



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 at AC</b>	V	160 ... 690
<b>Relative repeat accuracy</b>	%	1
<b>General technical data:</b>		
<b>Display version LED</b>		Yes
<b>Product function</b>		
• undervoltage detection		No
• Overvoltage detection		No
• phase sequence recognition		Yes
• Phase failure detection		Yes
• Phase unbalance		No
• Overvoltage detection 3 phase		No
• undervoltage detection 3 phases		No
• Voltage window recognition 3 phase		No
• Auto-reset		Yes
• Adjustable open/closed-circuit current principle		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 control supply voltage</b>		AC
<b>Control supply voltage</b>		
• at AC		
— at 50 Hz rated value	V	160 ... 690
— at 60 Hz rated value	V	160 ... 690
<b>Operating range factor control supply voltage rated value</b>		
• at AC		
— at 50 Hz		1 ... 1

— at 60 Hz		1 ... 1
<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>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>		
• 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

Mechanical data:		
<b>Width</b>	mm	22.5
<b>Height</b>	mm	83
<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
Required spacing for live parts		
• 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>		screw-type terminals
<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 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• at AWG conductors		
— solid		2x (20 ... 14)
— stranded		2x (20 ... 14)
Tightening torque 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 CO contacts delayed switching</b>		1
Ampacity of the output relay		
• 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 switching element with contacts 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
<b>Mechanical service life (switching cycles) typical</b>		10 000 000
<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

## Certificates/ approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
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[Type Test Certificates/Test Report](#)

Test Certificates	Shipping Approval	other	Railway
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[Special Test Certificate](#)



LRS

[Confirmation](#)

[Vibration and Shock](#)

## 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

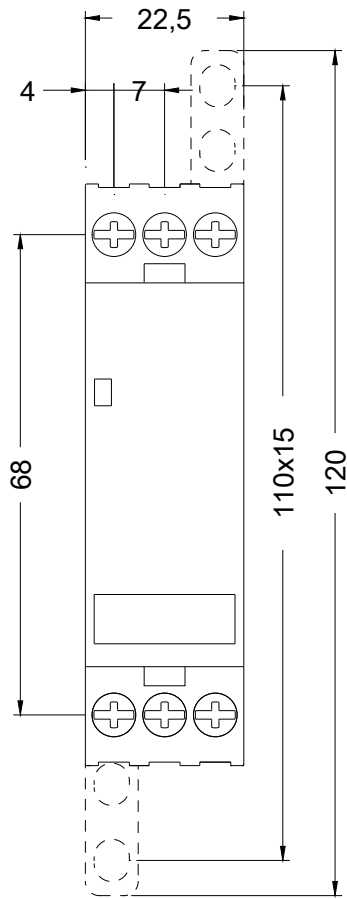
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-1AR20>

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

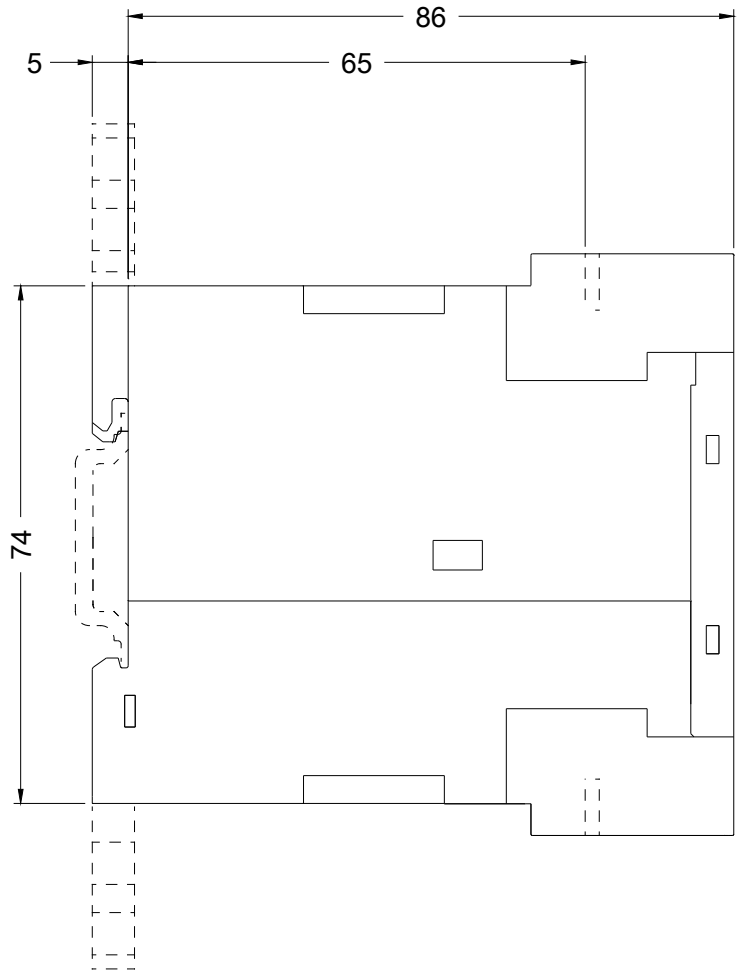
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1AR20>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG4512-1AR20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-1AR20&lang=en)



last modified:



10/24/2017