

DIGITAL MONITORING RELAY SPEED MONITORING
 FROM 0.1 TO 2200 REV/MIN OVERSHOOT AND
 UNDERSHOOT AC/DC 24 TO 240V DC AND AC 50 TO 60
 HZ STARTUP DELAY 1 TO 900S TRIPPING DELAYED 0.1
 TO 99.9S HYSTERESIS 0.1 TO 99 REV/MIN 1
 CHANGEOVER CONTACT W. OR W/O ERROR LOG
 SCREW TERMINAL REPLACEMENT PRODUCT F.
 3UG3051

Product function		RPM monitoring relay
Measuring circuit:		
Measurable line frequency	Hz	50 ... 60
Adjustable response delay time	• when starting	s 1 ... 900
	• with lower or upper limit violation	s 0.1 ... 99.9
Adjustable response value revolution	1/min	0.1 ... 2,200
Input voltage / at the digital input 1	• initial value for signal<0>-recognition	V 0
	• final value for signal<0>-recognition	V 1
	• initial value for signal<1>-recognition	V 4.5
	• final value for signal<1>-recognition	V 30
Input current / at the digital input 2	• initial value for signal<0>-recognition	mA 0
	• final value for signal<0>-recognition	mA 1.2
	• initial value for signal<1>-recognition	mA 2.1
	• final value for signal<1>-recognition	mA 8.2
Design of the input / feedback input		No
Design of the sensor	• at the digital input 1 / connectable	PNP switching three-wire sensor or mechanical impulse contact with external DC supply (4.5 V ... 30 V)
	• at the digital input 2 / connectable	2-conductor Namur sensor or mechanical impulse contact
Input current / at the digital input 1 / maximum	mA	50
Pulse duration	ms	5
Pulse interval	ms	5
Number of sensor signals per revolution		1 ... 10
Switching hysteresis for rotational speed	1/min	0 ... 99.9

General technical details:

Design of the display		LCD
Product function		
• rotation speed monitoring		Yes
• standstill monitoring		No
• defect storage		Yes
• reset external		Yes
• self-reset		Yes
• manual RESET		Yes
• open-circuit or closed-circuit current principle		Yes
Starting time / after the control supply voltage has been applied	ms	500
Response time / maximum	ms	100
Stored energy time / at mains power cut / minimum	ms	10
Relative metering precision	%	10
Precision of digital display		+/- 1 Digit
Relative repeat accuracy	%	1
Type of voltage / of the controlled supply voltage		AC/DC
Control supply voltage		
• at 50 Hz / at AC		
• rated value	V	24 ... 240
• at 60 Hz / at AC		
• rated value	V	24 ... 240
• for DC		
• rated value	V	24 ... 240
Operating range factor control supply voltage rated value		
• at 50 Hz		
• for AC		1.1 ... 0.8
• at 60 Hz		
• for AC		1.1 ... 0.8
• for DC		0.8 ... 1.1
Impulse voltage resistance / rated value	kV	4
Recorded real power	W	2
Protection class IP		IP20
Electromagnetic compatibility		IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4
Resistance against shock / according to IEC 60068-2-27		sinusoidal half-wave 15g / 11 ms
Installation altitude / at a height over sea level / maximum	m	2,000
Conductor-bound parasitic coupling BURST / according to IEC 61000-4-4		2 kV
Conductor-bound parasitic coupling conductor-earth SURGE / according to IEC 61000-4-5		2 kV

Conductor-bound parasitic coupling conductor-conductor SURGE / according to IEC 61000-4-5		1 kV
Electrostatic discharge / according to IEC 61000-4-2		6 kV contact discharge / 8 kV air discharge
Field-bound parasitic coupling / according to IEC 61000-4-3		10 V/m
Insulation voltage / for overvoltage category III according to IEC 60664 / with degree of pollution 3 / rated value	V	300
Degree of pollution		3
Apparent power consumed		
• at 24 V / for AC / maximum	V·A	4
• at 240 V / for AC / maximum	V·A	9
Ambient temperature		
• during operating	°C	-25 ... +60
• during storage	°C	-40 ... +80
• during transport	°C	-40 ... +80
Galvanic isolation		
• between entrance and outlet		Yes
• between the outputs		No
Suitability for use / safety-related circuits		No
Category / according to EN 954-1		none
Safety Integrity Level (SIL) / according to IEC 61508		none

Mechanical design:








Width	mm	22.5
Height	mm	86
Depth	mm	102
mounting position		any
Distance, to be maintained, to earthed part		
• forwards	mm	0
• backwards	mm	0
• sideways	mm	0
• upwards	mm	0
• downwards	mm	0
Distance, to be maintained, to the ranks assembly		
• forwards	mm	0
• backwards	mm	0
• sideways	mm	0
• upwards	mm	0
• downwards	mm	0
Distance, to be maintained, conductive elements		
• forwards	mm	0

<ul style="list-style-type: none"> • backwards • sideways • upwards • downwards 	mm	0
	mm	0
	mm	0
	mm	0
Type of mounting		screw and snap-on mounting
Product function / removable terminal for auxiliary and control circuit		Yes
Design of the electrical connection		screw-type terminals
Type of the connectable conductor cross-section		
<ul style="list-style-type: none"> • solid 		1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> • with wire end processing 		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> • for AWG conductors <ul style="list-style-type: none"> • solid • stranded 		2x (20 ... 14) 2x (20 ... 14)
Tightening torque		
<ul style="list-style-type: none"> • with screw-type terminals 	N·m	0.8 ... 1.2

Outputs:

Number of NO contacts / delayed switching		0
Number of NC contacts / delayed switching		0
Number of change-over switches / delayed switching		1
Current carrying capacity / of output relay		
<ul style="list-style-type: none"> • at AC-15 <ul style="list-style-type: none"> • at 250 V / at 50/60 Hz 	A	3
<ul style="list-style-type: none"> • at DC-13 <ul style="list-style-type: none"> • at 24 V • at 125 V • at 250 V 	A A A	1 0.2 0.1
Operating current / at 17 V / minimum	mA	5
Continuous current / of the DIAZED fuse link of the output relay	A	4
Mechanical operating cycles as operating time / typical		10,000,000
Electrical operating cycles as operating time / at AC-15 / at 230 V / typical		100,000
Operating cycles / with 3RT2 contactor / maximum	1/h	5,000

Certificates/approvals:

General Product Approval			EMC	Test Certificates
 CCC	 GOST	 UL	 C-TICK	Special Test Certificate
Shipping Approval			other	
 DNV	 GL	 LRS	Declaration of Conformity	other

Further information:

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

Cax online generator:

<http://www.siemens.com/cax>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3UG4651-1AW30/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3UG4651-1AW30

last change:

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