SIEMENS

Data sheet 3UG4651-1AA30

Digital monitoring relay Speed monitoring from 0.1 to 2200 rpm 0vershoot and undershoot Supply voltage: 24 V AC/DC 50 to 60 Hz DC and AC without galvanic isolation to measuring circuit ON delay 1 to 900 s Tripping delay 0.1 to 99.9 s Hysteresis 0.1 to 99 rpm 1 change-over contact with or without fault buffer screw terminal Successor product for 3UG3051

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 VA
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
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 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 (Date)	05/01/2012
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 ... 24 V
● at 60 Hz rated value	24 ... 24 V
control supply voltage at DC	
● rated value	24 ... 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 %
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
● 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

Safety related data	
Safety Integrity Level (SIL) according to IEC 61508	without
Connections/ Terminals	
product component 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 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

Certificates/ approvals

General Product Approval				EMC	Declaration of Conformity
CCC	Confirmation	UL	EAC	RCM	UKCA

Declaration of Conformity	Test Certificates	Marine / Shipping	other

EG-Konf.

Type Test Certific-ates/Test Report

Special Test Certific-ate

LRS

Confirmation

Railway

Vibration and Shock

Further information

Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3UG4651-1AA30

Cax online generator
http://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, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4651-1AA30&lang=en

Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3UG4651-1AA30/manual

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