SIEMENS

Data sheet 3RN2013-2BA30



Thermistor motor protection relay Standard evaluation unit 22.5 mm enclosure Spring-type terminal 2 change-over contacts US = 24 V AC/DC Manual/Auto/Remote reset with ATEX approval 2 LEDs (READY/TRIPPED) Safe 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, 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			
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			
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 Dicyclohexylphthalat (DCHP) - 84-61-7			
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 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		
Initial value full-scale value	0.85		
operating range factor control supply voltage rated value at	1.1		
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		
duration of inrush current peak	0.05		
• at 24 V	0.25 ms		
Measuring circuit	40		
buffering time in the event of power failure minimum	40 ms		
Precision relative metering precision	2 %		
Auxiliary circuit	2 /0		
material of switching contacts	AgSnO2		
number of NC contacts for auxiliary contacts	0 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			
operating frequency rated value	50 60 Hz		
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	6 A		
relay			
Electromagnetic compatibility			
conducted interference			
due to burst according to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)		
due to conductor-earth surge according to IEC 61000-4-5 due to conductor earth street according to IEC 61000-4-5	2 kV (line to ground)		
 due to conductor-conductor surge according to IEC 61000-4-5 	1 kV (line to line)		
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge		
Galvanic isolation			
design of the electrical isolation	Protective separation		
galvanic isolation			
between input and output	Yes		
• between the outputs	Yes		
• between the voltage supply and other circuits	Yes		
Safety related data			
failure rate [FIT] at rate of recognizable hazardous failures (λdd)	6.8E-8 1/h		
failure rate [FIT] at rate of non-recognizable hazardous failures (λdu)	3.08E-7 1/h		
average diagnostic coverage level (DCavg)	18 %		
MTBF	97 a		
MTTFd	303 a		
PFHD with high demand rate according to EN 62061	3.76E-7 1/h		
performance level (PL) according to EN ISO 13849-1	С		
category according to EN ISO 13849-1	1		
Safety Integrity Level (SIL) according to IEC 61508	1		

PFDavg with low demand rate according to IEC 61508	0.0041			
Safe failure fraction (SFF)	74 %			
hardware fault tolerance according to IEC 61508	0			
T1 value for proof test interval or service life according to IEC 61508	3 a			
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 mm ²			
 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 mm ²			
 finely stranded without core end processing 	0.5 4 mm²			
AWG number as coded connectable conductor cross section				
• solid	20 12			
• stranded	20 12			
nstallation/ mounting/ dimensions				
mounting position	any			
fastening method	screw and snap-on mounting of	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			
mbient 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]			
pprovals Certificates				
General Product Approval		EMC	For use in hazard- ous locations	











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=3RN2013-2BA30

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RN2013-2BA30}$

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

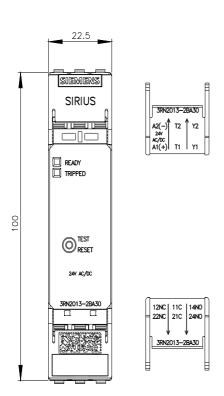
https://support.industry.siemens.com/cs/ww/en/ps/3RN2013-2BA30

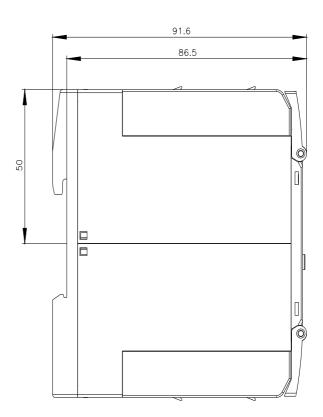
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

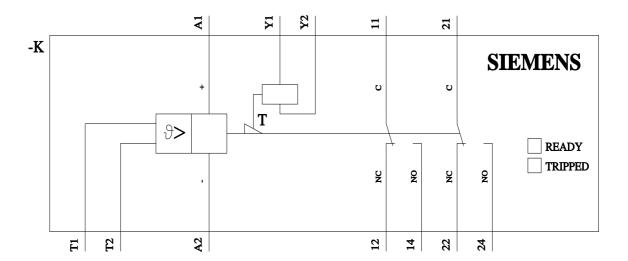
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2013-2BA30\&lang=en}}$

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3RN2013-2BA30/manual







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