



OVERLOAD RELAY 12.5...50 A FOR MOTOR PROTECTION SIZE S2, CLASS 5E...30E FOR MOUNTING ONTO CONTACTORS MAIN CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SPRING-TYPE TERM. MANUAL-AUTOMATIC-RESET INT. GROUND FAULT DETECTION

Figure similar

product brand name		SIRIUS
Product designation		solid-state overload relay

**General technical data:**

<b>Active power loss total typical</b>	W	1.8
<b>Insulation voltage</b>	V	690
• with degree of pollution 3 Rated value		
<b>Shock resistance</b>		15g / 11 ms
• acc. to IEC 60068-2-27		
<b>Vibration resistance</b>		1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles
<b>Surge voltage resistance Rated value</b>	kV	6
<b>Temperature compensation</b>	°C	60 ... -25
<b>Recovery time</b>		
• after overload trip with automatic reset typical	min	3
• after overload trip with remote-reset	min	0
• after overload trip with manual reset	min	0
<b>Size of contactor can be combined company-specific</b>		S2
<b>Type of assignment</b>		2
<b>Protection class IP</b>		IP20
• on the front		IP00
• of the terminal		
<b>Type of protection</b>		II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p]
<b>Equipment marking</b>		F
• acc. to DIN EN 81346-2		

**Main circuit:**

<b>Number of poles for main current circuit</b>		3
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<b>Adjustable response value current of the current-dependent overload release</b>	A	12.5 ... 50
<b>Operating voltage</b>		
• Rated value	V	690
• for remote-reset function for DC	V	24
• at AC-3 Rated value maximum	V	690
Operating frequency Rated value	Hz	50 ... 60
<b>Operating current</b>		
• at AC-3		
— at 400 V Rated value	A	50

#### Auxiliary circuit:

<b>Number of NC contacts</b>		
• for auxiliary contacts		1
— Note		for contactor disconnection
<b>Number of NO contacts</b>		
• for auxiliary contacts		1
— Note		for message "tripped"
<b>Number of CO contacts</b>		
• for auxiliary contacts		0
<b>Design of the auxiliary switch</b>		integrated
<b>Operating current of the auxiliary contacts at AC-15</b>		
• at 24 V	A	4
• at 110 V	A	4
• at 120 V	A	4
• at 125 V	A	4
• at 230 V	A	3
<b>Operating current of the auxiliary contacts at DC-13</b>		
• at 24 V	A	2
• at 60 V	A	0.55
• at 110 V	A	0.3
• at 125 V	A	0.3
• at 220 V	A	0.11

#### Protective and monitoring functions:

<b>Trip class</b>		CLASS 5E, 10E, 20E and 30E adjustable
<b>Design of the overload circuit breaker</b>		electronic
<b>Response value current of the ground fault protection minimum</b>		0.75 x IMotor
<b>Response time of the ground fault protection in settled state</b>	ms	1 000
<b>Operating range of the ground fault protection relating to current setting value</b>		
• minimum		IMotor > lower current setting value

- maximum

$I_{Motor} < \text{upper current setting value} \times 3.5$

#### 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> </ul>	A	50
<ul style="list-style-type: none"> <li>• at 600 V Rated value</li> </ul>	A	50
<b>Contact rating of the auxiliary contacts acc. to UL</b>		B300 / R300

#### Short-circuit:

<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>— required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul>		Fuse gG: 200 A fuse gG: 6 A

#### Installation/ mounting/ dimensions:

<b>mounting position</b>		any
<b>Mounting type</b>		direct mounting
<b>Height</b>	mm	99
<b>Width</b>	mm	55
<b>Depth</b>	mm	104
<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           <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts           <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> </ul>	mm	0 0 0 10 0  10 0 10 10 10  10 0 10 10 10

#### Connections/ Terminals:

<b>Type of electrical connection</b>		
<ul style="list-style-type: none"> <li>• for main current circuit</li> </ul>		screw-type terminals

<ul style="list-style-type: none"> <li>• for auxiliary and control current circuit</li> </ul>		spring-loaded terminals
<b>Arrangement of electrical connectors for main current circuit</b>		Top and bottom
<b>Product function</b>		Yes
<ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul>		Yes
<b>Type of connectable conductor cross-section</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>• for AWG conductors for main contacts</li> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> <li>— finely stranded without core end processing</li> </ul> </li> <li>• for AWG conductors for auxiliary contacts</li> </ul>		1x (1 ... 50 mm <sup>2</sup> ), 2x (1 ... 35 mm <sup>2</sup> ) 1x (1 ... 35 mm <sup>2</sup> ), 2x (1 ... 25 mm <sup>2</sup> ) 2x (18 ... 2), 1x (18 ... 1)  1x (0,25 ... 1,5 mm <sup>2</sup> ), 2x (0,25 ... 1,5 mm <sup>2</sup> ) 1x (0.25 ... 1.5 mm <sup>2</sup> ), 2x (0.25 ... 1.5 mm <sup>2</sup> ) 1x (0.25 ... 1.5 mm <sup>2</sup> ), 2x (0.25 ... 1.5 mm <sup>2</sup> )  1x (24 ... 16), 2x (24 ... 16)
<b>Tightening torque</b>		
<ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>	N·m	3 ... 4.5
<b>Design of screwdriver shaft</b>		Diameter 5 to 6 mm
<b>Design of the thread of the connection screw</b>		
<ul style="list-style-type: none"> <li>• for main contacts</li> </ul>		M6

#### Safety related data:

<b>Proportion of dangerous failures</b>		
<ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul>	%	35
<b>Protection against electrical shock</b>		finger-safe when touched vertically from front acc. to IEC 60529

#### Mechanical data:

<b>Size of overload relay</b>		S2
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#### Communication/ Protocol:

<b>Protocol is supported</b>		
<ul style="list-style-type: none"> <li>• IO-Link protocol</li> </ul>		No
<b>Type of voltage supply via input/output link master</b>		No

#### Ambient conditions:

<b>Installation altitude at height above sea level maximum</b>	m	2 000
<b>Ambient temperature</b>		
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	°C	-25 ... +60
<ul style="list-style-type: none"> <li>• during storage</li> </ul>	°C	-40 ... +80
<ul style="list-style-type: none"> <li>• during transport</li> </ul>	°C	-40 ... +80
<b>Relative humidity during operation</b>	%	0 ... 95




## Electromagnetic compatibility:

<b>EMC emitted interference</b> <ul style="list-style-type: none"><li>• acc. to IEC 60947-1</li></ul>		CISPR 11, environment B (residential area)
<b>EMI immunity acc. to IEC 60947-1</b>		corresponds to degree of severity 3
<b>Conducted interference due to burst acc. to IEC 61000-4-4</b>		2 kV (power ports), 1 kV (signal ports)
<b>Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5</b>		2 kV (line to ground)
<b>Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5</b>		1 kV (line to line)
<b>Conducted interference due to high-frequency radiation acc. to IEC 61000-4-6</b>		10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>		10 V/m
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>		6 kV contact discharge / 8 kV air discharge

## Display:

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

General Product Approval	For use in hazardous locations	Test Certificates	other
			<a href="#">Type Test Certificates/Test Report</a> <a href="#">Confirmation</a> <a href="#">Environmental Confirmations</a>

## Further information

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

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

### Industry Mall (Online ordering system)

<http://www.siemens.com/industrymall>

### Cax online generator

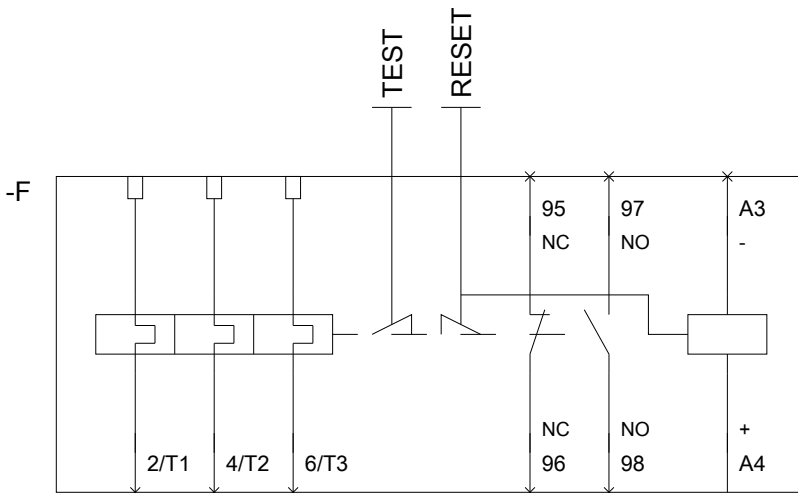
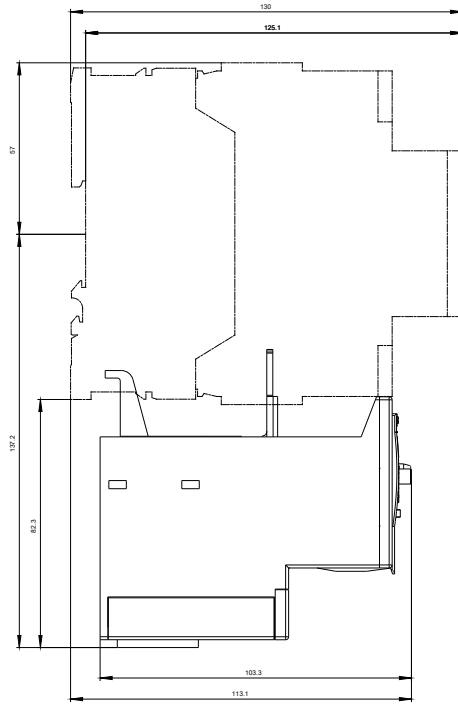
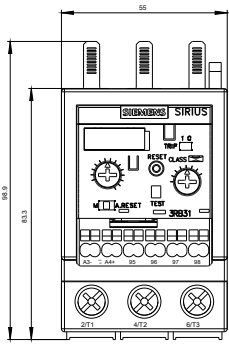
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB31334UD0>

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

<http://support.automation.siemens.com/WW/view/en/3RB31334UD0/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB31334UD0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB31334UD0&lang=en)



last modified:

11.03.2015