



temperature monitoring relay Pt100, thermocouple J, K 1 threshold value, width 22.5 mm overshoot and undershoot 24 V AC/DC 1 change-over contact, quiescent current principle screw terminal

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| product brand name | SIRIUS |
| product designation | Temperature monitoring relay |
| design of the product | Analog multifunction device, 1 sensor, 1 threshold value |
| product type designation | 3RS2 |
| General technical data | |
| product function | temperature monitoring |
| display version LED | Yes |
| insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value | 300 V |
| test voltage for isolation test | 4 kV |
| degree of pollution | 3 |
| 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 |
| influence of the surrounding temperature | 0.05% per K deviation from T20 |
| measurable temperature | |
| • initial value | -50 °C |
| • full-scale value | 1 000 °C |
| Substance Prohibitance (Date) | 05/01/2012 |
| SVHC substance name | Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 |
| Weight | 0.165 kg |
| product function | |
| • error memory | No |
| • external reset | No |
| design of the sensor connectable | Resistance sensors: Pt100 Thermocouples: Type J, K |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC/DC |
| control supply voltage at AC | |
| • at 50 Hz rated value | 24 V |
| • at 60 Hz rated value | 24 V |
| control supply voltage 1 at AC | |
| • at 50 Hz rated value | 24 V |
| • at 50 Hz | 24 V |
| control supply voltage 2 at AC | |
| • at 50 Hz rated value | 24 V |
| • at 60 Hz rated value | 24 V |

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| control supply voltage at DC rated value | 24 V |
| control supply voltage 1 at DC rated value | 24 V |
| operating range factor control supply voltage rated value at DC | |
| • initial value | 0.85 |
| • full-scale value | 1.1 |
| operating range factor control supply voltage rated value at AC at 50 Hz | |
| • 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 |
| supply voltage frequency for auxiliary and control circuit | 50 ... 60 Hz |
| number of measuring circuits | 1 |
| buffering time in the event of power failure minimum | 20 ms |
| Precision | |
| relative metering precision | 5 % |
| Short-circuit protection | |
| design of the fuse link | |
| • for short-circuit protection of the NO contacts of the relay outputs required | gL/gG: 6 A or MCB type C: 1 A |
| • for short circuit protection of the NC contacts of the relay outputs required | gL/gG: 6 A or MCB type C: 1 A |
| design of the fuse link | |
| • for short-circuit protection of the NO contacts of the relay outputs safety-related required | gL/gG: 2 A or MCB type C: 1 A |
| • for short circuit protection of the NC contacts of the relay outputs safety-related required | gL/gG: 2 A or MCB type C: 1 A |
| Communication/ Protocol | |
| protocol is supported IO-Link protocol | No |
| 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 | 1 |
| 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 |
| contact reliability of auxiliary contacts | one incorrect switching operation of 100 million switching operations (17 V, 5 mA) |
| contact rating of auxiliary contacts according to UL | R300 / B300 |
| 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 |
| continuous current of DIAZED fuse link of the output relay safety-related | 2 A |
| Electromagnetic compatibility | |
| EMC emitted interference according to IEC 60947-1 | Class B |
| 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 61000-4-5 | 1 kV (line to line) |
| field-based interference according to IEC 61000-4-3 | 10 V/m |
| electrostatic discharge according to IEC 61000-4-2 | 6 kV contact discharge / 8 kV air discharge |
| Galvanic isolation | |
| design of the electrical isolation | galvanic isolation |

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| galvanic isolation | |
| <ul style="list-style-type: none"> • between input and output • between the voltage supply and other circuits | <p>Yes</p> <p>No</p> |
| ATEX | |
| certificate of suitability relating to ATEX | No |
| Connections/ Terminals | |
| product component removable terminal for auxiliary and control circuit | Yes |
| type of electrical connection | screw terminal |
| <ul style="list-style-type: none"> • for auxiliary and control circuit | screw-type terminals |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • solid | 1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) |
| <ul style="list-style-type: none"> • finely stranded with core end processing | 1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) |
| <ul style="list-style-type: none"> • for AWG cables solid | 1x (20 ... 12), 2x (20 ... 14) |
| connectable conductor cross-section | |
| <ul style="list-style-type: none"> • solid | 0.5 ... 4 mm ² |
| <ul style="list-style-type: none"> • finely stranded with core end processing | 0.5 ... 4 mm ² |
| AWG number as coded connectable conductor cross section | |
| <ul style="list-style-type: none"> • solid | 20 ... 12 |
| <ul style="list-style-type: none"> • 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 | 22.5 mm |
| depth | 90 mm |
| required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards | <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -25 ... +60 °C |
| <ul style="list-style-type: none"> • during storage | -40 ... +85 °C |
| <ul style="list-style-type: none"> • during transport | -40 ... +85 °C |
| relative humidity during operation maximum | 70 % |
| Approvals Certificates | |
| General Product Approval | EMV |



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| EMV | Maritime application | other | Environment |
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Confirmation

Environmental Con-
firmations

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RS2500-1AA30>

Cax online generator

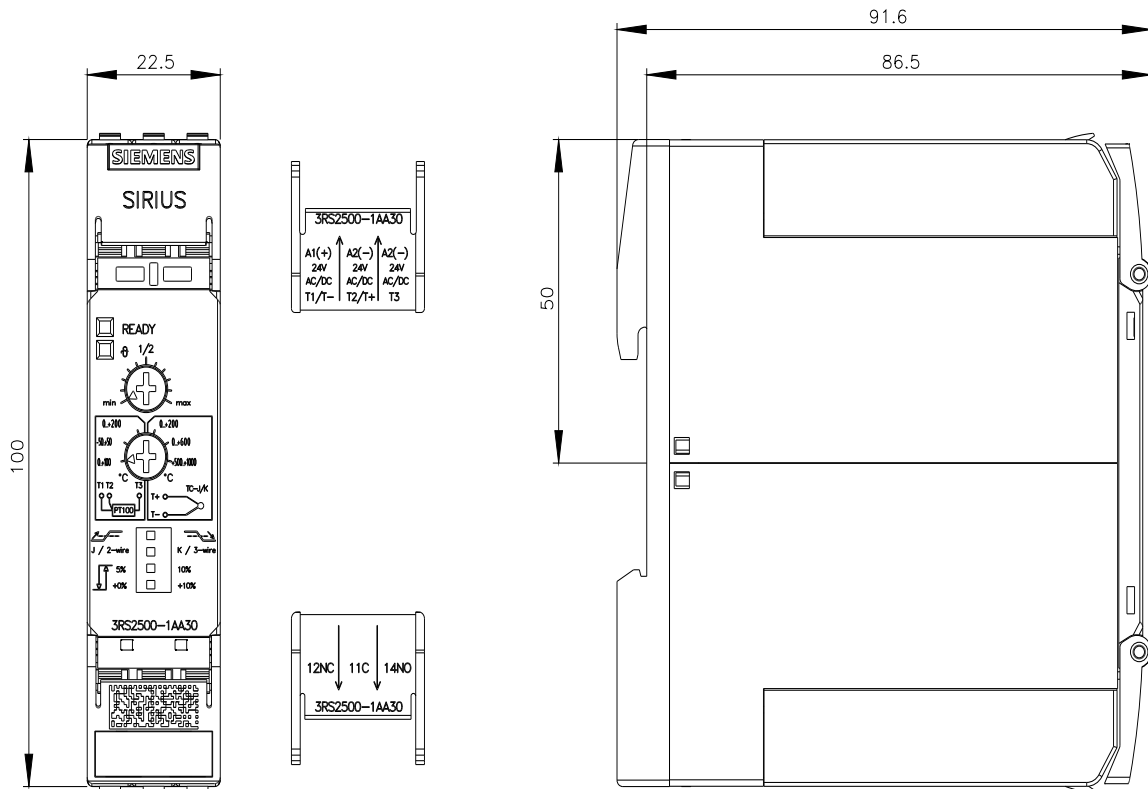
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RS2500-1AA30>

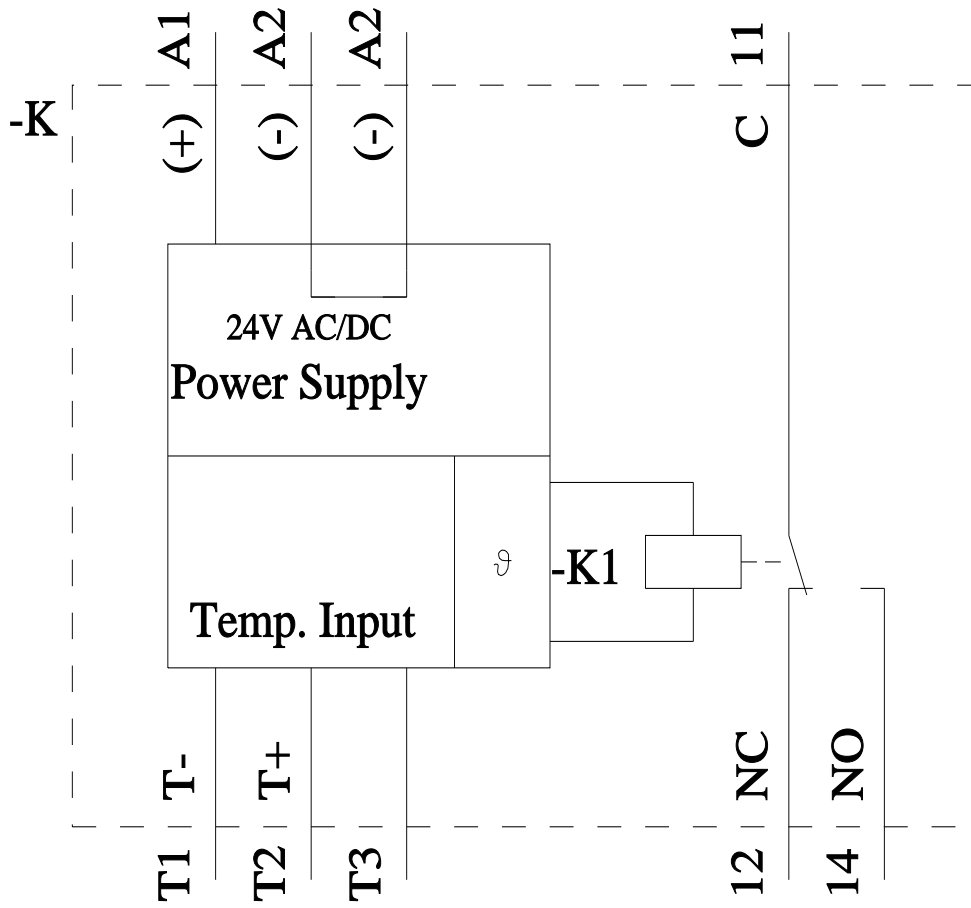
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RS2500-1AA30>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RS2500-1AA30&lang=en





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