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Data sheet 3UG4631-1AA30



!!! product phase-out !!! the preferred successor is 3UG5642-1CW30 digital monitoring relay voltage monitoring, 22.5 mm from 0.1 to 60 V AC/DC overshoot and undershoot supply voltage: 24 V AC/DC 50 to 60 Hz DC and AC without electrical separation from the measuring circuit noise pulses delay 0.1 to 20 s hysteresis 0.1 to 30 V 1 changeover contact with or without fault buffer screw terminal

product brand name	SIRIUS
product designation	Voltage monitoring relay with digital setting
product type designation	3UG4
General technical data	
product function	Voltage monitoring relay
design of the display	LCD
consumed active power	2 W
insulation voltage for overvoltage category III according to IEC 60664	
● with degree of pollution 3 rated value	690 V
type of voltage	
● for monitoring	AC/DC
● of the control supply voltage	AC/DC
surge voltage resistance rated value	4 kV
maximum permissible voltage for protective separation	
● between auxiliary and auxiliary circuit	300 V
● between control and auxiliary circuit	300 V
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15 g / 11 ms
vibration resistance according to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2 g
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 (day/month/year)	05/01/2012
SVHC substance name	Lead CAS-No. 7439-92-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	133 g
Product Function	
product function	
● undervoltage detection	Yes
● overvoltage detection	Yes
● phase sequence recognition	No
● phase failure detection	No
● asymmetry detection	No
● voltage monitoring	Yes
● current monitoring	No

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● overvoltage detection 1 phase	Yes
● overvoltage detection 3 phase	No
● overvoltage detection DC	Yes
● undervoltage detection 1 phase	Yes
● undervoltage detection 3 phases	No
● undervoltage detection DC	Yes
● voltage window recognition 1 phase	Yes
● voltage window recognition 3 phase	No
● voltage window recognition DC	Yes
● adjustable open/closed-circuit current principle	Yes
● external reset	Yes
● auto-RESET	Yes
measurable line frequency initial value	40 Hz
measurable line frequency full-scale value	500 Hz
Control circuit/ Control	
control supply voltage at AC	
● at 50 Hz rated value	24 V
● at 60 Hz rated value	24 V
control supply voltage at DC rated value	24 V
operating range factor control supply voltage rated value at DC	
● initial value	0.85
● full-scale value	1.15
operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	0.85
● full-scale value	1.15
operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	0.85
● full-scale value	1.15
starting time after the control supply voltage has been applied	1 000 ms
Measuring circuit	
measurable line frequency	40 ... 500 Hz
measurable voltage at AC	0 ... 60 V
measurable voltage at DC	0.1 ... 60 V
adjustable response delay time	
● when starting	20 s
● with lower or upper limit violation	0.1 ... 20 s
response time maximum	450 ms
accuracy of digital display	+/-1 digit
relative temperature-related measurement deviation	0.1 %
Precision	
relative metering precision	5 %
Auxiliary circuit	
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts delayed switching	1
operating frequency with 3RT2 contactor maximum	5 000 1/h
Main circuit	
number of poles for main current circuit	1
operating voltage	
● at AC at 60 Hz rated value	240 V
● at DC rated value	24 V
ampacity of the output relay at AC-15 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

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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	
design of the electrical isolation	Protective separation
galvanic isolation	
● between input and output	Yes
● between the outputs	Yes
● between the voltage supply and other circuits	No
Safety related data	
product function suitable for safety function	No
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
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	92 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

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— upwards	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	
Environmental Product Declaration	
● global warming potential [CO2 eq] / during manufacturing	4.44 kg
● global warming potential [CO2 eq] / during sales	0.0341 kg
● global warming potential [CO2 eq] / during operation	13.7 kg
● global warming potential [CO2 eq] / after end of life	-1.06 kg
● global warming potential [CO2 eq] / total	17.1 kg

Environment

Environmental Confirmations

General Product Approval

General Product Approval

EMV

Test Certificates

Type Test Certificates/Test Report

Special Test Certificate

Maritime application

Maritime application

other

Confirmation

Railway

Special Test Certificate

Further information

Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information for data generation and storage
https://support.industry.siemens.com/cs/ww/en/view/109995012
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=3UG4631-1AA30
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4631-1AA30
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UG4631-1AA30
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4631-1AA30&lang=en

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