SIEMENS

Data sheet

3RN2012-1BW30

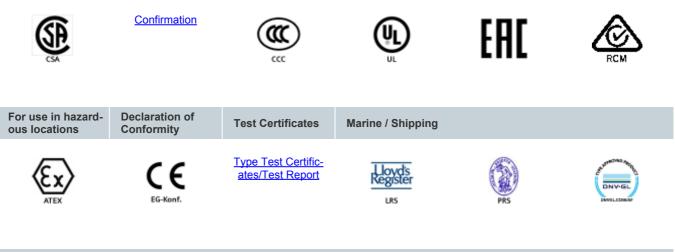


Thermistor motor protection relay Standard evaluation unit 22.5 mm enclosure screw terminal 2 change-over contacts US = 24 V-240 V AC/DC Manual/Auto/Remote reset with ATEX approval 2 LEDs (READY/TRIPPED) galvanic isolation Test/reset button Wire break monitoring Short circuit monitoring non-volatile

product brand name	SIRIUS
product category	SIRIUS 3RN2 thermistor motor protection
product designation	Thermistor motor protection relay
design of the product	Standard evaluation unit with ATEX approval, open-circuit and short- circuit detection in the sensor circuit, non-volatile
product type designation	3RN2
General technical data	
product function	thermistor motor protection
display version LED	Yes
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 according to IEC 60068-2-27	11g / 15 ms
vibration resistance according 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 according to IEC 81346-2	К
Substance Prohibitance (Date)	05/28/2009
Product Function	
product function	
error memory	Yes
 dynamic open-circuit detection 	Yes
external reset	Yes
auto-RESET	Yes
manual RESET	Yes
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage at AC	
• at 50 Hz rated value	24 240 V
• at 60 Hz rated value	24 240 V
control supply voltage at DC	
rated value	24 240 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
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	0.7 A
• at 240 V	12 A
duration of inrush current peak	
• at 24 V	0.25 ms
• at 240 V	0.2 ms
Measuring circuit	
buffering time in the event of power failure minimum	40 ms
Precision	
relative metering precision	2 %
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	2
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	0.17
	F0 0011
anarating fraguency, rated value	
operating frequency rated value	50 60 Hz
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz	50 60 Hz 3 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13	3 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V	3 A 1 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V	3 A 1 A 0.2 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V continuous current of the DIAZED fuse link of the	3 A 1 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V continuous current of the DIAZED fuse link of the output relay	3 A 1 A 0.2 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility	3 A 1 A 0.2 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference	3 A 1 A 0.2 A 6 A
ampacity of the output relay at AC-15 at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst according to IEC 61000-4-4	3 A 1 A 0.2 A 6 A 2 kV (power ports) / 1 kV (signal ports)
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PFDavg with low demand rate according to IEC 61508	0.0041
MTBF	97 y
MTTEd	 303 y
hardware fault tolerance according to IEC 61508	0
Connections/ Terminals	0
	N
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 mm ²
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	22.5 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 %
explosion protection category for dust	[Ex t] [Ex p]
explosion protection category for gas	[Ex e] [Ex d] [Ex px]
Certificates/ approvals	
General Product Approval	EMC



other

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=3RN2012-1BW30 Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2012-1BW30 Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

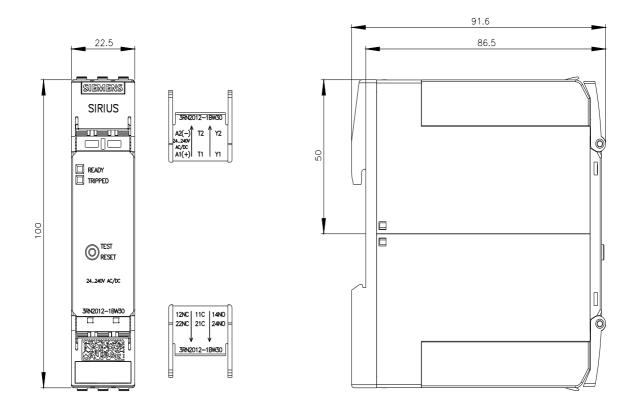
https://support.industry.siemens.com/cs/ww/en/ps/3RN2012-1BW30

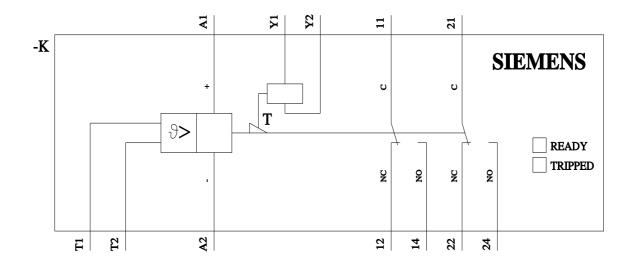
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2012-1BW30&lang=en

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3RN2012-1BW30/manual





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