SIEMENS

Product data sheet 3UG4851-1AA40

DIGITAL MONITORING RELAY SPEED MONITORING, FOR IO-LINK FROM 0.1 TO 2200 RPM OVERSHOOT AND UNDERSHOOT ON DELAY TIME TRIPPING DELAY TIME HYSTERESIS 0.1 TO 99 RPM 1 CHANGE-OVER CONTACT,
SCREW TERMINAL

Product function		RPM monitoring relay
Measuring circuit:		
Adjustable response delay time		
• when starting	s	0 … 999.9
• with lower or upper limit violation	s	0 … 999.9
Adjustable response value revolution	1/min	0 … 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
Relative metering precision	%	10
Precision of digital display		+/- 1 Digit
Relative repeat accuracy	%	1
Voltage type / of control feed voltage		DC
Control supply voltage		
• for DC		
• rated value	V	24 … 24
Operating range factor control supply voltage rated value		
• for DC		0.75 … 1.25
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 vibration / according to IEC 60068-2-6		1 … 6 Hz: 15 mm, 6 … 500 Hz: 2g
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
Degree of pollution		2
Apparent power consumed		
• at 24 V / for DC / maximum	V·A	4
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
• between the voltage supply and other circuits		Yes
Suitability for use / safety-related circuits		No
Category / according to EN 954-1		none
Safety Integrity Level (SIL) / according to IEC 61508		none

Communication:

Type of voltage supply / via input/ output link master		Yes
IO-Link transfer rate		COM2 (38,4 kBaud)
Protocol / is supported / IO-Link protocol		Yes
Data volume		
• of the address range of the outputs / with cyclical transfer	byte	2
• of the address range of the inputs / with cyclical transfer	byte	4
Point-to-point cycle time / between master and IO-Link device / minimum	ms	10

Mechanical design:

Width	mm	22.5
Height	mm	91
Depth	mm	102
mounting position		any
Distance, to be maintained, to earthed part		
• forwards	mm	0
• backwards	mm	0
• sidewards	mm	0
• upwards	mm	0
• downwards	mm	0
Distance, to be maintained, to the ranks assembly		

• forwards	mm	0
• backwards	mm	0
• sidewards	mm	0
• upwards	mm	0
• downwards	mm	0
Distance, to be maintained, conductive elements		
• forwards	mm	0
• backwards	mm	0
• sidewards	mm	0
• upwards	mm	0
• downwards	mm	0
Mounting type		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-sections		
• solid		1x (0.5 ... 4 mm2), 2x (0.5 ... 2.5 mm2)
• finely stranded		
• with wire end processing		1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
• for AWG conductors		
• solid		2x (20 ... 14)
• stranded		2x (20 ... 14)
Tightening torque		
• 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		
• at AC-15		
• at 230 V / at 50/60 Hz	A	3
• at 250 V / at 50/60 Hz	A	3
• at DC-13		
• at 24 V	A	1
• at 110 V	A	0.2
• at 125 V	A	0.2
• at 230 V	A	0.1
• at 250 V	A	0.1
Operating current / at 17 V / minimum	mA	5

Continuous current / of the DIAZED fuse link of the output relay	A	4
Thermal current / of the contact-affected switching element / maximum	A	5
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			Test Certificates	
CCC	Manufacturer declartion	UL	Special Test Certificate	Type Test Certificates/Test Report

other	
Declaration of Conformity	other

Further information:

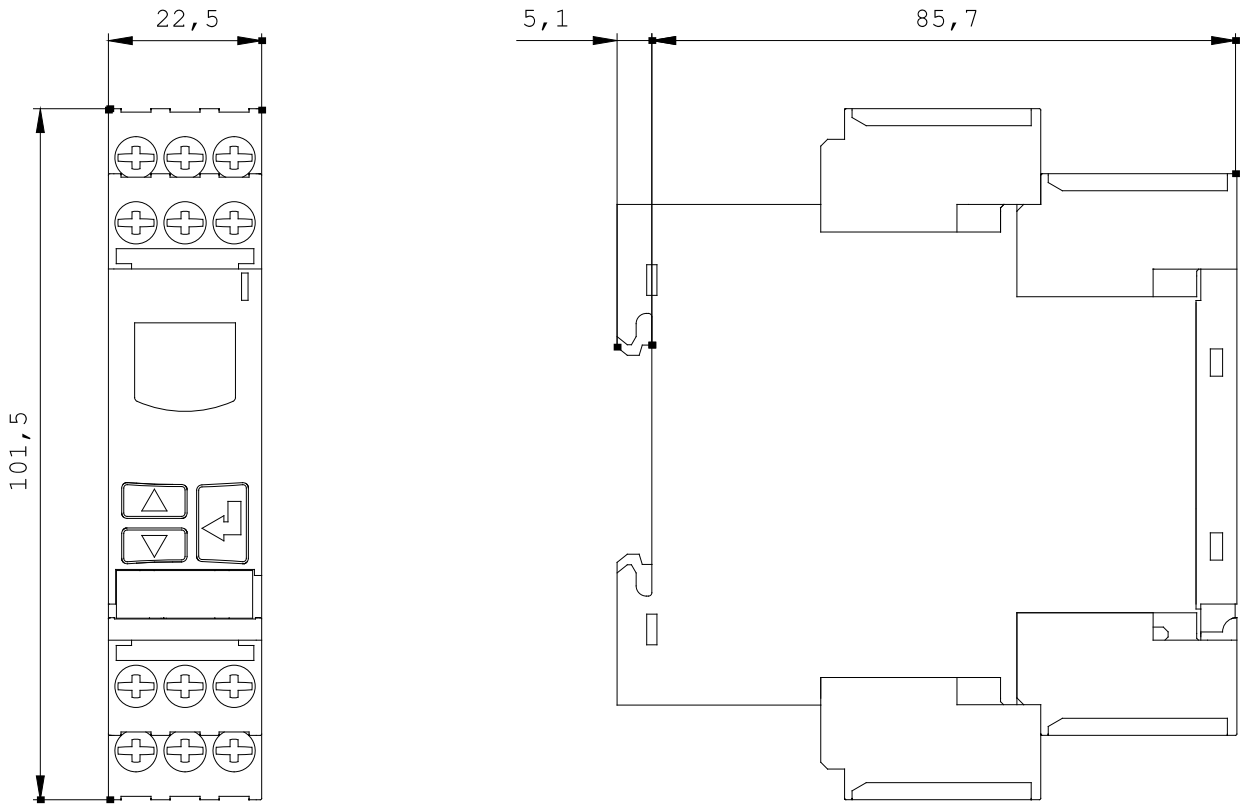
Information- and Downloadcenter (Catalogs, Brochures,…)
http://www.siemens.com/industrial-controls/catalogs

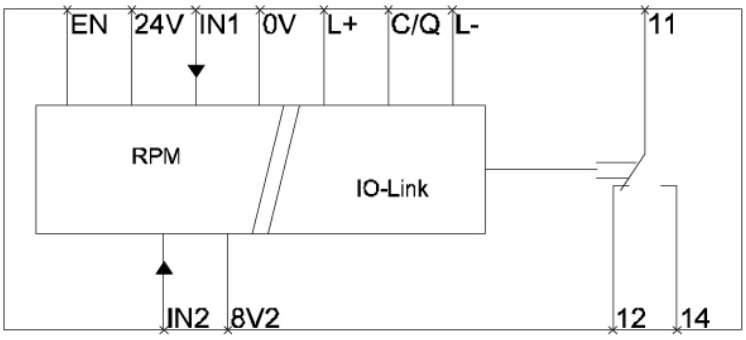
Industry Mall (Online ordering system)
http://www.siemens.com/industrial-controls/mall

Cax online generator:
http://www.siemens.com/cax

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
http://support.automation.siemens.com/WW/view/en/3UG4851-1AA40/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3UG4851-1AA40





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