



Thermistor motor protection relay Compact evaluation unit 17.5 mm enclosure, screw terminals, 1 changeover contact, US = 24 V AC/DC, Auto RESET, suitable for bimetallic switch, supply =output voltage, 1 LED (tripped)

|   |  |
|---|--|
| 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 (terminal A1 jumpered with root of changeover contact) |
| product type designation  | 3RN2   |
| General technical data  |  |
| product function  | thermistor motor protection  |
| display version LED   | Yes  |
| power loss [W] for rated value of the current   |  |
| • at AC in hot operating state  | 0.3 W  |
| • at DC in hot operating state  | 0.3 W  |
| 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  | 4 kV   |
| shock resistance according to IEC 60068-2-27  | 11g / 15 ms  |
| vibration resistance according to IEC 60068-2-6   | 10 ... 55 Hz: 0.35 mm  |
| 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   | K  |
| Substance Prohibitance (Date)   | 05/28/2009   |
| SVHC substance name   | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8   |
| Weight  | 0.13 kg  |
| Product Function  |  |
| product function  |  |
| • error memory  | No   |
| • dynamic open-circuit detection  | No   |
| • external reset  | No   |
| • auto-RESET  | Yes  |
| • manual RESET  | No   |
| 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  |  |

|   |  |
|---|--|
| <b>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 value at AC at 60 Hz</b> |  |
| • initial value   | 0.85   |
| • full-scale value  | 1.1  |
| <b>inrush current peak</b>  |  |
| • at 24 V   | 1.8 A  |
| <b>duration of inrush current peak</b>  |  |
| • at 24 V   | 2 ms   |
| <b>Measuring circuit</b>  |  |
| buffering time in the event of power failure minimum                            | 40 ms  |
| <b>Precision</b>  |  |
| relative metering precision   | 9 %  |
| <b>Auxiliary circuit</b>  |  |
| 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                                    | 1  |
| <b>operational current of auxiliary contacts at DC-13</b>                       |  |
| • at 24 V   | 1 A  |
| <b>Main circuit</b>   |  |
| operating frequency rated value   | 50 ... 60 Hz   |
| ampacity of the output relay at AC-15 at 250 V at 50/60 Hz                      | 3 A  |
| <b>ampacity of the output relay at DC-13</b>                                    |  |
| • at 24 V   | 1 A  |
| continuous current of the DIAZED fuse link of the output relay                  | 6 A  |
| <b>Electromagnetic compatibility</b>  |  |
| <b>conducted interference</b>   |  |
| • 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 61000-4-5                   | 1 kV (line to line)  |
| electrostatic discharge according to IEC 61000-4-2                              | 6 kV contact discharge / 8 kV air discharge                          |
| <b>Galvanic isolation</b>   |  |
| design of the electrical isolation  | without galvanic isolation   |
| <b>galvanic isolation</b>   |  |
| • between input and output  | No   |
| • between the voltage supply and other circuits                                 | No   |
| <b>Connections/ Terminals</b>   |  |
| product component removable terminal for auxiliary and control circuit          | Yes  |
| <b>type of electrical connection</b>  |  |
| • for auxiliary and control circuit   | screw terminal<br>screw-type terminals                               |
| <b>type of connectable conductor cross-sections</b>                             |  |
| • solid   | 1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • finely stranded with core end processing                                      | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )   |
| • for AWG cables solid  | 1x (20 ... 12), 2x (20 ... 14)                                       |
| <b>connectable conductor cross-section</b>                                      |  |
| • solid   | 0.5 ... 4 mm <sup>2</sup>  |
| • finely stranded with core end processing                                      | 0.5 ... 4 mm <sup>2</sup>  |
| <b>AWG number as coded connectable conductor cross section</b>                  |  |
| • solid   | 20 ... 12  |
| • stranded  | 20 ... 12  |
| tightening torque with screw-type terminals                                     | 0.6 ... 0.8 N·m  |

| Installation/ mounting/ dimensions |  |
|------------------------------------|--|
| mounting position                  | any  |
| fastening method                   | screw and snap-on mounting onto 35 mm DIN rail |
| height                             | 100 mm   |
| width                              | 17.5 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   |

| Ambient 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 maximum              | 70 %           |

| Approvals Certificates   |  |
|--------------------------|--|
| General Product Approval |  |



[Confirmation](#)



| EMV | Test Certificates                                  | Marine / Shipping | other                        |
|-----|--|-------------------|------------------------------|
|     | <a href="#">Type Test Certificates/Test Report</a> |                   | <a href="#">Confirmation</a> |

| Environment |
|-------------|
|-------------|

[Environmental Confirmations](#)

| Further information |
|---------------------|
|---------------------|

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=3RN2000-1AA30>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RN2000-1AA30>

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

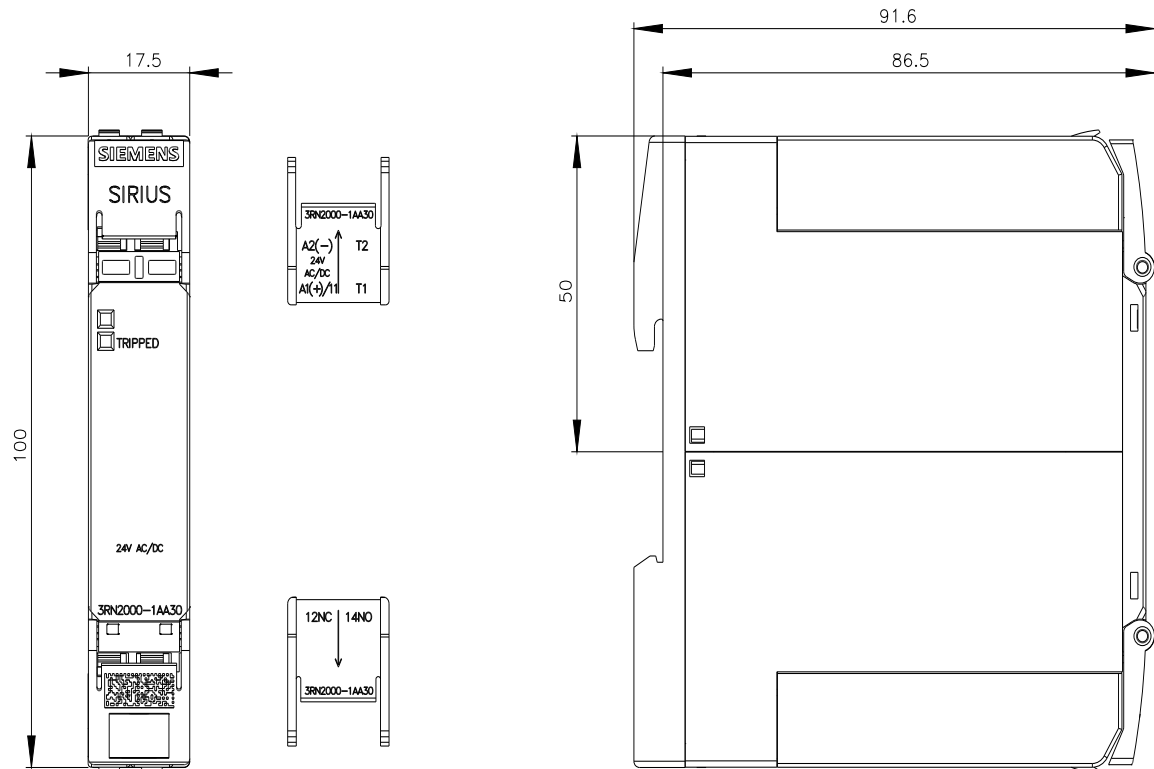
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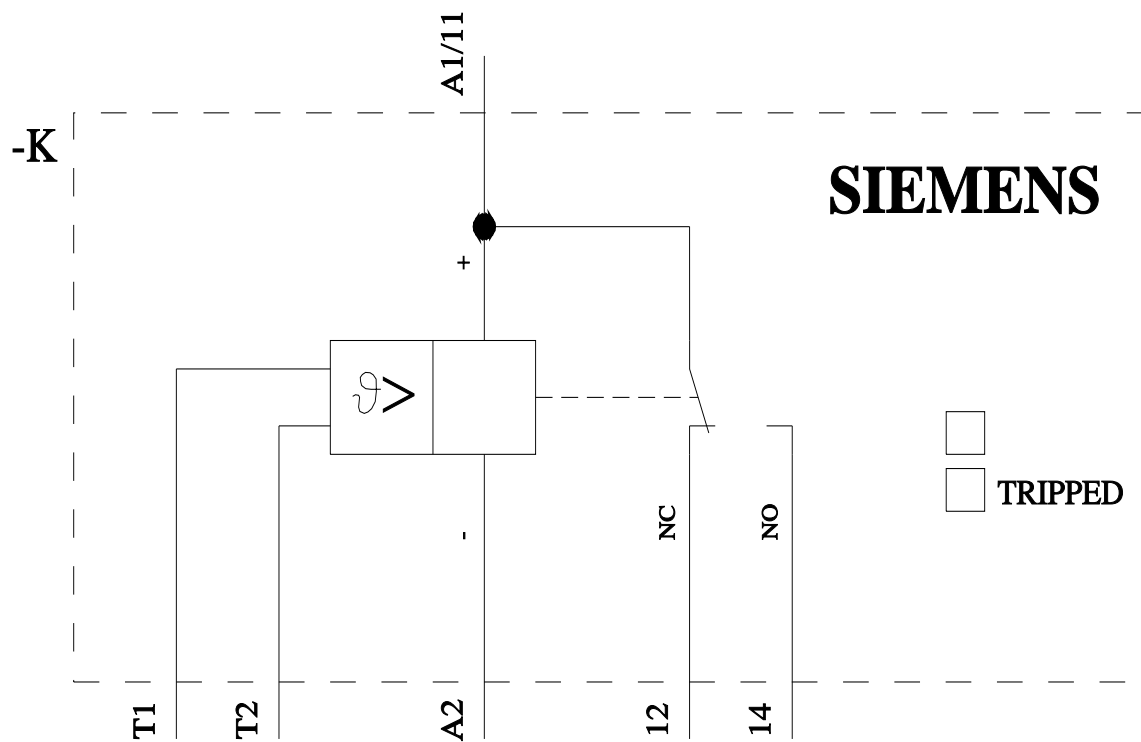
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RN2000-1AA30&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RN2000-1AA30&lang=en)

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3RN2000-1AA30/manual>





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