



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 screw terminal

<b>product brand name</b>	SIRIUS
<b>product designation</b>	Network monitoring relay with digital setting
<b>design of the product</b>	monitoring of phase sequence, phase failure, phase asymmetry, N-conductor (adjustable), frequency, undervoltage and overvoltage for IO-Link
<b>product type designation</b>	3UG5
<b>General technical data</b>	
<b>product function</b>	line monitoring
<b>display version LED</b>	No
<b>design of the display</b>	LCD
<b>power loss [W] maximum</b>	1 W
<b>insulation voltage for overvoltage category III according to IEC 60664</b>	
• with degree of pollution 2 rated value	690 V
• with degree of pollution 3 rated value	690 V
<b>degree of pollution</b>	3
<b>type of voltage</b>	
• for monitoring	AC
• of the operating voltage for actuation	AC/DC
<b>surge voltage resistance rated value</b>	6 kV
maximum permissible voltage for protective separation between control and auxiliary circuit	690 V
<b>shock resistance according to IEC 60068-2-27</b>	sinusoidal half-wave 15g / 11 ms
<b>vibration resistance according to IEC 60068-2-6</b>	10 ... 55 Hz: 0.35 mm
<b>switching behavior</b>	monostable
<b>mechanical service life (operating cycles) typical</b>	10 000 000
electrical endurance (operating cycles) at AC-15 at 230 V typical	100 000
<b>thermal current of the switching element with contacts maximum</b>	5 A
<b>adjustable OFF-delay time</b>	0.1 ... 30 s
<b>reference code according to IEC 81346-2</b>	K
<b>relative repeat accuracy</b>	0.4 %
<b>Substance Prohibitance (Date)</b>	06/01/2023
<b>SVHC substance name</b>	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
<b>Weight</b>	0.176 kg
<b>Product Function</b>	
<b>product function</b>	
• 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 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 V
• at 60 Hz	120 ... 400 V
<b>control supply voltage at DC rated value</b>	24 V
<b>control supply voltage at DC rated value</b>	24 ... 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
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	4
<b>operating voltage</b>	
• at AC	
— at 50 Hz rated value	690 ... 690 V
— at 60 Hz rated value	690 ... 690 V
• at DC rated value	24 ... 24 V
<b>ampacity of the output relay at AC-15</b>	
• at 250 V at 50/60 Hz	3 A
• at 400 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
<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>	
• 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
<b>Galvanic isolation</b>	
<b>design of the electrical isolation</b>	Protective separation
<b>galvanic isolation</b>	
• between input and output	Yes
• between the voltage supply and other circuits	Yes
<b>Electrical Safety</b>	
<b>protection class IP on the front according to IEC 60529</b>	IP20
<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 terminal
<b>design of terminals with cross-head screw</b>	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
<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 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>	

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

<b>Approvals Certificates</b>		
<b>General Product Approval</b>	<b>EMV</b>	<b>Test Certificates</b>

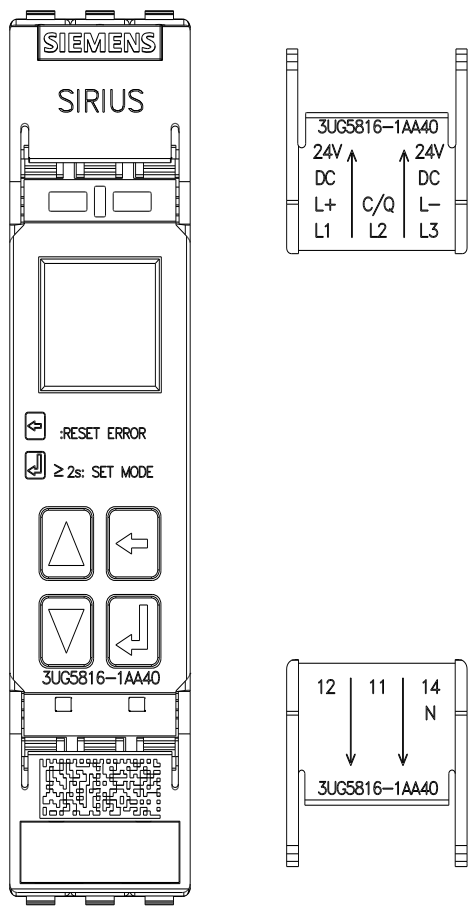
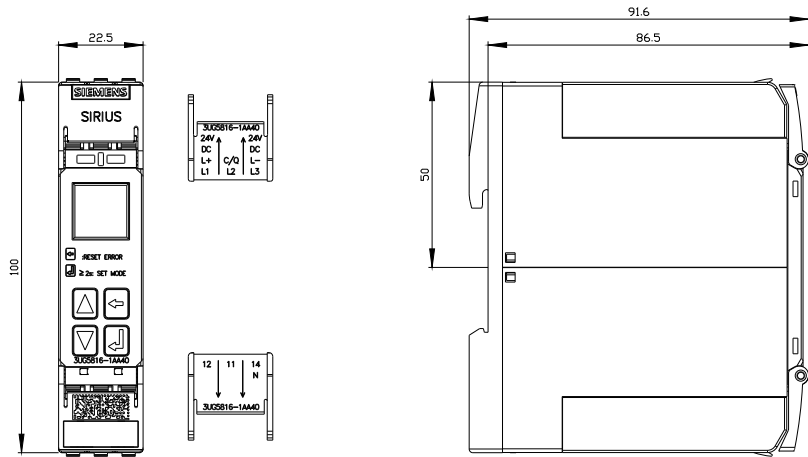


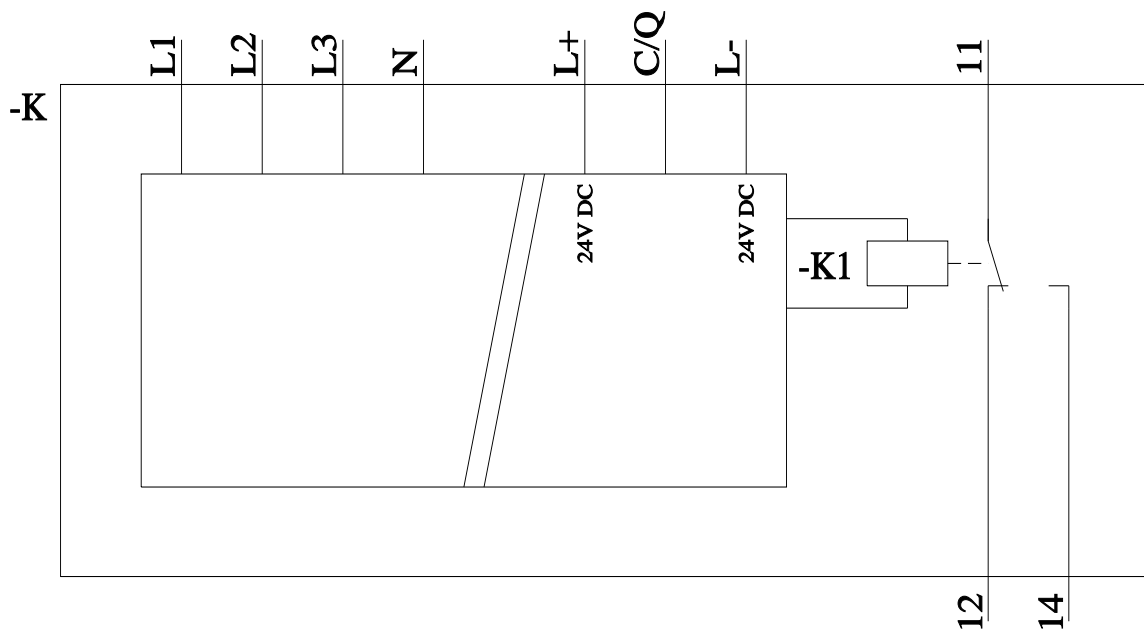
[Type Test Certificates/Test Report](#)

<b>other</b>	<b>Environment</b>
<p><a href="#">Confirmation</a></p>  	<p><a href="#">Environmental Confirmations</a></p>

**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=3UG5816-1AA40>
- Cax online generator**  
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5816-1AA40>
- Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**  
<https://support.industry.siemens.com/cs/ww/en/ps/3UG5816-1AA40>
- Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**  
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5816-1AA40&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5816-1AA40&lang=en)





last modified:

10/16/2025 