



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, SPRING-LOADED  
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 speed              | 1/min | 0 ... 2 200          |
| Input voltage at digital input 1             |       |                      |
| • initial value for signal<0>-recognition    | V     | 0                    |
| • Full-scale value for signal<0> recognition | V     | 1                    |
| • initial value for signal<1>-recognition    | V     | 4.5                  |
| • Full-scale value for signal<1> recognition | V     | 30                   |
| Input current at digital input 2             |       |                      |
| • initial value for signal<0>-recognition    | mA    | 0                    |
| • Full-scale value for signal<0> recognition | mA    | 1.2                  |
| • initial value for signal<1>-recognition    | mA    | 2.1                  |
| • Full-scale value for signal<1> recognition | mA    | 8.2                  |
| Design of input feedback input               |       | No                   |
| Design of the sensor                         |       |                      |

|                                                                                    |       |                                                                                                        |
|------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• at digital input 1 connectable</li> </ul> |       | PNP switching three-wire sensor or mechanical impulse contact with external DC supply (4.5 V ... 30 V) |
| <ul style="list-style-type: none"> <li>• at digital input 2 connectable</li> </ul> |       | 2-conductor Namur sensor or mechanical impulse contact                                                 |
| Input current at digital input 1 maximum                                           | mA    | 50                                                                                                     |
| Pulse duration minimum                                                             | ms    | 5                                                                                                      |
| Pulse interval minimum                                                             | ms    | 5                                                                                                      |
| Number of sensor signals per revolution                                            |       | 1 ... 10                                                                                               |
| Switching hysteresis for rotational speed                                          | 1/min | 0 ... 99.9                                                                                             |

#### General technical data:

|                                                                                                      |    |                                             |
|------------------------------------------------------------------------------------------------------|----|---------------------------------------------|
| Design of the display                                                                                |    | LCD                                         |
| Product function                                                                                     |    |                                             |
| <ul style="list-style-type: none"> <li>• rotation speed monitoring</li> </ul>                        |    | Yes                                         |
| <ul style="list-style-type: none"> <li>• Standstill monitoring</li> </ul>                            |    | No                                          |
| <ul style="list-style-type: none"> <li>• Fault storage</li> </ul>                                    |    | Yes                                         |
| <ul style="list-style-type: none"> <li>• External reset</li> </ul>                                   |    | Yes                                         |
| <ul style="list-style-type: none"> <li>• Auto-reset</li> </ul>                                       |    | Yes                                         |
| <ul style="list-style-type: none"> <li>• Manual RESET</li> </ul>                                     |    | Yes                                         |
| <ul style="list-style-type: none"> <li>• Adjustable open/closed-circuit current principle</li> </ul> |    | Yes                                         |
| Starting time after the control supply voltage has been applied                                      | ms | 500                                         |
| Response time maximum                                                                                | ms | 100                                         |
| Relative metering precision                                                                          | %  | 10                                          |
| Accuracy of digital display                                                                          |    | +/- 1 Digit                                 |
| Relative repeat accuracy                                                                             | %  | 1                                           |
| Type of voltage of the control supply voltage                                                        |    | DC                                          |
| Control supply voltage                                                                               |    |                                             |
| <ul style="list-style-type: none"> <li>• at DC rated value</li> </ul>                                | V  | 24 ... 24                                   |
| Operating range factor control supply voltage rated value                                            |    |                                             |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>                                            |    | 0.75 ... 1.25                               |
| Surge voltage resistance rated value                                                                 | kV | 4                                           |
| Consumed active power                                                                                | W  | 2                                           |
| Protection class IP                                                                                  |    | IP20                                        |
| Electromagnetic compatibility                                                                        |    | IEC 60947-1 / IEC 61000-6-2 / IEC 61000-6-4 |
| Vibration resistance acc. to IEC 60068-2-6                                                           |    | 1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g         |
| Shock resistance acc. to IEC 60068-2-27                                                              |    | sinusoidal half-wave 15g / 11 ms            |
| Installation altitude at height above sea level maximum                                              | m  | 2 000                                       |
| Conducted interference due to burst acc. to IEC 61000-4-4                                            |    | 2 kV                                        |
| Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5                            |    | 2 kV                                        |

|                                                                                                                                                                                      |                |                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------------|
| Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5                                                                                                        |                | 1 kV                                        |
| Electrostatic discharge acc. to IEC 61000-4-2                                                                                                                                        |                | 6 kV contact discharge / 8 kV air discharge |
| Field-bound parasitic coupling acc. to IEC 61000-4-3                                                                                                                                 |                | 10 V/m                                      |
| Degree of pollution                                                                                                                                                                  |                | 2                                           |
| Apparent power consumption <ul style="list-style-type: none"> <li>at DC</li> <li>— at 24 V maximum</li> </ul>                                                                        | V·A            | 4                                           |
| Ambient temperature <ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>                                             | °C<br>°C<br>°C | -25 ... +60<br>-40 ... +80<br>-40 ... +80   |
| Galvanic isolation <ul style="list-style-type: none"> <li>between entrance and outlet</li> <li>between the outputs</li> <li>between the voltage supply and other circuits</li> </ul> |                | Yes<br>No<br>Yes                            |
| Suitability for use safety-related circuits                                                                                                                                          |                | No                                          |
| Category acc. to EN 954-1                                                                                                                                                            |                | none                                        |
| Safety Integrity Level (SIL) acc. to IEC 61508                                                                                                                                       |                | none                                        |

#### Communication/ Protocol:

|                                                                                                                                                                                                          |              |                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------|
| 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               |
| Amount of data <ul style="list-style-type: none"> <li>of the address area of the outputs with cyclical transfer total</li> <li>of the address area of the inputs with cyclical transfer total</li> </ul> | byte<br>byte | 2<br>4            |
| Point-to-point cycle time between master and IO-Link device minimum                                                                                                                                      | ms           | 10                |

#### Mechanical data:

|                                                                                                                                                                            |                            |                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------|
| Width                                                                                                                                                                      | mm                         | 22.5                  |
| Height                                                                                                                                                                     | mm                         | 91                    |
| Depth                                                                                                                                                                      | mm                         | 103                   |
| Mounting position                                                                                                                                                          |                            | any                   |
| Required spacing for grounded parts <ul style="list-style-type: none"> <li>forwards</li> <li>Backwards</li> <li>at the side</li> <li>upwards</li> <li>downwards</li> </ul> | mm<br>mm<br>mm<br>mm<br>mm | 0<br>0<br>0<br>0<br>0 |
| Required spacing with side-by-side mounting                                                                                                                                |                            |                       |

|                                                                              |    |                                     |
|------------------------------------------------------------------------------|----|-------------------------------------|
| • forwards                                                                   | mm | 0                                   |
| • Backwards                                                                  | mm | 0                                   |
| • at the side                                                                | mm | 0                                   |
| • upwards                                                                    | mm | 0                                   |
| • downwards                                                                  | mm | 0                                   |
| Required spacing for live parts                                              |    |                                     |
| • forwards                                                                   | mm | 0                                   |
| • Backwards                                                                  | mm | 0                                   |
| • at the side                                                                | mm | 0                                   |
| • upwards                                                                    | mm | 0                                   |
| • downwards                                                                  | mm | 0                                   |
| <b>Mounting type</b>                                                         |    | screw and snap-on mounting          |
| <b>Product function removable terminal for auxiliary and control circuit</b> |    | Yes                                 |
| <b>Type of electrical connection</b>                                         |    | spring-loaded terminals             |
| <b>Type of connectable conductor cross-sections</b>                          |    |                                     |
| • solid                                                                      |    | 2x (0.25 ... 1.5 mm <sup>2</sup> )  |
| • finely stranded                                                            |    |                                     |
| — with core end processing                                                   |    | 2 x (0.25 ... 1.5 mm <sup>2</sup> ) |
| — without core end processing                                                |    | 2x (0.25 ... 1.5 mm <sup>2</sup> )  |
| • at AWG conductors                                                          |    |                                     |
| — solid                                                                      |    | 2x (24 ... 16)                      |
| — stranded                                                                   |    | 2x (24 ... 16)                      |

#### Outputs:

|                                                                       |    |     |
|-----------------------------------------------------------------------|----|-----|
| <b>Number of NO contacts delayed switching</b>                        |    | 0   |
| <b>Number of NC contacts delayed switching</b>                        |    | 0   |
| <b>Number of CO contacts delayed switching</b>                        |    | 1   |
| <b>Ampacity of the output relay</b>                                   |    |     |
| • 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 |
| <b>Operating current at 17 V minimum</b>                              | mA | 5   |
| <b>Continuous current of the DIAZED fuse link of the output relay</b> | A  | 4   |
| <b>Thermal current of the switching element with contacts maximum</b> | A  | 5   |

|                                                                   |     |            |
|-------------------------------------------------------------------|-----|------------|
| Mechanical service life (switching cycles) typical                |     | 10 000 000 |
| Electrical endurance (switching cycles) at AC-15 at 230 V typical |     | 100 000    |
| Operating frequency with 3RT2 contactor maximum                   | 1/h | 5 000      |

#### Certificates/ approvals:

| General Product Approval                                                                 |                                          |                                                                                         | Declaration of Conformity                                                                | Test Certificates                                                                               |                                                    |
|------------------------------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <br>CCC | <a href="#">Manufacturer Declaration</a> | <br>UL | <br>EAC | <br>EG-Konf. | <a href="#">Type Test Certificates/Test Report</a> |

| Test Certificates                        | other                        | Railway                             |
|------------------------------------------|------------------------------|-------------------------------------|
| <a href="#">Special Test Certificate</a> | <a href="#">Confirmation</a> | <a href="#">Vibration and Shock</a> |

#### Further information

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

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

##### Industry Mall (Online ordering system)

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

##### Cax online generator

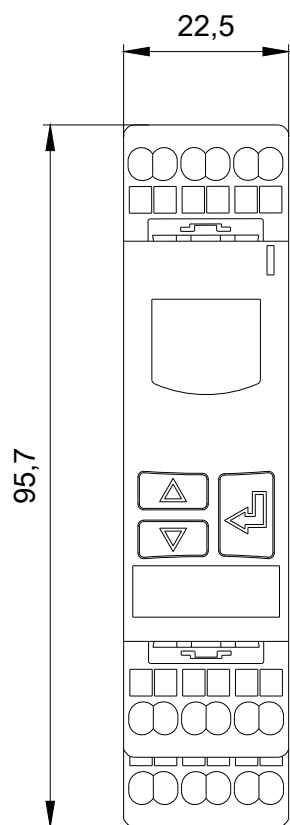
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4851-2AA40>

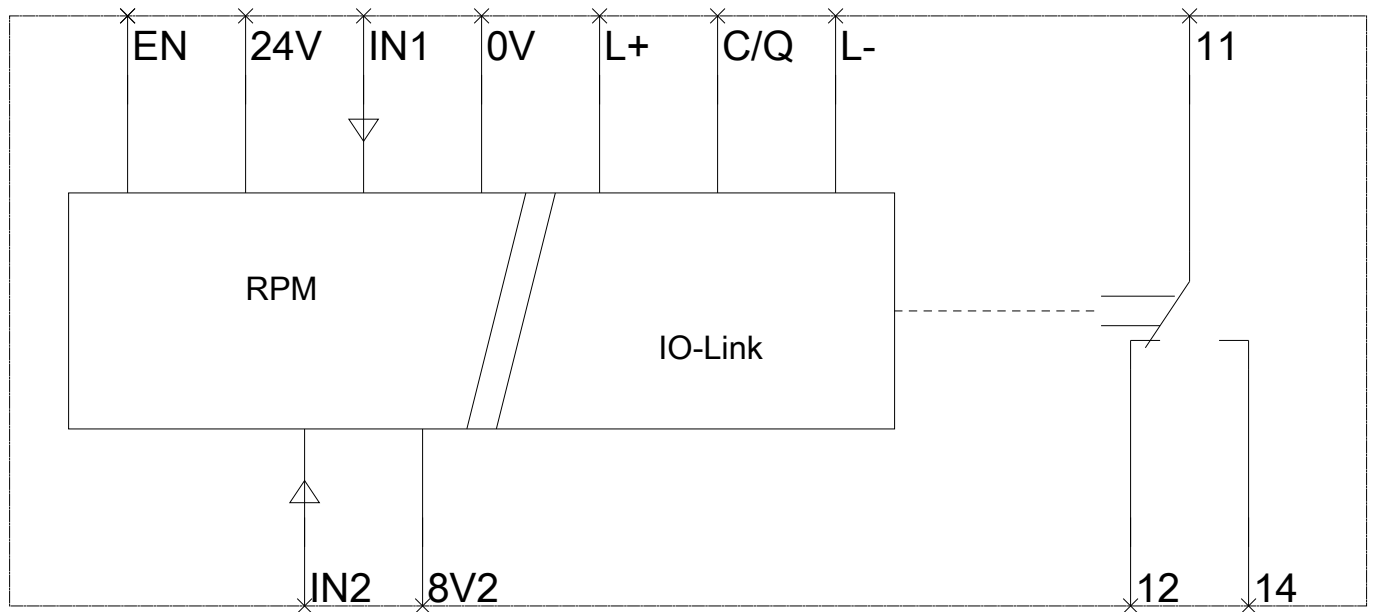
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4851-2AA40&lang=en)





last modified:

08/12/2017