



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 screw terminal



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| 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 |
| General technical data | |
| 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 15g / 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 | 0.4 % |
| Substance Prohibitance (Date) | 06/01/2023 |
| SVHC substance name | Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 |
| Net Weight | 177 g |
| Product Function | |
| product function | |

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| • 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 |
| • neutral conductor monitoring adjustable | Yes |
| suitability for use safety-related circuits | No |
| Control circuit/ Control | |
| type of voltage of the control supply voltage | AC |
| control supply voltage 1 at AC | |
| • at 50 Hz | 200 ... 690 V |
| • at 60 Hz | 200 ... 690 V |
| control supply voltage 2 at AC | |
| • at 50 Hz | 120 ... 400 V |
| • at 60 Hz | 120 ... 400 V |
| operating range factor control supply voltage rated value at AC at 50 Hz | |
| • initial value | 0.85 |
| • full-scale value | 1.1 |
| operating range factor control supply voltage rated value at AC at 60 Hz | |
| • 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 | |
| measurable voltage 1 at AC | 160 ... 760 V |
| measurable voltage 2 at AC | 90 ... 440 V |
| adjustable operating delay time initial value | 0 s |
| adjustable response delay time | |
| • when starting | 0.1 ... 999.9 s |
| • with lower or upper limit violation | 0.1 ... 30 s |
| buffering time in the event of power failure minimum | 20 ms |
| response time maximum | 500 ms |
| accuracy of digital display | +/-1 digit |
| relative temperature-related measurement deviation | 1 % |
| Precision | |
| relative metering precision | 3 % |
| temperature drift per °C | 0.001 %/°C |
| Short-circuit protection | |
| design of the fuse link | |
| • 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 |
| type of voltage supply via input/output link master | No |
| Auxiliary circuit | |
| material of switching contacts | AgSnO2 |
| number of NC contacts delayed switching | 0 |
| number of NO contacts delayed switching | 0 |
| number of CO contacts | |

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| • for auxiliary contacts | 2 |
| • delayed switching | 2 |
| operating frequency with 3RT2 contactor maximum | 5 000 1/h |
| contact reliability of auxiliary contacts | one incorrect switching operation of 100 million switching operations (17 V, 5 mA) |
| contact rating of auxiliary contacts according to UL | R300 / B300 |
| Main circuit | |
| number of poles for main current circuit | 4 |
| ampacity of the output relay at AC-15 | |
| • at 250 V at 50/60 Hz | 3 A |
| ampacity of the output relay at DC-13 | |
| • 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 |
| operational current at 17 V minimum | 5 mA |
| continuous current of the DIAZED fuse link of the output relay | 6 A |
| Electromagnetic compatibility | |
| EMC emitted interference according to IEC 60947-1 | class A |
| conducted interference | |
| • 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 |
| 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 | |
| design of the electrical isolation | galvanic isolation |
| galvanic isolation | |
| • between input and output | Yes |
| • between the outputs | Yes |
| • between the voltage supply and other circuits | Yes |
| Electrical Safety | |
| protection class IP on the front according to IEC 60529 | IP20 |
| Connections/ Terminals | |
| product component removable terminal for main circuit | Yes |
| product component removable terminal for auxiliary and control circuit | Yes |
| type of electrical connection | screw terminal |
| design of terminals with cross-head screw | PZ 1 |
| type of connectable conductor cross-sections | |
| • solid | 1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) |
| • finely stranded with core end processing | 1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) |
| • for AWG cables solid | 1x (20 ... 12), 2x (20 ... 14) |
| connectable conductor cross-section | |
| • solid | 0.5 ... 4 mm ² |
| • finely stranded with core end processing | 0.5 ... 4 mm ² |
| AWG number as coded connectable conductor cross section | |
| • solid | 20 ... 12 |
| • stranded | 20 ... 12 |
| tightening torque with screw-type terminals | 0.6 ... 0.8 N·m |
| stripped length | 10 mm |
| Installation/ mounting/ dimensions | |
| mounting position | any |
| fastening method | screw and snap-on mounting onto 35 mm DIN rail |
| height | 100 mm |
| width | 22.5 mm |

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| depth | 90 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 |

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| 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 |
| relative humidity during operation maximum | 70 % |

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| Environmental footprint | |
| Environmental Product Declaration(EPD) | Yes |
| global warming potential [CO2 eq] total | 17.3 kg |
| global warming potential [CO2 eq] during manufacturing | 5.06 kg |
| global warming potential [CO2 eq] during operation | 12.3 kg |
| global warming potential [CO2 eq] after end of life | -0.132 kg |

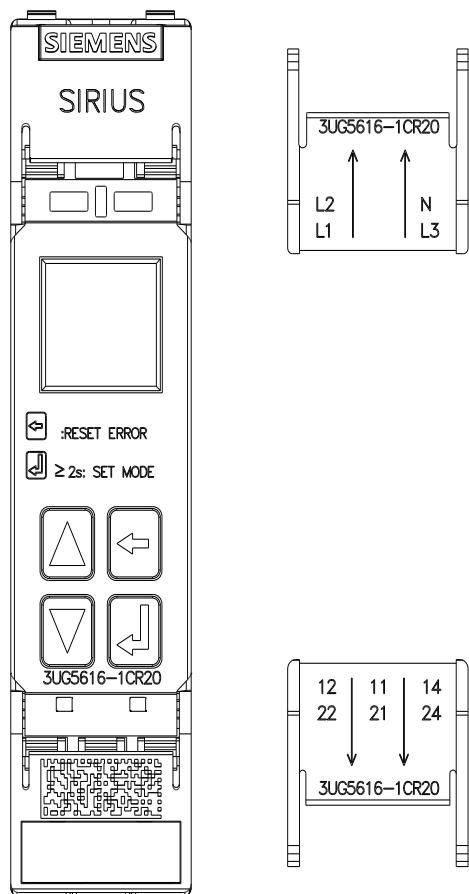
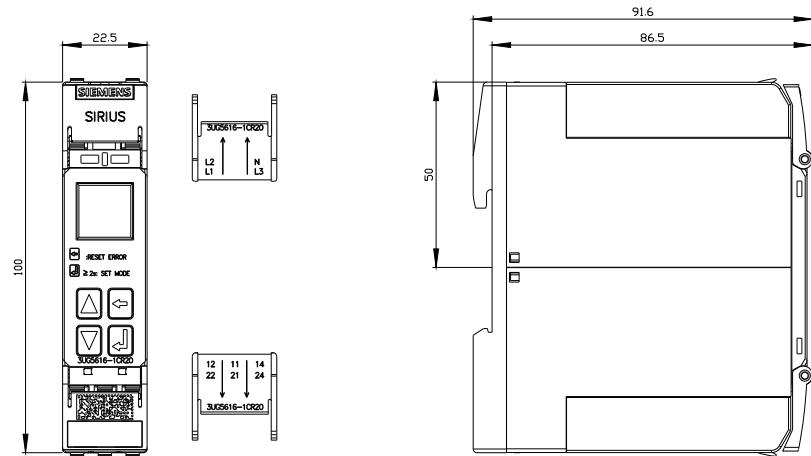
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| Approvals Certificates | |
| General Product Approval | EMV Test Certificates |

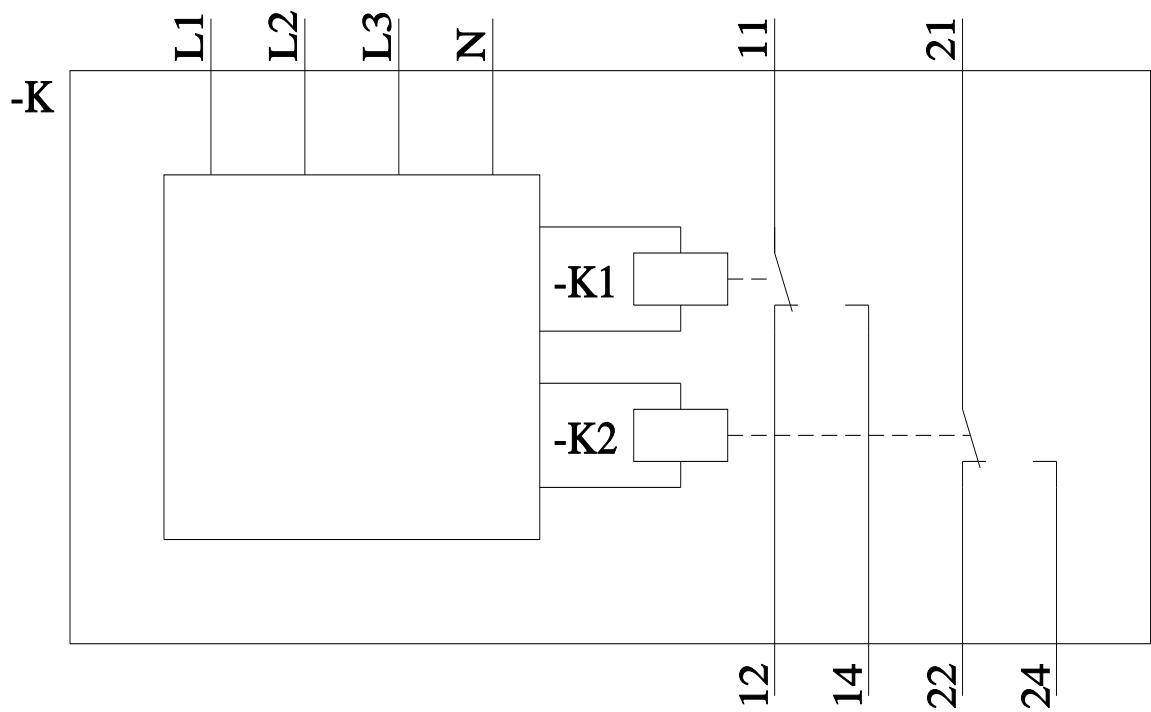


[Type Test Certificates/Test Report](#)

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| other | Environment |
| Confirmation |    Environmental Confirmations |

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| 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=3UG5616-1CR20 |
| Cax online generator | https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5616-1CR20 |
| Service&Support (Manuals, Certificates, Characteristics, FAQs,...) | https://support.industry.siemens.com/cs/ww/en/ps/3UG5616-1CR20 |
| Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) | |





last modified:

9/5/2025 