SIEMENS

Data sheet 3UG4633-1AL30



Digital monitoring relay Voltage monitoring, 22.5 mm from 17-275 V AC/DC Overshoot and undershoot Self-powered Spike delay 0.1 to 20 s Hysteresis 0.1 to 150 V 1 CO contact With or without error buffer Screw terminals Successor product for 3UG3534, 3UG3535

Figure similar

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
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 safe isolation	
 between auxiliary and auxiliary circuit 	300 V
between control and auxiliary circuit	300 V
protection class IP	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
thermal current of the switching element with contacts maximum	5 A
reference code acc. to IEC 81346-2	K
relative repeat accuracy	1 %
Product Function	
product function	
 undervoltage detection 	Yes
 overvoltage detection 	Yes
 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
Control circuit/ Control	
control supply voltage at AC	
at 50 Hz rated value	17 275 V
at 60 Hz rated value	17 275 V
control supply voltage at DC	
rated value	17 275 V
operating range factor control supply voltage rated value at DC	
initial value	1
full-scale value	1
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
Measuring circuit	
measurable line frequency	40 500 Hz
measurable voltage at DC	17 275 V
adjustable response delay time	
when starting	0.1 20 s
with lower or upper limit violation	0.1 20 s
accuracy of digital display	+/-1 digit
relative temperature-related measurement deviation	0.1 %
Precision	
Precision relative metering precision	5 %
Precision relative metering precision Auxiliary circuit	5 %
Precision relative metering precision Auxiliary circuit number of NC contacts delayed switching	5 %
Precision relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching	5 % 0 0
Precision relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching	5 % 0 0 1
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum	5 % 0 0
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit	5 % 0 0 1 5 000 1/h
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit	5 % 0 0 1
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs	5 % 0 0 1 5 000 1/h
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum	5 % 0 0 1 5 000 1/h 1 5 mA
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay	5 % 0 0 1 5 000 1/h
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility	5 % 0 0 1 5 000 1/h 1 5 mA
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference	5 % 0 0 1 5 000 1/h 1 5 mA 4 A
Precision relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4	5 % 0 0 1 5 000 1/h 1 5 mA 4 A
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of CO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of CO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 Galvanic isolation	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV 10 V/m 6 kV contact discharge / 8 kV air discharge
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of CO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 Galvanic isolation design of the electrical isolation	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 Galvanic isolation design of the electrical isolation galvanic isolation	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV 10 V/m 6 kV contact discharge / 8 kV air discharge
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 Galvanic isolation design of the electrical isolation galvanic isolation • between input and output	5 % 0 0 1 5 000 1/h 1 5 000 1/h 1 2 kV 2 kV 1 kV 1 kV 10 V/m 6 kV contact discharge / 8 kV air discharge
relative metering precision Auxiliary circuit number of NC contacts delayed switching number of NO contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Main circuit number of poles for main current circuit Outputs operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay Electromagnetic compatibility conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 Galvanic isolation design of the electrical isolation galvanic isolation	5 % 0 0 1 5 000 1/h 1 5 mA 4 A 2 kV 2 kV 1 kV 10 V/m 6 kV contact discharge / 8 kV air discharge

Connections/ Terminals	
product function removable terminal for auxiliary and	Yes
control circuit	
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 with core end processing 	1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2)
 at AWG cables solid 	2x (20 14)
 at AWG cables stranded 	2x (20 14)
connectable conductor cross-section solid	0.5 4 mm²
connectable conductor cross-section finely stranded with core end processing	0.5 2.5 mm²
 AWG number as coded connectable conductor cross section solid 	20 14
AWG number as coded connectable conductor cross section 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
	O IIIIII
• for live parts	0
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— at the side	0 mm
Ambient conditions	2 000 m
installation altitude at height above sea level maximum	
ambient temperature during operation	-25 +60 °C
ambient temperature during storage	-40 +85 °C
ambient temperature during transport	-40 +85 °C
Certificates/ approvals	
General Product Approval EMC	Declaration of Conformity Test Certificates Miscellaneous Type Test Certificates/Test
CCC UL RCM	Report EG-Konf.

Test Certificates

Marine / Shipping

other

Railway





Confirmation Vibration and Shock

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=3UG4633-1AL30

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4633-1AL30

 ${\bf Service \& Support \ (Manuals, \ Certificates, \ Characteristics, \ FAQs, ...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3UG4633-1AL30

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4633-1AL30&lang=en

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3UG4633-1AL30/manual

last modified: 12	2/7/2020	~
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