



Thermistor motor protection relay Standard evaluation unit 22.5 mm enclosure Spring-type terminal 2 change-over contacts US = 24 V-240 V AC/DC Auto-reset suitable for bimetallic switch 2 LEDs (READY/TRIPPED) galvanic isolation

|   |  |
|---|--|
| <b>product brand name</b>   | SIRIUS   |
| <b>product category</b>   | SIRIUS 3RN2 thermistor motor protection                  |
| <b>product designation</b>  | Thermistor motor protection relay                        |
| <b>design of the product</b>  | Standard evaluation unit, suitable for bimetallic switch |
| <b>product type designation</b>   | 3RN2   |
| <b>General technical data</b>   |  |
| <b>product function</b>   | thermistor motor protection                              |
| <b>display version LED</b>  | Yes  |
| <b>power loss [W] for rated value of the current</b>  |  |
| • at AC in hot operating state  | 1.4 W  |
| • at DC in hot operating state  | 1.4 W  |
| insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value | 300 V  |
| <b>degree of pollution</b>  | 3  |
| <b>surge voltage resistance rated value</b>   | 4 kV   |
| <b>protection class IP</b>  | IP20   |
| shock resistance acc. to IEC 60068-2-27   | 11g / 15 ms  |
| vibration resistance acc. to IEC 60068-2-6  | 10 ... 55 Hz: 0.35 mm                                    |
| mechanical service life (switching cycles) typical  | 10 000 000   |
| electrical endurance (switching cycles) at AC-15 at 230 V typical   | 100 000  |
| <b>thermal current of the switching element with contacts maximum</b>   | 5 A  |
| <b>reference code acc. to IEC 81346-2</b>   | K  |
| <b>Substance Prohibitance (Date)</b>  | 28.05.2009 00:00:00                                      |
| <b>Control circuit/ Control</b>   |  |
| <b>type of voltage of the control supply voltage</b>  | AC/DC  |
| <b>control supply voltage at AC</b>   |  |
| • at 50 Hz rated value  | 24 ... 240 V   |
| • at 60 Hz rated value  | 24 ... 240 V   |
| <b>control supply voltage at DC</b>   |  |
| • rated value   | 24 ... 240 V   |
| <b>operating range factor control supply voltage rated value at DC</b>  |  |
| • initial value   | 0.85   |
| • full-scale value  | 1.1  |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b>                               |  |
| • initial value   | 0.85   |
| • full-scale value  | 1.1  |
| <b>operating range factor control supply voltage rated</b>  |  |

|   |   |
|---|---|
| <b>value at AC at 60 Hz</b>   |   |
| <ul style="list-style-type: none"> <li>initial value</li> <li>full-scale value</li> </ul>   | 0.85<br>1.1   |
| <b>inrush current peak</b>  |   |
| <ul style="list-style-type: none"> <li>at 24 V</li> <li>at 240 V</li> </ul>   | 0.6 A<br>12 A   |
| <b>duration of inrush current peak</b>  |   |
| <ul style="list-style-type: none"> <li>at 24 V</li> <li>at 240 V</li> </ul>   | 0.25 ms<br>0.2 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 %   |
| <b>Auxiliary circuit</b>  |   |
| <b>material of switching contacts</b>   | AgSnO <sub>2</sub>  |
| <b>number of NC contacts for auxiliary contacts</b>   | 0   |
| <b>number of NO contacts for auxiliary contacts</b>   | 0   |
| <b>number of CO contacts for auxiliary contacts</b>   | 2   |
| <b>Main circuit</b>   |   |
| <b>operating frequency rated value</b>  | 50 ... 60 Hz  |
| <b>Outputs</b>  |   |
| <b>ampacity of the output relay at AC-15 at 250 V at 50/60 Hz</b>   | 3 A   |
| <b>ampacity of the output relay at DC-13</b>  |   |
| <ul style="list-style-type: none"> <li>at 24 V</li> <li>at 125 V</li> </ul>   | 1 A<br>0.2 A  |
| <b>continuous current of the DIAZED fuse link of the output relay</b>   | 6 A   |
| <b>Electromagnetic compatibility</b>  |   |
| <b>conducted interference</b>   |   |
| <ul style="list-style-type: none"> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>            | 2 kV (power ports) / 1 kV (signal ports)<br>2 kV (line to ground)<br>1 kV (line to line)                        |
| <b>electrostatic discharge acc. to IEC 61000-4-2</b>  | 6 kV contact discharge / 8 kV air discharge   |
| <b>Galvanic isolation</b>   |   |
| <b>design of the electrical isolation</b>   | galvanic isolation  |
| <b>galvanic isolation</b>   |   |
| <ul style="list-style-type: none"> <li>between input and output</li> <li>between the outputs</li> <li>between the voltage supply and other circuits</li> </ul>  | Yes<br>Yes<br>Yes   |
| <b>Connections/ Terminals</b>   |   |
| <b>product component removable terminal for auxiliary and control circuit</b>   | Yes   |
| <b>type of electrical connection</b>  | Push-in terminal  |
| <ul style="list-style-type: none"> <li>for auxiliary and control circuit</li> </ul>   | spring-loaded terminals (push-in)   |
| <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>finely stranded without core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> </ul> | 0.5 ... 4 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 4 mm <sup>2</sup><br>20 ... 12<br>20 ... 12 |
| <b>connectable conductor cross-section</b>  |   |
| <ul style="list-style-type: none"> <li>solid</li> <li>finely stranded with core end processing</li> <li>finely stranded without core end processing</li> </ul>  | 0.5 ... 4 mm <sup>2</sup><br>0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 4 mm <sup>2</sup>                           |
| <b>AWG number as coded connectable conductor cross section</b>  |   |
| <ul style="list-style-type: none"> <li>solid</li> <li>stranded</li> </ul>   | 20 ... 12<br>20 ... 12  |
| <b>Installation/ mounting/ dimensions</b>   |   |

|                              |  |
|------------------------------|--|
| <b>mounting position</b>     | any  |
| <b>fastening method</b>      | screw and snap-on mounting onto 35 mm standard mounting rail |
| <b>height</b>                | 100 mm   |
| <b>width</b>                 | 22.5 mm  |
| <b>depth</b>                 | 90 mm  |
| <b>required spacing</b>      |  |
| • 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   |

|   |                |
|---|----------------|
| <b>Ambient conditions</b>                               |                |
| installation altitude at height above sea level maximum | 2 000 m        |
| <b>ambient temperature</b>                              |                |
| • during operation                                      | -25 ... +60 °C |
| • during storage  | -40 ... +85 °C |
| • during transport                                      | -40 ... +85 °C |
| relative humidity during operation                      | 70 %           |

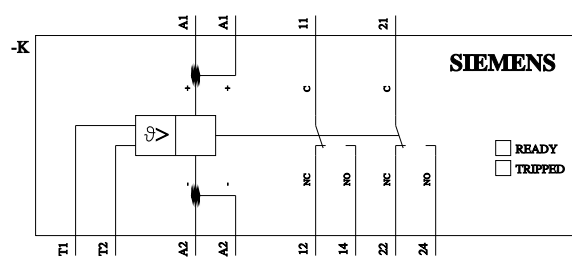
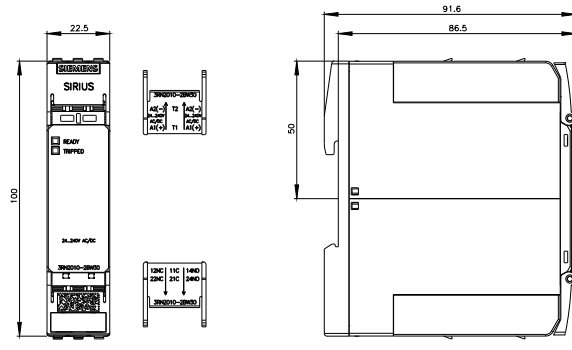
**Certificates/ approvals**

|   |            |                                  |
|---|------------|----------------------------------|
| <b>General Product Approval</b>   | <b>EMC</b> | <b>Declaration of Conformity</b> |
|       |            |                                  |

|                                  |  |   |                              |
|----------------------------------|--|---|------------------------------|
| <b>Declaration of Conformity</b> | <b>Test Certificates</b>                           | <b>Marine / Shipping</b>  | <b>other</b>                 |
| <a href="#">Miscellaneous</a>    | <a href="#">Type Test Certificates/Test Report</a> |    | <a href="#">Confirmation</a> |

**Further information**

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=3RN2010-2BW30>  
Cax online generator  
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2010-2BW30>  
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<https://support.industry.siemens.com/cs/ww/en/ps/3RN2010-2BW30>  
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RN2010-2BW30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2010-2BW30&lang=en)  
Characteristic: Derating  
<https://support.industry.siemens.com/cs/ww/en/ps/3RN2010-2BW30/manual>



last modified:

5/1/2021