SIEMENS

Data sheet 3RU2116-1HB1

Overload relay 5.5...8.0 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	6.6 W
● per pole	2.2 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	
● 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
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.189 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	
Environmental Product Declaration(EPD)	Yes
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-dependent overload release	5.5 ... 8 A
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	8 A
operational current at AC-3e at 400 V rated value	8 A
operating power	
● at AC-3	
— at 400 V rated value	3 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
● at AC-3e	
— at 400 V rated value	3 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 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	8 A
● at 600 V rated value	8 A
Short-circuit protection	
design of the fuse link	
● for short-circuit protection of the auxiliary switch required	fuse gG: 6 A, quick: 10 A
Installation/ mounting/ dimensions	
mounting position	stand-alone installation: with a vertical mounting plane +/-135° rotatable and +/-45° tiltable; for more details see manual
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

● 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	
— solid or stranded	2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm²
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● for AWG cables for main contacts	2x (20 ... 16), 2x (18 ... 14), 2x 12
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid or stranded	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
● for AWG cables for auxiliary contacts	2x (20 ... 16), 2x (18 ... 14)
tightening torque	
● for main contacts with screw-type terminals	0.8 ... 1.2 N·m
● for auxiliary contacts with screw-type terminals	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
● of the auxiliary and control contacts	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	
● for proof test interval or service life according to IEC 61508	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 hazardous locations
CCC	UKCA	CE EG-Konf.	UL	EAC	IECEx

For use in hazardous locations	Test Certificates		Maritime application	
ATEX	Miscellaneous	Special Test Certificate	Type Test Certificates/Test Report	ABS	BUREAU VERITAS

Maritime application					other
DNV	LRS	PRS	RINA	RMRS	Miscellaneous

other	Railway	Environment

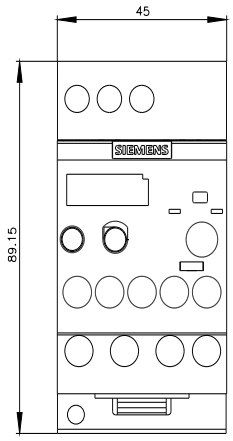
Confirmation

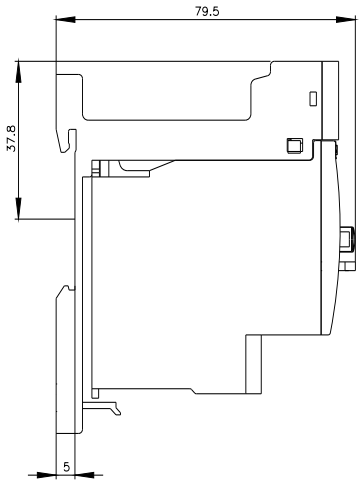
Special Test Certific-ate

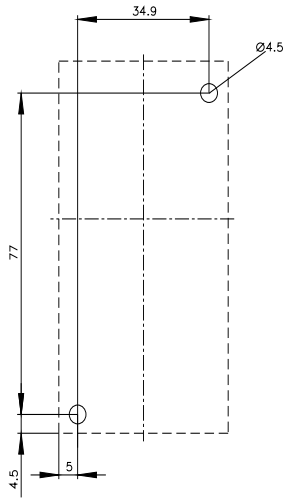
Environmental Con-firmations

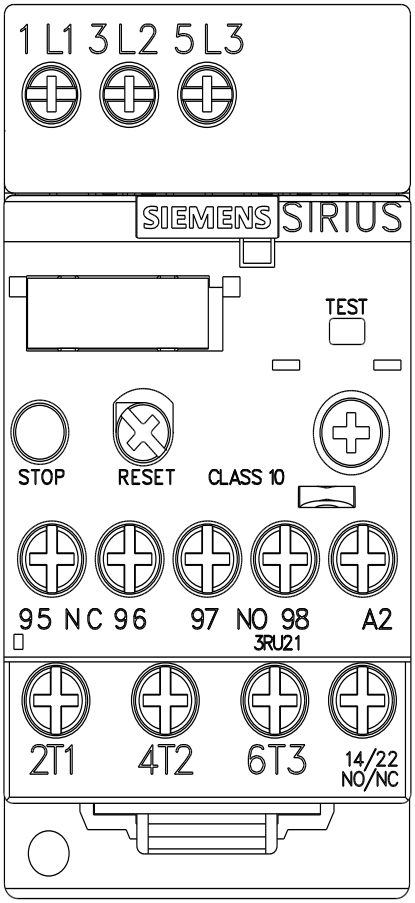
Further information

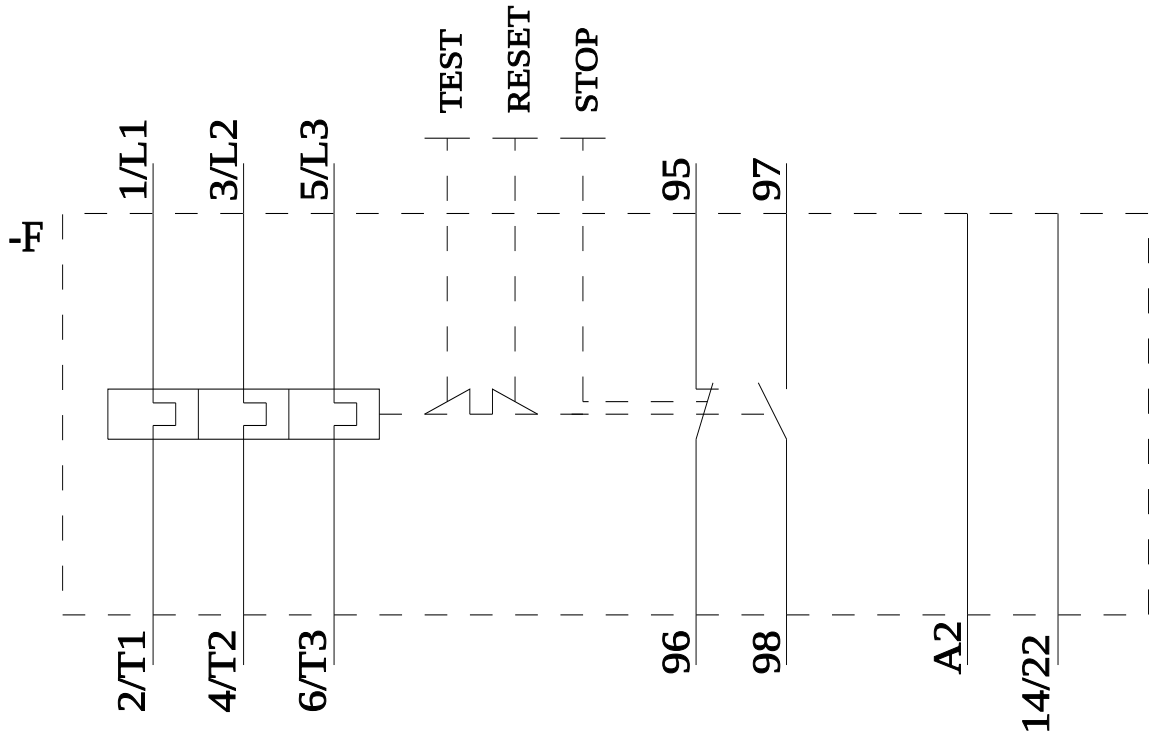
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2116-1HB1
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1HB1
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1HB1
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1HB1&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1HB1/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1HB1&objecttype=14&gridview=view1











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