## **SIEMENS**

Data sheet 3RU2116-0GB1



Overload relay 0.45...0.63 A Thermal For motor protection Size S00, 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
General technical data	
size of overload relay	S00
size of contactor can be combined company-specific	S00
power loss [W] for rated value of the current at AC in hot operating state	4.8 W
• per pole	1.6 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul> <li>in networks with ungrounded star point between auxiliary and auxiliary circuit</li> </ul>	440 V
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	440 V
<ul> <li>in networks with ungrounded star point between main and auxiliary circuit</li> </ul>	440 V
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	440 V
shock resistance according to IEC 60068-2-27	8g / 11 ms
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.182 kg
Ambient conditions	
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 %
Environmental footprint	
global warming potential [CO2 eq] total	39.9 kg
global warming potential [CO2 eq] during manufacturing	0.978 kg
global warming potential [CO2 eq] during sales	0.043 kg
global warming potential [CO2 eq] during operation	39 kg
global warming potential [CO2 eq] after end of life	-0.045 kg
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-	0.45 0.63 A

dependent overload release		
operating voltage		
rated value	690 V	
at AC-3e rated value maximum	690 V	
operating frequency rated value	50 60 Hz	
operational current rated value	0.63 A	
operational current at AC-3e at 400 V rated value	0.63 A	
operating power		
• at AC-3		
— at 400 V rated value	0.18 kW	
— at 500 V rated value	0.18 kW	
— at 690 V rated value	0.25 kW	
• at AC-3e		
— at 400 V rated value	0.18 kW	
— at 500 V rated value	0.18 kW	
— at 690 V rated value	0.25 kW	
Auxiliary circuit		
design of the auxiliary switch	integrated	
number of NC contacts for auxiliary contacts	1	
• note	for contactor disconnection	
number of NO contacts for auxiliary contacts	1	
• note	for message "Tripped"	
number of CO contacts for auxiliary contacts	0	
operational current of auxiliary contacts at AC-15		
• 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	
operational current of auxiliary contacts at DC-13		
• 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	
contact rating of auxiliary contacts according to UL	B600 / R300	
Protective and monitoring functions		
trip class	CLASS 10	
design of the overload release	thermal	
UL/CSA ratings		
full-load current (FLA) for 3-phase AC motor		
• at 480 V rated value	0.6 A	
at 600 V rated value     at 600 V rated value	0.6 A	
Short-circuit protection	0.071	
design of the fuse link	fuse aG: 6 A quick: 10 A	
for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions	fuse gG: 6 A, quick: 10 A	
Installation/ mounting/ dimensions	for mounting an contactory with a vertical mounting at 14050 and 140	
mounting position	for mounting on contactors: with a vertical mounting plane +/-135° rotatable & +/- 22.5° tiltable, stand-alone installation: with a vertical mounting plane +/-135°	
	rotatable and +/-45° tiltable	
fastening method	stand-alone installation	
height	89 mm	
width	45 mm	
depth	80 mm	
Connections/ Terminals		
product component removable terminal for auxiliary and control circuit	No	
type of electrical connection		
for main current circuit	screw-type terminals	

a for auxiliany and control circuit	corous tuno terminale
for auxiliary and control circuit	screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
• for main contacts	
<ul> <li>solid or stranded</li> </ul>	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>for AWG cables for main contacts</li> </ul>	2x (20 16), 2x (18 14), 2x 12
type of connectable conductor cross-sections	
<ul> <li>for auxiliary contacts</li> </ul>	
<ul> <li>solid or stranded</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	2x (20 16), 2x (18 14)
tightening torque	
<ul> <li>for main contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	0.8 1.2 N·m
design of screwdriver shaft	Diameter 5 6 mm
size of the screwdriver tip	Pozidriv PZ 2
design of the thread of the connection screw	
• for main contacts	M3
<ul> <li>of the auxiliary and control contacts</li> </ul>	M3
Safety related data	
failure rate [FIT] with low demand rate according to SN 31920	50 FIT
MTTF with high demand rate	2 280 a
IEC 61508	
T1 value	
<ul> <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	

General Product Approve

Manufacturer Declaration







Miscellaneous

<u>KC</u>

**General Product Approval** 

EMV

For use in hazardous locations

Marine / Shipping

Metrological Approval







<u>FM</u>



Marine / Shipping





NK / Nippon Kaiji Kyokai







Marine / Shipping

Environment

**Industrial Communication** 









## Further information

Information on the packaging

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

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=3RU2116-0GB1

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-0GB1

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

https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-0GB1

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

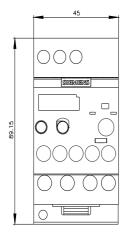
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RU2116-0GB1&lang=en

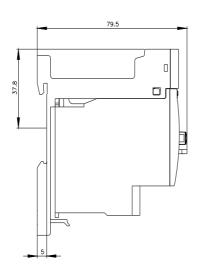
Characteristic: Tripping characteristics, I²t, Let-through current

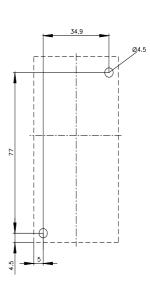
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-0GB1/char

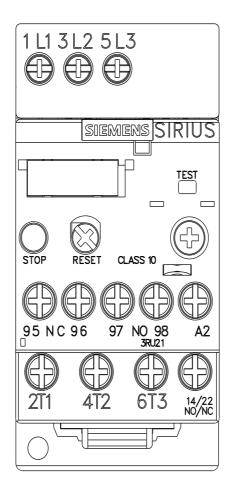
Further characteristics (e.g. electrical endurance, switching frequency)

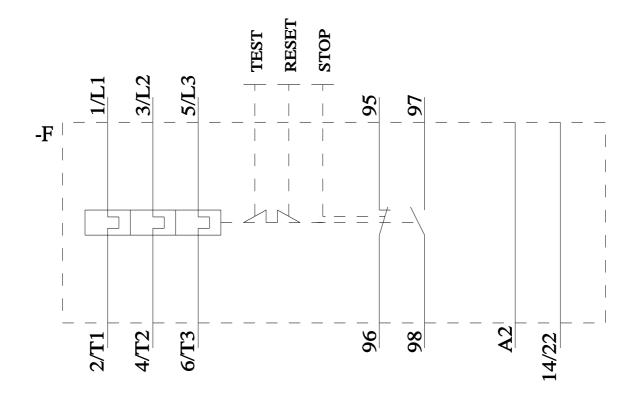
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-0GB1&objecttype=14&gridview=view1











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