



Overload relay 80...100 A Thermal For motor protection Size S3, Class 10  
 Contactor mounting 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
power loss [W] for rated value of the current at AC in hot operating state	21 W
• per pole	7 W
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
<b>surge voltage resistance rated value</b>	8 kV
<b>maximum permissible voltage for safe isolation in networks with grounded star point</b>	
• between auxiliary and auxiliary circuit	440 V
• between auxiliary and auxiliary circuit	440 V
• between main and auxiliary circuit	440 V
• between main and auxiliary circuit	440 V
shock resistance acc. to IEC 60068-2-27	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 IEC 81346-2</b>	F
<b>Substance Prohibitance (Date)</b>	01.03.2017
<b>Ambient conditions</b>	
installation altitude at height above sea level 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	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>	80 ... 100 A
<b>operating voltage</b>	
• rated value	690 V
• at AC-3 rated value maximum	1 000 V
<b>operating frequency rated value</b>	50 ... 60 Hz

<b>operational current rated value</b>	100 A
<b>Auxiliary circuit</b>	
<b>design of the auxiliary switch</b>	integrated
<b>number of NC contacts for auxiliary contacts</b> • note	1 for contactor disconnection
<b>number of NO contacts for auxiliary contacts</b> • note	1 for message "Tripped"
number of CO contacts for auxiliary contacts	0
<b>operational current of auxiliary contacts at AC-15</b> • at 24 V • at 110 V • at 120 V • at 125 V • at 230 V • at 400 V	3 A 3 A 3 A 3 A 2 A 1 A
<b>operational current of auxiliary contacts at DC-13</b> • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V	2 A 0.3 A 0.22 A 0.22 A 0.11 A
design of the miniature circuit breaker 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 • at 600 V rated value	96 A 99 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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gG: 250 A gG: 200 A fuse gG: 6 A, quick: 10 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	Contacting mounting
<b>height</b>	105 mm
<b>width</b>	70 mm
<b>depth</b>	125 mm
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	No
<b>type of electrical connection</b> • for main current circuit • for auxiliary and control circuit	screw-type terminals 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 — stranded — solid or stranded — finely stranded with core end processing • at AWG cables for main contacts	2x (2.5 ... 16 mm <sup>2</sup> ) 2x (6 ... 16 mm <sup>2</sup> ), 2x (10 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> ) 2x (2.5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> ) 2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> ) 2x (10 ... 1/0), 1x (10 ... 2/0)
<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>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>at AWG cables 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 for ring cable lug</li> </ul>	4.5 ... 6 N·m
<b>outer diameter of the usable ring cable lug maximum</b>	19 mm
<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>	4.5 ... 6 N·m 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>	
<ul style="list-style-type: none"> <li>for main contacts</li> <li>of the auxiliary and control contacts</li> </ul>	M8 M3

<b>Safety related data</b>	
<b>T1 value for proof test interval or service life acc. to IEC 61508</b>	20 y
<b>protection class IP on the front acc. to IEC 60529</b>	IP20
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe, for vertical contact from the front

<b>Display</b>	
display version for switching status	Slide switch

<b>Certificates/ approvals</b>	
<b>General Product Approval</b>	<b>For use in hazardous locations</b>



<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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<b>Marine / Shipping</b>	<b>other</b>	<b>Railway</b>
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### 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=3RU2146-4MB0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4MB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4MB0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2146-4MB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4MB0&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4MB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4MB0&objecttype=14&gridview=view1>



