



DIGITAL MONITORING RELAY COS-PHI AND  
CURRENT MONITORING FOR IO-LINK 90 TO 690V  
AC, 0.2 TO 10A OVERSHOOT AND UNDERSHOOT  
ON DELAY TIME TRIPPING DELAY TIME  
HYSTERESIS 0.1 TO 3.0A 2 CHANGE-OVER  
CONTACTS, SPRING-LOADED TERMINAL

Product function		Active power monitoring relay
Measuring circuit:		
Number of poles for main current circuit		1
Phase number		1
Adaptable response value phase displacement angle	°	0.1 ... 0.99
Type of current for monitoring		AC
Measurable current	A	0.2 ... 10
Adjustable pick-up value current		
• 1	A	0.2 ... 10
• 2	A	0.2 ... 10
Adjustable response delay time		
• when starting	s	0 ... 999.9
• with lower or upper limit violation	s	0 ... 999.9
Adjustable switching hysteresis for measured current value	mA	0 ... 3 000
Operating voltage rated value	V	90 ... 690
Relative metering precision	%	10
Accuracy of digital display		+/-1 digit
Relative repeat accuracy	%	1

## General technical data:

<b>Design of the display</b>		LCD
<b>Product function</b>		
• Overcurrent detection 1 phase		Yes
• undercurrent detection 1 phase		Yes
• External reset		Yes
• Adjustable open/closed-circuit current principle		Yes
<b>Starting time after the control supply voltage has been applied</b>	ms	1 000
<b>Type of voltage of the control supply voltage</b>		DC
<b>Control supply voltage</b>		
• at AC		
— at 50 Hz rated value	V	0 ... 0
— at 60 Hz rated value	V	0 ... 0
• at DC rated value	V	24 ... 24
<b>Operating range factor control supply voltage rated value</b>		
• at DC		0.75 ... 1.25
<b>Surge voltage resistance rated value</b>	kV	6
<b>Consumed active power</b>	W	2
<b>Protection class IP</b>		IP20
<b>Electromagnetic compatibility</b>		IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4
<b>Vibration resistance acc. to IEC 60068-2-6</b>		1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
<b>Shock resistance acc. to IEC 60068-2-27</b>		sinusoidal half-wave 15g / 11 ms
<b>Installation altitude at height above sea level maximum</b>	m	2 000
<b>Conducted interference due to burst acc. to IEC 61000-4-4</b>		2 kV
<b>Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5</b>		2 kV
<b>Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5</b>		1 kV
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>		6 kV contact discharge / 8 kV air discharge
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>		10 V/m
<b>Degree of pollution</b>		2
<b>Ambient temperature</b>		
• during operation	°C	-25 ... +60
• during storage	°C	-40 ... +85
• during transport	°C	-40 ... +85
<b>Galvanic isolation</b>		
• between entrance and outlet		Yes
• between the outputs		Yes
• between the voltage supply and other circuits		Yes

<b>Mechanical service life (switching cycles) typical</b>		10 000 002
<b>Electrical endurance (switching cycles) at AC-15 at 230 V typical</b>		100 000
<b>Operating frequency with 3RT2 contactor maximum</b>	1/h	5 000

#### Communication/ Protocol:

<b>Type of voltage supply via input/output link master</b>		Yes
<b>IO-Link transfer rate</b>		COM2 (38,4 kBaud)
<b>Protocol is supported IO-Link protocol</b>		Yes
<b>Amount of data</b>		
• of the address area of the outputs with cyclical transfer total	byte	2
• of the address area of the inputs with cyclical transfer total	byte	4
<b>Point-to-point cycle time between master and IO-Link device minimum</b>	ms	10

#### Mechanical data:

<b>Width</b>	mm	22.5
<b>Height</b>	mm	103
<b>Depth</b>	mm	91
<b>Mounting position</b>		any
<b>Required spacing for grounded parts</b>		
• forwards	mm	0
• Backwards	mm	0
• at the side	mm	0
• upwards	mm	0
• downwards	mm	0
<b>Required spacing with side-by-side mounting</b>		
• forwards	mm	0
• Backwards	mm	0
• at the side	mm	0
• upwards	mm	0
• downwards	mm	0
<b>Required spacing for live parts</b>		
• forwards	mm	0
• Backwards	mm	0
• at the side	mm	0
• upwards	mm	0
• downwards	mm	0
<b>Mounting type</b>		snap-on mounting
<b>Product function removable terminal for auxiliary and control circuit</b>		Yes
<b>Type of electrical connection</b>		spring-loaded terminals

<b>Type of connectable conductor cross-sections</b>		
• solid		2x (0.25 ... 1.5 mm <sup>2</sup> )
• finely stranded		
— with core end processing		2 x (0.25 ... 1.5 mm <sup>2</sup> )
— without core end processing		2x (0.25 ... 1.5 mm <sup>2</sup> )
• at AWG conductors		
— solid		2x (24 ... 16)
— stranded		2x (24 ... 16)

#### Outputs:

<b>Number of NO contacts delayed switching</b>		0
<b>Number of NC contacts delayed switching</b>		0
<b>Number of CO contacts delayed switching</b>		2
<b>Ampacity of the output relay</b>		
• at AC-15		
— at 250 V at 50/60 Hz	A	3
— at 400 V at 50/60 Hz	A	3
• at DC-13		
— at 24 V	A	1
— at 125 V	A	0.2
— at 250 V	A	0.1
<b>Operating current at 17 V minimum</b>	mA	10
<b>Continuous current of the DIAZED fuse link of the output relay</b>	A	4
<b>Thermal current of the switching element with contacts maximum</b>	A	5

#### Certificates/ approvals:

General Product Approval		Declaration of Conformity	Test Certificates
	<a href="#">Manufacturer Declaration</a>		
CCC		UL	
			EG-Konf.
			<a href="#">Special Test Certificate</a>

Test Certificates	other	Railway
<a href="#">Type Test Certificates/Test Report</a>	<a href="#">Confirmation</a>	<a href="#">Vibration and Shock</a>

#### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

<http://www.siemens.com/industrymall>

**Cax online generator**

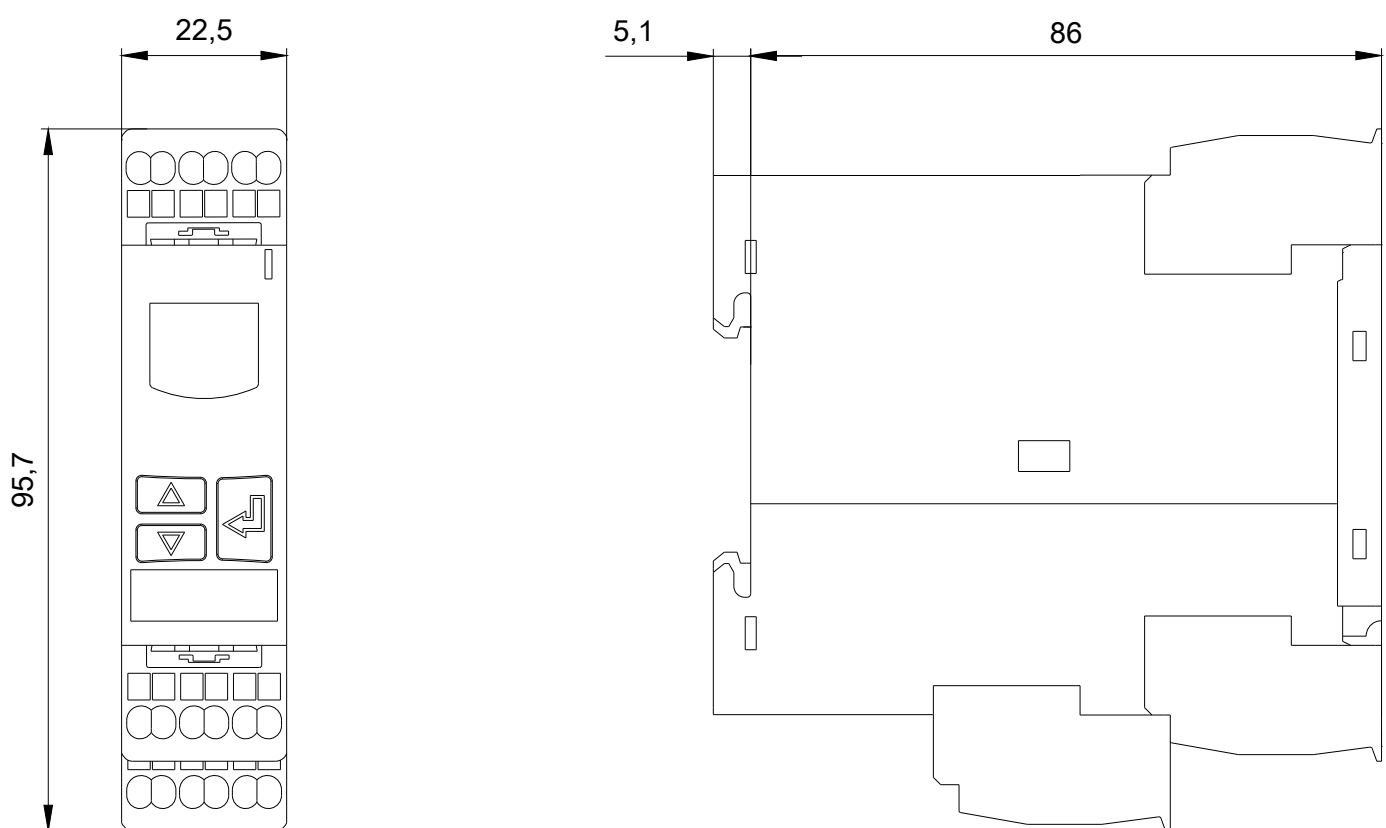
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4841-2CA40>

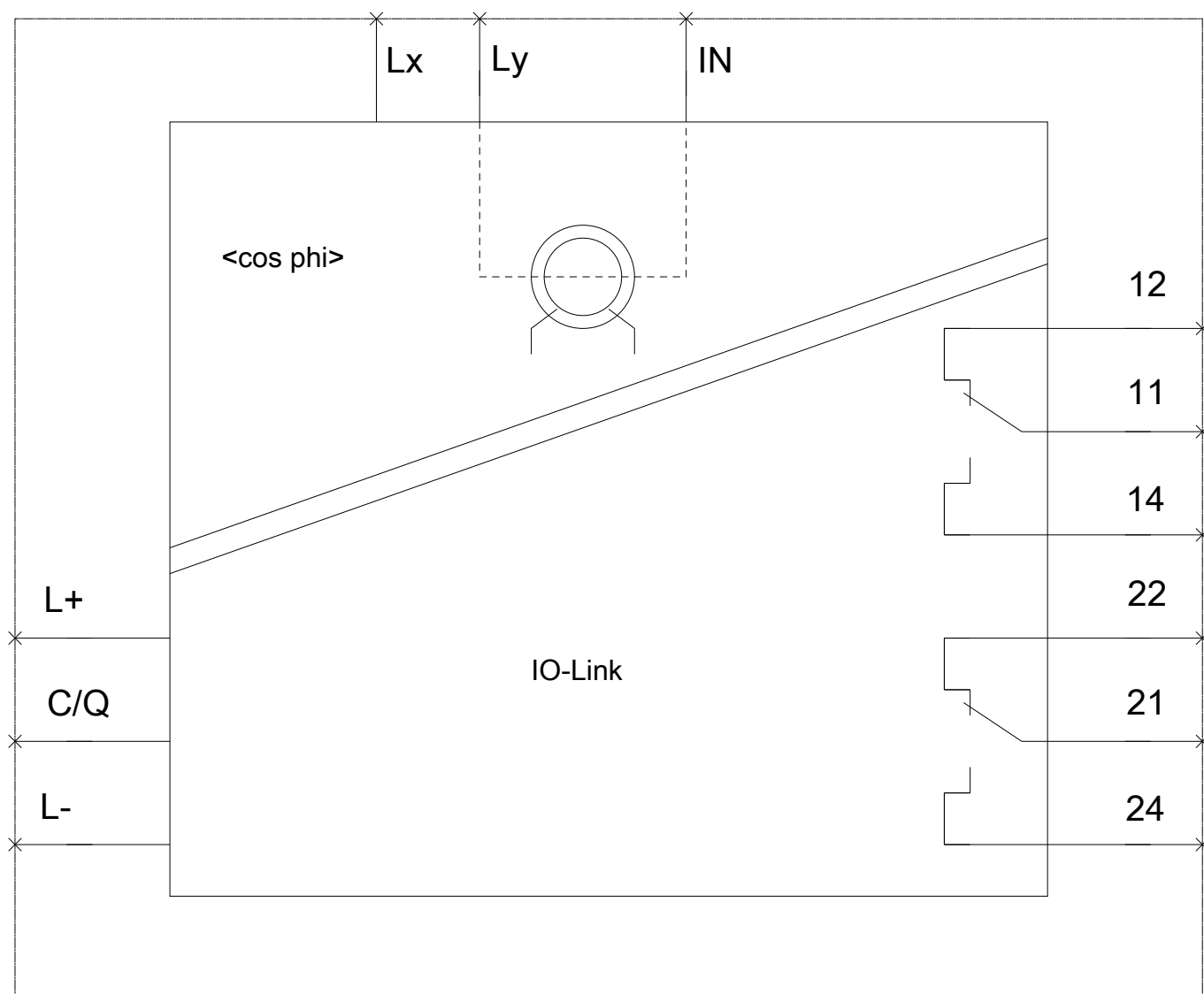
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4841-2CA40>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG4841-2CA40&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4841-2CA40&lang=en)





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