



!!! 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                                                                                                                                                                                                                                                |
| <b>General technical data</b>                                          |                                                                                                                                                                                                                                                     |
| 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                                                                                                                                                                                                                                            |
| <b>Product Function</b>                                                |                                                                                                                                                                                                                                                     |
| 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                                                                                                                                                                                                                                                  |

|                                                                                 |                                             |
|---------------------------------------------------------------------------------|---------------------------------------------|
| • voltage window recognition 3 phase                                            | No                                          |
| • adjustable open/closed-circuit current principle                              | No                                          |
| • auto-RESET                                                                    | Yes                                         |
| <b>Control circuit/ Control</b>                                                 |                                             |
| <b>type of voltage of the control supply voltage</b>                            | AC                                          |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b> |                                             |
| • initial value                                                                 | 1                                           |
| • full-scale value                                                              | 1                                           |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b> |                                             |
| • initial value                                                                 | 1                                           |
| • full-scale value                                                              | 1                                           |
| <b>Interfaces</b>                                                               |                                             |
| design of the interface bluetooth                                               | No                                          |
| <b>Measuring circuit</b>                                                        |                                             |
| <b>response time maximum</b>                                                    | 450 ms                                      |
| <b>Auxiliary circuit</b>                                                        |                                             |
| number of NC contacts delayed switching                                         | 0                                           |
| number of NO contacts delayed switching                                         | 0                                           |
| <b>number of CO contacts</b>                                                    |                                             |
| • for auxiliary contacts                                                        | 1                                           |
| • delayed switching                                                             | 1                                           |
| <b>operating frequency with 3RT2 contactor maximum</b>                          | 5 000 1/h                                   |
| <b>Main circuit</b>                                                             |                                             |
| <b>number of poles for main current circuit</b>                                 | 3                                           |
| <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 A                                         |
| • at 250 V                                                                      | 0 A                                         |
| <b>operational current at 17 V minimum</b>                                      | 5 mA                                        |
| <b>continuous current of the DIAZED fuse link of the output relay</b>           | 4 A                                         |
| <b>Electromagnetic compatibility</b>                                            |                                             |
| <b>conducted interference</b>                                                   |                                             |
| • 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                                        |
| <b>field-based interference according to IEC 61000-4-3</b>                      | 10 V/m                                      |
| <b>electrostatic discharge according to IEC 61000-4-2</b>                       | 6 kV contact discharge / 8 kV air discharge |
| <b>Galvanic isolation</b>                                                       |                                             |
| <b>galvanic isolation</b>                                                       |                                             |
| • 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                                   | No                                          |
| <b>Electrical Safety</b>                                                        |                                             |
| <b>protection class IP on the front according to IEC 60529</b>                  | IP20                                        |
| <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 ... 4.0mm²), 2x (0.5 ... 2.5 mm²)   |
| • finely stranded with core end processing                                      | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)  |

|                                                                                              |                             |
|----------------------------------------------------------------------------------------------|-----------------------------|
| <ul style="list-style-type: none"> <li>• for AWG cables solid</li> </ul>                     | 2x (20 ... 14)              |
| <ul style="list-style-type: none"> <li>• for AWG cables stranded</li> </ul>                  | 2x (20 ... 14)              |
| <b>connectable conductor cross-section</b>                                                   |                             |
| <ul style="list-style-type: none"> <li>• solid</li> </ul>                                    | 0.5 ... 4 mm <sup>2</sup>   |
| <ul style="list-style-type: none"> <li>• finely stranded with core end processing</li> </ul> | 0.5 ... 2.5 mm <sup>2</sup> |
| <b>AWG number as coded connectable conductor cross section</b>                               |                             |
| <ul style="list-style-type: none"> <li>• solid</li> </ul>                                    | 20 ... 14                   |
| <ul style="list-style-type: none"> <li>• stranded</li> </ul>                                 | 20 ... 14                   |
| tightening torque with screw-type terminals                                                  | 0.8 ... 1.2 N·m             |

#### Installation/ mounting/ dimensions

|                                                                                                                                                                                                                                  |                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <b>mounting position</b>                                                                                                                                                                                                         | any                                  |
| <b>fastening method</b>                                                                                                                                                                                                          | snap-on mounting                     |
| <b>height</b>                                                                                                                                                                                                                    | 83 mm                                |
| <b>width</b>                                                                                                                                                                                                                     | 22.5 mm                              |
| <b>depth</b>                                                                                                                                                                                                                     | 91 mm                                |
| <b>required spacing</b>                                                                                                                                                                                                          |                                      |
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm |
| <ul style="list-style-type: none"> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> </ul>         | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm |
| <ul style="list-style-type: none"> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>             | 0 mm<br>0 mm<br>0 mm<br>0 mm<br>0 mm |

#### Ambient conditions

|                                                                      |                |
|----------------------------------------------------------------------|----------------|
| installation altitude at height above sea level maximum              | 2 000 m        |
| <b>ambient temperature</b>                                           |                |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul> | -25 ... +60 °C |
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>   | -40 ... +85 °C |
| <ul style="list-style-type: none"> <li>• during transport</li> </ul> | -40 ... +85 °C |

#### Approvals Certificates

|                                                                                                              |           |
|--------------------------------------------------------------------------------------------------------------|-----------|
| <b>Environmental Product Declaration</b>                                                                     |           |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during manufacturing</li> </ul> | 3.51 kg   |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during sales</li> </ul>         | 0.0276 kg |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during operation</li> </ul>     | 13.7 kg   |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / after end of life</li> </ul>    | -1.12 kg  |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / total</li> </ul>                | 16.1 kg   |

|                    |                                 |
|--------------------|---------------------------------|
| <b>Environment</b> | <b>General Product Approval</b> |
|--------------------|---------------------------------|

[Environmental Con-  
firmations](#)



|                                 |            |                          |
|---------------------------------|------------|--------------------------|
| <b>General Product Approval</b> | <b>EMV</b> | <b>Test Certificates</b> |
|---------------------------------|------------|--------------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

Maritime application

other

Railway



[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

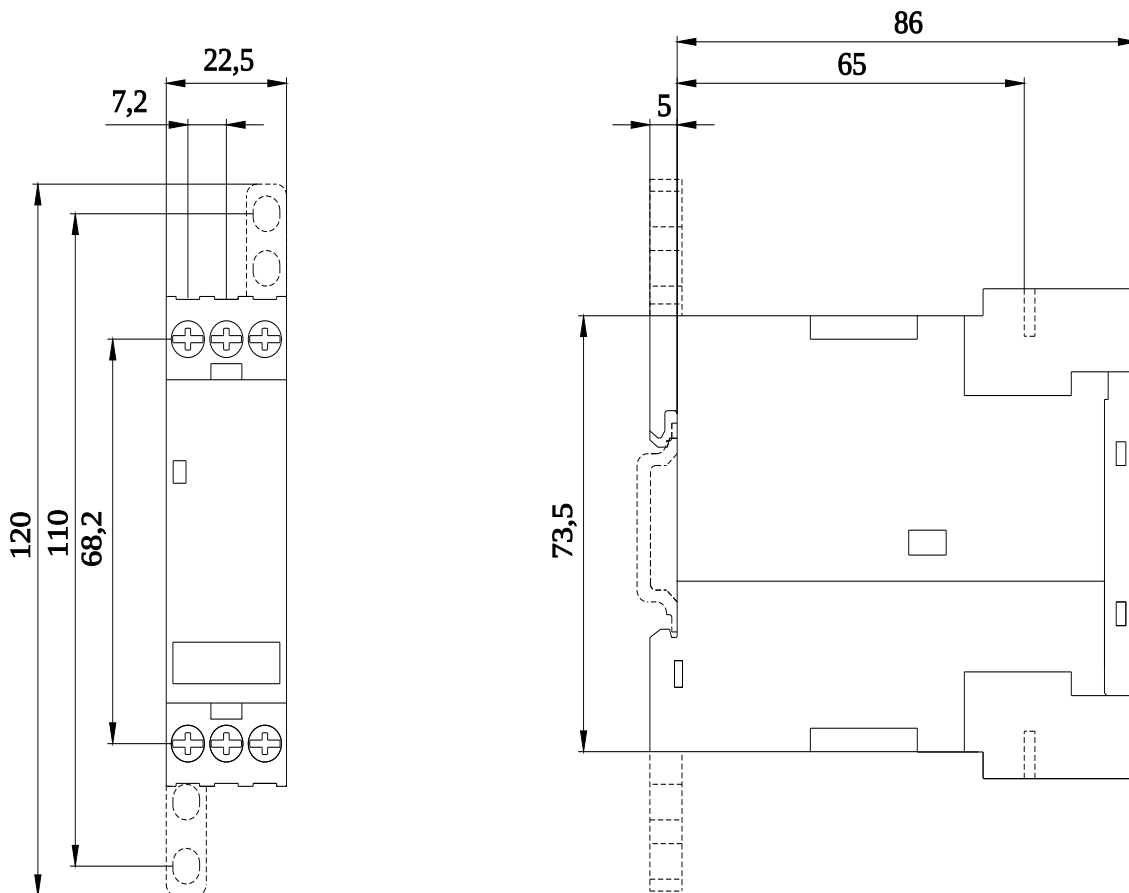
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-1AR20>

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](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-1AR20&lang=en)



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