SIEMENS

Data sheet 3UG4651-1AA30



!!! product phase-out !!! the preferred successor is 3UG5651-1CW30 digital monitoring relay speed monitoring from 0.1 to 2200 r/min overshoot and undershoot supply voltage: 24 V AC/DC 50 to 60 Hz DC and AC without electrical isolation to the measuring circuit ON-delay 1 to 900 s tripping delay 0.1 to 99.9 s hysteresis 0.1 to 99 r/min 1 changeover contact with or without fault buffer

product brand name	SIRIUS
product designation	Speed monitoring relay with digital setting
product type designation	3UG4
General technical data	
product function	RPM monitoring relay
design of the display	LCD
● apparent power consumption at AC	
— at 24 V maximum	2.5 V·A
insulation voltage	
● for overvoltage category III according to IEC 60664	
— with degree of pollution 3 rated value	300 V
degree of pollution	3
type of voltage of the control supply voltage	AC/DC
surge voltage resistance rated value	4 kV
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15 g / 11 ms
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) at AC-15 at 230 V typical	100 000
reference code according to IEC 81346-2	K
relative repeat accuracy	1 %
Substance Prohibitance (day/month/year)	05/01/2012
SVHC substance name	Lead monoxide (lead oxide) CAS-No. 1317-36-8 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	0.165 kg
Product Function	
product function	
● standstill monitoring	No
● rotation speed monitoring	Yes
● error memory	Yes
● adjustable open/closed-circuit current principle	Yes
● external reset	Yes
● auto-RESET	Yes
● manual RESET	Yes
suitability for use safety-related circuits	No
Control circuit/ Control	
control supply voltage at AC	
● at 50 Hz rated value	24 V

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● 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	0.8
● full-scale value	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
● initial value	1.1
● full-scale value	0.8
operating range factor control supply voltage rated value at AC at 60 Hz	
● initial value	1.1
● full-scale value	0.8
Measuring circuit	
measurable line frequency	50 ... 60 Hz
adjustable response delay time	
● when starting	1 ... 900 s
● with lower or upper limit violation	0.1 ... 99.9 s
buffering time in the event of power failure minimum	10 ms
accuracy of digital display	+/- 1 Digit
Precision	
relative metering precision	10 %
Communication/ Protocol	
protocol is supported IO-Link protocol	No
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
Inputs/ Outputs	
design of input feedback input	No
number of outputs as contact-affected switching element	
● for signaling function	
— instantaneous contact	0
— delayed switching	1
● safety-related	
— delayed switching	0
— instantaneous contact	0
number of outputs as contact-less semiconductor switching element	
● for signaling function	
— delayed switching	0
— instantaneous contact	0
● safety-related	
— delayed switching	0
— instantaneous contact	0
ampacity of the output relay at AC-15	
● at 250 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

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● 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	No
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	without
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	0.8 ... 1.2 N·m
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	86 mm
width	22.5 mm
depth	102 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 ... +80 °C
● during transport	-40 ... +80 °C

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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	General Product Approval

Environmental Confirmations

General Product Approval	EMV	Test Certificates		Maritime application
		Special Test Certificate	Type Test Certificates/Test Report	

Maritime application	other	Railway
	Confirmation	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=3UG4651-1AA30
Cax online generator
https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4651-1AA30
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UG4651-1AA30
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4651-1AA30&lang=en

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