SIEMENS

Data sheet 3RU2116-1KC1

Overload relay 9.0...12.5 A Thermal For motor protection Size S00, Class 10 Stand-alone installation Main circuit: Spring-type terminal Auxiliary circuit: spring-type terminal 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
• at AC in hot operating state 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 safe isolation	
• in networks with grounded 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 grounded star point between main and auxiliary circuit	440 V

• in networks with grounded star point between main and auxiliary circuit	440 V
shock resistance	
• acc. to IEC 60068-2-27	8g / 11 ms
type of protection according to ATEX directive 2014/34/EU	Ex II (2) GD
certificate of suitability according to ATEX directive 2014/34/EU	DMT 98 ATEX G 001
reference code acc. to IEC 81346-2	F

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 %

Main circuit

number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	9 ... 12.5 A
operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	12.5 A
operating power at AC-3	
• at 400 V rated value	5.5 kW
• at 500 V rated value	7.5 kW
• at 690 V rated value	7.5 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
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	12.5 A
• at 600 V rated value	12.5 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	any
fastening method	stand-alone installation
height	102 mm
width	45 mm
depth	79 mm

Connections/ Terminals

product function	
• removable terminal for auxiliary and control circuit	No
type of electrical connection	
• for main current circuit	spring-loaded terminals
• for auxiliary and control circuit	spring-loaded terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
• for main contacts	
— solid or stranded	1x (0,5 ... 4 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²)

— finely stranded without core end processing	1x (0.5 ... 2.5 mm²)
• at AWG cables for main contacts	1x (20 ... 12)
• type of connectable conductor cross-sections for auxiliary contacts	
— solid or stranded	2x (0.5 ... 2.5 mm²)
— finely stranded with core end processing	2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)
— finely stranded without core end processing	2x (0.5 ... 1.5 mm²)
• type of connectable conductor cross-sections at AWG cables for auxiliary contacts	2x (20 ... 14)
design of screwdriver shaft	Diameter 3 mm
size of the screwdriver tip	3,0 x 0,5 mm

Safety related data

failure rate [FIT]	
• with low demand rate acc. to SN 31920	50 FIT
MTTF with high demand rate	2 280 y
T1 value for proof test interval or service life acc. to IEC 61508	20 y
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. to IEC 60529	finger-safe, for vertical contact from the front

Display

display version	
• for switching status	Slide switch

Certificates/ approvals

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

Declaration of Conformity		Test Certificates		Marine / Shipping	
EG-Konf.	Miscellaneous	Type Test Certific-ates/Test Report	Special Test Certi-ficate	ABS	

Marine / Shipping					other
LRS	PRS	RINA	RMRS		Confirmation

Railway
Vibration and Shock

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=3RU2116-1KC1

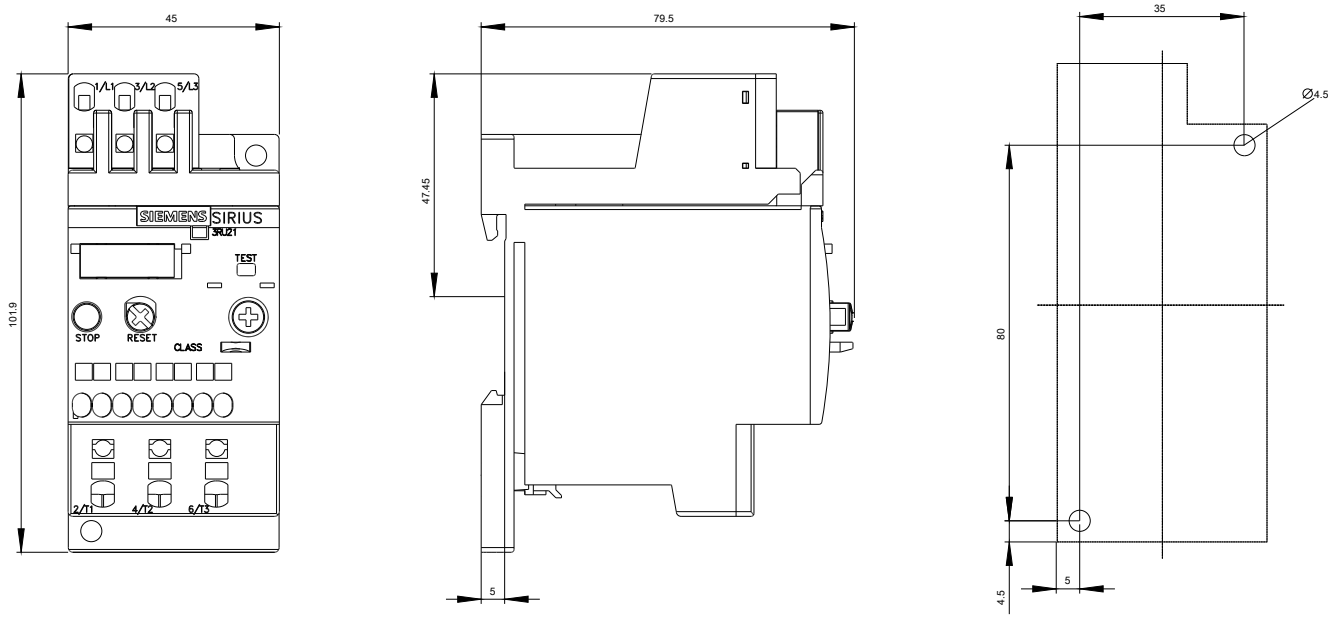
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1KC1

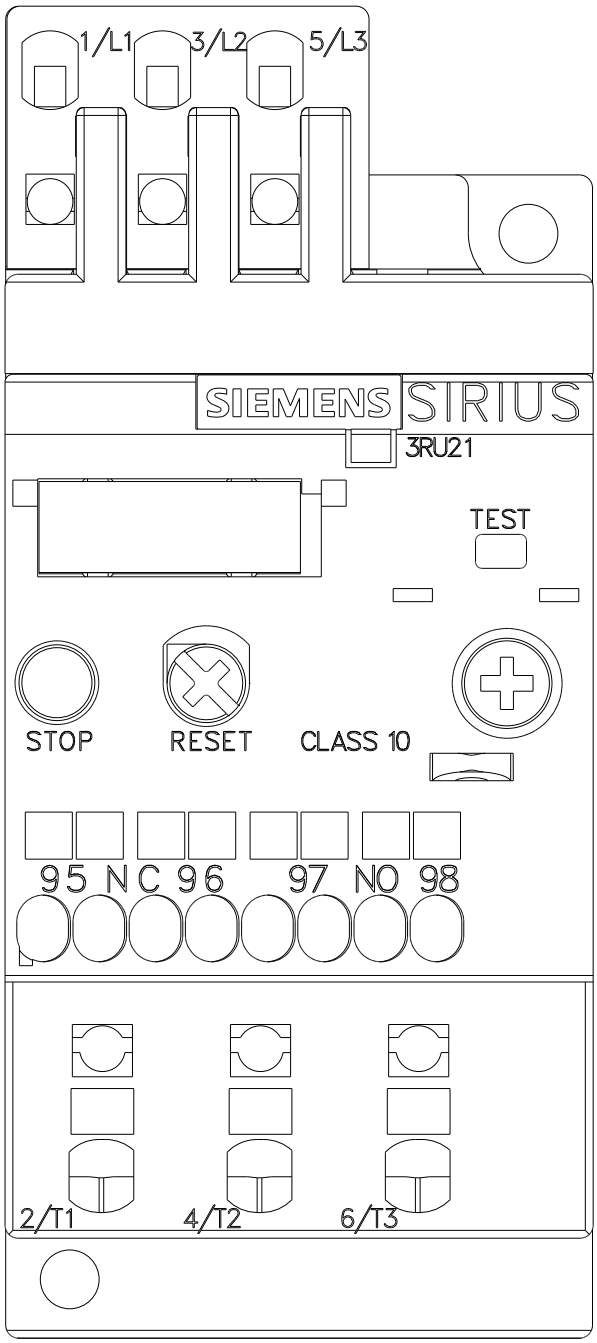
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1KC1

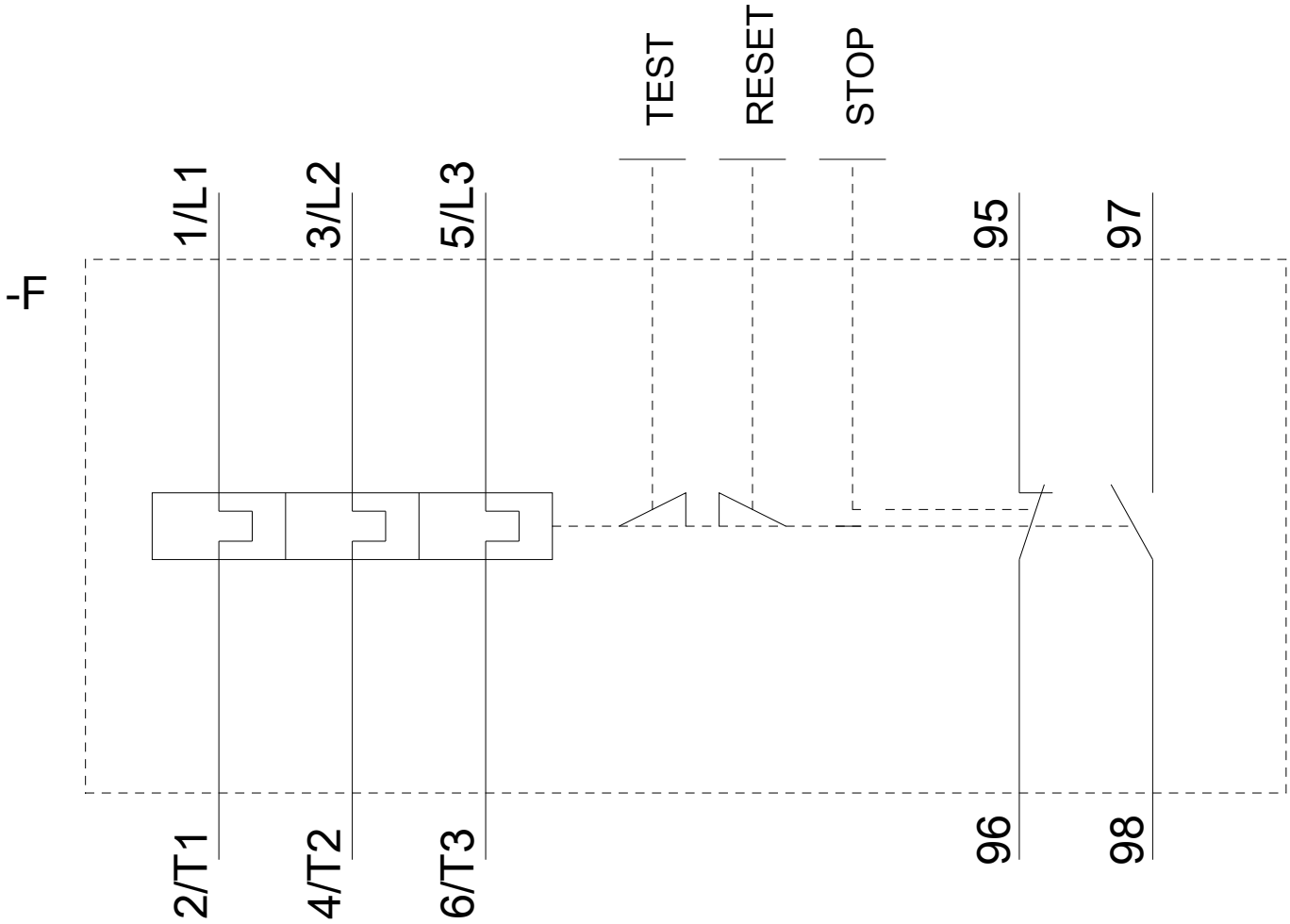
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1KC1&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1KC1/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1KC1&objecttype=14&gridview=view1







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