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

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	Conductor-bound parasitic coupling conductor-conductor SURGE / according to IEC 61000-4-5		1 kV
Degree of pollution 2 Apparent power consumed • at 24 V / for DC / maximum V-A 4 Ambient temperature • during operating C-C -25 +60 • during operating C-C -40 +80 • during storage C-C -40 +80 • during storage C-C -40 +80 Galvanic Isolation • between entrance and outlet C-between the outputs Pes Sutability 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 OCM2 (38,4 kBaud) Protocol / is supported / IO-Link protocol Yes Iof the address range of the outputs / with cyclical transfer byte 2 • of the address range of the inputs / with cyclical transfer byte 4 Polont-to-point cycle time / between master and IO-Link device / minimum 102 Mechanical design: Width mm 22.5 Height mm 91 Depth mm 102 Instance, to be maintained, to earthed part outputs / mm 0 Instance, to be maintained, to earthed part outputs / mm 0 • observer sidewards mm 0 • observer sidewards mm 0 • upwards mm 0	Electrostatic discharge / according to IEC 61000-4-2		6 kV contact discharge / 8 kV air discharge
Apparent power consumed at 24 V / for DC / maximum Ambient temperature during operating during storage during suppty d	Field-bound parasitic coupling / according to IEC 61000-4-3		10 V/m
- at 24 V / for DC / maximum Ambient temperature - during operating - during operating - during storage - during storage - during transport Galvanic isolation - between entrance and outlet - between the outputs - between the voltage supply and other circuits - No Category / according to EN 954-1 - Safety Integrity Level (SIL) / according to IEC 61508 - none Communication: Type of voltage supply / via input/ output link master - ID-Link transfer rate - COM2 (38,4 kBaud) - Yes Data volume - of the address range of the outputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical	Degree of pollution		2
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- during transport - between entrance and outlet - between the outputs - between the voltage supply and other circuits - between the voltage supply and other circuits - between the voltage supply and other circuits - Safety Integrity Level (SIL) / according to IEC 61508 - none - Category / according to EN 954-1 - Safety Integrity Level (SIL) / according to IEC 61508 - none - communication: - Type of voltage supply / via input/ output link master - Ves - COM2 (38,4 kBaud) - Yes - of the address range of the outputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the inputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the outputs / with cyclical transfer - of the address range of the o	Ambient temperature		
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Communication: Type of voltage supply / via input/ output link master IO-Link transfer rate Protocol / is supported / IO-Link protocol Protocol / is supported / IO-Link protocol Data volume • of the address range of the outputs / with cyclical transfer • of the address range of the inputs / with cyclical transfer • of the address range of the inputs / with cyclical transfer byte 4 Point-to-point cycle time / between master and IO-Link device / minimum Mechanical design: Width mm 22.5 Height mm 91 Depth mm 102 mounting position Distance, to be maintained, to earthed part • forwards • backwards • backwards • sidewards • upwards mm 0	Category / according to EN 954-1		none
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COM2 (38,4 kBaud) Protocol / is supported / IO-Link protocol Yes	Communication:		
Protocol / is supported / IO-Link protocol Data volume • of the address range of the outputs / with cyclical transfer • of the address range of the inputs / with cyclical transfer • of the address range of the inputs / with cyclical transfer Point-to-point cycle time / between master and IO-Link device / minimum Mechanical design: Width mm 22.5 Height mm 91 Depth mm 102 mounting position Distance, to be maintained, to earthed part • forwards • backwards • backwards • sidewards • upwards Mechanical design: Yes Yes Yes Yes	Type of voltage supply / via input/ output link master		Yes
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Mechanical design:Widthmm22.5Heightmm91Depthmm102mounting positionanyDistance, to be maintained, to earthed partmm0• forwardsmm0• backwardsmm0• sidewardsmm0• upwardsmm0		ms	10
Widthmm22.5Heightmm91Depthmm102mounting positionanyDistance, to be maintained, to earthed partmm0• forwardsmm0• backwardsmm0• sidewardsmm0• upwardsmm0	Mechanical design:		
Heightmm91Depthmm102mounting positionanyDistance, to be maintained, to earthed partmm0• forwardsmm0• backwardsmm0• sidewardsmm0• upwardsmm0		mm	22.5
Depthmm102mounting positionanyDistance, to be maintained, to earthed partmm0• forwardsmm0• backwardsmm0• sidewardsmm0• upwardsmm0			
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Distance, to be maintained, to earthed part • forwards	·		
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• upwards mm 0			
Distance, to be maintained, to the ranks assembly			

forwards backwards	mm mm	0
	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		
instance 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	Α	3
• at 250 V / at 50/60 Hz	Α	3
• at DC-13		
• at 24 V	Α	1
• at 110 V	Α	0.2
• at 125 V	Α	0.2
• at 230 V	Α	0.1
• at 250 V	Α	0.1
Operating current / at 17 V / minimum	mA	5

Continuous current / of the DIAZED fuse link of the output relay	Α	4
Thermal current / of the contact-affected switching element / maximum	А	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

(1)

Manufacturer declartion



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:

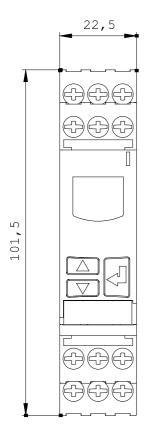
http://www.siemens.com/cax

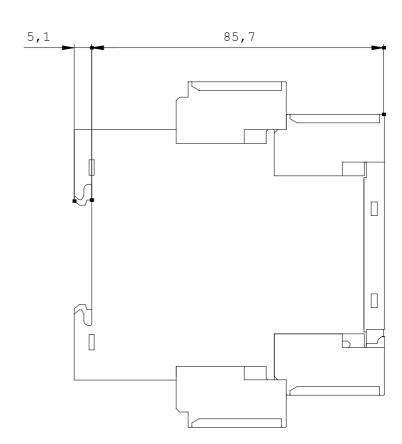
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

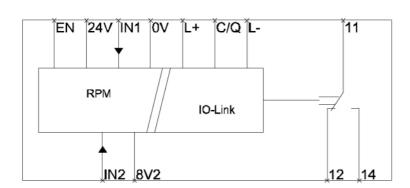
http://support.automation.siemens.com/WW/view/en/3UG4851-1AA40/all

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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