

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 screw 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 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	176 g

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
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
<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
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
<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	
design of the electrical isolation	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	
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
<b>type of connectable conductor cross-sections</b>	
• solid	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• finely stranded with core end processing	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
<b>connectable conductor cross-section</b>	
• solid	0.5 ... 4 mm <sup>2</sup>
• finely stranded with core end processing	0.5 ... 4 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b>	
• 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
depth	90 mm
required spacing	
<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>	

Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<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 %

Approvals Certificates	
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>	

Environment	General Product Approval
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[Environmental Confirmations](#)



Maritime application	other
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[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=3UG5616-1CR20>

Cax online generator

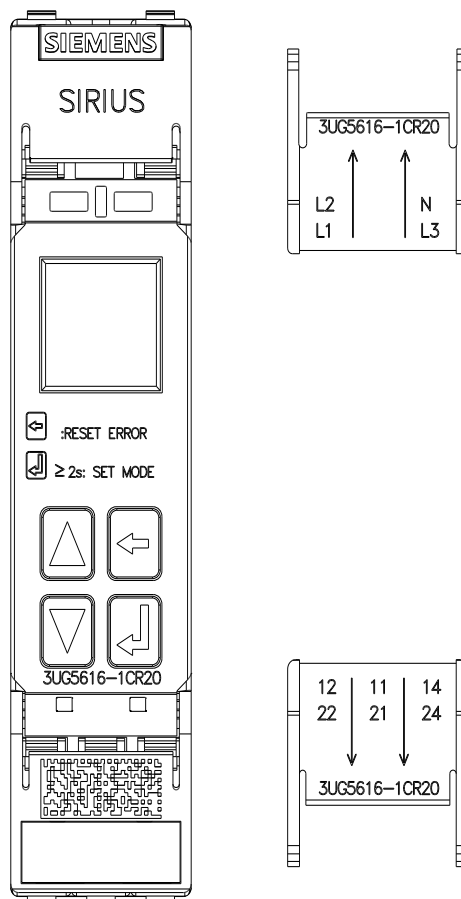
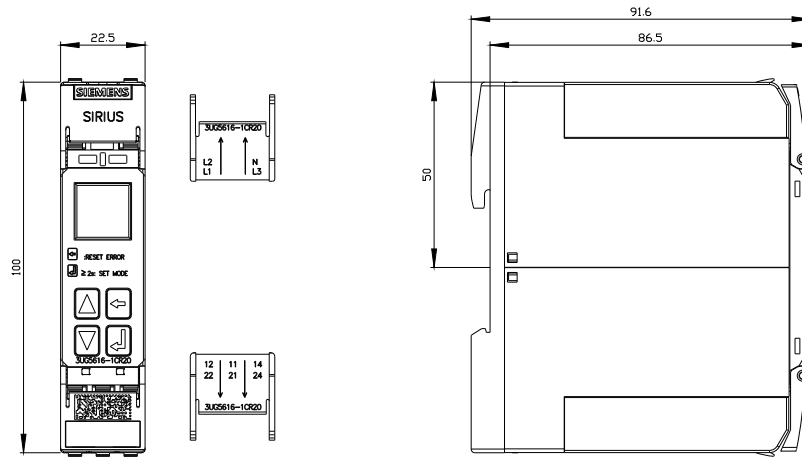
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5616-1CR20>

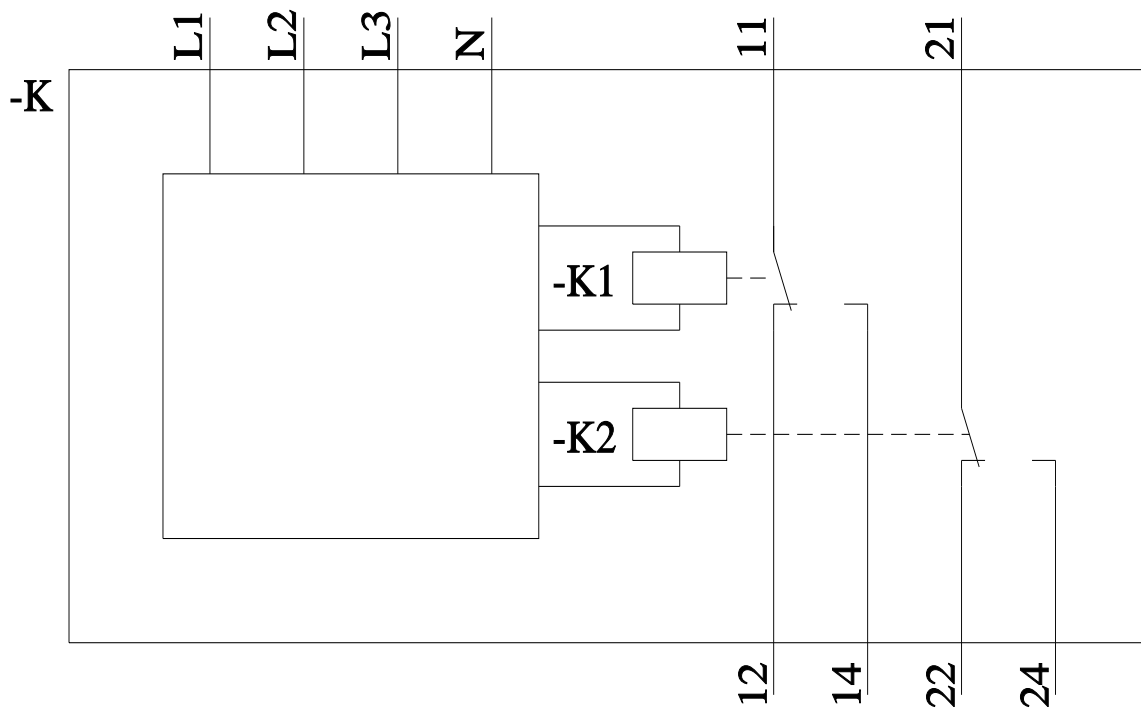
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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, ...)

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5616-1CR20&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5616-1CR20&lang=en)





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