SIEMENS

Thermistor motor protection relay Compact evaluation unit 17.5 mm enclosure, screw terminals, 1 changeover contact, US = 24 V AC/DC, Auto RESET, suitable for bimetallic switch, supply =output voltage, 1 LED (tripped)

product brand name	SIRIUS
product category	SIRIUS 3RN2 thermistor motor protection
product designation	Thermistor motor protection relay
design of the product	Compact evaluation unit, suitable for bimetallic switch (terminal A1 jumpered with root of changeover contact)
product type designation	3RN2
General technical data	
product function	thermistor motor protection
display version LED	Yes
power loss [W] for rated value of the current	
● at AC in hot operating state	0.3 W
● at DC in hot operating state	0.3 W
insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	300 V
degree of pollution	3
surge voltage resistance rated value	4 kV
protection class IP	IP20
shock resistance acc. to IEC 60068-2-27	11g / 15 ms
vibration resistance acc. to IEC 60068-2-6	10 ... 55 Hz: 0.35 mm
mechanical service life (switching cycles) typical	10 000 000
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000
thermal current of the switching element with contacts maximum	5 A
reference code acc. to IEC 81346-2	K
Substance Prohibitance (Date)	28.05.2009 00:00:00
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
● at 50 Hz rated value	24 ... 24 V
● at 60 Hz rated value	24 ... 24 V
control supply voltage at DC	
● rated value	24 ... 24 V
operating range factor control supply voltage rated value at DC	
● initial value	0.85
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	0.85
● full-scale value	1.1

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operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	0.85
● full-scale value	1.1
inrush current peak	
● at 24 V	1.8 A
duration of inrush current peak	
● at 24 V	2 ms

Measuring circuit

buffering time in the event of power failure minimum	40 ms

Precision

relative metering precision	9 %

Auxiliary circuit

material of switching contacts	AgSnO2
number of NC contacts for auxiliary contacts	0
number of NO contacts for auxiliary contacts	0
number of CO contacts for auxiliary contacts	1
operational current of auxiliary contacts at DC-13	
● at 24 V	1 A
● at 125 V	0.2 A
● at 250 V	0.1 A

Main circuit

operating frequency rated value	50 ... 60 Hz

Outputs

ampacity of the output relay at AC-15 at 250 V at 50/60 Hz	3 A
ampacity of the output relay at DC-13	
● at 24 V	1 A
● at 125 V	0.2 A
continuous current of the DIAZED fuse link of the output relay	6 A

Electromagnetic compatibility

conducted interference	
● due to burst acc. to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
● due to conductor-earth surge acc. to IEC 61000-4-5	2 kV (line to ground)
● due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV (line to line)
electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge

Galvanic isolation

design of the electrical isolation	No separation
galvanic isolation	
● between input and output	No
● between the voltage supply and other circuits	No

Connections/ Terminals

product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw-type terminals
● for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²)
● at AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
● solid	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 4 mm²
AWG number as coded connectable conductor cross section	
● solid	20 ... 12
● stranded	20 ... 12
tightening torque with screw-type terminals	0.6 ... 0.8 N·m

Installation/ mounting/ dimensions

mounting position	any
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail
height	100 mm
width	17.5 mm
depth	90 mm
required spacing	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
● for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— at the side	0 mm
— downwards	0 mm
● for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm

Ambient conditions

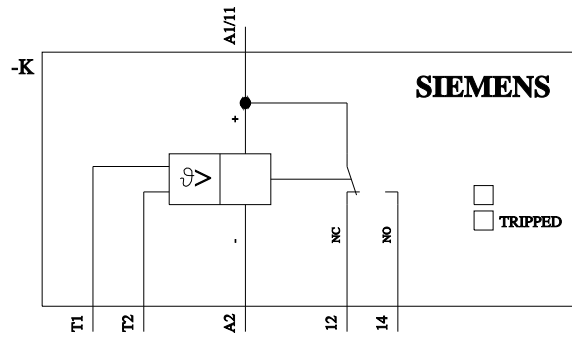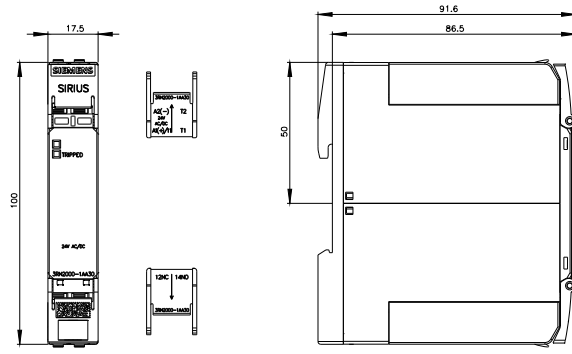|	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +85 °C
● during transport	-40 ... +85 °C
relative humidity during operation	70 %

Certificates/ approvals

General Product Approval					EMC	Declaration of Conformity
CSA	CCC	UL	EAC	RCM		[Miscellaneous](#)

Declaration of Conformity	Test Certificates	Marine / Shipping			other
CE EG-Konf.	[Type Test Certificates/Test Report](#)	Lloyd's Register LRS	PRS	DNV-GL	[Confirmation](#)

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=3RN2000-1AA30
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2000-1AA30
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RN2000-1AA30
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2000-1AA30&lang=en
Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3RN2000-1AA30/manual

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