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Data sheet 3UG5616-1CR20



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
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
● of the control supply voltage	AC
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
Weight	0.176 kg
Product Function	
product function	
● undervoltage detection	Yes
● overvoltage detection	Yes
● phase sequence recognition	Yes

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● 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
suitability for use safety-related circuits	No
Control circuit/ Control	
control supply voltage at AC	
● at 50 Hz rated value	120 ... 690 V
● at 60 Hz rated value	120 ... 690 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
Measuring circuit	
measurable voltage at AC	90 ... 760 V
adjustable operating delay time initial value	0 s
adjustable response delay time	
● when starting	0.1 ... 30 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	
● 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

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● 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 ... 4.0 mm²), 2x (0.5 ... 2.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
● for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
● solid	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 4 mm²
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
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	

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— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
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 %
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

Approvals Certificates

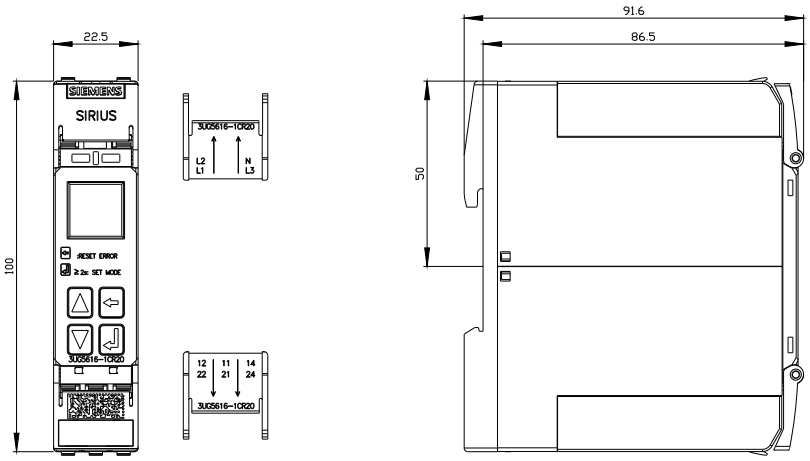
General Product Approval	EMV

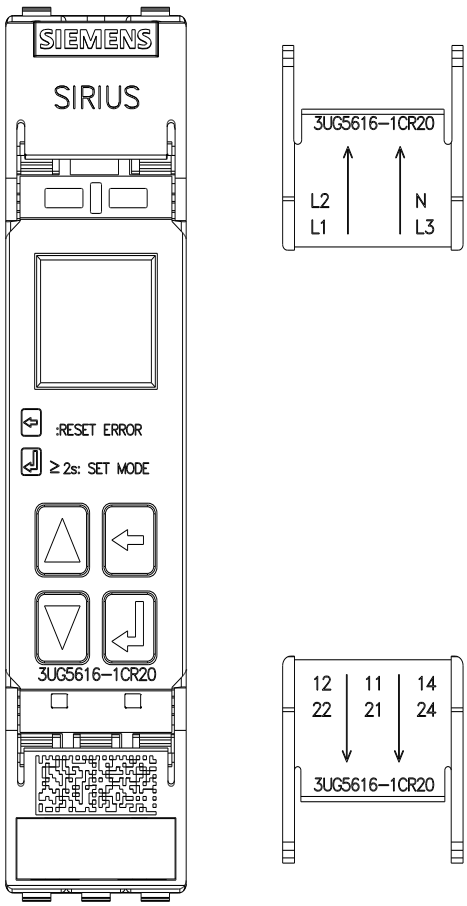
Test Certificates	other	Environment
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Further information

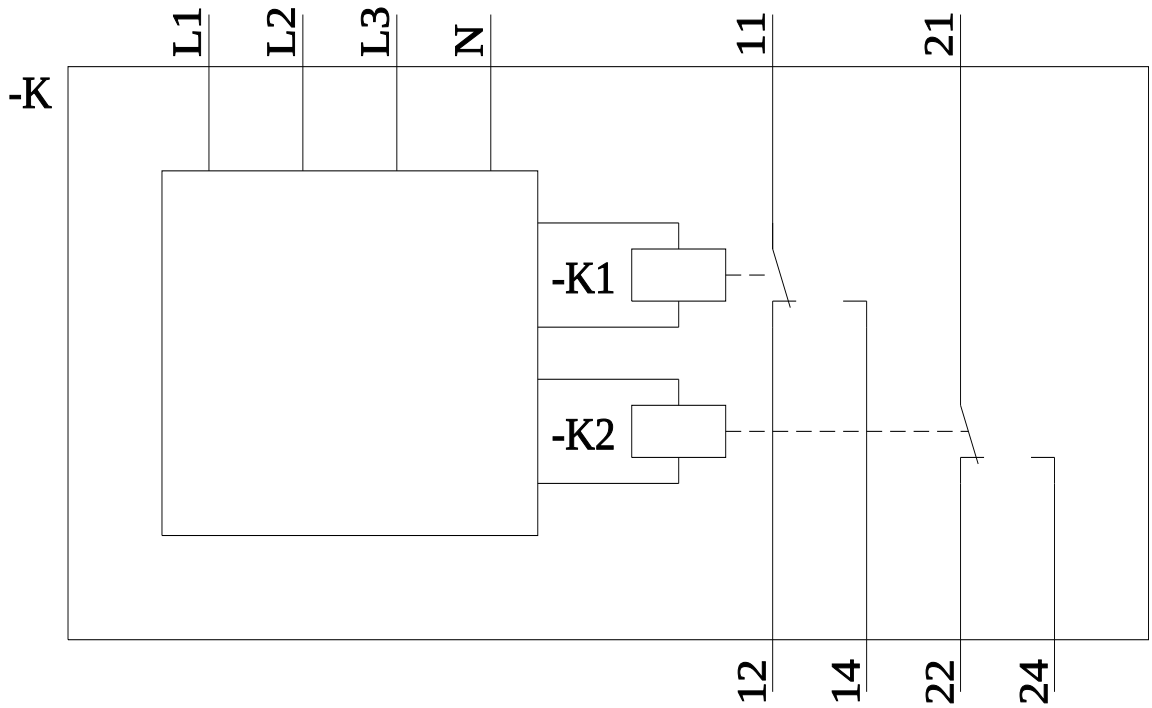
Information on the packaging
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Information- and Downloadcenter (Catalogs, Brochures,…)
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Industry Mall (Online ordering system)
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Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
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Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
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