SIEMENS

## Data sheet 3UG5651-2CW31

Siemens EcoTech

digital monitoring relay speed monitoring from 0.1 to 2200 r/min overshoot and undershoot supply voltage 24 ... 240 V AC/DC, 50 .. 60 Hz ON delay and tripping delay 0.1..999.9 s 2 changeover contacts spring-loaded terminal SIL 1/PL c


| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | Speed monitoring relay with digital setting |
| **design of the product** | monitoring of speed, external power supply with auxiliary voltage for safety applications |
| **product type designation** | 3UG5 |
| **General technical data** | |
| **product function** | RPM 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 |
| — with degree of pollution 3 rated value | 690 V |
| **degree of pollution** | 3 |
| type of voltage of the control supply voltage | AC/DC |
| **protection class IP** | |
| • of the enclosure | IP20 |
| • of the terminal | IP20 |
| **shock resistance according to IEC 60068-2-27** | sinusoidal half-wave 15g / 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 |
| **Substance Prohibitance (Date)** | 06/01/2023 |
| **SVHC substance name** | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 |
| **Net Weight** | 0.18 kg |
| **Product Function** | |
| **product function** | |
| • standstill monitoring | No |
| • rotation speed monitoring | Yes |
| • adjustable open/closed-circuit current principle | No |
| • manual RESET | Yes |
| suitability for use safety-related circuits | 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** | |
| **measurable line frequency** | 50 ... 60 Hz |
| **adjustable operating delay time** | 999.9 s |
| **adjustable response delay time** | |
| ● when starting | 0 ... 999.9 s |
| ● with lower or upper limit violation | 0 ... 999.9 s |
| **accuracy of digital display** | +/- 1 Digit |
| **Communication/ Protocol** | |
| protocol is supported IO-Link protocol | No |
| **Auxiliary circuit** | |
| number of CO contacts delayed switching | 2 |
| **Inputs/ Outputs** | |
| design of input feedback input | No |
| **number of outputs as contact-affected switching element** | |
| ● safety-related | |
| — delayed switching | 2 |
| — instantaneous contact | 0 |
| **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 125 V | 0.2 A |
| ● at 250 V | 0.1 A |
| **operational current at 17 V minimum** | 5 mA |
| **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 | 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 | 1.4E-6 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 | 0.0023 |

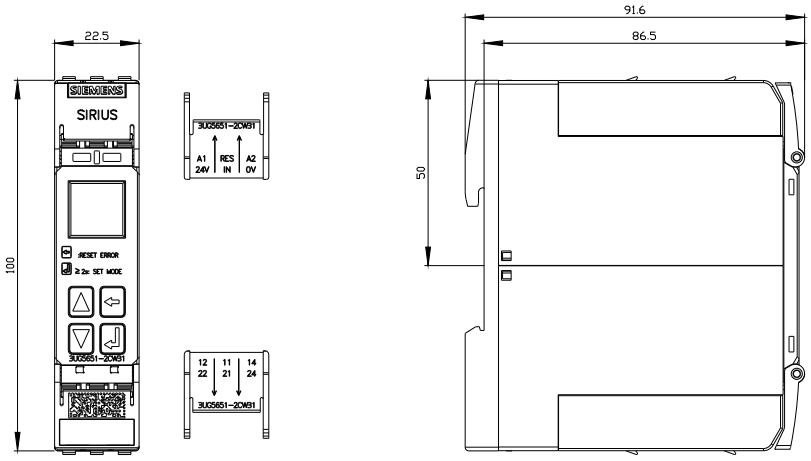
| | |
|---|---|
| **Safe failure fraction (SFF)** | 60 % |
| hardware fault tolerance according to IEC 61508 | 0 |
| T1 value of service life according to IEC 61508 | 20 a |
| **Connections/ Terminals** | |
| **product component removable terminal for auxiliary and control circuit** | Yes |
| **type of electrical connection** | spring-loaded terminal (push-in) |
| ● for auxiliary and control circuit | spring-loaded terminals (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 ... 1.5 mm² |
| **AWG number as coded connectable conductor cross section** | |
| ● solid | 24 ... 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** | |
| **General Product Approval** | **Test Certificates** |

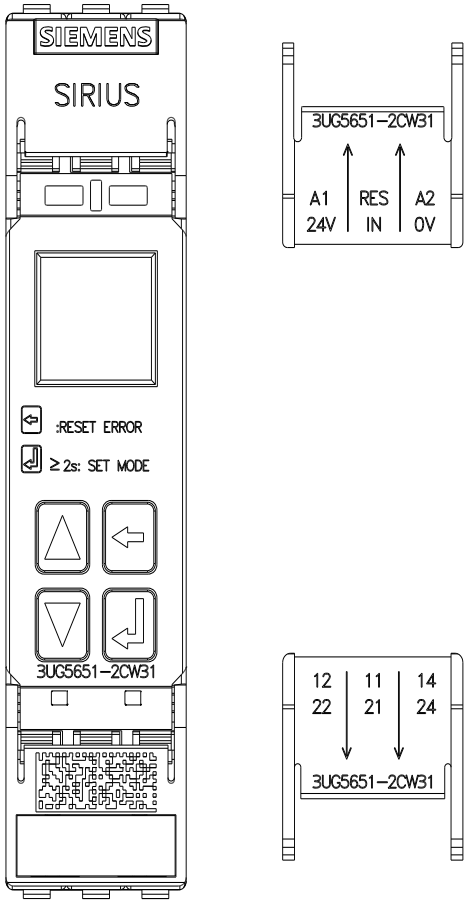
Special Test Certificate

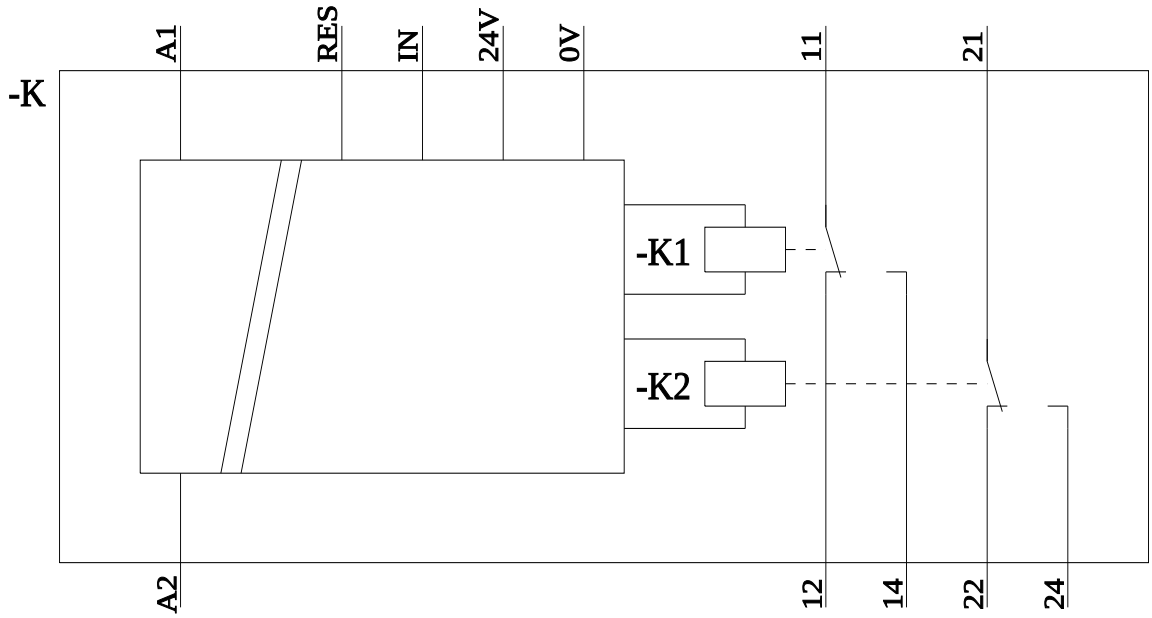
| other | Environment |
| --- | --- |
| Confirmation | Environmental Confirmations |

## 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=3UG5651-2CW31
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5651-2CW31
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3UG5651-2CW31
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5651-2CW31&lang=en



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