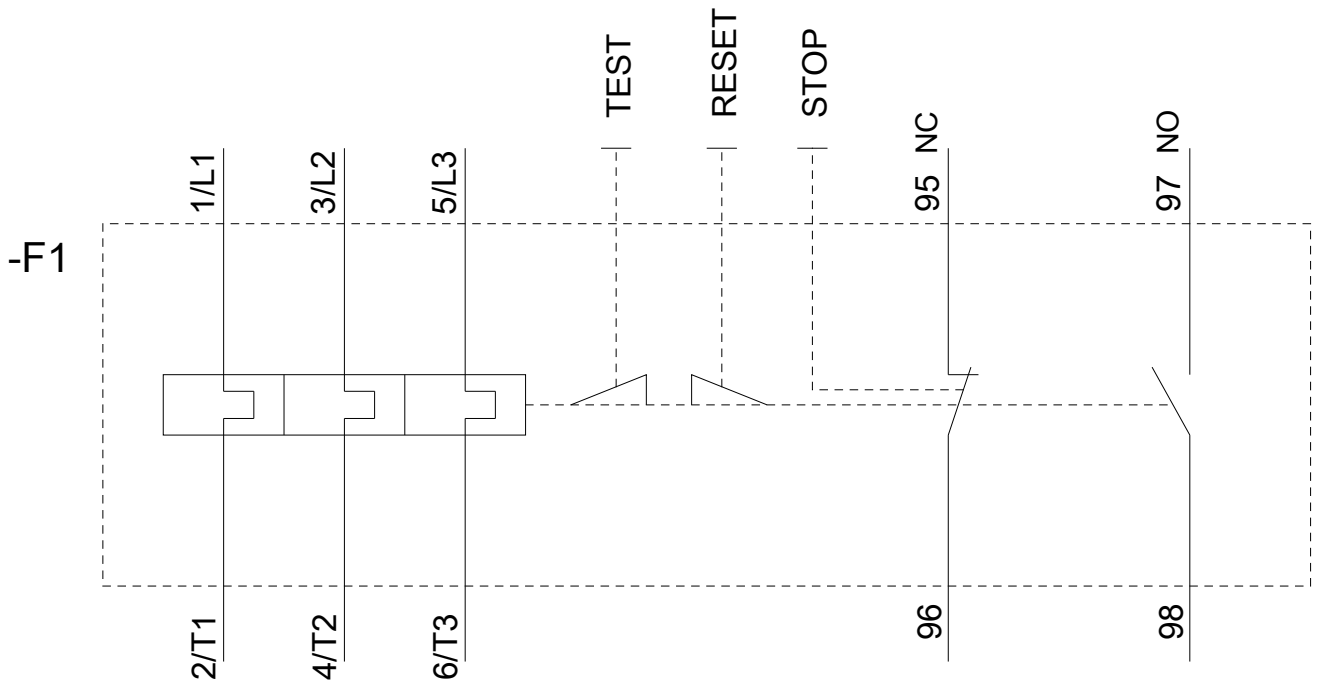
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4MB1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4MB1&objecttype=14&gridview=view1>





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