SIEMENS

Data sheet 3RN2023-2DW30

0101110



Thermistor motor protection relay Device for warning and switching-off 22.5 mm enclosure Spring-type terminal 1 NO contact + 1 CO contact US = 24 V-240 V AC/DC Manual/Auto/Remote reset with ATEX approval 3 LEDs (READY/WARNING/TRIPPED) Safe galvanic isolation Test/reset button Wire break monitoring Short circuit monitoring non-volatile 2 separate PTC sensor circuits

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 and 2 sensor circuits for warning and disconnection, open-circuit and short-circuit detection in both sensor circuits, safe disconnection, 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	6 kV
maximum permissible voltage for protective separation	
 between auxiliary and auxiliary circuit 	300 V
between control and auxiliary circuit	300 V
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 (operating cycles) typical	10 000 000
electrical endurance (operating 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	0.05
• 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	30 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	1
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	
Main circuit operating frequency rated value	50 60 Hz
	50 60 Hz 3 A
operating frequency rated value	
operating frequency rated value ampacity of the output relay at AC-15 at 250 V at 50/60 Hz	
operating frequency rated value 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
operating frequency rated value 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
operating frequency rated value 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
operating frequency rated value 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
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operating frequency rated value 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 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 electrostatic discharge according to IEC 61000-4-2 Galvanic isolation	3 A 1 A 0.2 A 6 A 2 kV (power ports) / 1 kV (signal ports) 2 kV (line to ground) 1 kV (line to line) 6 kV contact discharge / 8 kV air discharge
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DED	0.0044	
PFDavg with low demand rate according to IEC 61508	0.0041	
MTBF	97 a	
MTTFd	303 a	
hardware fault tolerance according to IEC 61508	0	
Connections/ Terminals		
product component removable terminal for auxiliary and control circuit	Yes	
type of electrical connection	spring-loaded terminal (push-in)	
for auxiliary and control circuit	spring-loaded terminals (push-in)	
type of connectable conductor cross-sections		
• solid	0.5 4 mm²	
 finely stranded with core end processing 	0.5 2.5 mm²	
 finely stranded without core end processing 	0.5 4 mm²	
 for AWG cables solid 	20 12	
for AWG cables stranded	20 12	
connectable conductor cross-section		
• solid	0.5 4 mm²	
 finely stranded with core end processing 	0.5 2.5 mm²	
finely stranded without core end processing	0.5 4 mm²	
AWG number as coded connectable conductor cross section		
• solid	20 12	
• stranded	20 12	
Installation/ mounting/ dimensions		
mounting position	any	
fastening method	screw and snap-on mounting onto 35 mm DIN 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





Confirmation







For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



Explosion Protection Certificate





Type Test Certificates/Test Report



Marine / Shipping

other





Confirmation

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RN2023-2DW30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2023-2DW30

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

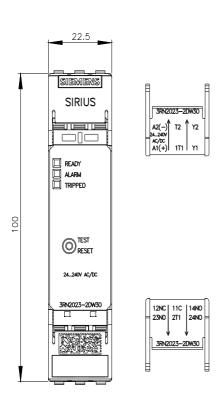
https://support.industry.siemens.com/cs/ww/en/ps/3RN2023-2DW30

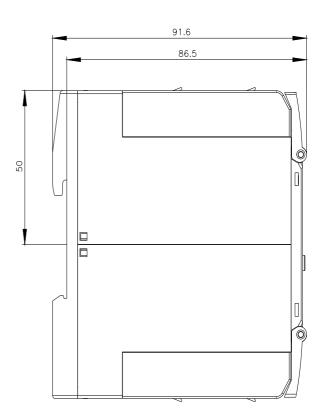
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

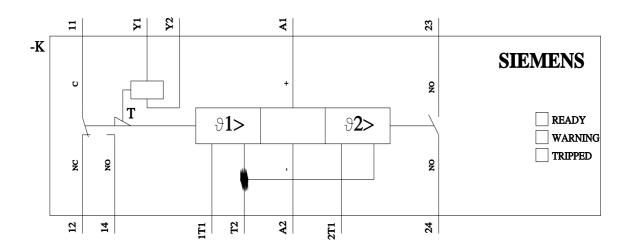
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2023-2DW30&lang=en

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3RN2023-2DW30/manual







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