













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

product brand name	SIRIUS
product designation	thermal overload relay
product type designation	3RU2
<b>General technical data</b>	
size of overload relay	S3
size of contactor can be combined company-specific	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
surge voltage resistance rated value	8 kV
maximum permissible voltage for protective separation	
• in networks with ungrounded 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 ungrounded star point between main and auxiliary circuit	440 V
• in networks with grounded star point between main and auxiliary circuit	440 V
shock resistance according to IEC 60068-2-27	8g / 11 ms
recovery time after overload trip	
• with automatic reset typical	10 min
• with remote-reset	10 min
• with manual reset	10 min
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	03/01/2017
SVHC substance name	Lead - 7439-92-1
Net Weight	0.804 kg
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• during operation	-40 ... +70 °C
• during storage	-55 ... +80 °C
• during transport	-55 ... +80 °C
temperature compensation	-40 ... +60 °C
relative humidity during operation	10 ... 95 %
<b>Main circuit</b>	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	80 ... 100 A

<b>operating voltage</b>	
• rated value	1 000 V
• at AC-3e rated value maximum	1 000 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	100 A
operational current at AC-3e at 400 V rated value	100 A
<b>operating power</b>	
• at AC-3	
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	90 kW
• at AC-3e	
— at 400 V rated value	45 kW
— at 500 V rated value	55 kW
— at 690 V rated value	90 kW
<b>Auxiliary circuit</b>	
<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"
number of CO contacts for auxiliary contacts	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
• at 690 V	0.75 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
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	96 A
• at 600 V rated value	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	690 V: gG: 250 A; 1000 V: a.M. / g.B.: 200 A
— with type of coordination 2 required	690 V: gG: 200 A; 1000 V: a.M. / g.B.: 200 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>	stand-alone installation: with a vertical mounting plane +/-135° rotatable and +/-45° tiltable; for more details see manual
<b>fastening method</b>	stand-alone installation
<b>height</b>	120 mm
<b>width</b>	70 mm
<b>depth</b>	140 mm

Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	No
type of electrical connection <ul style="list-style-type: none"><li>for main current circuit</li><li>for auxiliary and control circuit</li></ul>	screw-type terminals screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections <ul style="list-style-type: none"><li>for main contacts<ul style="list-style-type: none"><li>solid</li><li>stranded</li><li>solid or stranded</li><li>finely stranded with core end processing</li></ul></li><li>for AWG cables for main contacts</li></ul>	2x (2.5 ... 16 mm²) 2x (6 ... 16 mm²), 2x (10 ... 50 mm²), 1x (10 ... 70 mm²) 2x (2,5 ... 50 mm²), 1x (10 ... 70 mm²) 2x (2.5 ... 35 mm²), 1x (2.5 ... 50 mm²) 2x (10 ... 1/0), 1x (10 ... 2/0)
type of connectable conductor cross-sections <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>for AWG cables for auxiliary contacts</li></ul>	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) 2x (20 ... 16), 2x (18 ... 14)
tightening torque <ul style="list-style-type: none"><li>for main contacts for ring cable lug</li></ul>	4.5 ... 6 N·m
outer diameter of the usable ring cable lug maximum	19 m
tightening torque <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
design of screwdriver shaft	Hexagonal socket
size of the screwdriver tip	4 mm hexagon socket
design of the thread of the connection screw <ul style="list-style-type: none"><li>for main contacts</li><li>of the auxiliary and control contacts</li></ul>	M8 M3
IEC 61508	
T1 value <ul style="list-style-type: none"><li>for proof test interval or service life according to IEC 61508</li></ul>	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Display	
display version for switching status	Slide switch
Approvals Certificates	
General Product Approval	
For use in hazard-ous locations	
<div><div> CCC</div><div></div><div> EG-Konf.</div><div> UL</div><div></div><div> ATEX</div></div>	
For use in hazard-ous locations	Test Certificates
Maritime application	
 IECEX	<a href="#">Type Test Certificates/Test Report</a> <a href="#">Special Test Certificate</a>
 ABS	 BUREAU VERITAS
 DNV	
Maritime application	other



[Confirmation](#)

Railway

Environment

[Special Test Certificate](#)

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#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RU2146-4MB1>

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, ...)

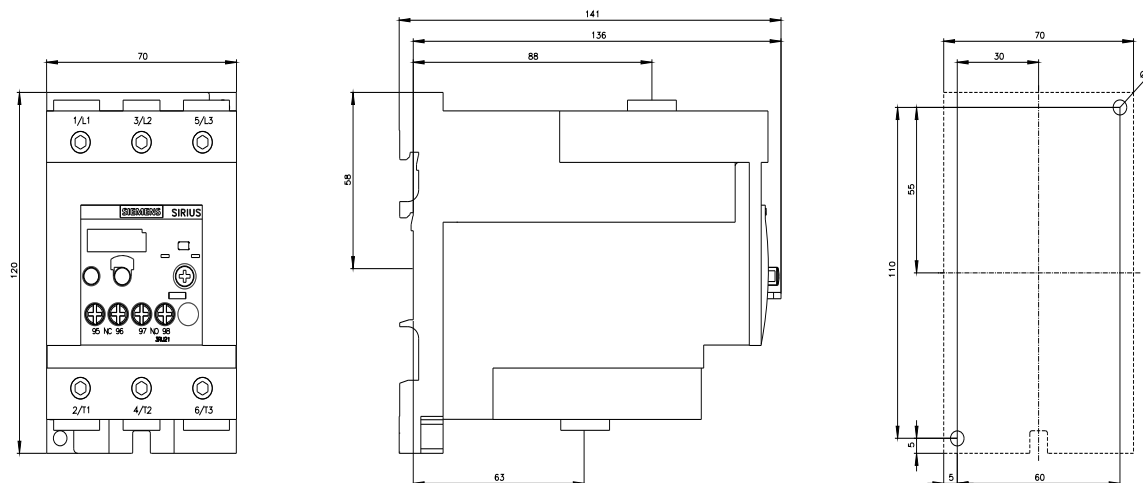
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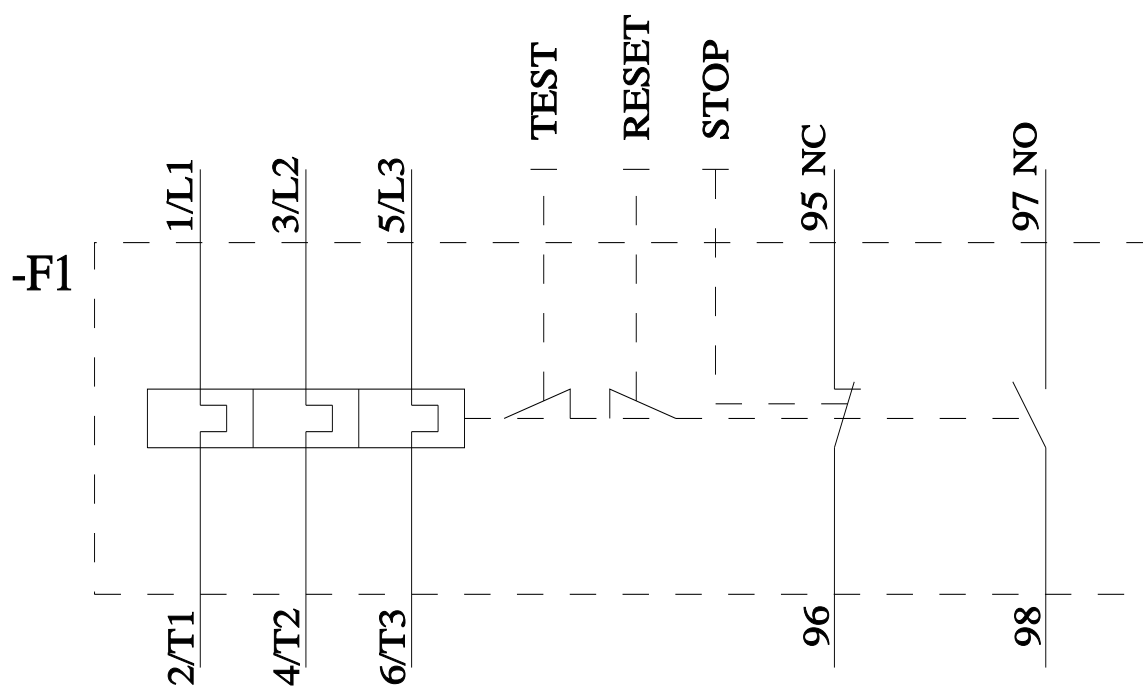
Cax online generator

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

Characteristic curves

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