SIEMENS

## Data sheet 3UG5825-2AA40

Siemens EcoTech

digital monitoring relay residual current monitoring (with current transformer 3UL23) adjustment range 0.03...40 A supply voltage 24 V DC ON delay and tripping delay 0.1..999.9 s 1 changeover contact spring-loaded terminal




| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | Residual current monitoring relay with digital setting |
| **design of the product** | monitoring of residual current, external power supply with auxiliary voltage for IO-Link |
| **product type designation** | 3UG5 |
| **General technical data** | |
| **product function** | residual current monitoring relay |
| **design of the display** | LCD |
| **power loss [W] maximum** | 1.2 W |
| **power loss [V·A] maximum** | 1.2 V·A |
| **insulation voltage** | |
| **• rated value** | 690 V |
| **• for overvoltage category III according to IEC 60664** | |
| — with degree of pollution 2 rated value | 690 V |
| — with degree of pollution 3 rated value | 690 V |
| **degree of pollution** | 3 |
| **type of voltage** | |
| • for monitoring | AC/DC |
| • of the control supply voltage | DC |
| **surge voltage resistance rated value** | 6 kV |
| **protection class IP** | |
| • of the enclosure | IP20 |
| • of the terminal | IP20 |
| **shock resistance according to IEC 60068-2-27** | sinusoidal half-wave 15 g / 11 ms |
| **vibration resistance according to IEC 60068-2-6** | f = 4 ... 5,81 Hz, dmax = 15 mm; f = 5,81 ... 500 Hz, Amax = 20 m/s²; 10 cycles |
| **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 |
| **relative repeat accuracy** | 1 % |
| **Substance Prohibitance (day/month/year)** | 06/01/2023 |
| **SVHC substance name** | Lead CAS-No. 7439-92-1<br>Lead monoxide (lead oxide) CAS-No. 1317-36-8<br>2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5<br>Melamine CAS-No. 108-78-1 |
| **Net Weight** | 0.137 kg |


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| | |
|---|---|
| **Product Function** | |
| **product function** | |
| ● phase sequence recognition | No |
| ● phase failure detection | No |
| ● asymmetry detection | No |
| ● residual current display | Yes |
| ● error memory | Yes |
| ● overcurrent detection 1 phase | Yes |
| ● undercurrent detection 1 phase | No |
| ● adjustable open/closed-circuit current principle | Yes |
| ● external reset | Yes |
| ● auto-RESET | Yes |
| ● manual RESET | Yes |
| **Control circuit/ Control** | |
| **control supply voltage at DC rated value** | 24 V |
| **operating range factor control supply voltage rated value at DC** | |
| ● initial value | 0.75 |
| ● full-scale value | 1.25 |
| **Measuring circuit** | |
| **type of current for monitoring** | AC |
| **measurable current** | 30 ... 40 000 mA |
| **measurable line frequency** | 16 ... 400 Hz |
| **adjustable operating delay time** | 0 ... 999.9 s |
| **adjustable current response value current** | |
| ● 1 | 30 mA ... 40 A |
| ● 2 | 30 mA ... 40 A |
| **adjustable response delay time** | 0 ... 999.9 s |
| adjustable response delay time when starting | 0 ... 999.9 s |
| **adjustable switching hysteresis for measured current value** | 0 mA |
| **buffering time in the event of power failure minimum** | 10 ms |
| **accuracy of digital display** | +/-1 digit |
| **Precision** | |
| **relative metering precision** | 5 % |
| **temperature drift per °C** | 0 %/°C |
| **Communication/ Protocol** | |
| protocol is supported IO-Link protocol | Yes |
| **IO-Link transfer rate** | COM2 (38,4 kBaud) |
| **point-to-point cycle time between master and IO-Link device minimum** | 5 ms |
| **type of voltage supply via input/output link master** | Yes |
| **data volume** | |
| ● of the address range of the inputs with cyclical transfer total | 4 byte |
| ● of the address range of the outputs with cyclical transfer total | 2 byte |
| **Auxiliary circuit** | |
| number of NC contacts delayed switching | 0 |
| number of NO contacts delayed switching | 0 |
| **number of CO contacts** | |
| ● for auxiliary contacts | 1 |
| ● delayed switching | 1 |
| **operating frequency with 3RT2 contactor maximum** | 5 000 1/h |
| **Main circuit** | |
| **type of voltage** | DC |
| operating voltage rated value | 24 V |
| **operating frequency rated value** | 16 ... 400 Hz |
| **ampacity of the output relay at AC-15** | |
| ● at 230 V at 50/60 Hz | 3 A |
| ● at 250 V at 50/60 Hz | 3 A |


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|---|---|
| ● at 400 V at 50/60 Hz | 3 A |
| **ampacity of the output relay at DC-13** | |
| ● at 24 V | 1 A |
| ● at 110 V | 0.2 A |
| ● at 125 V | 0.2 A |
| ● at 230 V | 0.1 A |
| ● at 250 V | 0.1 A |
| **ampacity of the semiconductor output in SIO mode** | 200 mA |
| **operational current at 17 V minimum** | 5 mA |
| **continuous current of the DIAZED fuse link of the output relay** | 6 A |
| **Electromagnetic compatibility** | |
| **conducted interference** | |
| ● due to burst according to IEC 61000-4-4 | 2 kV |
| ● due to conductor-earth surge according to IEC 61000-4-5 | 2 kV |
| ● due to conductor-conductor surge according to IEC 61000-4-5 | 1 kV |
| **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 |
| **galvanic isolation** | |
| ● between input and output | Yes |
| ● between the outputs | Yes |
| ● between the voltage supply and other circuits | Yes |
| **Safety related data** | |
| **product function suitable for safety function** | No |
| Electrical Safety | |
| **protection class IP on the front according to IEC 60529** | IP20 |
| **Connections/ Terminals** | |
| **product component removable terminal for auxiliary and control circuit** | Yes |
| **type of electrical connection** | spring-loaded terminal (push-in) |
| **type of connectable conductor cross-sections** | |
| ● solid | 1x (0.5 ... 4 mm²) |
| ● finely stranded with core end processing | 1x (0.5 ... 2.5 mm²) |
| ● finely stranded without core end processing | 0.5 ... 4 mm² |
| ● for AWG cables solid | 1x (20 ... 12) |
| ● for AWG cables stranded | 20 ... 12 |
| **connectable conductor cross-section** | |
| ● solid | 0.5 ... 4 mm² |
| ● finely stranded with core end processing | 0.5 ... 2.5 mm² |
| ● finely stranded without core end processing | 0.5 ... 4 mm² |
| **AWG number as coded connectable conductor cross section** | |
| ● solid | 20 ... 12 |
| ● stranded | 20 ... 12 |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | any |
| **fastening method** | screw and snap-on mounting |
| **height** | 100 mm |
| **width** | 22.5 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 |


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| | |
|---|---|
| ● 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 ... +80 °C |
| ● during transport | -40 ... +80 °C |

## Approvals Certificates

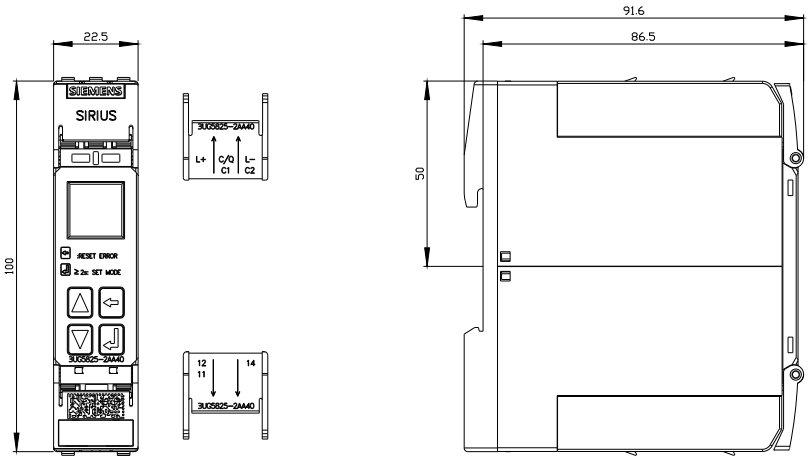
| Environment | General Product Approval | | | | |
|---|---|---|---|---|---|
| Environmental Confirmations | Siemens EcoTech | CCC | cULus | EAC | CE EG-Konf. |

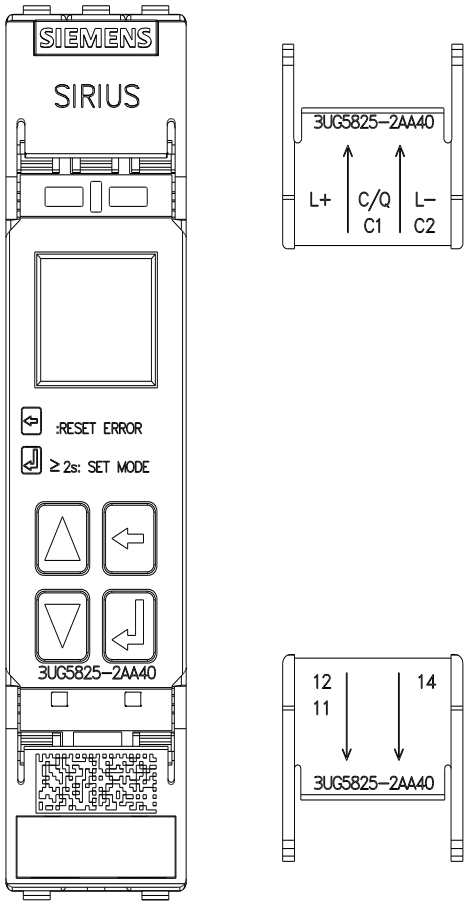
| Test Certificates | Maritime application | other | |
|---|---|---|---|
| Type Test Certificates/Test Report | DNV | Confirmation | 产品合格 QC PASS |

## 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=3UG5825-2AA40
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5825-2AA40
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3UG5825-2AA40
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5825-2AA40&lang=en

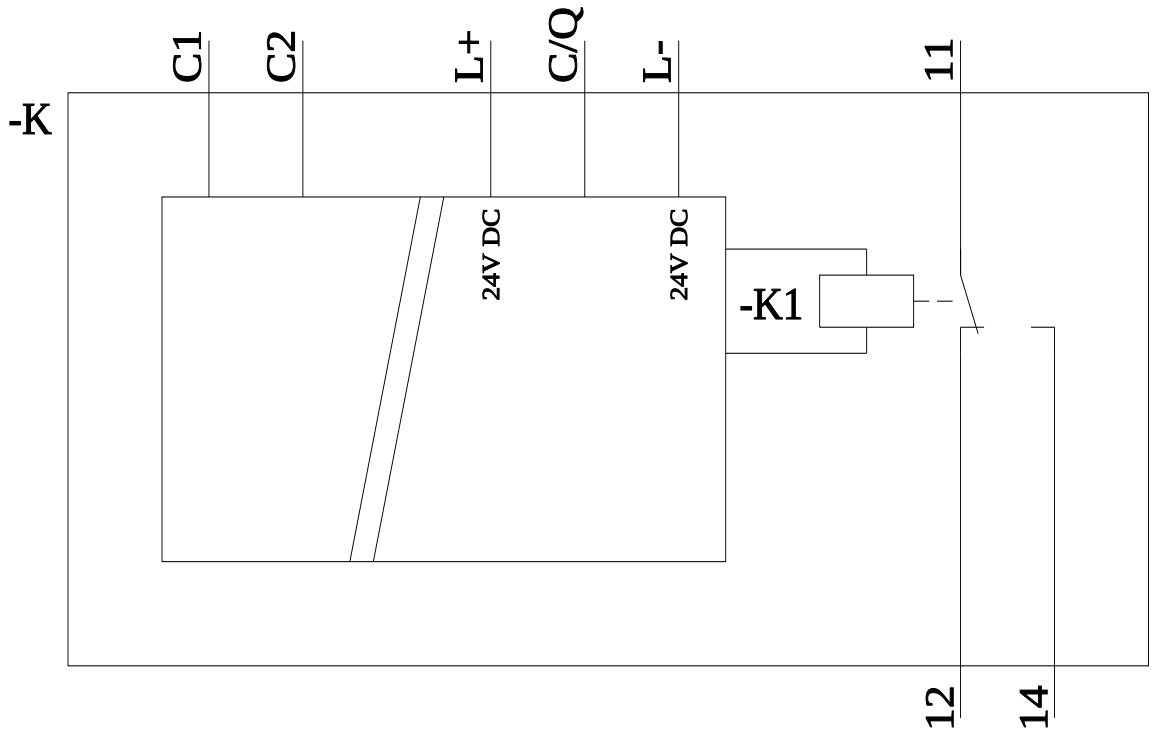

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**last modified:** 9/16/2026


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