SIEMENS

Data sheet 3UG4641-1CS20

Digital monitoring relay cos phi and current monitoring from 90-690 V AC 0vershoot and undershoot self-supplied 50 to 60 Hz AC Noise pulses delay 0.1 to 20 s Hysteresis for (I) 0.1 to 2 A 2 change-over contacts with or without fault buffer screw terminal Successor product for 3UG3014

product brand name	SIRIUS
product designation	Cos phi monitoring relay with digital setting
product type designation	3UG4
General technical data	
product function	Active power monitoring relay
design of the display	LCD
insulation voltage for overvoltage category III according to IEC 60664	
● with degree of pollution 3 rated value	690 V
degree of pollution	3
surge voltage resistance rated value	6 kV
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance according to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) at AC-15 at 230 V typical	100 000
thermal current of the switching element with contacts maximum	5 A
reference code according to IEC 81346-2	K
relative repeat accuracy	1 %
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Product Function	
product function	
● overcurrent detection 1 phase	Yes
● undercurrent detection 1 phase	Yes
● adjustable open/closed-circuit current principle	Yes
● external reset	Yes
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
● at 50 Hz rated value	90 ... 690 V
● at 60 Hz rated value	90 ... 690 V
supply voltage frequency for auxiliary and control circuit rated value	50 ... 60 Hz
operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	1
● full-scale value	1
operating range factor control supply voltage rated value at	

AC at 60 Hz	
● initial value	1
● full-scale value	1
Supply voltage	
supply voltage frequency rated value	60 ... 50 Hz
Measuring circuit	
type of current for monitoring	AC
measurable current	0.2 ... 10 A
adjustable current response value current	
● 1	0.2 ... 10 A
● 2	0.2 ... 10 A
adjustable response delay time	
● when starting	0 ... 99 s
● with lower or upper limit violation	0.1 ... 20 s
adjustable switching hysteresis for measured current value	100 ... 2 000 mA
buffering time in the event of power failure minimum	10 ms
accuracy of digital display	+/-1 digit
Precision	
relative metering precision	10 %
Auxiliary circuit	
control supply voltage rated value	690 ... 90
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	2
operating frequency with 3RT2 contactor maximum	5 000 1/h
Main circuit	
number of poles for main current circuit	2
operating voltage rated value	90 ... 690 V
ampacity of the output relay at AC-15	
● at 250 V at 50/60 Hz	3 A
● at 400 V at 50/60 Hz	3 A
ampacity of the output relay at DC-13	
● at 24 V	1 A
● at 125 V	0.2 A
● at 250 V	0.1 A
operational current at 17 V minimum	5 mA
continuous current of the DIAZED fuse link of the output relay	4 A
Electromagnetic compatibility	
conducted interference	
● due to burst according to IEC 61000-4-4	2 kV
● due to conductor-earth surge according to IEC 61000-4-5	2 kV
● due to conductor-conductor surge according to IEC 61000-4-5	1 kV
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Galvanic isolation	
galvanic isolation	
● between input and output	Yes
● between the outputs	Yes
● between the voltage supply and other circuits	Yes
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 4 mm2), 2x (0.5 ... 2.5 mm2)
● finely stranded with core end processing	1x (0.5 ... 2.5 mm2), 2x (0.5 ... 1.5 mm2)
● for AWG cables solid	2x (20 ... 14)
● for AWG cables stranded	2x (20 ... 14)
connectable conductor cross-section	

● solid	0.5 ... 4 mm²
● finely stranded with core end processing	0.5 ... 2.5 mm²
AWG number as coded connectable conductor cross section	
● solid	20 ... 14
● stranded	20 ... 14
tightening torque with screw-type terminals	1.2 ... 0.8 N·m
Installation/ mounting/ dimensions	
mounting position	any
fastening method	snap-on mounting
height	102 mm
width	22.5 mm
depth	91 mm
required spacing	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
● for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— at the side	0 mm
— downwards	0 mm
● for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +85 °C
● during transport	-40 ... +85 °C

Approvals Certificates

General Product Approval

Confirmation

EMV

KC

Test Certificates

Special Test Certific-ate

Type Test Certific-ates/Test Report

Marine / Shipping

other

Confirmation

Railway

Special Test Certific-ate

Environment

Environmental Con-firmations

Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
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=3UG4641-1CS20
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4641-1CS20
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UG4641-1CS20
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4641-1CS20&lang=en
Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3UG4641-1CS20/manual

last modified: 4/8/2024