

Siemens  
EcoTech



digital monitoring relay current, active current, voltage, cos-phi and performance monitoring up to 690 V AC/DC up to 15 A supply voltage 24 ... 240 V AC/DC, 50 .. 60 Hz ON delay and tripping delay 0.1..999.9 s 2 changeover contacts screw terminal SIL 1/PL c

|   |   |
|---|---|
| <b>product brand name</b>   | SIRIUS  |
| <b>product designation</b>  | Network monitoring relay with digital setting   |
| <b>design of the product</b>  | monitoring of current, active current, voltage, power factor and power, externally powered with auxiliary voltage for Safety applications |
| <b>product type designation</b>   | 3UG5  |
| <b>General technical data</b>   |   |
| <b>product function</b>   | network monitoring relay with digital setting   |
| <b>design of the display</b>  | LCD   |
| <b>insulation voltage for overvoltage category III according to IEC 60664</b> |   |
| • with degree of pollution 2 rated value                                      | 690 V   |
| • with degree of pollution 3 rated value                                      | 690 V   |
| <b>degree of pollution</b>  | 3   |
| <b>surge voltage resistance rated value</b>                                   | 6 kV  |
| <b>shock resistance according to IEC 60068-2-27</b>                           | sinusoidal half-wave 15g / 11 ms  |
| <b>vibration resistance according to IEC 60068-2-6</b>                        | f = 4 ... 5,81 Hz, dmax = 15 mm; f = 5,81 ... 500 Hz, Amax = 20 m/s <sup>2</sup> ; 10 cycles  |
| <b>mechanical service life (operating cycles) typical</b>                     | 10 000 000  |
| electrical endurance (operating 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 according to IEC 81346-2</b>                                | K   |
| <b>Substance Prohibitance (Date)</b>  | 06/01/2023  |
| <b>SVHC substance name</b>  | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1                     |
| <b>Net Weight</b>   | 0.189 kg  |
| <b>Product Function</b>   |   |
| <b>product function</b>   |   |
| • overcurrent detection 1 phase   | Yes   |
| • undercurrent detection 1 phase  | Yes   |
| • adjustable open/closed-circuit current principle                            | Yes   |
| • auto-RESET  | Yes   |
| • manual RESET  | Yes   |
| suitability for use safety-related circuits                                   | Yes   |
| <b>Control circuit/ Control</b>   |   |
| <b>type of voltage of the control supply voltage</b>                          | AC/DC   |
| <b>control supply voltage rated value</b>                                     | 24 ... 240 V  |

|   |                |
|---|----------------|
| <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 rated value</b>                                 | 24 ... 240 V   |
| <b>supply voltage frequency for auxiliary and control circuit rated value</b>   | 50 ... 60 Hz   |
| <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 value at AC at 60 Hz</b> |                |
| • initial value   | 0.85           |
| • full-scale value  | 1.1            |
| <b>Supply voltage</b>   |                |
| supply voltage frequency rated value  | 60 ... 50 Hz   |
| <b>Measuring circuit</b>  |                |
| type of current for monitoring  | AC/DC          |
| measurable current  | 0.003 ... 10 A |
| measurable voltage at AC  | 0.1 ... 760 V  |
| adjustable current response value current limited to 5 s                        | 15 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                      | 0 ... 5 000 mA |
| accuracy of digital display   | +/-1 digit     |
| <b>Communication/ Protocol</b>  |                |
| protocol is supported IO-Link protocol  | No             |
| <b>Auxiliary circuit</b>  |                |
| number of NC contacts delayed switching   | 0              |
| number of NO contacts delayed switching   | 0              |
| number of CO contacts delayed switching   | 2              |
| <b>Main circuit</b>   |                |
| number of poles for main current circuit  | 1              |
| operating voltage rated value   | 24 ... 240 V   |
| <b>ampacity of the output relay at AC-15</b>                                    |                |
| • at 250 V at 50/60 Hz  | 3 A            |
| • at 400 V at 50/60 Hz  | 3 A            |
| <b>ampacity of the output relay at DC-13</b>                                    |                |
| • at 24 V   | 1 A            |
| • at 125 V  | 0.2 A          |
| • at 250 V  | 0.1 A          |
| operational current at 17 V minimum   | 5 mA           |
| continuous current of the DIAZED fuse link of the output relay                  | 6 A            |
| <b>Galvanic isolation</b>   |                |
| galvanic isolation  |                |
| • between input and output  | Yes            |
| • between the outputs   | Yes            |
| • between the voltage supply and other circuits                                 | Yes            |
| <b>Safety related data</b>  |                |
| product function suitable for safety function                                   | Yes            |
| safe state  | off            |
| function test interval maximum  | 1 a            |
| IEC 62061   |                |
| Safety Integrity Level (SIL) according to IEC 62061                             | SIL 1          |

|   |  |
|---|--|
| PFHD with high demand rate according to IEC 62061                             | 1.3E-6 1/h   |
| <b>ISO 13849</b>  |  |
| <b>performance level (PL) according to ISO 13849-1</b>                        | PL c   |
| <b>category according to ISO 13849-1</b>                                      | 2  |
| <b>IEC 61508</b>  |  |
| Safety Integrity Level (SIL) according to IEC 61508                           | SIL 1  |
| <b>safety device type according to IEC 61508-2</b>                            | Type B   |
| PFDavg with low demand rate according to IEC 61508                            | 0.0016   |
| <b>Safe failure fraction (SFF)</b>  | 90 %   |
| hardware fault tolerance according to IEC 61508                               | 0  |
| <b>T1 value</b>   |  |
| • of service life according to IEC 61508                                      | 20 a   |
| <b>Connections/ Terminals</b>   |  |
| <b>product component removable terminal for auxiliary and control circuit</b> | Yes  |
| <b>type of electrical connection</b>  | screw terminal   |
| <b>type of connectable conductor cross-sections</b>                           |  |
| • solid   | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • finely stranded with core end processing                                    | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 1x (0.5 ... 4 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  |
| <b>Installation/ mounting/ dimensions</b>                                     |  |
| <b>mounting position</b>  | any  |
| <b>fastening method</b>   | screw and snap-on mounting   |
| <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 ... +80 °C   |
| • during transport  | -40 ... +80 °C   |

## Approvals Certificates

General Product Approval

Test Certificates

other



[Special Test Certificate](#)

[Confirmation](#)



## Environment

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[Environmental Confirmations](#)

## 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=3UG5642-1CW31>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5642-1CW31>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5642-1CW31>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5642-1CW31&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5642-1CW31&lang=en)





