



Analog monitoring relay Phase failure and sequence 3 x 160...690 V  
50...60 Hz AC 1 change-over contact screw terminal

Figure similar



<b>product brand name</b>	SIRIUS
<b>product designation</b>	Network monitoring relay with analog setting
<b>design of the product</b>	2 functions
<b>product type designation</b>	3UG4
<b>General technical data</b>	
<b>product function</b>	Phase monitoring relay
<b>display version LED</b>	Yes
insulation voltage for overvoltage category III according to IEC 60664	
• 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 control supply voltage	AC
<b>surge voltage resistance rated value</b>	6 kV
<b>protection class IP</b>	IP20
shock resistance acc. to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance acc. to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
mechanical service life (switching cycles) typical	10 000 000
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000
<b>thermal current of the switching element with contacts maximum</b>	5 A
<b>reference code acc. to IEC 81346-2</b>	K
<b>relative repeat accuracy</b>	1 %
<b>Substance Prohibitance (Date)</b>	01.05.2012
<b>Product Function</b>	
<b>product function</b>	
• undervoltage detection	No
• overvoltage detection	No
• phase sequence recognition	Yes
• phase failure detection	Yes
• asymmetry detection	No
• overvoltage detection 3 phase	No
• undervoltage detection 3 phases	No
• voltage window recognition 3 phase	No
• adjustable open/closed-circuit current principle	No
• auto-RESET	Yes
<b>Control circuit/ Control</b>	

<b>control supply voltage at AC</b>	
<ul style="list-style-type: none"> <li>at 50 Hz rated value</li> <li>at 60 Hz rated value</li> </ul>	160 ... 690 V 160 ... 690 V
<b>operating range factor control supply voltage rated value at AC at 50 Hz</b>	
<ul style="list-style-type: none"> <li>initial value</li> <li>full-scale value</li> </ul>	1 1
<b>operating range factor control supply voltage rated value at AC at 60 Hz</b>	
<ul style="list-style-type: none"> <li>initial value</li> <li>full-scale value</li> </ul>	1 1
<b>Measuring circuit</b>	
<b>measurable voltage at AC</b>	690 ... 160 V
<b>Auxiliary circuit</b>	
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	1
<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>	3
<b>ampacity of the output relay at AC-15</b>	
<ul style="list-style-type: none"> <li>at 250 V at 50/60 Hz</li> <li>at 400 V at 50/60 Hz</li> </ul>	3 A 3 A
<b>ampacity of the output relay at DC-13</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> <li>at 125 V</li> <li>at 250 V</li> </ul>	1 A 0.2 A 0.1 A
<b>operational current at 17 V minimum</b>	5 mA
<b>continuous current of the DIAZED fuse link of the output relay</b>	4 A
<b>Electromagnetic compatibility</b>	
<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>due to burst acc. to IEC 61000-4-4</li> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	2 kV 2 kV 1 kV
<b>field-based interference acc. to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge acc. to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge
<b>Galvanic isolation</b>	
<b>galvanic isolation</b>	
<ul style="list-style-type: none"> <li>between input and output</li> <li>between the outputs</li> <li>between the voltage supply and other circuits</li> </ul>	Yes Yes 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	0.8 ... 1.2 N·m

Installation/ mounting/ dimensions	
mounting position	any
fastening method	snap-on mounting
height	83 mm
width	22.5 mm
depth	91 mm
required spacing	
<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>	

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

### Certificates/ approvals

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

Test Certificates	Marine / Shipping	other	Railway
<a href="#">Type Test Certificates/Test Report</a>	 LRS	 DNV GL	<a href="#">Confirmation</a> <a href="#">Vibration and Shock</a>

### Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**  
<https://www.siemens.com/ic10>

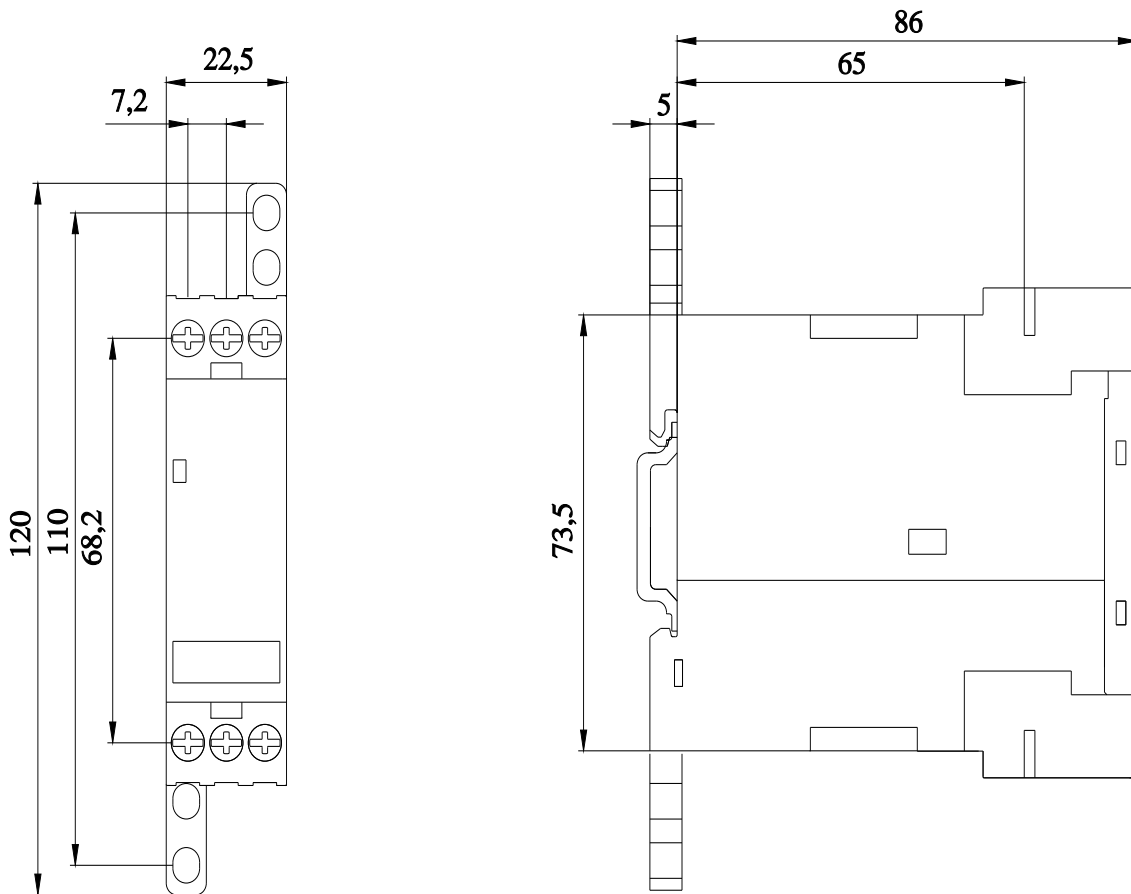
**Industry Mall (Online ordering system)**  
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG4512-1AR20>

**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)

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



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