

### ANALOG MONITORING RELAY PHASE FAILURE AND - SEQUENCE 3X 160 TO 690V AC 50 TO 60 HZ 1 CHANGEOVER CONTACT SCREW TERMINAL

<b>Product function</b>		Phase monitoring relay
<b>Measuring circuit:</b>		
<b>Type of voltage / for monitoring</b>		AC
<b>Number of poles / for main current circuit</b>		3
<b>Measurable voltage</b> • for AC	V	160 ... 690
<b>Relative repeat accuracy</b>	%	1
<b>General technical details:</b>		
<b>Type of display / LED</b>		Yes
<b>Product function</b> • undervoltage recognition • overvoltage recognition • phase sequence recognition • phase disturbance recognition • asymmetry recognition • overvoltage recognition of 3 phases • undervoltage recognition of 3 phases • tension window recognition of 3 phases • self-reset • open-circuit or closed-circuit current principle		No No Yes Yes No No No No Yes No
<b>Starting time / after the control supply voltage has been applied</b>	ms	1,000
<b>Response time / maximum</b>	ms	450
<b>Type of voltage / of the controlled supply voltage</b>		AC
<b>Control supply voltage</b> • at 50 Hz / at AC • rated value • at 60 Hz / at AC • rated value	V  V	160 ... 690  160 ... 690
<b>Operating range factor control supply voltage rated value</b> • at 50 Hz • for AC		1 ... 1

<ul style="list-style-type: none"> <li>• at 60 Hz</li> <li>• for AC</li> </ul>		1 ... 1
<b>Impulse voltage resistance / rated value</b>	kV	6
<b>Recorded real 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>Resistance against vibration / according to IEC 60068-2-6</b>		1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
<b>Resistance against shock / according to IEC 60068-2-27</b>		sinusoidal half-wave 15g / 11 ms
<b>Installation altitude / at a height over sea level / maximum</b>	m	2,000
<b>Conductor-bound parasitic coupling BURST / according to IEC 61000-4-4</b>		2 kV
<b>Conductor-bound parasitic coupling conductor-earth SURGE / according to IEC 61000-4-5</b>		2 kV
<b>Conductor-bound parasitic coupling conductor-conductor SURGE / according to IEC 61000-4-5</b>		1 kV
<b>Electrostatic discharge / according to IEC 61000-4-2</b>		6 kV contact discharge / 8 kV air discharge
<b>Field-bound parasitic coupling / according to IEC 61000-4-3</b>		10 V/m
<b>Insulation voltage / for overvoltage category III according to IEC 60664 / with degree of pollution 3 / rated value</b>	V	690
<b>Degree of pollution</b>		3
<b>Ambient temperature</b> <ul style="list-style-type: none"> <li>• during operating</li> <li>• during storage</li> <li>• during transport</li> </ul>	°C °C °C	-25 ... +60 -40 ... +85 -40 ... +85
<b>Galvanic isolation</b> <ul style="list-style-type: none"> <li>• between entrance and outlet</li> <li>• between the outputs</li> <li>• between the voltage supply and other circuits</li> </ul>		Yes Yes Yes








Mechanical design:		
<b>Width</b>	mm	22.5
<b>Height</b>	mm	83
<b>Depth</b>	mm	91
<b>mounting position</b>		any
<b>Distance, to be maintained, to earthed part</b> <ul style="list-style-type: none"> <li>• forwards</li> <li>• backwards</li> <li>• sideways</li> <li>• upwards</li> <li>• downwards</li> </ul>	mm mm mm mm mm	0 0 0 0 0
<b>Distance, to be maintained, to the ranks assembly</b>		

• forwards	mm	0
• backwards	mm	0
• sideways	mm	0
• upwards	mm	0
• downwards	mm	0
<b>Distance, to be maintained, conductive elements</b>		
• forwards	mm	0
• backwards	mm	0
• sideways	mm	0
• upwards	mm	0
• downwards	mm	0
<b>Type of mounting</b>		snap-on mounting
<b>Product function / removable terminal for auxiliary and control circuit</b>		Yes
<b>Design of the electrical connection</b>		screw-type terminals
<b>Type of the connectable conductor cross-section</b>		
• solid		1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• finely stranded		1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• with wire end processing		
• for AWG conductors		
• solid		2x (20 ... 14)
• stranded		2x (20 ... 14)
<b>Tightening torque</b>		
• with screw-type terminals	N·m	0.8 ... 1.2

Outputs:		
<b>Number of NO contacts / delayed switching</b>		0
<b>Number of NC contacts / delayed switching</b>		0
<b>Number of change-over switches / delayed switching</b>		1
<b>Current carrying capacity / of 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>Thermal current / of the contact-affected switching element / maximum</b>	A	5
<b>Operating current / at 17 V / minimum</b>	mA	5
<b>Continuous current / of the DIAZED fuse link of the output relay</b>	A	4

Mechanical operating cycles as operating time / typical		10,000,000
Electrical operating cycles as operating time / at AC-15 / at 230 V / typical		100,000
Operating cycles / with 3RT2 contactor / maximum	1/h	5,000

#### Certificates/approvals:

General Product Approval			EMC	Test Certificates
				<a href="#">Special Test Certificate</a>
CCC	GOST	UL	C-TICK	
Shipping Approval			other	
			<a href="#">Declaration of Conformity</a>	<a href="#">other</a>
DNV	GL	LRS		

#### Further information:

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

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

##### Industry Mall (Online ordering system)

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

##### Cax online generator:

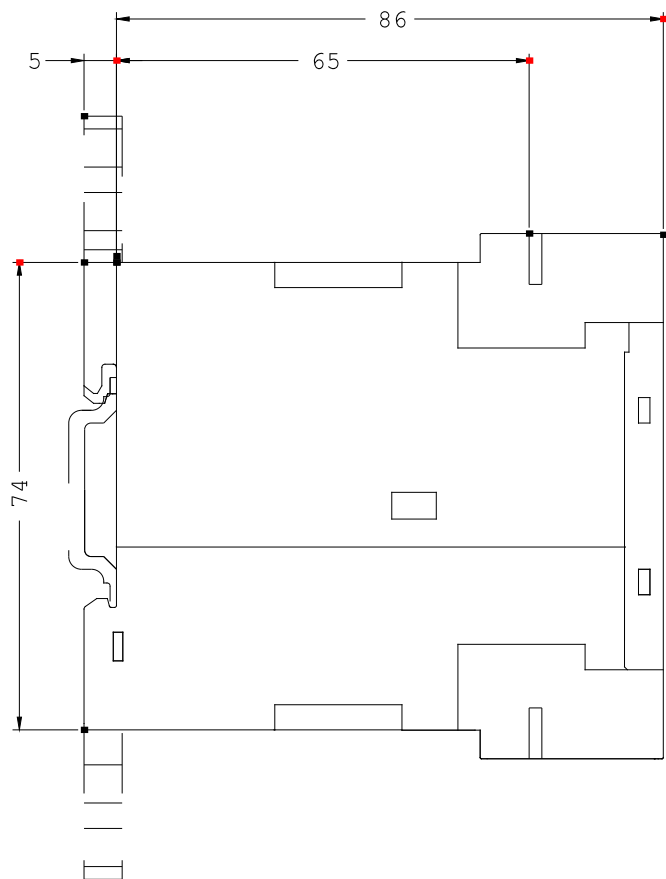
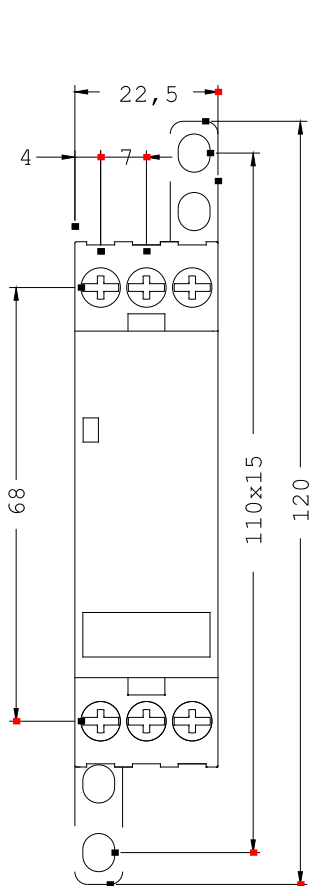
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3UG4512-1AR20/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3UG4512-1AR20](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3UG4512-1AR20)



last change:

Feb 18, 2013