



digitally adjustable monitoring relay phase failure, phase sequence, asymmetry, frequency, over- and under-voltage monitoring for IO-Link 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, with/without N conductor failure, asymmetry, frequency, overvoltage/undervoltage 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
• of the control supply voltage	DC
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation between control and auxiliary circuit	690 V
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
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	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8
<b>Product Function</b>	
product function	
• undervoltage detection	Yes
• overvoltage detection	Yes
• phase sequence recognition	Yes
• phase failure detection	Yes; available but limited, detection is problematic with high levels of

<ul style="list-style-type: none"> <li>• asymmetry detection</li> <li>• overvoltage detection 3 phase</li> <li>• undervoltage detection 3 phases</li> <li>• voltage window recognition 3 phase</li> <li>• adjustable open/closed-circuit current principle</li> <li>• external reset</li> <li>• auto-RESET</li> </ul>	regenerative power recovery Yes Yes Yes Yes Yes Yes Yes
suitability for use safety-related circuits	No
<b>Control circuit/ Control</b>	
<b>control supply voltage at DC</b>	
<ul style="list-style-type: none"> <li>• rated value</li> <li>• rated value</li> </ul>	24 V 24 ... 24 V
<b>Measuring circuit</b>	
<b>measurable voltage at AC</b>	90 ... 690 V
<b>adjustable operating delay time</b>	0 s
<b>adjustable response delay time</b>	
<ul style="list-style-type: none"> <li>• when starting</li> <li>• with lower or upper limit violation</li> </ul>	0.1 ... 30 s 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>	
<ul style="list-style-type: none"> <li>• for short-circuit protection of the NO contacts of the relay outputs required</li> <li>• for short circuit protection of the NC contacts of the relay outputs required</li> </ul>	gL/gG: 6 A or MCB type C: 1 A 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>	
<ul style="list-style-type: none"> <li>• of the address range of the inputs with cyclical transfer total</li> <li>• of the address range of the outputs with cyclical transfer total</li> </ul>	4 byte 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>	
<ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>• delayed switching</li> </ul>	1 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
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	4
<b>ampacity of the output relay at AC-15</b>	
<ul style="list-style-type: none"> <li>• at 250 V at 50/60 Hz</li> <li>• at 400 V at 50/60 Hz</li> </ul>	3 A 3 A
<b>ampacity of the output relay at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 110 V</li> </ul>	1 A 0.2 A

<ul style="list-style-type: none"> <li>• at 125 V</li> <li>• at 230 V</li> <li>• at 250 V</li> </ul>	0.2 A 0.1 A 0.1 A
<b>ampacity of the semiconductor output in SIO mode</b>	200 mA
<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
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 60947-1	class A
<b>conducted interference</b> <ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> </ul>	2 kV (power ports), 2 kV (signal ports) 2 kV 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
<b>Galvanic isolation</b>	
<b>design of the electrical isolation</b>	Protective separation
<b>galvanic isolation</b> <ul style="list-style-type: none"> <li>• between input and output</li> <li>• between the voltage supply and other circuits</li> </ul>	Yes Yes
<b>Connections/ Terminals</b>	
<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>	screw-type terminals
<b>design of terminals with cross-head screw</b>	PZ 1
<b>type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> <li>• for AWG cables solid</li> </ul>	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (20 ... 12), 2x (20 ... 14)
<b>connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• finely stranded with core end processing</li> </ul>	0.5 ... 4 mm <sup>2</sup> 0.5 ... 4 mm <sup>2</sup>
<b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> </ul>	20 ... 12 20 ... 12
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
<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</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> </ul> </li> </ul>	0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 0 mm 0 mm 0 mm 0 mm  0 mm 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	70 %

#### Approvals Certificates

General Product Approval	Test Certificates
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[Confirmation](#)



[Type Test Certificates/Test Report](#)

other

[Confirmation](#)

#### Further information

Siemens has decided to exit the Russian market (see here).

<https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business>

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3UG5816-1AA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5816-1AA40>

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

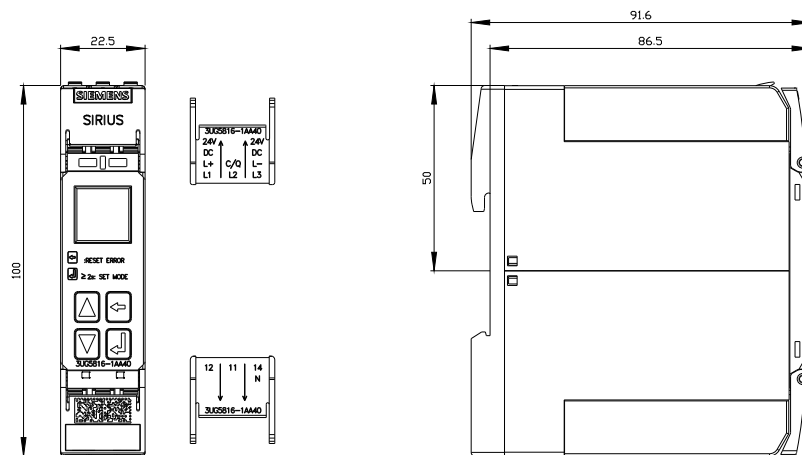
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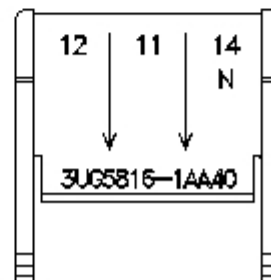
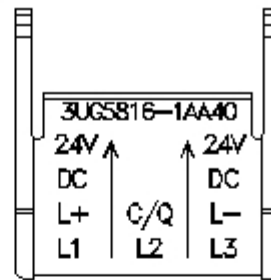
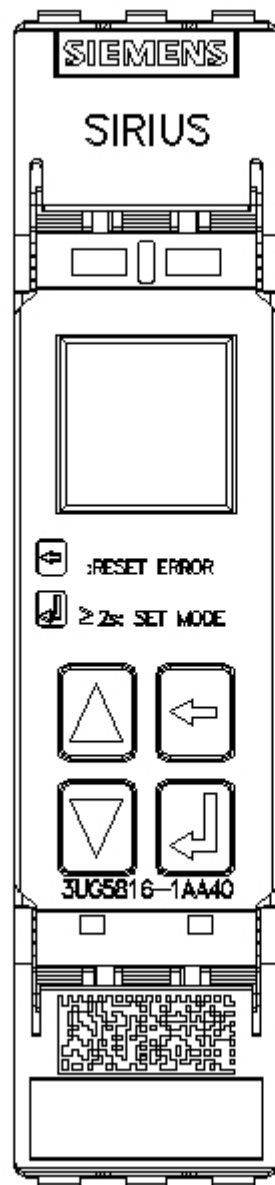
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

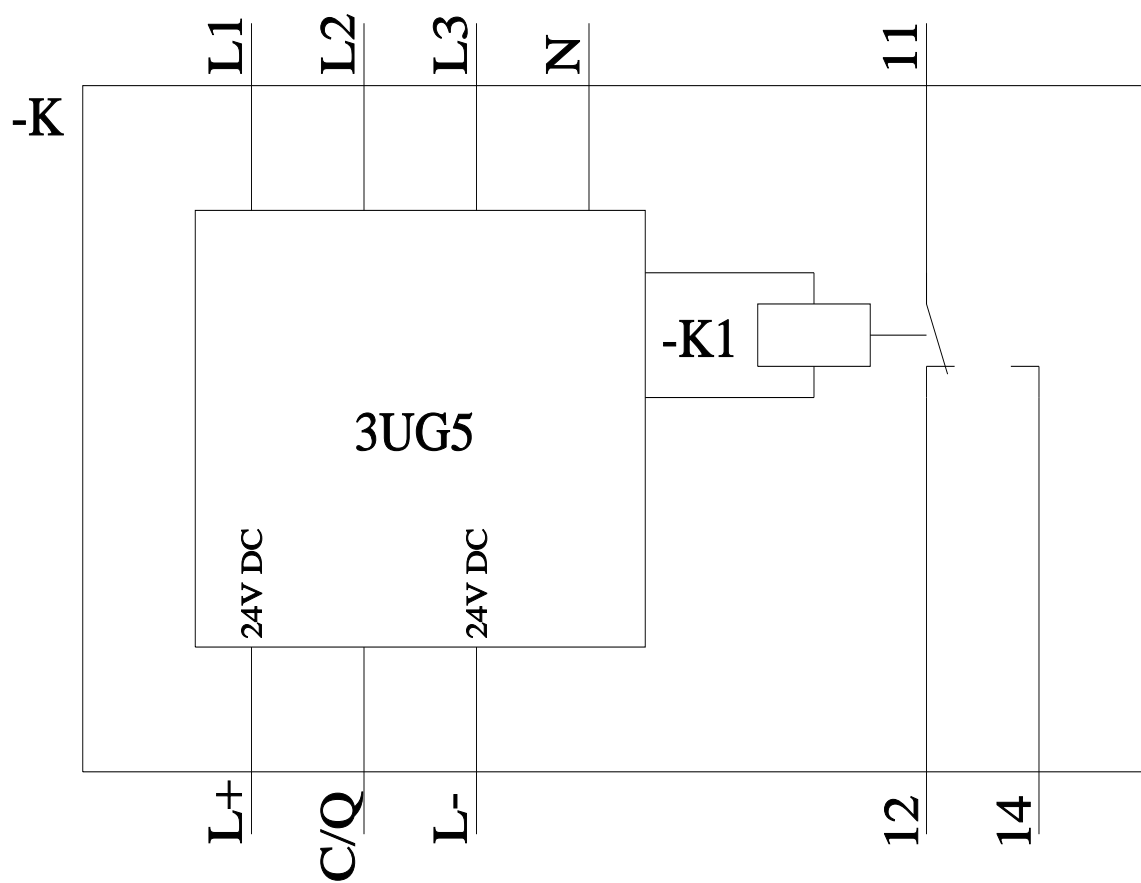
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5816-1AA40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5816-1AA40&lang=en)

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5816-1AA40/manual>







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