

Siemens  
EcoTech



digitally adjustable monitoring relay phase failure, phase sequence, asymmetry, frequency, over- and under-voltage monitoring 3x 90-690 V AC, 15-70 Hz 2 changeover contacts spring-loaded terminal

|  |   |
|--|---|
| product brand name   | SIRIUS  |
| product designation  | Network monitoring relay with digital setting   |
| design of the product  | monitoring of phase sequence, phase failure, phase asymmetry, N-conductor (adjustable), frequency, undervoltage and overvoltage   |
| product type designation   | 3UG5  |
| <b>General technical data</b>  |   |
| product function   | line monitoring   |
| display version LED  | No  |
| design of the display  | LCD   |
| power loss [W] maximum   | 2 W   |
| power loss [V·A] maximum   | 5.1 VA  |
| 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  |   |
| • for monitoring   | AC  |
| • of the operating voltage for actuation                               | AC/DC   |
| 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                        | 10 ... 55 Hz: 0.35 mm   |
| switching behavior   | monostable  |
| 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   |
| adjustable OFF-delay time  | 0.1 ... 30 s  |
| reference code according to IEC 81346-2                                | K   |
| relative repeat accuracy   | 0 %   |
| Substance Prohibitance (Date)  | 06/01/2023  |
| 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   | 0.164 kg  |

| Product Function  |                               |
|---|-------------------------------|
| <b>product function</b>   |                               |
| • undervoltage detection  | Yes                           |
| • overvoltage detection   | Yes                           |
| • phase sequence recognition  | Yes                           |
| • phase failure detection   | Yes                           |
| • asymmetry detection   | Yes                           |
| • overcurrent detection 1 phase   | No                            |
| • overvoltage detection 3 phase   | Yes                           |
| • undercurrent detection 1 phase  | No                            |
| • undervoltage detection 3 phases   | Yes                           |
| • voltage window recognition 3 phase  | Yes                           |
| • adjustable open/closed-circuit current principle                              | Yes                           |
| • auto-RESET  | Yes                           |
| • neutral conductor monitoring adjustable                                       | Yes                           |
| suitability for use safety-related circuits                                     | No                            |
| Control circuit/ Control  |                               |
| <b>type of voltage of the control supply voltage</b>                            | AC                            |
| <b>control supply voltage 1 at AC</b>   |                               |
| • at 50 Hz  | 200 ... 690 V                 |
| • at 60 Hz  | 200 ... 690 V                 |
| <b>control supply voltage 2 at AC</b>   |                               |
| • at 50 Hz  | 120 ... 400 V                 |
| • at 60 Hz  | 120 ... 400 V                 |
| <b>operating range factor control supply voltage rated value at AC at 50 Hz</b> |                               |
| • initial value   | 0.85                          |
| • full-scale value  | 1.1                           |
| <b>operating range factor control supply voltage rated value at AC at 60 Hz</b> |                               |
| • initial value   | 0.85                          |
| • full-scale value  | 1.1                           |
| Supply voltage  |                               |
| supply voltage frequency rated value  | 70 ... 15 Hz                  |
| Interfaces  |                               |
| design of the interface bluetooth   | No                            |
| Measuring circuit   |                               |
| <b>measurable voltage 1 at AC</b>   | 160 ... 760 V                 |
| <b>measurable voltage 2 at AC</b>   | 90 ... 440 V                  |
| <b>adjustable operating delay time initial value</b>                            | 0 s                           |
| <b>adjustable response delay time</b>   |                               |
| • when starting   | 0.1 ... 1 000 s               |
| • with lower or upper limit violation   | 0.1 ... 30 s                  |
| <b>buffering time in the event of power failure minimum</b>                     | 20 ms                         |
| <b>response time maximum</b>  | 500 ms                        |
| <b>accuracy of digital display</b>  | +/-1 digit                    |
| <b>relative temperature-related measurement deviation</b>                       | 1 %                           |
| Precision   |                               |
| <b>relative metering precision</b>  | 3 %                           |
| <b>temperature drift per °C</b>   | 0 %/°C                        |
| Short-circuit protection  |                               |
| <b>design of the fuse link</b>  |                               |
| • for short-circuit protection of the NO contacts of the relay outputs required | gL/gG: 6 A or MCB type C: 1 A |
| • for short circuit protection of the NC contacts of the relay outputs required | gL/gG: 6 A or MCB type C: 1 A |
| Communication/ Protocol   |                               |
| protocol is supported IO-Link protocol  | No                            |
| <b>type of voltage supply via input/output link master</b>                      | No                            |

| Auxiliary circuit   |  |
|---|--|
| material of switching contacts  | AgSnO <sub>2</sub>   |
| 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>contact reliability of auxiliary contacts</b>                              | one incorrect switching operation of 100 million switching operations (17 V, 5 mA) |
| <b>contact rating of auxiliary contacts according to UL</b>                   | R300 / B300  |
| Main circuit  |  |
| <b>number of poles for main current circuit</b>                               | 4  |
| <b>ampacity of the output relay at AC-15</b>                                  |  |
| • at 250 V at 50/60 Hz  | 3 A  |
| <b>ampacity of the output relay at DC-13</b>                                  |  |
| • at 24 V   | 1 A  |
| • at 110 V  | 0.2 A  |
| • at 125 V  | 0.2 A  |
| • at 230 V  | 0.1 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>         | 6 A  |
| Electromagnetic compatibility   |  |
| EMC emitted interference according to IEC 60947-1                             | class A  |
| <b>conducted interference</b>   |  |
| • due to burst according to IEC 61000-4-4                                     | 2 kV (power ports), 2 kV (signal ports)  |
| • 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>design of the electrical isolation</b>                                     | galvanic isolation   |
| <b>galvanic isolation</b>   |  |
| • between input and output  | Yes  |
| • between the outputs   | Yes  |
| • between the voltage supply and other circuits                               | Yes  |
| Electrical Safety   |  |
| <b>protection class IP on the front according to IEC 60529</b>                | IP20   |
| Connections/ Terminals  |  |
| <b>product component removable terminal for main circuit</b>                  | Yes  |
| <b>product component removable terminal for auxiliary and control circuit</b> | Yes  |
| <b>type of electrical connection</b>  | spring-loaded terminal (push-in)   |
| <b>type of connectable conductor cross-sections</b>                           |  |
| • solid   | 1x (0.5 ... 4 mm <sup>2</sup> )  |
| • finely stranded with core end processing                                    | 1x (0.5 ... 2.5 mm <sup>2</sup> )  |
| • finely stranded without core end processing                                 | 0.5 ... 4 mm <sup>2</sup>  |
| • for AWG cables solid  | 1x (20 ... 12)   |
| • for AWG cables stranded   | 20 ... 12  |
| <b>connectable conductor cross-section</b>                                    |  |
| • solid   | 0.5 ... 4 mm <sup>2</sup>  |
| • finely stranded with core end processing                                    | 0.5 ... 2.5 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 ... 12  |
| • stranded  | 20 ... 12  |

|   |  |
|---|--|
| <b>stripped length</b>  | 10 mm  |
| <b>Installation/ mounting/ dimensions</b>   |  |
| <b>mounting position</b>  | any  |
| <b>fastening method</b>   | screw and snap-on mounting onto 35 mm DIN rail |
| <b>height</b>   | 100 mm   |
| <b>width</b>  | 22.5 mm  |
| <b>depth</b>  | 90 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 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— at the side 0 mm</li> <li>— downwards 0 mm</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards 0 mm</li> <li>— backwards 0 mm</li> <li>— upwards 0 mm</li> <li>— downwards 0 mm</li> <li>— at the side 0 mm</li> </ul> </li> </ul> |  |

|   |         |
|---|---------|
| <b>Ambient conditions</b>   |         |
| installation altitude at height above sea level maximum   | 2 000 m |
| <b>ambient temperature</b>  |         |
| <ul style="list-style-type: none"> <li>• during operation -25 ... +60 °C</li> <li>• during storage -40 ... +85 °C</li> <li>• during transport -40 ... +85 °C</li> </ul> |         |
| relative humidity during operation maximum  | 70 %    |

|  |  |
|--|--|
| <b>Approvals Certificates</b>  |  |
| Environmental Product Declaration  |  |
| <ul style="list-style-type: none"> <li>• global warming potential [CO2 eq] / during manufacturing 5.06 kg</li> <li>• global warming potential [CO2 eq] / during sales 0.0432 kg</li> <li>• global warming potential [CO2 eq] / during operation 12.3 kg</li> <li>• global warming potential [CO2 eq] / after end of life -0.132 kg</li> <li>• global warming potential [CO2 eq] / total 17.3 kg</li> </ul> |  |

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

[Environmental Confirmations](#)



|                             |              |
|-----------------------------|--------------|
| <b>Maritime application</b> | <b>other</b> |
|-----------------------------|--------------|



[Confirmation](#)



**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=3UG5616-2CR20>

Cax online generator

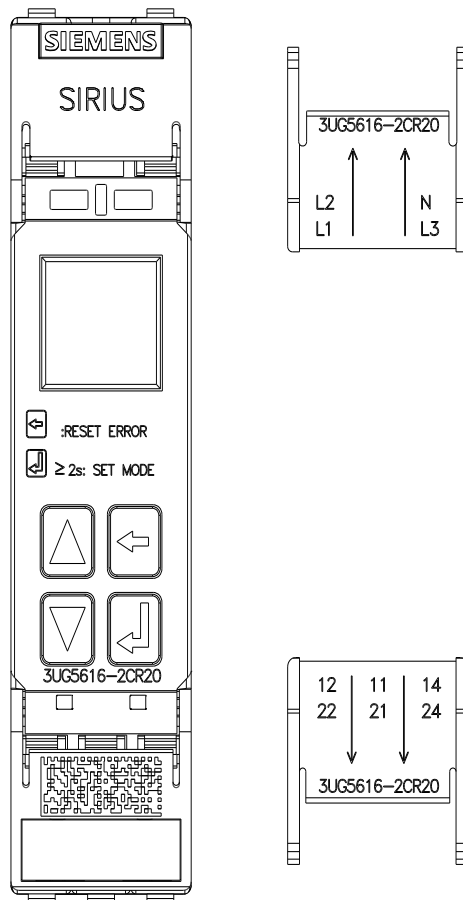
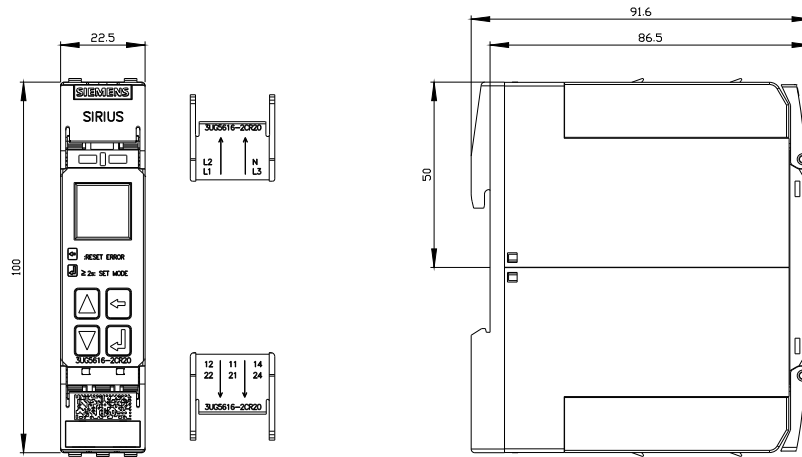
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5616-2CR20>

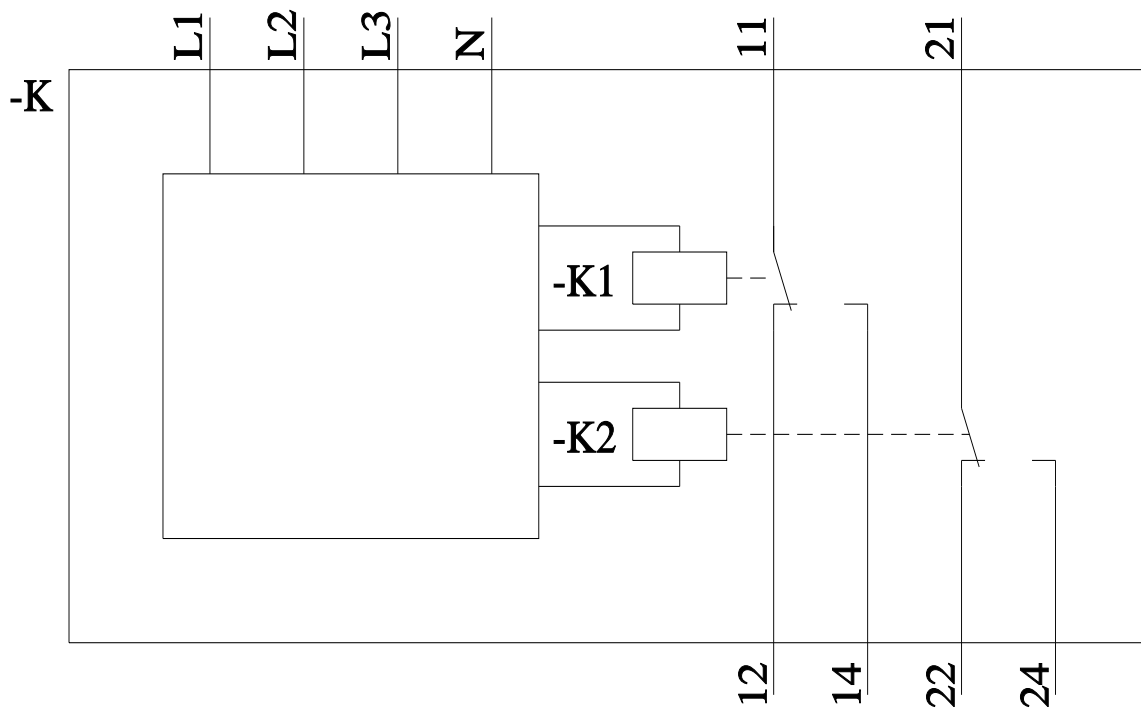
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5616-2CR20>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5616-2CR20&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5616-2CR20&lang=en)





last modified:

4/4/2026 