SIEMENS

## Data sheet 3UG4512-1AR20



!!! product phase-out !!! the preferred successor is 3UG5512-1AR20 phase failure and sequence monitoring 3 x 160...690 V analog monitoring relay phase failure and sequence monitoring 3 x 160...690 V AC 50...60 Hz 1 changeover contact screw terminal

| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | Line monitoring relay |
| **design of the product** | 2 functions |
| **product type designation** | 3UG4 |
| **General technical data** | |
| **product function** | Phase monitoring relay |
| **display version LED** | Yes |
| **insulation voltage for overvoltage category III according to IEC 60664** | |
| ● with degree of pollution 3 rated value | 690 V |
| **degree of pollution** | 3 |
| **type of voltage** | |
| ● for monitoring | AC |
| **surge voltage resistance rated value** | 6 kV |
| **shock resistance according to IEC 60068-2-27** | sinusoidal half-wave 15 g / 11 ms |
| **vibration resistance according to IEC 60068-2-6** | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2 g |
| **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)** | 05/01/2012 |
| **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<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 |
| **Net Weight** | 105.08 g |
| **Product Function** | |
| **product function** | |
| ● undervoltage detection | No |
| ● overvoltage detection | No |
| ● phase sequence recognition | Yes |
| ● phase failure detection | Yes |
| ● asymmetry detection | No |
| ● overcurrent detection 1 phase | No |
| ● overvoltage detection 3 phase | No |
| ● undercurrent detection 1 phase | No |
| ● undervoltage detection 3 phases | No |


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| | |
|---|---|
| ● voltage window recognition 3 phase | No |
| ● adjustable open/closed-circuit current principle | No |
| ● auto-RESET | Yes |
| **Control circuit/ Control** | |
| **type of voltage of the control supply voltage** | AC |
| **operating range factor control supply voltage rated value at AC at 50 Hz** | |
| ● initial value | 1 |
| ● full-scale value | 1 |
| **operating range factor control supply voltage rated value at AC at 60 Hz** | |
| ● initial value | 1 |
| ● full-scale value | 1 |
| **Interfaces** | |
| design of the interface bluetooth | No |
| **Measuring circuit** | |
| **response time maximum** | 450 ms |
| **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** | |
| **number of poles for main current circuit** | 3 |
| **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 A |
| ● at 250 V | 0 A |
| **operational current at 17 V minimum** | 5 mA |
| **continuous current of the DIAZED fuse link of the output relay** | 4 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** | |
| **electrical separation** | |
| ● 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** | screw terminal |
| **type of connectable conductor cross-sections** | |
| ● solid | 1x (0.5 ... 4.0mm²), 2x (0.5 ... 2.5 mm²) |
| ● finely stranded with core end processing | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) |


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| | |
|---|---|
| ● for AWG cables solid | 2x (20 ... 14) |
| ● for AWG cables stranded | 2x (20 ... 14) |
| **connectable conductor cross-section** | |
| ● solid | 0.5 ... 4 mm² |
| ● finely stranded with core end processing | 0.5 ... 2.5 mm² |
| **AWG number as coded connectable conductor cross section** | |
| ● solid | 20 ... 14 |
| ● 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** | 83 mm |
| **width** | 22.5 mm |
| **depth** | 91 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 ... +85 °C |
| ● during transport | -40 ... +85 °C |
| **Approvals Certificates** | |
| Environmental Product Declaration | |
| ● global warming potential [CO2 eq] / during manufacturing | 3.51 kg |
| ● global warming potential [CO2 eq] / during sales | 0.0276 kg |
| ● global warming potential [CO2 eq] / during operation | 13.7 kg |
| ● global warming potential [CO2 eq] / after end of life | -1.12 kg |
| ● global warming potential [CO2 eq] / total | 16.1 kg |

| Environment | General Product Approval |
|---|---|

Environmental Confirmations

| General Product Approval | EMV | Test Certificates |
|---|---|---|

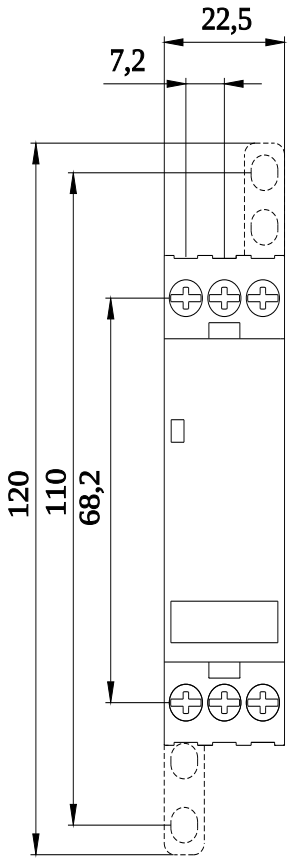

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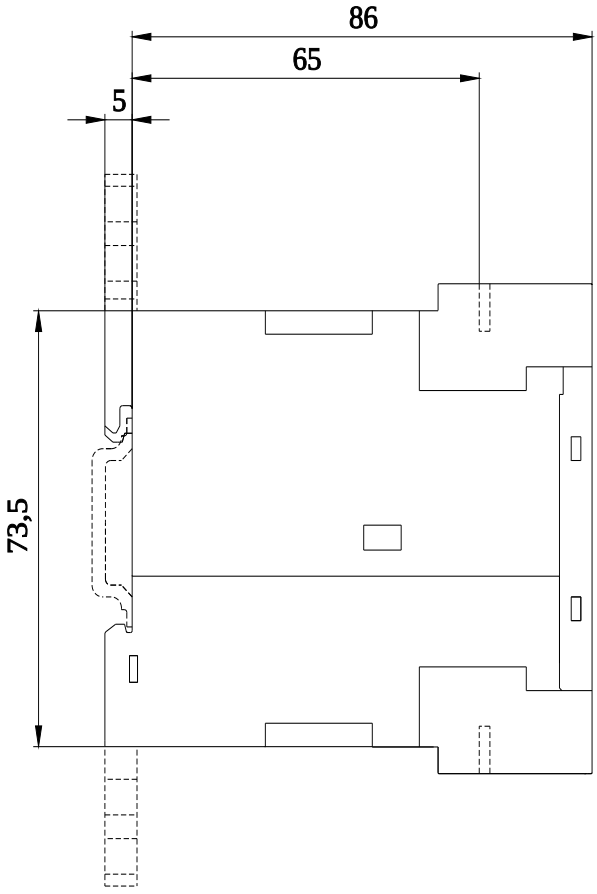
Type Test Certificates/Test Report

| Test Certificates | Maritime application | other | Railway |
|---|---|---|---|
| Special Test Certificate | | Confirmation | Special Test Certificate |

## 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=3UG4512-1AR20
**Cax online generator**
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-1AR20
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1AR20
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-1AR20&lang=en




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