



DIGITAL MONITORING RELAY UNBALANCE 0-20%  
 REVERSIBLE PHASE SEQUENCE PHASE FAILURE  
 3X 160 TO 690V AC 50 TO 60 HZ UNDERVOLTAGE  
 160-690V HYSTERESIS 1-20V ON AND OFF DELAY 0-  
 20S 2 CHANGEOVER CONTACTS SCREW  
 TERMINAL REPLACEMENT PRODUCT FOR  
 3UG3012-1A...





<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
Measurable voltage with AC	V	160 ... 690
<b>Adjustable voltage range</b>	V	160 ... 690
<b>Adjustable response delay time</b>		
• when starting	s	0.1 ... 20
• with lower or upper limit violation	s	0.1 ... 20
<b>Relative setting accuracy</b>	%	0.2
<b>Relative metering precision</b>	%	5
<b>Accuracy of digital display</b>		+/-1 digit
<b>Relative repeat accuracy</b>	%	1
<b>General technical data:</b>		
<b>Design of the display</b>		LCD
<b>Display version LED</b>		No
<b>Product function</b>		
• undervoltage detection		Yes
• Overvoltage detection		No
• phase sequence recognition		Yes
• Phase failure detection		Yes
• Asymmetry recognition		Yes
• Overvoltage detection 3 phase		No
• undervoltage detection 3 phases		Yes




<ul style="list-style-type: none"> <li>• Voltage window recognition 3 phase</li> <li>• Auto-reset</li> <li>• Adjustable open/closed-circuit current principle</li> </ul>		No Yes Yes
<b>Startup 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>		
<ul style="list-style-type: none"> <li>• with AC <ul style="list-style-type: none"> <li>— at 50 Hz Rated value</li> <li>— at 60 Hz Rated value</li> </ul> </li> </ul>	V V	160 ... 690 160 ... 690
<b>Operating range factor control supply voltage rated value</b>		
<ul style="list-style-type: none"> <li>• with AC <ul style="list-style-type: none"> <li>— at 50 Hz</li> <li>— at 60 Hz</li> </ul> </li> </ul>		1 ... 1 1 ... 1
<b>Surge voltage resistance Rated value</b>	kV	6
<b>Active power consumption</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>		
<ul style="list-style-type: none"> <li>• during operation</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 data:		
<b>Width</b>	mm	22.5
<b>Height</b>	mm	92
<b>Depth</b>	mm	91
<b>mounting position</b>		any
Required spacing for grounded parts		
• forwards	mm	0
• Backwards	mm	0
• at the side	mm	0
• upwards	mm	0
• downwards	mm	0
Required spacing with side-by-side mounting		
• 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-section</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> )
• for 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>		2
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	Test Certificates
 CCC		 UL
	 C-TICK	<a href="#">Special Test Certificate</a>
		<a href="#">Type Test Certificates/Test Report</a>

Shipping Approval	other
 DNV	 GL
 LRS	<a href="#">other</a>
	<a href="#">Declaration of Conformity</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

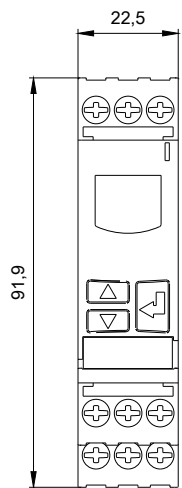
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG46141BR20>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UG46141BR20>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG46141BR20&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG46141BR20&lang=en)



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