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 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
protection class IP	IP20
shock resistance acc. to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
mechanical service life (switching cycles) typical	10 000 000
electrical endurance (switching cycles) at AC-15 at 230 V typical	100 000
reference code acc. to IEC 81346-2	K
relative repeat accuracy	1 %
Product Function	
suitability for use safety-related circuits	No
product function	
● rotation speed monitoring	Yes
● standstill monitoring	No
● error memory	Yes
● adjustable open/closed-circuit current principle	Yes
● external reset	Yes
● auto-RESET	Yes
● manual RESET	Yes
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

Subject to change without notice
© Copyright Siemens

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
Outputs	
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 acc. to IEC 61000-4-4	2 kV
● due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
● due to conductor-conductor surge acc. to IEC	1 kV

Subject to change without notice
© Copyright Siemens

61000-4-5	
field-based interference acc. to IEC 61000-4-3	10 V/m
electrostatic discharge acc. 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) acc. to IEC 61508	none
Connections/ Terminals	
product function 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)
● 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	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
● ambient temperature during storage	-40 ... +80 °C
● ambient temperature during transport	-40 ... +80 °C
Certificates/ approvals	

Subject to change without notice
© Copyright Siemens

General Product Approval			EMC	Declaration of Conformity	
CCC	CCC	UL	RCM	EG-Konf.	Miscellaneous

Test Certificates		Marine / Shipping		other	Railway
Special Test Certificate	Type Test Certificates/Test Report	LRS	DNV-GL	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=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

last modified: 9/24/2020

Subject to change without notice
© Copyright Siemens