SIEMENS

Data sheet 3RN2013-1BA30



Thermistor motor protection relay Standard evaluation unit 22.5 mm enclosure screw 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		
Seneral 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)	07/01/2006		
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
full-scale value	1.1
	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
initial value 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	
• at 24 V	0.25 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	
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 relay	6 A
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	2 kV (line to ground)
due to conductor-conductor surge according to IEC	1 kV (line to line)
61000-4-5	
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Galvanic isolation	D 1 5
design of the electrical isolation	Protective separation
galvanic isolation	V
between input and output	Yes
between the outputs	Yes
between the voltage supply and other circuits Sofety related data	Yes
Safety related data	C 0
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	3 a		
IEC 61508			
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)	
 for 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	00 40		
• solid	20 12		
• stranded	20 12		
tightening torque with screw-type terminals	0.6 0.8 N·m		
nstallation/ mounting/ dimensions			
mounting position	any		
fastening method	screw and snap-on mounting o	onto 35 mm DIN rail	
height	100 mm		
width	22.5 mm		
depth	90 mm		
required spacing			
with side-by-side mounting	0		
— forwards	0 mm		
— backwards	0 mm 0 mm		
— upwards — downwards	0 mm		
— at the side	0 mm		
for grounded parts	O IIIIII		
	0 mm		
— forwards — backwards	0 mm		
— upwards	0 mm		
— at the side	0 mm		
— at the side — downwards			
of r live parts	0 mm		
for live parts — forwards	0 mm		
— lorwards — backwards	0 mm		
— packwards — upwards	0 mm		
— upwards — downwards	0 mm		
— at the side	0 mm		
Ambient conditions	V IIIIII		
installation altitude at height above sea level maximum	2 000 m		
ambient temperature	2 000 III		
during operation	-25 +60 °C		
during operation during storage	-23 +00 °C -40 +85 °C		
during storage during transport	-40 +85 °C		
relative humidity during operation	70 %		
explosion protection category for dust	[Ex t] [Ex p]		
explosion protection category for dust	[Ex t] [Ex b]		
Approvals Certificates	رحہ دی زحہ با زحہ ہادا		
Approvais certificates—			For use in bases
General Product Approval		EMC	For use in hazard- ous locations



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=3RN2013-1BA30

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RN2013-1BA30}$

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

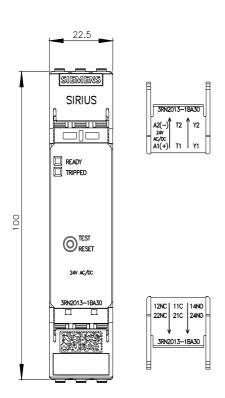
https://support.industry.siemens.com/cs/ww/en/ps/3RN2013-1BA30

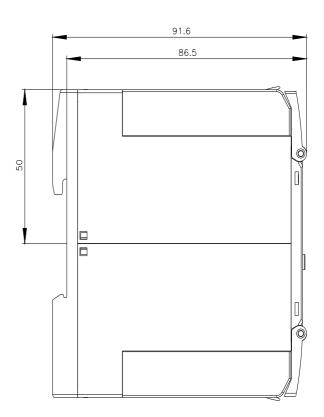
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

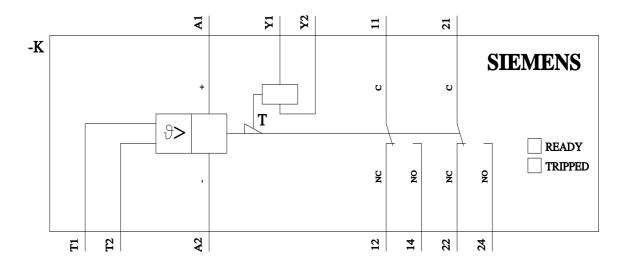
 $\underline{\text{http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2013-1BA30\&lang=en}}$

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3RN2013-1BA30/manual







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