

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



Figure similar

Product brand name	SIRIUS
Product category	SIRIUS 3RN2 thermistor motor protection
Product designation	Thermistor motor protection relay
Product type designation	3RN2

General technical data	
Display version LED	Yes
Power loss [W] for rated value of the current	
<ul style="list-style-type: none"> <li>at AC in hot operating state</li> <li>at DC in hot operating state</li> </ul>	0.6 W 0.4 W
Insulation voltage	
<ul style="list-style-type: none"> <li>for overvoltage category III according to IEC 60664</li> <li>— with degree of pollution 3 rated value</li> </ul>	300 V
Degree of pollution	3
Surge voltage resistance rated value	4 kV
Protection class IP	IP20
Shock resistance	

<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>	11g / 15 ms
<b>Vibration resistance</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-6</li> </ul>	10 ... 55 Hz: 0.35 mm
<b>Mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	10 000 000
<b>Electrical endurance (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• at AC-15 at 230 V typical</li> </ul>	100 000
<b>Thermal current of the switching element with contacts maximum</b>	5 A
<b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>	K
<b>Reference code</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 81346-2:2009</li> </ul>	K
<ul style="list-style-type: none"> <li>• acc. to DIN EN 61346-2</li> </ul>	K

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

<b>Measuring circuit</b>	
<b>Buffering time in the event of power failure minimum</b>	40 ms
<b>Precision</b>	
<b>Relative metering precision</b>	9 %

Auxiliary circuit	
Material of switching contacts	AgSnO <sub>2</sub>
Number of NC contacts	1
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	1
Number of NO contacts	1
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>	1
Number of CO contacts	0
<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> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 125 V</li> </ul>	0.2 A
<ul style="list-style-type: none"> <li>• at 250 V</li> </ul>	0.1 A
Main circuit	
Operating frequency rated value	50 ... 60 Hz
Outputs	
Ampacity of the output relay at AC-15	
<ul style="list-style-type: none"> <li>• at 250 V at 50/60 Hz</li> </ul>	3 A
Ampacity of the output relay at DC-13	
<ul style="list-style-type: none"> <li>• at 24 V</li> </ul>	1 A
<ul style="list-style-type: none"> <li>• at 125 V</li> </ul>	0.2 A
Continuous current of the DIAZED fuse link of the output relay	6 A
Electromagnetic compatibility	
Conducted interference	
<ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> </ul>	2 kV (power ports) / 1 kV (signal ports)
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV (line to ground)
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	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
Galvanic isolation	
<ul style="list-style-type: none"> <li>• between entrance and outlet</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• between the outputs</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• between the voltage supply and other circuits</li> </ul>	No
Connections/Terminals	
Product function	
<ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul>	Yes
Type of electrical connection	screw-type terminals

<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• at AWG conductors solid</li> </ul>	<p>1x (0.5 ... 4.0 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>1x (20 ... 12), 2x (20 ... 14)</p>
<b>Connectable conductor cross-section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> </ul>	<p>0.5 ... 4 mm<sup>2</sup></p> <p>0.5 ... 4 mm<sup>2</sup></p>
<b>AWG number as coded connectable conductor cross section</b>	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	<p>20 ... 12</p> <p>20 ... 12</p>
<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>	<p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p>




### 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>Ambient temperature</b>	
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>	<p>-25 ... +60 °C</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p>
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>during operation</li> </ul>	70 %

### Certificates/approvals

<b>General Product Approval</b>	<b>EMC</b>	<b>Declaration of Conformity</b>
 <p>CCC</p>  <p>CSA</p>  <p>UL</p>  <p>EAC</p>  <p>C-Tick</p>  <p>EG-Konf.</p>		

<b>Test Certificates</b>	<b>Marine / Shipping</b>	<b>other</b>
<p><a href="#">Type Test Certificates/Test Report</a></p>  <p>LRS</p>  <p>PRS</p>  <p>DNV-GL DNVGL.COM/AF</p>		<p><a href="#">Confirmation</a></p>

### Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

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

**Cax online generator**

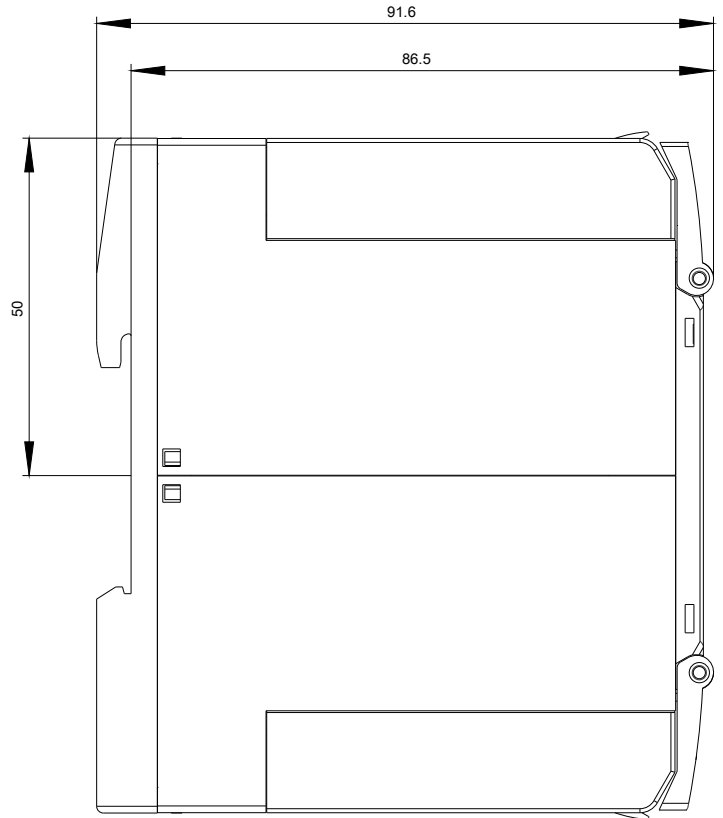
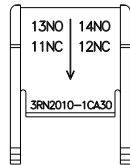
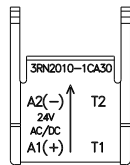
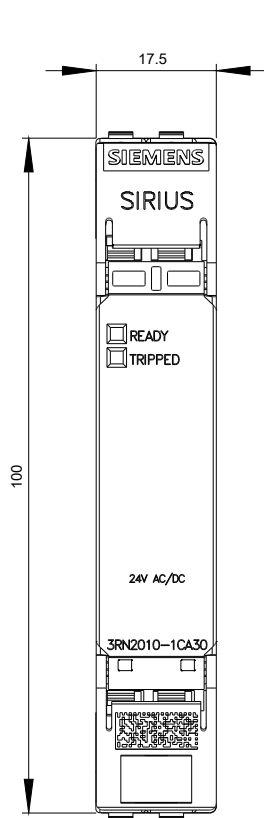
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2010-1CA30>

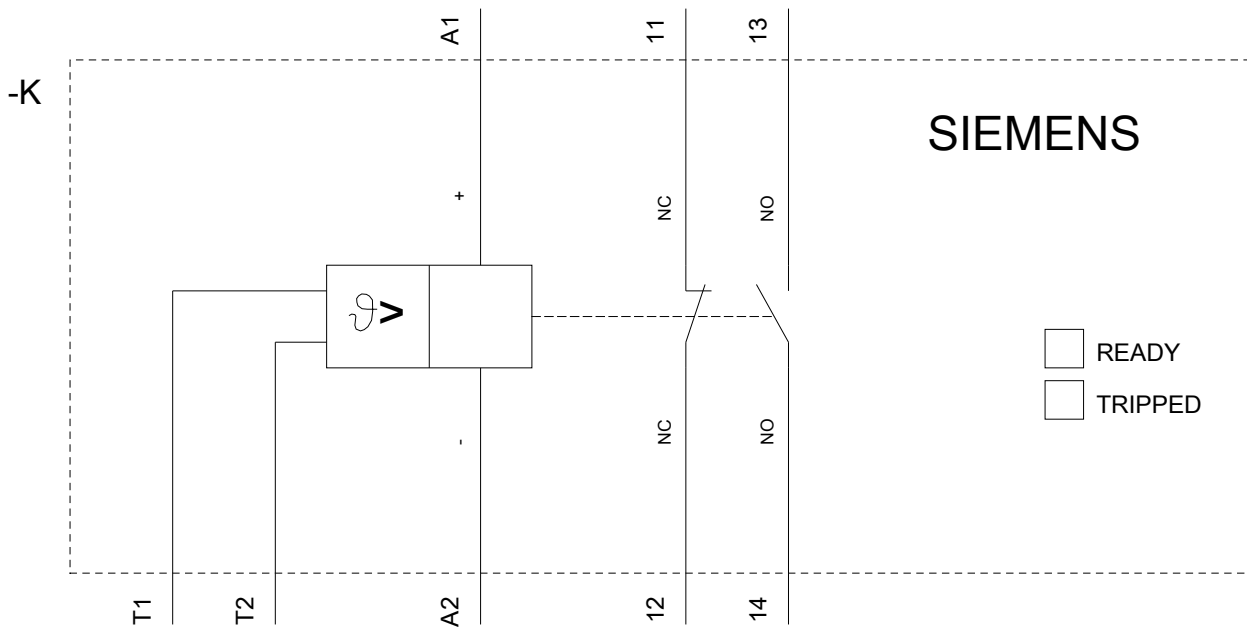
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<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?mlfb=3RN2010-1CA30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2010-1CA30&lang=en)





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