

Overload relay 57...75 A Thermal For motor protection Size S3,  
Class 10 Contactor mounting 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	S3
size of contactor can be combined company-specific	S3
power loss [W] for rated value of the current <ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at AC in hot operating state per pole</li> </ul>	18.9 W 6.3 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation <ul style="list-style-type: none"> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	440 V 440 V 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> <li>• of the terminal</li> </ul>	IP20 IP00
<b>shock resistance</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>	8g / 11 ms
<b>recovery time</b>	
<ul style="list-style-type: none"> <li>• after overload trip with automatic reset typical</li> <li>• after overload trip with remote-reset</li> <li>• after overload trip with manual reset</li> </ul>	10 min 10 min 10 min
<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 IEC 81346-2</b>	F

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




<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	3
<b>adjustable current response value current of the current-dependent overload release</b>	57 ... 75 A
<b>operating voltage</b>	
<ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>	690 V 690 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	75 A





<b>Auxiliary circuit</b>	
<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

<b>operational current of auxiliary contacts at AC-15</b>	
• 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
<b>operational current of auxiliary contacts at DC-13</b>	
• at 24 V	2 A
• at 60 V	0.3 A
• at 110 V	0.22 A
• at 125 V	0.22 A
• at 220 V	0.11 A
<b>design of the miniature circuit breaker</b>	
• for short-circuit protection of the auxiliary switch required	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	
<b>Protective and monitoring functions</b>	
<b>trip class</b>	CLASS 10
<b>design of the overload release</b>	thermal
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b>	
• at 480 V rated value	65 A
• at 600 V rated value	62 A
<b>Short-circuit protection</b>	
<b>design of the fuse link</b>	
• for short-circuit protection of the main circuit	
— with type of coordination 1 required	gG: 250 A
— with type of assignment 2 required	gG: 160 A
• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A, quick: 10 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	Contactors mounting
<b>height</b>	105 mm
<b>width</b>	70 mm
<b>depth</b>	125 mm
<b>Connections/ Terminals</b>	
<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 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> )
— solid or 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 cables for main contacts	2x (10 ... 1/0), 1x (10 ... 2/0)
• type of connectable conductor cross-sections for auxiliary contacts	
— solid or 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> )
• type of connectable conductor cross-sections at AWG cables 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
<b>Safety related data</b>	
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>Display</b>	
<b>display version</b>	
• for switching status	Slide switch
<b>Certificates/ approvals</b>	

General Product Approval				For use in hazardous locations	
 CSA	 CCC	 UL		 IECEX	 ATEX

Declaration of Conformity	Test Certificates		Marine / Shipping	
 EG-Konf.	<a href="#">Miscellaneous</a>	<a href="#">Type Test Certificates/Test Report</a>	<a href="#">Special Test Certificate</a>	 ABS  BUREAU VERITAS

Marine / Shipping	other		Railway
 LRS  PRS  RINA  DNV-GL DNVGL.COM/AF	<a href="#">Confirmation</a>		<a href="#">Special Test Certificate</a>

#### Further information

##### 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=3RU2146-4KB0>

##### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4KB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4KB0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2146-4KB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4KB0&lang=en)

##### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4KB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4KB0&objecttype=14&gridview=view1>

