SIEMENS

## Data sheet 3UG5501-2AW31

Siemens EcoTech

analog monitoring relay level monitoring resistance monitoring from 0.5 to 500 kohm overshoot and undershoot supply voltage 24 ... 240 V AC/DC, 50 .. 60 Hz 2-step or 1-step control tripping delay 0.5-30 s 1 changeover contact spring-loaded terminal SIL 1/PL c WHG

| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | Level monitoring relay with analog setting |
| **design of the product** | level monitoring, externally supplied with auxiliary voltage for safety applications |
| **product type designation** | 3UG5 |
| manufacturer's article number of the optional sensor | 2-pole and 3-pole sensors 3UG5207 |
| **General technical data** | |
| **product function** | analog setting level monitoring relay |
| **display version LED** | Yes |
| **power loss [W] maximum** | 1.5 W |
| **power loss [V·A] maximum** | 3 VA |
| ● Apparent power consumption at DC | |
| — at 24 V maximum | 1 VA |
| — at 240 V maximum | 3 VA |
| ● apparent power consumption at AC | |
| — at 24 V maximum | 1 VA |
| — at 240 V maximum | 3 VA |
| **insulation voltage** | |
| ● **rated value** | 300 V |
| ● for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value | 300 V |
| **degree of pollution** | 3 |
| **type of voltage** | |
| ● of the operating voltage for actuation | AC/DC |
| ● of the control supply voltage | AC/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 |

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| **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 |
| **Net Weight** | 0.18 kg |
| **Product Function** | |
| **product function** | |
| ● outlet monitoring adjustable | Yes |
| ● adjustable responsiveness | Yes |
| ● inlet monitoring adjustable | Yes |
| ● external reset | Yes |
| **Control circuit/ Control** | |
| **control supply voltage at AC** | |
| ● at 50 Hz rated value | 24 ... 240 V |
| ● at 60 Hz rated value | 24 ... 240 V |
| **control supply voltage at DC rated value** | 24 ... 240 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 |
| **Measuring circuit** | |
| **adjustable operating delay time** | 0.5 ... 30 s |
| **adjustable response delay time** | |
| ● with lower or upper limit violation | 0.5 ... 30 s |
| **buffering time in the event of power failure minimum** | 20 ms |
| **response time maximum** | 500 ms |
| **physical measuring principle** | conductive |
| **Precision** | |
| **relative metering precision** | 20 % |
| **temperature drift per °C** | 1 %/°C |
| **Auxiliary circuit** | |
| **number of CO contacts** | |
| ● for auxiliary contacts | 1 |
| ● delayed switching | 1 |
| **operating frequency with 3RT2 contactor maximum** | 5 000 1/h |
| **Inputs/ Outputs** | |
| **number of inputs** | 2 |
| **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 |
| ● 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 |
| **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** | |

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| ● 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** | |
| **galvanic isolation** | |
| ● between input and output | Yes |
| ● between the voltage supply and other circuits | Yes |
| **Safety related data** | |
| product function suitable for safety function | Yes |
| **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 | 9.3E-7 1/h |
| ISO 13849 | |
| **performance level (PL) according to ISO 13849-1** | PL c |
| **category according to ISO 13849-1** | 2 |
| IEC 61508 | |
| Safety Integrity Level (SIL) according to IEC 61508 | 1 |
| **safety device type according to IEC 61508-2** | Type B |
| PFDavg with low demand rate according to IEC 61508 | 0.0015 |
| **Safe failure fraction (SFF)** | 60 % |
| hardware fault tolerance according to IEC 61508 | 0 |
| T1 value of service life according to IEC 61508 | 20 a |
| 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 |
| ● 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**

Environmental Confirmations

**General Product Approval**

**General Product Approval**

**Test Certificates**

Special Test Certificate

Type Test Certificates/Test Report

**other**

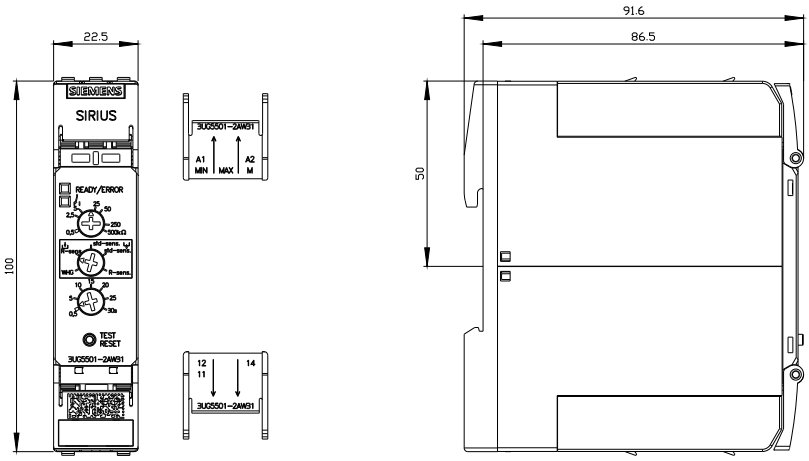
Confirmation

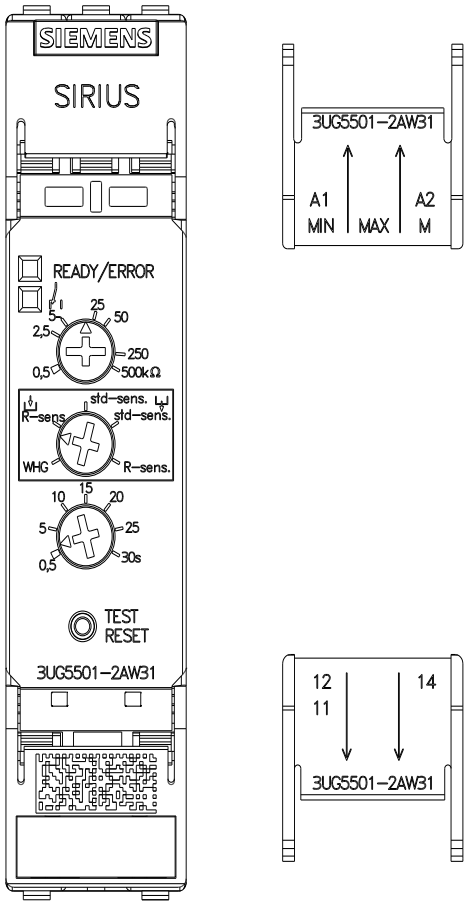
**other**

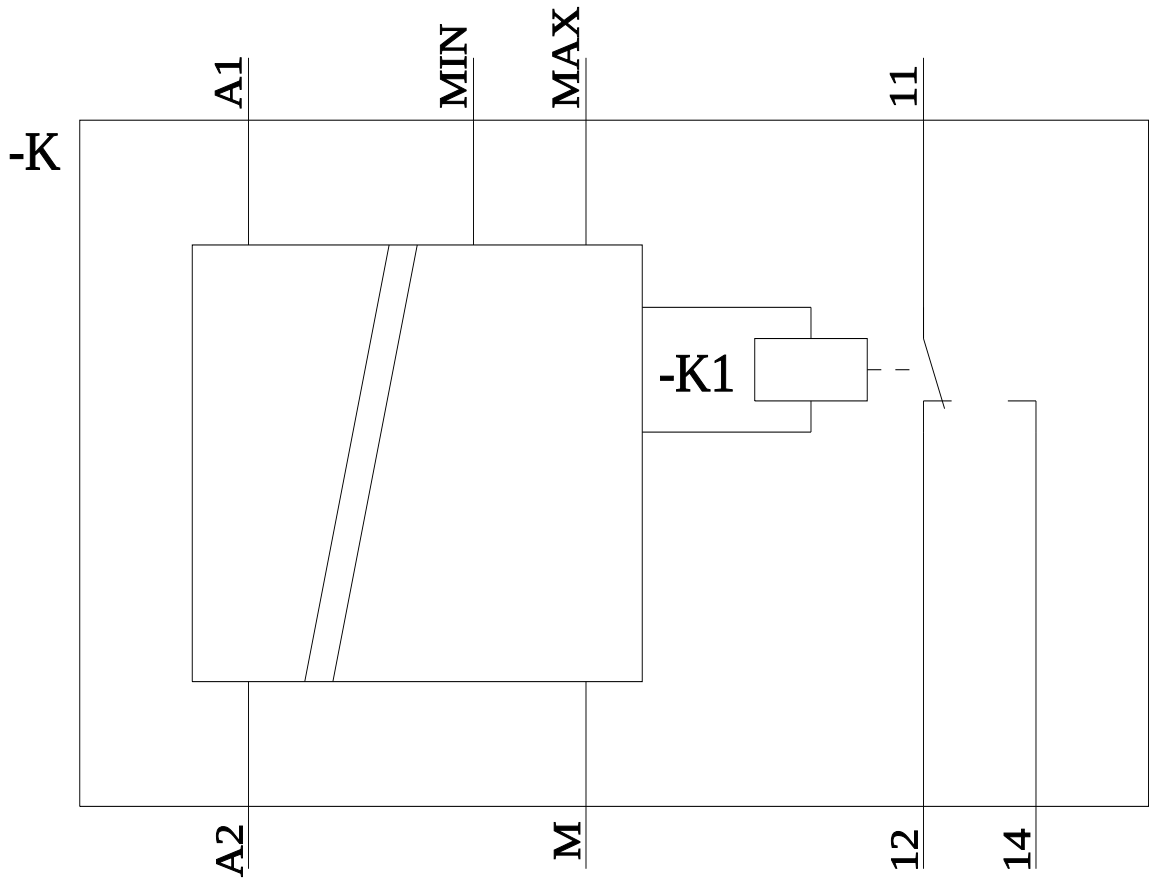
Confirmation

## 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=3UG5501-2AW31
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5501-2AW31
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3UG5501-2AW31
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5501-2AW31&lang=en



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