

Siemens  
EcoTech



digitally adjustable monitoring relay phase failure, phase sequence, asymmetry, frequency, overvoltage and undervoltage monitoring with/without N conductor for IO-Link 3x 90-690 V AC, 15-70 Hz 1 changeover contact 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 for IO-Link
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	1 W
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
maximum permissible voltage for protective separation between control and auxiliary circuit	690 V
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
Net Weight	0.167 kg
<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
• external reset	Yes
• auto-RESET	Yes
• neutral conductor monitoring adjustable	Yes
suitability for use safety-related circuits	No
<b>Control circuit/ Control</b>	
<b>type of voltage of the control supply voltage</b>	DC
<b>control supply voltage at DC rated value</b>	24 V
<b>Interfaces</b>	
design of the interface bluetooth	No
<b>Measuring circuit</b>	
<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 ... 999.9 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 %
<b>Precision</b>	
<b>relative metering precision</b>	3 %
<b>temperature drift per °C</b>	-0.003 %/°C
<b>Short-circuit protection</b>	
<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
<b>Communication/ Protocol</b>	
protocol is supported IO-Link protocol	Yes
<b>IO-Link transfer rate</b>	COM2 (38,4 kBaud)
<b>point-to-point cycle time between master and IO-Link device minimum</b>	5 ms
<b>type of voltage supply via input/output link master</b>	Yes
<b>data volume</b>	
• of the address range of the inputs with cyclical transfer total	4 byte
• of the address range of the outputs with cyclical transfer total	2 byte
<b>Auxiliary circuit</b>	
<b>material of switching contacts</b>	AgSnO2
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
<b>number of CO contacts</b>	
• for auxiliary contacts	1
• delayed switching	1
<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	
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
• at 400 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
ampacity of the semiconductor output in SIO mode	200 mA
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	Protective separation
galvanic isolation	
• between input and output	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	spring-loaded terminal (push-in)
type of connectable conductor cross-sections	
• 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
connectable conductor cross-section	
• 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>
AWG number as coded connectable conductor cross section	
• solid	24 ... 12
• stranded	20 ... 12
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
  - 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
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C
relative humidity during operation maximum	70 %

#### Approvals Certificates

General Product Approval	EMV	Test Certificates
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[Type Test Certificates/Test Report](#)

other	Environment
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[Confirmation](#)



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[Environmental Confirmations](#)

#### 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=3UG5816-2AA40>

##### Cax online generator

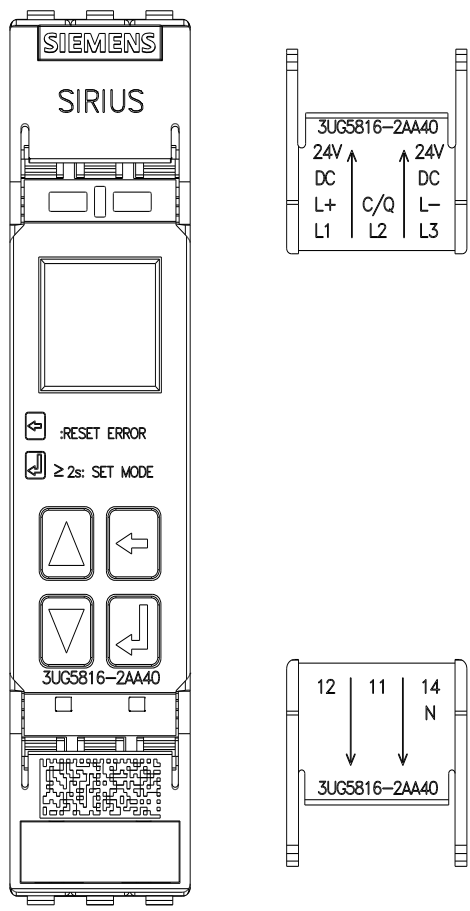
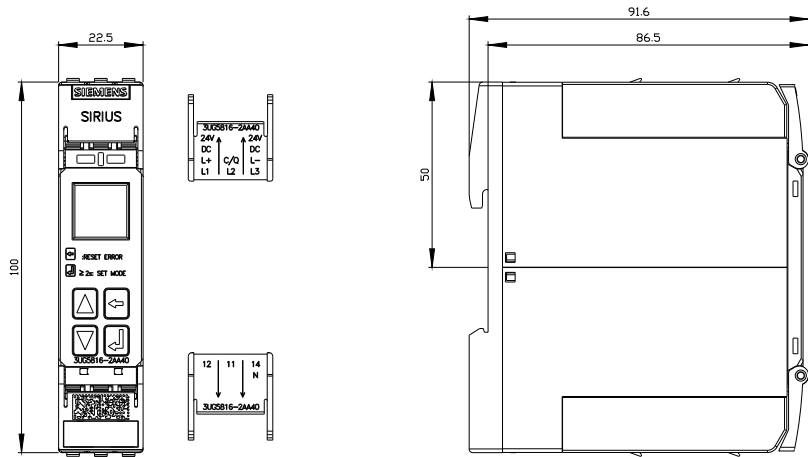
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5816-2AA40>

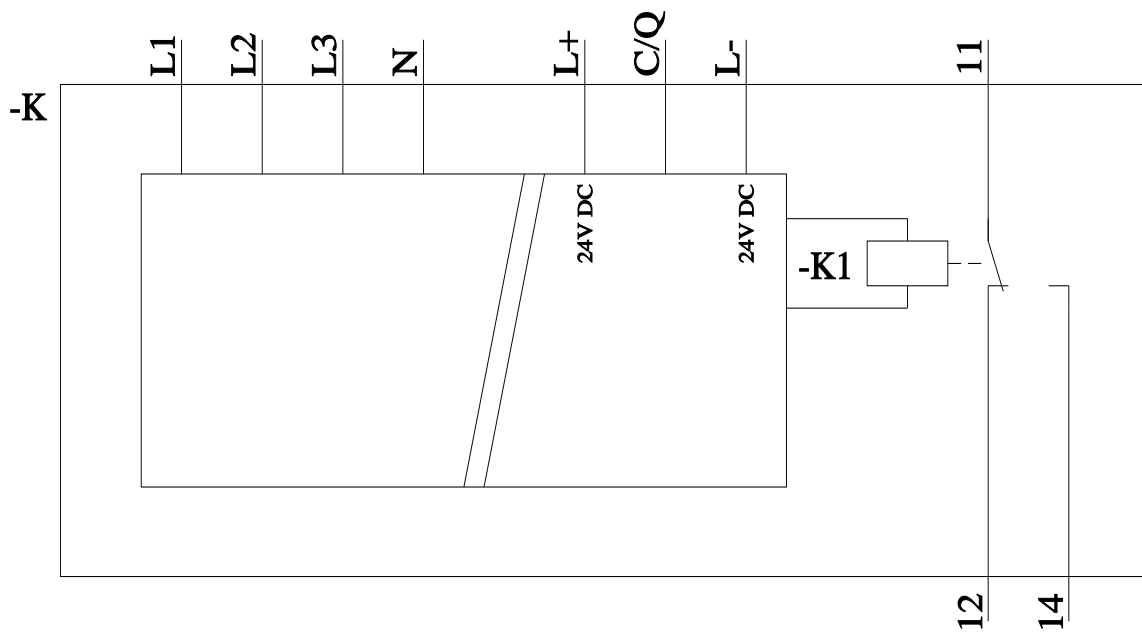
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5816-2AA40>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5816-2AA40&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5816-2AA40&lang=en)





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