



Digital monitoring relay cos phi and current monitoring for IO-Link 90...690 V AC, 0.2...10 A Overshoot and undershoot ON-delay time Tripping delay time Hysteresis 0.1 to 3.0 A 2 change-over contacts, screw terminal

product brand name	SIRIUS
product designation	Cos phi monitoring relay with digital setting
product type designation	3UG4
<b>General technical data</b>	
product function	Active power monitoring relay
design of the display	LCD
insulation voltage for overvoltage category III according to IEC 60664	690 V
• with degree of pollution 2 rated value	2
degree of pollution	2
surge voltage resistance rated value	6 kV
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance according to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
mechanical service life (switching cycles) typical	10 000 001
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000
thermal current of the switching element with contacts maximum	5 A
reference code according to IEC 81346-2	K
relative repeat accuracy	1 %
Substance Prohibitance (Date)	05/01/2012
<b>Product Function</b>	
product function	Yes
• overcurrent detection 1 phase	Yes
• undercurrent detection 1 phase	Yes
• adjustable open/closed-circuit current principle	Yes
• external reset	Yes
<b>Control circuit/ Control</b>	
type of voltage of the control supply voltage	DC
control supply voltage at AC	0 ... 0 V
• at 50 Hz rated value	0 ... 0 V
• at 60 Hz rated value	0 ... 0 V
control supply voltage at DC	24 ... 24 V
• rated value	0 ... 0 Hz
supply voltage frequency for auxiliary and control circuit rated value	0 ... 0 Hz
operating range factor control supply voltage rated value at DC	0.75
• initial value	1.25
• full-scale value	
<b>Supply voltage</b>	

supply voltage frequency rated value	60 Hz
<b>Measuring circuit</b>	
<b>type of current for monitoring</b>	AC
<b>measurable current</b>	0.2 ... 10 A
<b>adjustable current response value current</b>	
• 1	0.2 ... 10 A
• 2	0.2 ... 10 A
<b>adjustable response delay time</b>	
• when starting	0 ... 999.9 s
• with lower or upper limit violation	0 ... 999.9 s
<b>adjustable switching hysteresis for measured current value</b>	0 ... 3 000 mA
<b>accuracy of digital display</b>	+/-1 digit
<b>Precision</b>	
<b>relative metering precision</b>	10 %
<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>	10 ms
<b>type of voltage supply via input/output link master data volume</b>	Yes
• 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>control supply voltage rated value</b>	30 ... 18
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	2
<b>operating frequency with 3RT2 contactor maximum</b>	5 000 1/h
<b>Main circuit</b>	
<b>number of poles for main current circuit</b>	1
operating voltage rated value	90 ... 690 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 125 V	0.2 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>	10 mA
<b>continuous current of the DIAZED fuse link of the output relay</b>	4 A
<b>Electromagnetic compatibility</b>	
<b>conducted interference</b>	
• due to burst according to IEC 61000-4-4	2 kV
• 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>galvanic isolation</b>	
• between input and output	Yes
• between the outputs	Yes
• between the voltage supply and other circuits	Yes
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	Yes

<b>type of electrical connection</b>	screw-type terminals
<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>• at AWG cables solid</li> <li>• at AWG cables stranded</li> </ul>	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (20 ... 14) 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 ... 2.5 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 ... 14 20 ... 14
tightening torque with screw-type terminals	1.2 ... 0.8 N·m

### Installation/ mounting/ dimensions

<b>mounting position</b>	any
<b>fastening method</b>	snap-on mounting
<b>height</b>	102 mm
<b>width</b>	22.5 mm
<b>depth</b>	91 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> <li>— upwards</li> <li>— downwards</li> <li>— at the side</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 0 mm 0 mm 0 mm

### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	-25 ... +60 °C -40 ... +85 °C -40 ... +85 °C

### Certificates/ approvals

<b>General Product Approval</b>	EMC
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[Confirmation](#)

[Manufacturer Declaration](#)



**Declaration of Conformity**

**Test Certificates**

**Marine / Shipping**

**other**



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



[Confirmation](#)

Further information

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?mfb=3UG4841-1CA40>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3UG4841-1CA40>

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

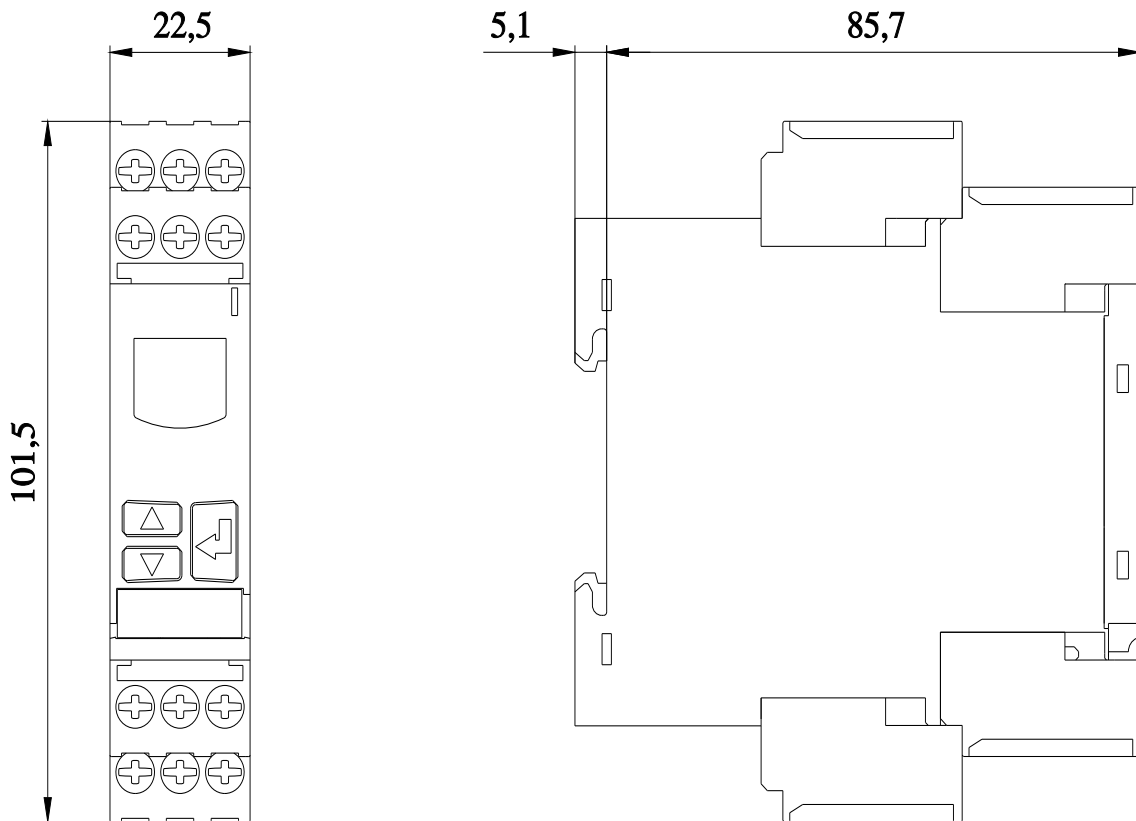
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4841-1CA40>

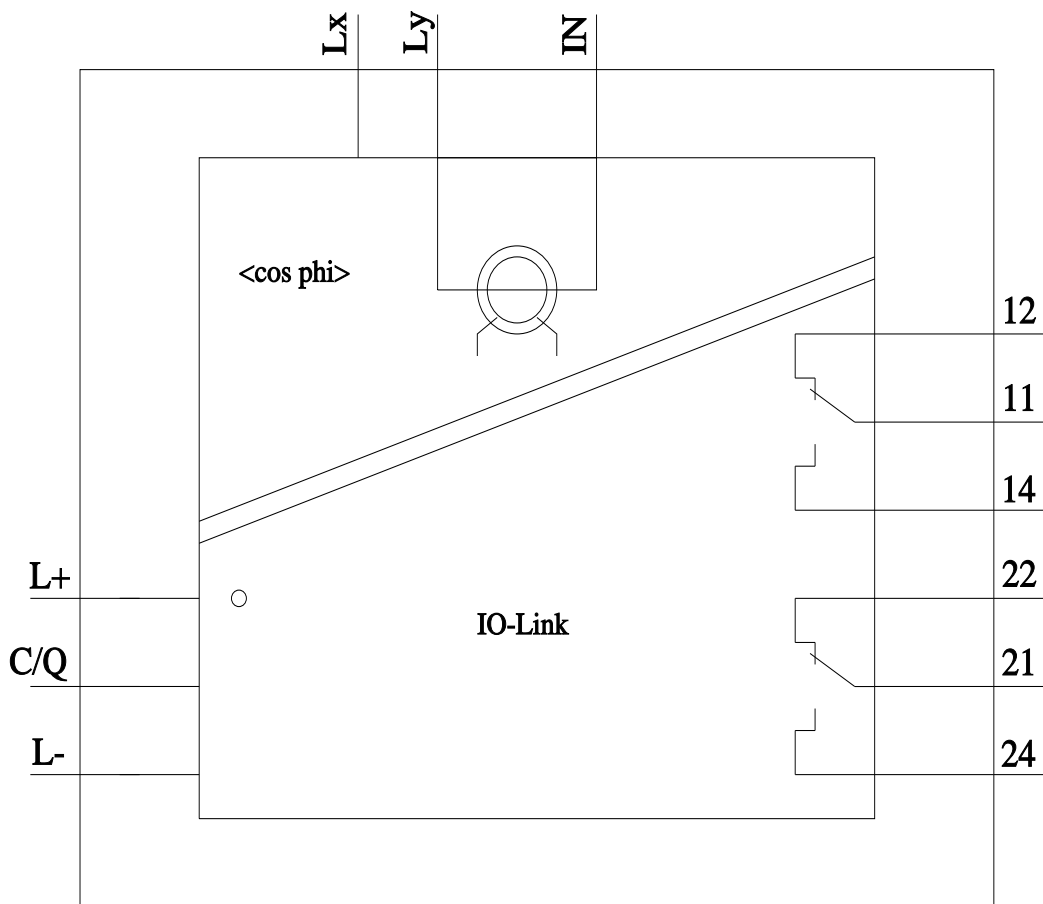
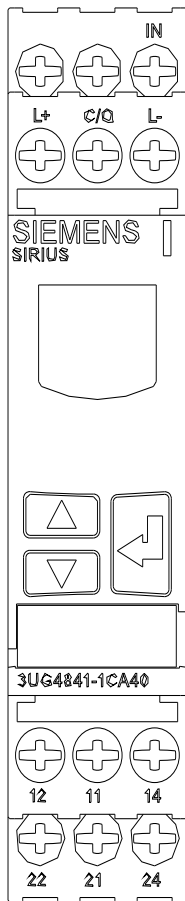
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3UG4841-1CA40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3UG4841-1CA40&lang=en)

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4841-1CA40/manual>





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