



!!! product phase-out !!! The preferred successor type is 3UG5512-2BR20 phase failure and sequence 3x160-690 V 2 CO analog monitoring relay phase failure and sequence 3 x 160...690 V 50...60 Hz AC 2 changeover contacts spring-loaded connection system

|                                                                        |                                                            |
|------------------------------------------------------------------------|------------------------------------------------------------|
| 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                                                         |
| • of the control supply voltage                                        | AC                                                         |
| surge voltage resistance rated value                                   | 6 kV                                                       |
| protection class IP                                                    | IP20                                                       |
| shock resistance according to IEC 60068-2-27                           | sinusoidal half-wave 15g / 11 ms                           |
| vibration resistance according to IEC 60068-2-6                        | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g                        |
| 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 (Date)                                          | 05/28/2009                                                 |
| SVHC substance name                                                    | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8 |
| Product Function                                                       |                                                            |
| product function                                                       |                                                            |
| • undervoltage detection                                               | No                                                         |
| • overvoltage detection                                                | No                                                         |
| • phase sequence recognition                                           | Yes                                                        |
| • phase failure detection                                              | Yes                                                        |
| • asymmetry detection                                                  | No                                                         |
| • overvoltage detection 3 phase                                        | No                                                         |
| • undervoltage detection 3 phases                                      | No                                                         |
| • voltage window recognition 3 phase                                   | No                                                         |
| • adjustable open/closed-circuit current principle                     | No                                                         |
| • auto-RESET                                                           | Yes                                                        |
| Control circuit/ Control                                               |                                                            |

|                                                                                 |                                             |
|---------------------------------------------------------------------------------|---------------------------------------------|
| <b>control supply voltage at AC</b>                                             |                                             |
| • at 50 Hz rated value                                                          | 160 ... 690 V                               |
| • at 60 Hz rated value                                                          | 160 ... 690 V                               |
| <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>Measuring circuit</b>                                                        |                                             |
| <b>measurable voltage at AC</b>                                                 | 160 ... 690 V                               |
| <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                                                        | 2                                           |
| • delayed switching                                                             | 2                                           |
| <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                                                                      | 0.2 A                                       |
| • at 250 V                                                                      | 0.1 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>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>                                            | spring-loaded terminals                     |
| <b>type of connectable conductor cross-sections</b>                             |                                             |
| • solid                                                                         | 2x (0.25 ... 1.5 mm <sup>2</sup> )          |
| • finely stranded with core end processing                                      | 2 x (0.25 ... 1.5 mm <sup>2</sup> )         |
| • finely stranded without core end processing                                   | 2x (0.25 ... 1.5 mm <sup>2</sup> )          |
| • for AWG cables solid                                                          | 2x (24 ... 16)                              |
| • for AWG cables stranded                                                       | 2x (24 ... 16)                              |
| <b>connectable conductor cross-section</b>                                      |                                             |
| • solid                                                                         | 0.25 ... 1.5 mm <sup>2</sup>                |
| • finely stranded with core end processing                                      | 0.25 ... 1.5 mm <sup>2</sup>                |
| • finely stranded without core end processing                                   | 0.25 ... 1.5 mm <sup>2</sup>                |

|                                                                |                  |
|----------------------------------------------------------------|------------------|
| <b>AWG number as coded connectable conductor cross section</b> |                  |
| • solid                                                        | 24 ... 16        |
| • stranded                                                     | 24 ... 16        |
| <b>Installation/ mounting/ dimensions</b>                      |                  |
| <b>mounting position</b>                                       | any              |
| <b>fastening method</b>                                        | snap-on mounting |
| <b>height</b>                                                  | 94 mm            |
| <b>width</b>                                                   | 22.5 mm          |
| <b>depth</b>                                                   | 91 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 ... +85 °C   |
| • during transport                                             | -40 ... +85 °C   |

#### Approvals Certificates

##### General Product Approval



[Confirmation](#)



| EMV                                                                                 | Test Certificates  |                                                    | Marine / Shipping                        |                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|--------------------|----------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <a href="#">KC</a> | <a href="#">Type Test Certificates/Test Report</a> | <a href="#">Special Test Certificate</a> |   |

| other                        | Railway                                  | Environment                                 |
|------------------------------|------------------------------------------|---------------------------------------------|
| <a href="#">Confirmation</a> | <a href="#">Special Test Certificate</a> | <a href="#">Environmental Confirmations</a> |

#### Further information

Information on the packaging  
<https://support.industry.siemens.com/cs/ww/en/view/109813875>  
 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=3UG4512-2BR20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-2BR20>

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

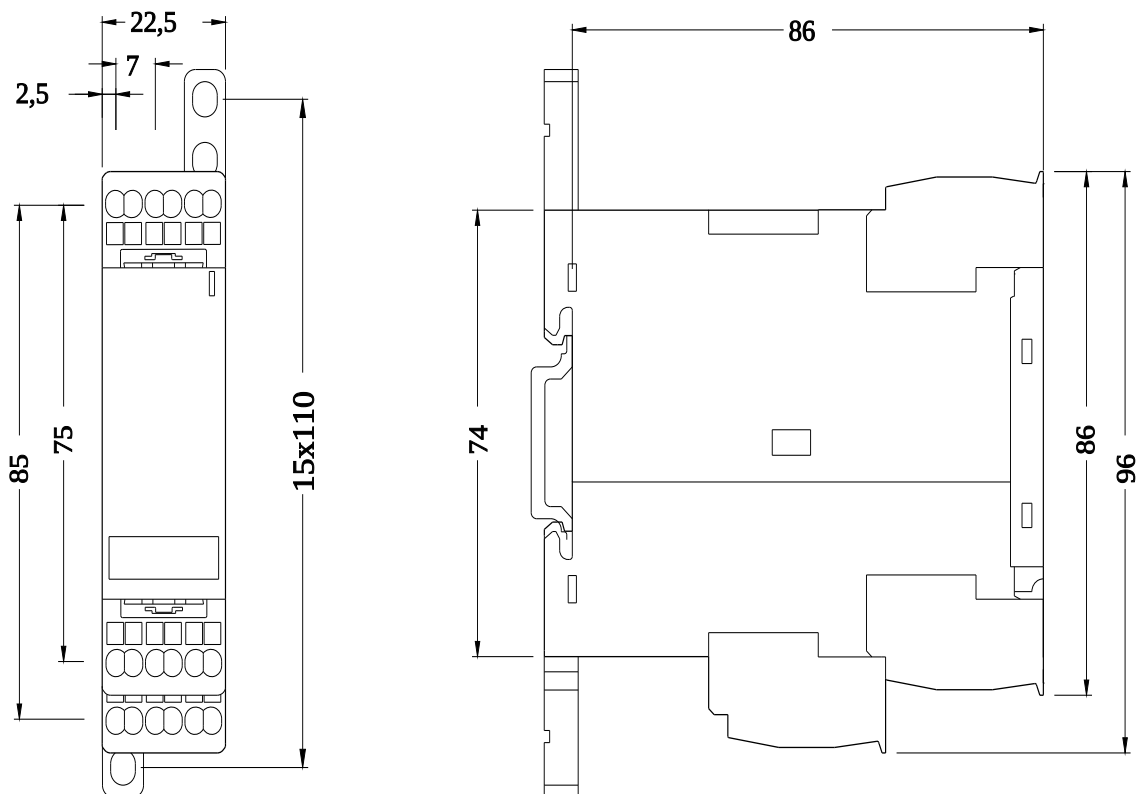
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-2BR20>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG4512-2BR20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-2BR20&lang=en)

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-2BR20/manual>



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