



Digital monitoring relay Current monitoring, 22.5 mm for IO-Link 0.05...10.0 A AC/DC Overcurrent and undercurrent Transformer scaling factor Hysteresis 0.01 to 5.0 A ON-delay time Tripping delay time 1 change-over contact, screw terminal

| | |
|--|---|
| product brand name | SIRIUS |
| product designation | Current monitoring relay with digital setting |
| product type designation | 3UG4 |
| General technical data | |
| product function | Current monitoring relay |
| design of the display | LCD |
| insulation voltage for overvoltage category III according to IEC 60664 | |
| • with degree of pollution 2 rated value | 690 V |
| degree of pollution | 2 |
| surge voltage resistance rated value | 6 kV |
| maximum permissible voltage for safe isolation | |
| • between control and auxiliary circuit | 690 V |
| protection class IP | IP20 |
| shock resistance acc. to IEC 60068-2-27 | sinusoidal half-wave 15g / 11 ms |
| vibration resistance acc. to IEC 60068-2-6 | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g |
| mechanical service life (switching cycles) typical | 10 000 001 |
| electrical endurance (switching cycles) at AC-15 at 230 V typical | 100 000 |
| thermal current of the switching element with contacts maximum | 5 A |
| reference code acc. to IEC 81346-2 | K |
| relative repeat accuracy | 1 % |
| Substance Prohibitance (Date) | 01.05.2012 00:00:00 |
| Product Function | |
| product function | |
| • overcurrent detection 1 phase | Yes |
| • overcurrent detection 3 phase | No |
| • undercurrent detection 1 phase | Yes |
| • undercurrent detection 3 phases | No |
| • overcurrent detection DC | Yes |
| • undercurrent detection DC | Yes |
| • current window recognition DC | Yes |
| • voltage window recognition 1 phase | No |
| • voltage window recognition 3 phase | No |
| • adjustable open/closed-circuit current principle | Yes |
| • external reset | Yes |
| • auto-RESET | Yes |
| Supply voltage | |
| type of voltage of the supply voltage | DC |

| | |
|---|---|
| supply voltage 1 at DC | 18 ... 30 V |
| supply voltage 1 at DC rated value | 24 V |
| Measuring circuit | |
| type of current for monitoring | AC/DC |
| measurable current | 0.05 ... 10 A |
| measurable line frequency | 500 ... 40 Hz |
| adjustable current response value current | |
| • 1 | 0.05 ... 10 A |
| • 2 | 0.05 ... 10 A |
| adjustable response delay time | |
| • when starting | 0 ... 999.9 s |
| • with lower or upper limit violation | 0 ... 999.9 s |
| adjustable switching hysteresis for measured current value | 5 ... 10 mA |
| accuracy of digital display | +/-1 digit |
| relative temperature-related measurement deviation | 5 % |
| internal resistance of the measuring circuit | 5 mΩ |
| Precision | |
| relative metering precision | 5 % |
| 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 | 10 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 delayed switching | 1 |
| operating frequency with 3RT2 contactor maximum | 5 000 1/h |
| Main circuit | |
| number of poles for main current circuit | 1 |
| operating voltage rated value | 24 ... 24 V |
| Outputs | |
| ampacity of the output relay at AC-15 | |
| • at 250 V at 50/60 Hz | 3 A |
| • at 400 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 |
| • at 250 V | 0.1 A |
| ampacity of the semiconductor output in SIO mode | 200 mA |
| operational current at 17 V minimum | 0.01 A |
| continuous current of the DIAZED fuse link of the output relay | 4 A |
| Electromagnetic compatibility | |
| conducted interference | |
| • due to burst acc. to IEC 61000-4-4 | 2 kV |
| • due to conductor-earth surge acc. to IEC 61000-4-5 | 2 kV |
| • due to conductor-conductor surge acc. to IEC 61000-4-5 | 1 kV |
| field-based interference acc. to IEC 61000-4-3 | 10 V/m |
| electrostatic discharge acc. to IEC 61000-4-2 | 6 kV contact discharge / 8 kV air discharge |
| Galvanic isolation | |
| design of the electrical isolation | Protective separation |

| | | |
|--|--|----------------------------------|
| galvanic isolation | | |
| <ul style="list-style-type: none"> • between input and output | Yes | |
| <ul style="list-style-type: none"> • between the voltage supply and other circuits | Yes | |
| Connections/ Terminals | | |
| product component removable terminal for main circuit | Yes | |
| product component removable terminal for auxiliary and control circuit | Yes | |
| type of electrical connection | | |
| <ul style="list-style-type: none"> • for main current circuit | screw-type terminals | |
| <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 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) | |
| <ul style="list-style-type: none"> • finely stranded with core end processing | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) | |
| <ul style="list-style-type: none"> • at AWG cables solid | 2x (20 ... 14) | |
| <ul style="list-style-type: none"> • at AWG cables stranded | 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 ... 2.5 mm ² | |
| AWG number as coded connectable conductor cross section | | |
| <ul style="list-style-type: none"> • solid | 20 ... 14 | |
| <ul style="list-style-type: none"> • stranded | 20 ... 14 | |
| tightening torque with screw-type terminals | 0.8 ... 1.2 N·m | |
| Installation/ mounting/ dimensions | | |
| mounting position | any | |
| fastening method | snap-on mounting | |
| height | 92 mm | |
| width | 22.5 mm | |
| depth | 91 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 | 0 mm 0 mm 0 mm 0 mm 0 mm | |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards | 0 mm 0 mm 0 mm 0 mm 0 mm | |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards — at the side | 0 mm 0 mm 0 mm 0 mm 0 mm | |
| 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 | |
| Certificates/ approvals | | |
| General Product Approval | EMC | Declaration of Conformity |



[Manufacturer Declaration](#)



Test Certificates

Marine / Shipping

other

Railway

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[Confirmation](#)

[Vibration and Shock](#)

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=3UG4822-1AA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4822-1AA40>

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

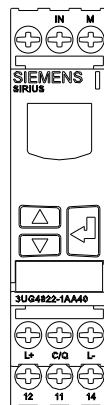
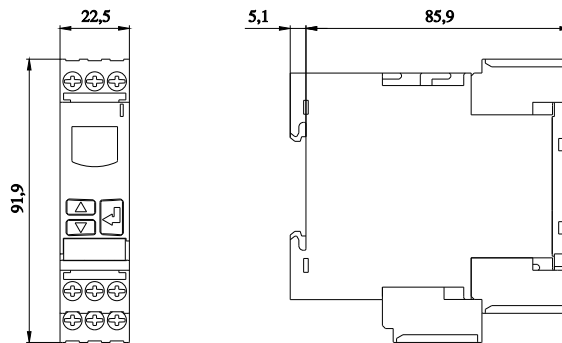
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4822-1AA40>

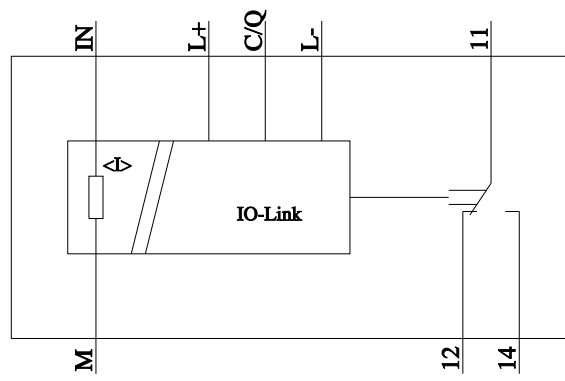
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4822-1AA40&lang=en

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4822-1AA40/manual>





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