SIEMENS

Data sheet 3UG4851-2AA40

Digital monitoring relay Speed monitoring for IO-Link from 0.1...2200 rpm 0vershoot and undershoot ON-delay time Tripping delay time Hysteresis 0.1 to 99 rpm 1 change-over contact, spring-type connection system

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 DC	
— at 24 V maximum	4 V·A
•	
— Insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 2 rated value	300 V
Degree of pollution	2
Type of voltage	
• of the control supply voltage	DC
Surge voltage resistance rated value	4 kV
• **Protection class IP**	IP20
• Protection class IP of the enclosure	IP40

• Protection class IP of the terminal	IP20
Shock resistance	
• acc. to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
Vibration resistance	
• acc. to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
Mechanical service life (switching cycles)	
• typical	10 000 000
Electrical endurance (switching cycles)	
• at AC-15 at 230 V typical	100 000
Thermal current of the switching element with contacts maximum	5 A
Reference code acc. to DIN EN 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
• Fault storage	Yes
• Galvanic isolation	Yes
• Adjustable open/closed-circuit current principle	Yes
• External reset	Yes
• Auto-reset	Yes
• Manual RESET	Yes

Control circuit/ Control

Control supply voltage at DC	
• rated value	24 ... 24 V
operating range factor control supply voltage rated value at DC	
• initial value	0.75
• full-scale value	1.25

Measuring circuit

adjustable operating delay time	0 ... 99.9 s
adjustable response delay time	
• when starting	0 ... 999.9 s
• with lower or upper limit violation	0 ... 999.9 s
Accuracy of digital display	+/- 1 Digit

Precision

Relative metering precision	10 %

Communication/ Protocol

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

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 230 V at 50/60 Hz	3 A
• at 250 V at 50/60 Hz	3 A

Ampacity of the output relay at DC-13	
• at 24 V	1 A
• at 110 V	0.2 A
• at 125 V	0.2 A
• at 230 V	0.1 A
• at 250 V	0.1 A
Ampacity of the semiconductor output in SIO mode	200 mA
Operating 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 61000-4-5	1 kV
Field-bound parasitic coupling 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 entrance and outlet	Yes
• galvanic isolation between the outputs	No
• Galvanic isolation between the voltage supply and other circuits	Yes

Connections/ Terminals

Product function	
• removable terminal for auxiliary and control circuit	Yes
• **type of electrical connection**	spring-loaded terminals
• type of connectable conductor cross-sections solid	2x (0.25 ... 1.5 mm²)
• Type of connectable conductor cross-sections finely stranded with core end processing	2 x (0.25 ... 1.5 mm²)
• Type of connectable conductor cross-sections finely stranded without core end processing	2x (0.25 ... 1.5 mm²)
• Type of connectable conductor cross-sections at AWG conductors solid	2x (24 ... 16)
• Type of connectable conductor cross-sections at AWG conductors stranded	2x (24 ... 16)
• connectable conductor cross-section solid	0.25 ... 1.5 mm²
• connectable conductor cross-section finely stranded with core end processing	0.25 ... 1.5 mm²

• connectable conductor cross-section finely stranded without core end processing	0.25 ... 1.5 mm²
AWG number as coded connectable conductor cross section	
• solid	24 ... 16
• stranded	24 ... 16

Installation/ mounting/ dimensions

• **mounting position**	any
Mounting type	screw and snap-on mounting
Height	91 mm
Width	22.5 mm
Depth	103 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	Manufacturer Declaration	UL	EAC	RCM	EG-Konf.

Declaration of Conformity	Test Certificates		Marine / Shipping	other	Railway
Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate		Confirmation	Vibration and Shock

Further information

Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10

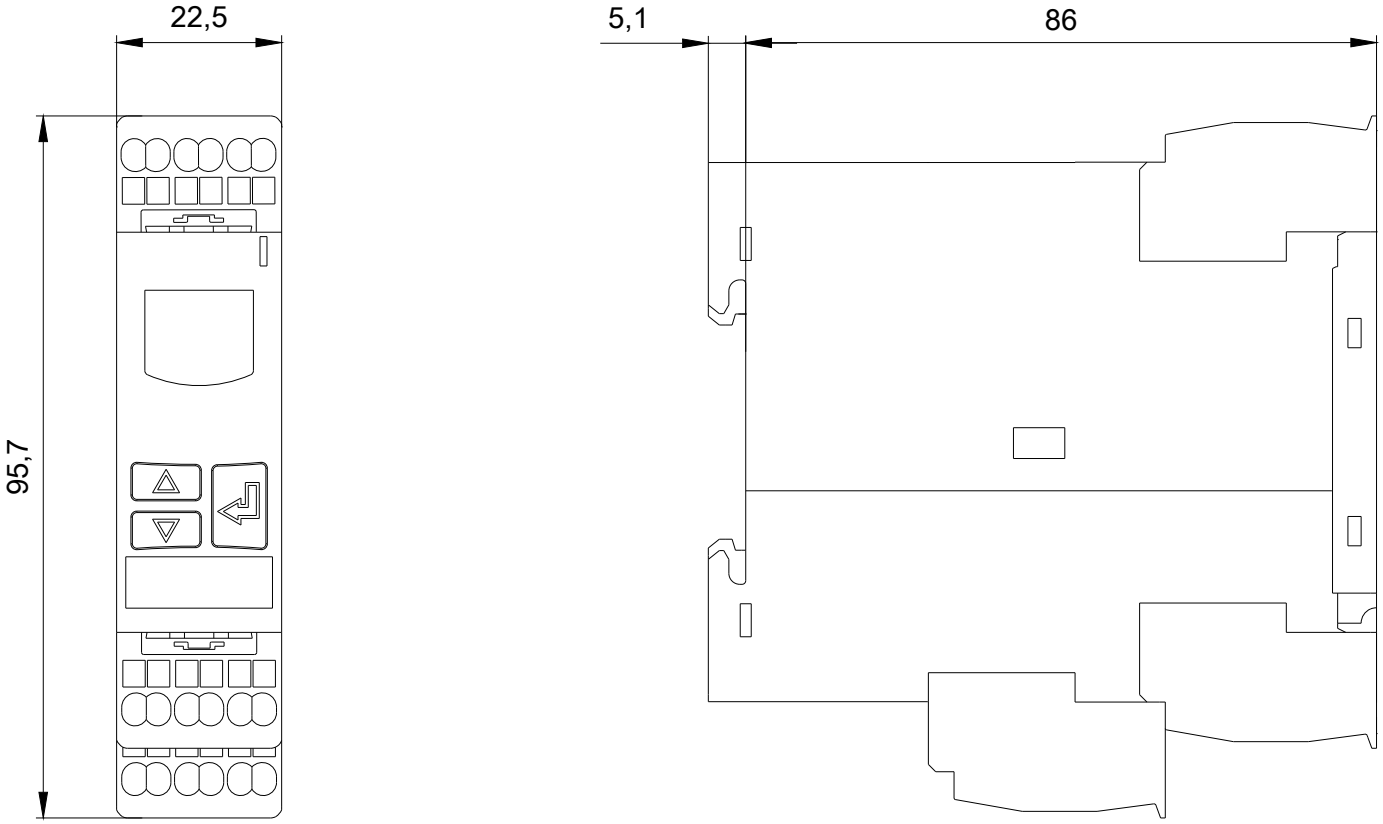
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG4851-2AA40

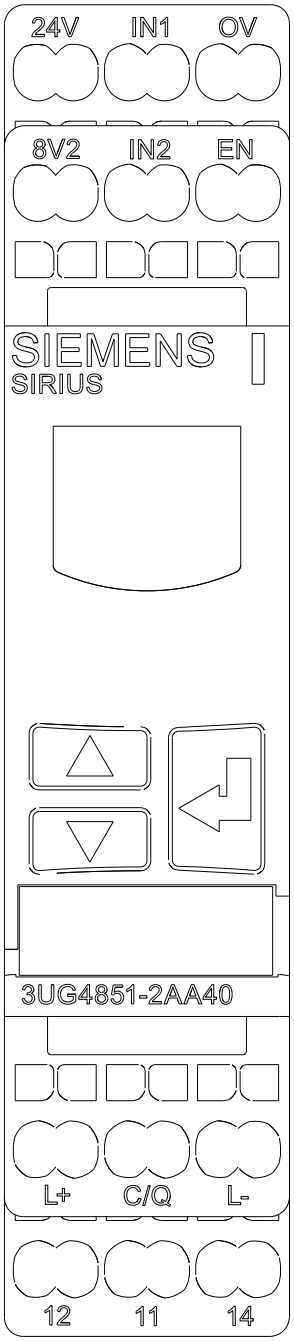
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4851-2AA40

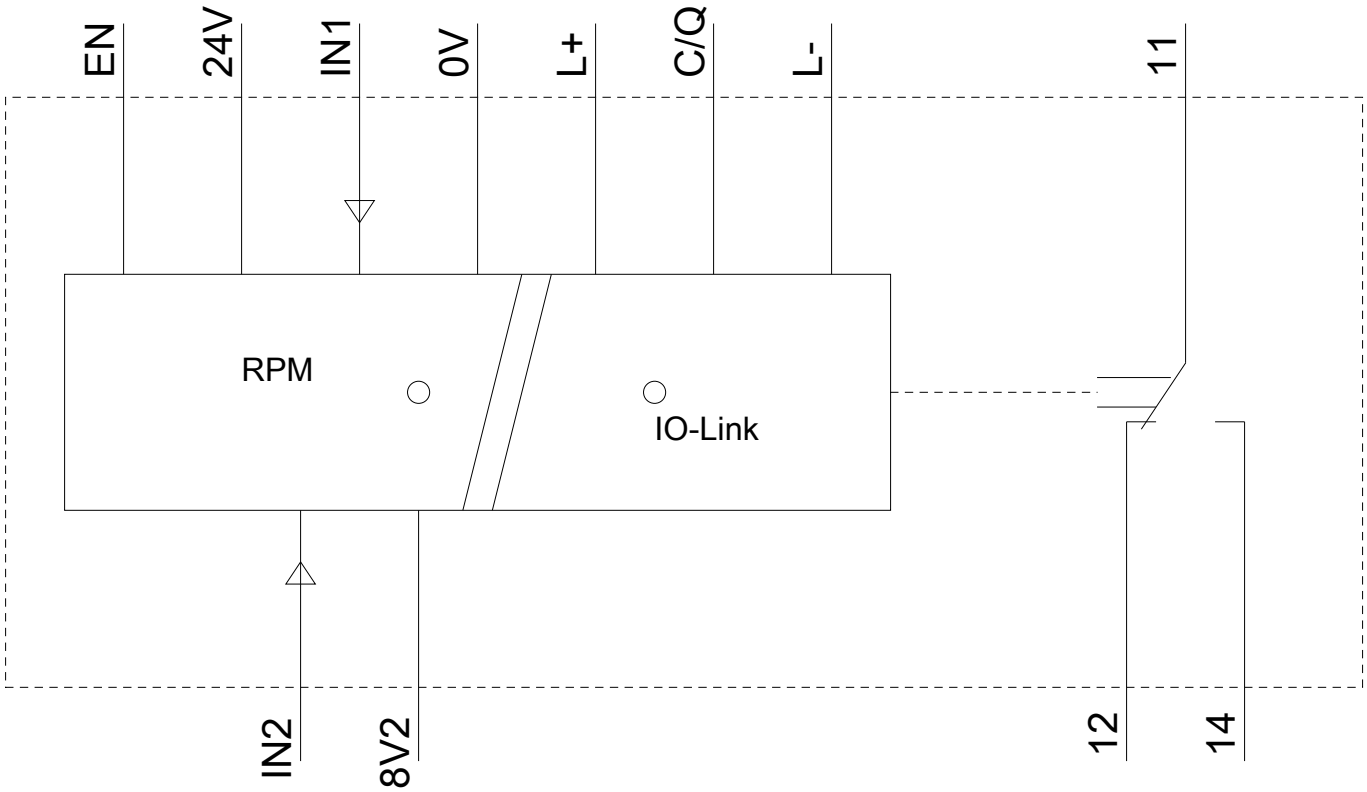
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UG4851-2AA40

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

Characteristic: Derating
https://support.industry.siemens.com/cs/ww/en/ps/3UG4851-2AA40/manual







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