

Thermistor motor protection relay Compact evaluation unit 17.5 mm enclosure Screw terminal 1 NO contact, 1 NC contact US = 24 V AC/DC Auto RESET suitable for bimetallic switch 2 LEDs (Ready/Tripped) galvanic isolation



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
Product type designation	3RN2

General technical data	
Display version LED	Yes
Power loss [W] for rated value of the current	
• at AC in hot operating state	0.4 W
• at DC in hot operating state	0.4 W
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
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 DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K

#### Control circuit/ Control

Type of voltage of the control supply voltage	AC/DC
Control supply voltage at AC	
<ul style="list-style-type: none"> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> </ul>	24 ... 24 V 24 ... 24 V
Control supply voltage at DC	
<ul style="list-style-type: none"> <li>rated value</li> </ul>	24 ... 24 V
Operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1
Operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1
Operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> <li>initial value</li> <li>Full-scale value</li> </ul>	0.85 1.1
Inrush current peak	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	1.8 A
Duration of inrush current peak	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	2 ms

#### Measuring circuit

Buffering time in the event of power failure minimum	40 ms
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#### Precision

Relative metering precision	9 %
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#### Auxiliary circuit

Material of switching contacts	AgSnO <sub>2</sub>
Number of NC contacts for auxiliary contacts	1
Number of NO contacts for auxiliary contacts	1
Number of CO contacts	
<ul style="list-style-type: none"> <li>for auxiliary contacts</li> </ul>	0
Operating current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> <li>at 24 V</li> <li>at 125 V</li> </ul>	1 A 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
- at 125 V

1 A

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
- due to conductor-earth surge acc. to IEC 61000-4-5
- due to conductor-conductor surge acc. to IEC 61000-4-5

2 kV (power ports) / 1 kV (signal ports)

2 kV (line to ground)

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** galvanic isolation

### Galvanic isolation

- between entrance and outlet
- between the outputs
- between the voltage supply and other circuits

Yes

Yes

No

## Connections/ Terminals

### Product function

- removable terminal for auxiliary and control circuit

Yes

### Type of electrical connection

- for auxiliary and control current circuit

screw-type terminals

screw-type terminals

### Type of connectable conductor cross-sections

- solid
- finely stranded with core end processing
- at AWG conductors solid

1x (0.5 ... 4.0 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)

1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)

1x (20 ... 12), 2x (20 ... 14)

### Connectable conductor cross-section

- solid
- finely stranded with core end processing

0.5 ... 4 mm<sup>2</sup>

0.5 ... 4 mm<sup>2</sup>

### AWG number as coded connectable conductor cross section

- solid

20 ... 12

<ul style="list-style-type: none"> <li>• stranded</li> </ul>	20 ... 12
<b>Tightening torque</b>	
<ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>	0.6 ... 0.8 N·m

### Installation/ mounting/ dimensions

<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting onto 35 mm standard mounting rail
<b>Height</b>	100 mm
<b>Width</b>	17.5 mm
<b>Depth</b>	90 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 0 mm 0 mm 0 mm 0 mm

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
<ul style="list-style-type: none"> <li>• maximum</li> </ul>	2 000 m
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• during operation</li> </ul>	70 %

### Certificates/ approvals

General Product Approval			EMC	Declaration of Conformity	
 CCC	 CSA	 UL		 RCM	 EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping			other
<a href="#">Miscellaneous</a>	<a href="#">Type Test Certificates/Test Report</a>	 LRS	 PRS	 DNVGL.COM/AF	<a href="#">Confirmation</a>

### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

[www.siemens.com/sirius/catalogs](http://www.siemens.com/sirius/catalogs)

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3RN2010-1CA30>

**Cax online generator**

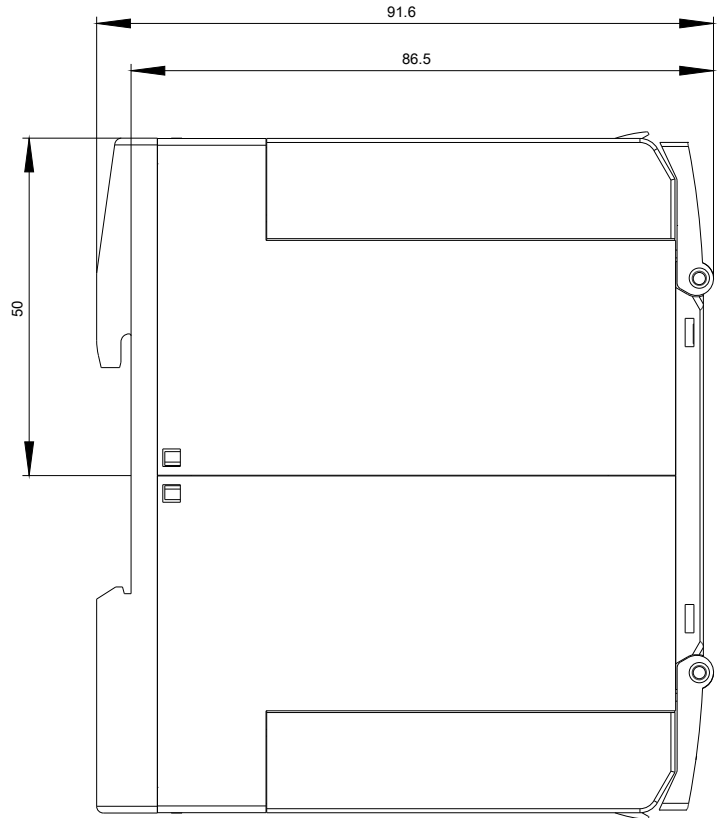
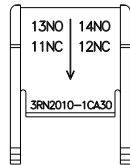
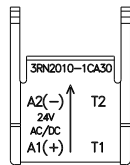
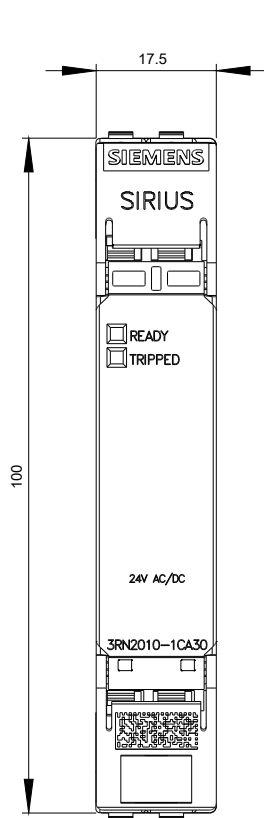
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RN2010-1CA30>

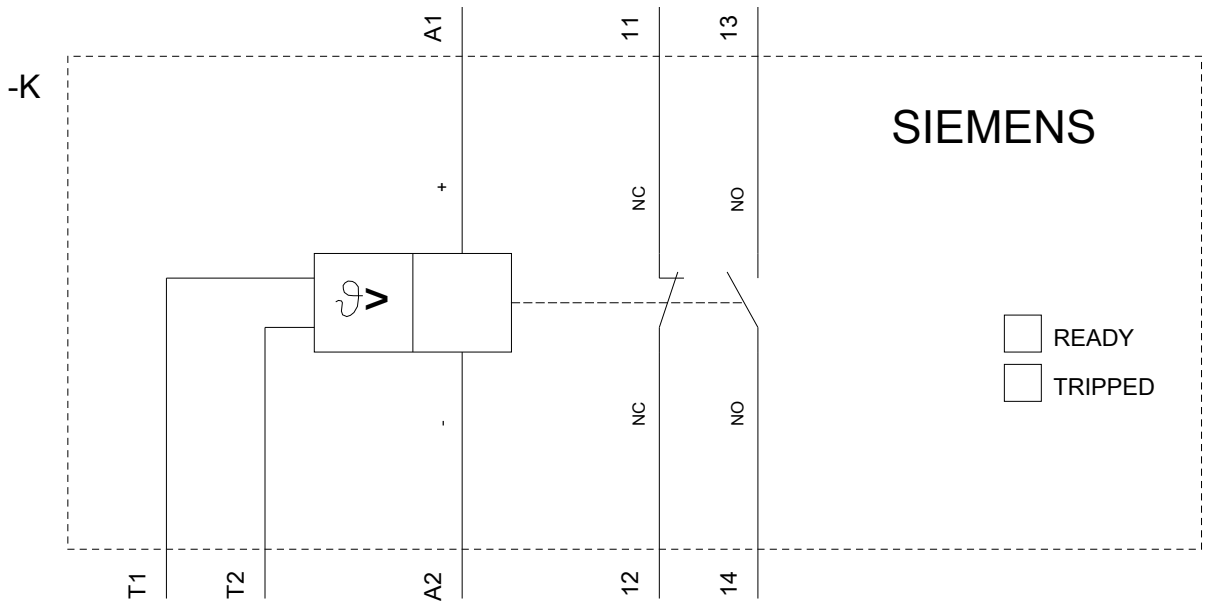
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RN2010-1CA30>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3RN2010-1CA30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RN2010-1CA30&lang=en)





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