



!!! product phase-out !!! The preferred successor type is 3UG5616-2CR20 phase sequence phase failure 3x160-690 V spring digital monitoring relay for 3-phase voltage with N-conductor connectable phase sequence phase failure 3 x 90 to 400 V 50 to 60 Hz AC undervoltage and overvoltage 90-400 V hysteresis 1-20 V 0-20 s each for Umin and Umax 1 CO for Umin 1 CO for Umax spring-loaded terminal

|  |  |
|--|--|
| product brand name   | SIRIUS   |
| product designation  | Network monitoring relay with digital setting              |
| design of the product  | 5 functions  |
| product type designation   | 3UG4   |
| <b>General technical data</b>  |  |
| product function   | Phase monitoring relay                                     |
| display version LED  | No   |
| design of the display  | LCD  |
| 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)  | 05/01/2012   |
| SVHC substance name  | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8 |
| <b>Product Function</b>  |  |
| product function   |  |
| • undervoltage detection   | Yes  |
| • overvoltage detection  | Yes  |
| • phase sequence recognition   | Yes  |
| • phase failure detection  | Yes  |
| • asymmetry detection  | Yes  |
| • overvoltage detection 3 phase  | Yes  |
| • undervoltage detection 3 phases                                      | Yes  |
| • voltage window recognition 3 phase                                   | Yes  |
| • adjustable open/closed-circuit current principle                     | Yes  |
| • auto-RESET   | Yes  |

| Control circuit/ Control  |   |
|---|---|
| <b>control supply voltage at AC</b>   |   |
| • at 50 Hz rated value  | 90 ... 400 V                                |
| • at 60 Hz rated value  | 90 ... 400 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   |
| Measuring circuit   |   |
| <b>measurable voltage at AC</b>   | 90 ... 400 V                                |
| <b>adjustable response delay time</b>   |   |
| • with lower or upper limit violation   | 0.1 ... 20 s                                |
| <b>response time maximum</b>  | 450 ms                                      |
| <b>accuracy of digital display</b>  | +/-1 digit                                  |
| Precision   |   |
| <b>relative metering precision</b>  | 5 %   |
| Auxiliary circuit   |   |
| 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                                   |
| Main circuit  |   |
| <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   |
| Electromagnetic compatibility   |   |
| <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 |
| Galvanic isolation  |   |
| <b>galvanic isolation</b>   |   |
| • between input and output  | Yes   |
| • between the outputs   | Yes   |
| • between the voltage supply and other circuits                                 | Yes   |
| Connections/ Terminals  |   |
| <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>   |  |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• finely stranded without core end processing</li> </ul> | <p>0.25 ... 1.5 mm<sup>2</sup></p> <p>0.25 ... 1.5 mm<sup>2</sup></p> <p>0.25 ... 1.5 mm<sup>2</sup></p> |
| <b>AWG number as coded connectable conductor cross section</b>   |  |
| <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>  | <p>24 ... 16</p> <p>24 ... 16</p>  |

**Installation/ mounting/ dimensions**

|  |   |
|--|---|
| <b>mounting position</b>   | any   |
| <b>fastening method</b>  | snap-on mounting  |
| <b>height</b>  | 103 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> <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> <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> | <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> <p>0 mm</p> |

**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> <li>• during storage</li> <li>• during transport</li> </ul> | <p>-25 ... +60 °C</p> <p>-40 ... +85 °C</p> <p>-40 ... +85 °C</p> |

**Approvals Certificates**

**General Product Approval**



[Confirmation](#)



**EMV      Test Certificates      Marine / Shipping**



[KC](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



**other      Railway      Environment**

[Confirmation](#)

[Special Test Certificate](#)



[Environmental Confirmations](#)

## 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=3UG4616-2CR20>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4616-2CR20>

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

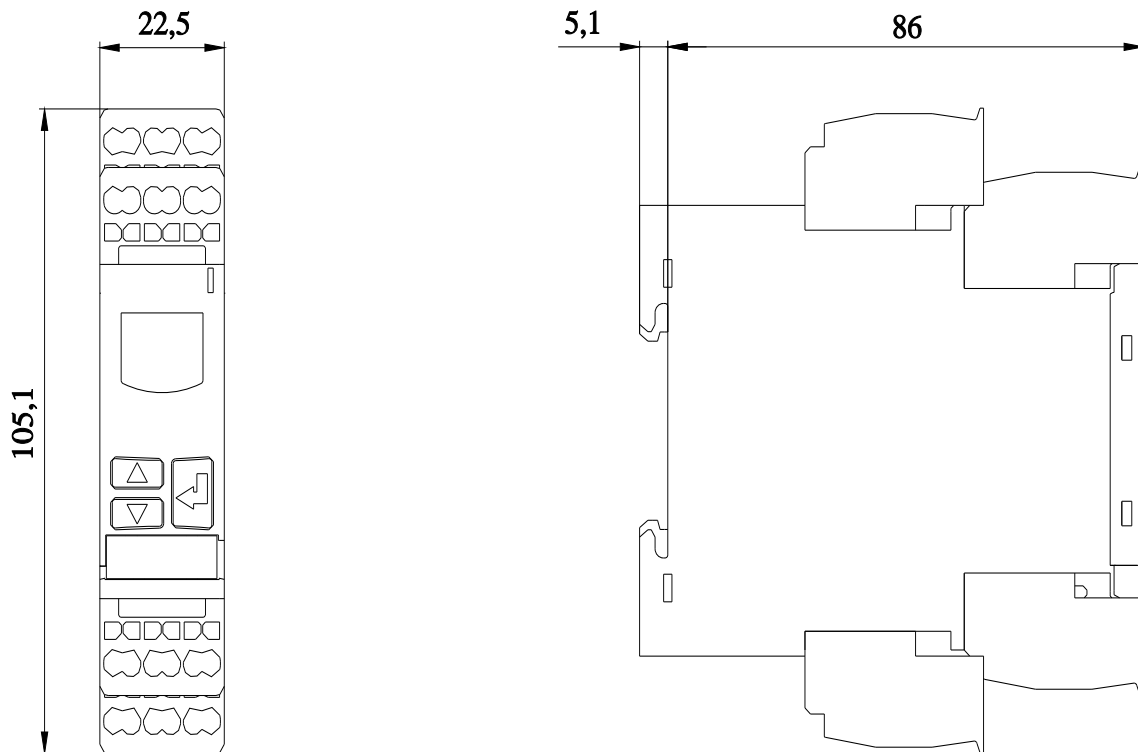
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4616-2CR20>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG4616-2CR20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4616-2CR20&lang=en)

### Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4616-2CR20/manual>



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