## **SIEMENS**

Data sheet 3UG4616-1CR20



DIGITAL MONITORING RELAY FOR THREE-PH.
VOLT. W. N COND. REVERSIBLE PHASE
SEQUENCE PHASE FAILURE 3X 160 TO 690V AC 50
TO 60 HZ UNDERVOLT. AND OVERVOLT. 160-690V
HYSTERESIS 1-20V 0-20S EACH FOR UMIN AND
UMAX 1 W FOR UMIN 1 W FOR UMAX SCREW
TERMINAL REPLACEMENT PRODUCT F. 3UG30421BP50

## Figure similar

Product function		Phase monitoring relay
Measuring circuit:		
Type of voltage for monitoring		AC
Number of poles for main current circuit		3
Measurable voltage at AC	V	160 690
Adjustable voltage range	V	160 690
Adjustable response delay time		
<ul> <li>with lower or upper limit violation</li> </ul>	S	0.1 20
Relative setting accuracy	%	0.2
Relative metering precision	%	5
Accuracy of digital display		+/-1 digit
Relative repeat accuracy	%	1
General technical data:		
Design of the display		LCD
Display version LED		No
Product function		
<ul> <li>undervoltage detection</li> </ul>		Yes

Overvoltage detection		Yes
<ul> <li>phase sequence recognition</li> </ul>		Yes
Phase failure detection		Yes
Phase unbalance		Yes
Overvoltage detection 3 phase		Yes
<ul> <li>undervoltage detection 3 phases</li> </ul>		Yes
<ul> <li>Voltage window recognition 3 phase</li> </ul>		Yes
Auto-reset		Yes
Adjustable open/closed-circuit current principle		Yes
Starting time after the control supply voltage has	ms	1 000
been applied		
Response time maximum	ms	450
Type of voltage of the control supply voltage		AC
Control supply voltage		
• at AC		
— at 50 Hz rated value	V	160 690
— at 60 Hz rated value	V	160 690
Operating range factor control supply voltage rated value		
• at AC		
— at 50 Hz		11
— at 60 Hz		11
Surge voltage resistance rated value	kV	6
Consumed active power	W	2
Protection class IP		IP20
Electromagnetic compatibility		IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4
Vibration resistance acc. to IEC 60068-2-6		1 6 Hz: 15 mm, 6 500 Hz: 2g
Shock resistance acc. to IEC 60068-2-27		sinusoidal half-wave 15g / 11 ms
Installation altitude at height above sea level maximum	m	2 000
Conducted interference due to burst acc. to IEC 61000-4-4		2 kV
Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5		2 kV
Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5		1 kV
Electrostatic discharge acc. to IEC 61000-4-2		6 kV contact discharge / 8 kV air discharge
Field-bound parasitic coupling acc. to IEC 61000-4-3		10 V/m
Insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	V	690
Degree of pollution		3
Ambient temperature		
• during operation	°C	-25 +60

<ul><li>during storage</li></ul>	°C	-40 +85
during transport	°C	-40 <b>+</b> 85
Galvanic isolation		
<ul> <li>between entrance and outlet</li> </ul>		Yes
<ul> <li>between the outputs</li> </ul>		Yes
<ul> <li>between the voltage supply and other circuits</li> </ul>		Yes

botween the voltage supply and other orionts		
Mechanical data:		
Width	mm	22.5
Height	mm	102
Depth	mm	91
Mounting position	_	any
Required spacing for grounded parts		
• forwards	mm	0
<ul> <li>Backwards</li> </ul>	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
Mounting type	_	snap-on mounting
Product function removable terminal for auxiliary and control circuit		Yes
Type of electrical connection		screw-type terminals
Type of connectable conductor cross-sections		
• solid		1x (0.5 4 mm2), 2x (0.5 2.5 mm2)
• finely stranded		
<ul><li>— with core end processing</li></ul>		1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2)
• at AWG conductors		
— solid		2x (20 14)
— stranded		2x (20 14)
Tightening torque with screw-type terminals	N·m	0.8 1.2

Outputs:		
Number of NO contacts delayed switching		0
Number of NC contacts delayed switching		0
Number of CO contacts delayed switching		2
Ampacity of the output relay		
● at AC-15		
— at 250 V at 50/60 Hz	Α	3
— at 400 V at 50/60 Hz	Α	3
• at DC-13		
— at 24 V	Α	1
— at 125 V	Α	0.2
— at 250 V	Α	0.1
Thermal current of the switching element with	Α	5
contacts maximum		
Operating current at 17 V minimum	mA	5
Continuous current of the DIAZED fuse link of the	Α	4
output relay		
Mechanical service life (switching cycles) typical		10 000 000
Electrical endurance (switching cycles) at AC-15 at 230 V typical		100 000
Operating frequency with 3RT2 contactor maximum	1/h	5 000

## Certificates/ approvals:

General Product Approval EMC Declaration of Conformity Certificates













Type Test
Certificates/Test
Report

Test Certificates	Shipping Approval	other	Railway
Special Test Certificate	Lloyd's Register	Confirmation	Vibration and Shock

## Further informatior

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

LRS

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

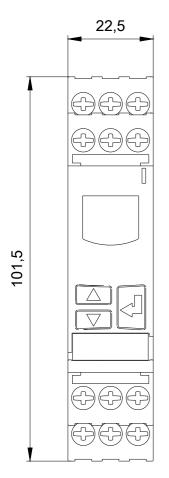
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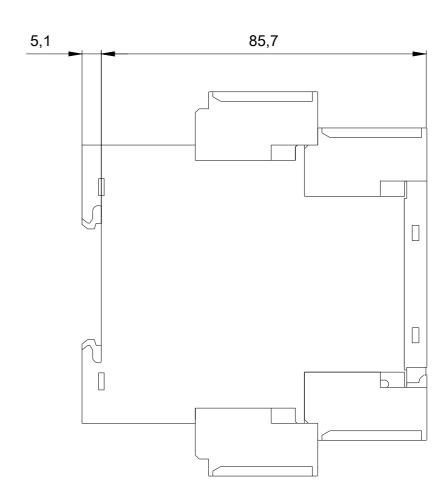
http://www.siemens.com/industrymall

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4616-1CR20

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3UG4616-1CR20&lang=en





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