



## Main

|                                 |   |
|---------------------------------|---|
| Range of Product                | Harmony Control Relays  |
| Product or Component Type       | Speed control relay   |
| Relay Type                      | Speed control relays  |
| Relay name                      | RM35S   |
| Relay monitored parameters      | Overspeed<br>Underspeed   |
| Time delay range                | 0.6...60 s adjustable on energisation 0...10 % of the full scale value)   |
| Switching capacity in VA        | 1250 VA   |
| Minimum switching current       | 10 mA 5 V DC  |
| [Us] rated supply voltage       | 24...240 V AC/DC  |
| Maximum power consumption in VA | 5 VA AC   |
| Measurement range               | 0.05...0.5 s<br>0.5...5 min<br>1...10 min<br>1...10 s<br>0.5...5 s<br>0.1...1 s<br>0.1...1 min  |
| Utilisation category            | AC-12 IEC 60947-5-1<br>AC-13 IEC 60947-5-1<br>AC-14 IEC 60947-5-1<br>AC-15 IEC 60947-5-1<br>DC-12 IEC 60947-5-1<br>DC-13 IEC 60947-5-1<br>DC-14 IEC 60947-5-1 |

## Complementary

|                                |  |
|--------------------------------|--|
| Rest time in memory mode       | 50 Ms contact S2 in memory mode on time delay<br>1 s supply Un in memory mode on time delay      |
| Maximum switching voltage      | 250 V AC/DC  |
| Supply voltage limits          | 20.4...264 V AC/DC   |
| Maximum power consumption in W | 3 W DC   |
| Width                          | 1.38 in (35 mm)  |
| Output contacts                | 1 C/O  |
| Contacts material              | Cadmium free   |
| Nominal output current         | 5 A  |
| Delay at power up              | 0.05 s   |
| Hysteresis                     | 5 % threshold  |
| Measurement accuracy           | +/- 10 % of the full scale value   |
| Repeat accuracy                | +/- 0.5 % input and measurement circuit<br>+/- 0.5 % time delay                                  |
| Measurement error              | +/- 0.1 %/°C with temperature variation<br>< +/- 1 % over the whole range with voltage variation |
| Input frequency                | 0.0017...20 Hz   |
| Response time                  | 15 ms max (on crossing the threshold)  |
| Polarity                       | Reversible polarity on DC supply   |
| Threshold setting              | 10...100 %   |

|                                    |  |
|------------------------------------|--|
| Supply voltage for sensor          | 11.5...12.5 V  |
| Maximum supply current for sensors | 40 MA < 24 V AC 77 °F (25 °C)<br>40 MA < 24 V DC 77 °F (25 °C)<br>50 MA 24...240 V AC<br>50 mA 24...240 V DC   |
| Impulse duration                   | >= 5 ms high state<br>>= 5 ms low state  |
| Input compatibility                | 3-wire sensor (E1) PNP or NPN, 12 V, 50 mA<br>NAMUR sensor (E2), 12 V, 1.5 kOhm<br>Voltage input (E1), 0...30 V, 9.5 kOhm >= 4.5 V <= 1 V<br>Volt-free contact input (E1), 12 V, 9.5 kOhm  |
| Marking                            | CE : EMC 89/336/EEC<br>CE : 73/23/EEC  |
| Overvoltage category               | III IEC 60664-1  |
| Insulation resistance              | > 500 MOhm 500 V DC between supply and relay output IEC 60255-5<br>> 500 MOhm 500 V DC between measurement and relay output IEC 60664-1<br>> 1 MOhm 500 V DC between supply and measurement IEC 60255-5<br>> 500 MOhm 500 V DC between supply and relay output IEC 60664-1<br>> 500 MOhm 500 V DC between measurement and relay output IEC 60255-5<br>> 1 MOhm 500 V DC between supply and measurement IEC 60664-1 |
| [Ui] rated insulation voltage      | 250 V IEC 60664-1  |
| Operating voltage tolerance        | - 15 % + 10 % Un   |
| Supply frequency                   | 50/60 Hz +/- 10 %  |
| Operating position                 | Any position without derating  |
| Connections - terminals            | Screw terminals, 1 x 0.5...1 x 4 mm² AWG 20...AWG 11) solid without cable end<br>Screw terminals, 2 x 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end<br>Screw terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) flexible with cable end<br>Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end   |
| Tightening torque                  | 5.31...8.85 lbf.in (0.6...1 N.m) IEC 60947-1   |
| Housing material                   | Self-extinguishing plastic   |
| Status LED                         | 1 LED Green power ON<br>1 LED Yellow inhibit<br>1 LED Yellow relay (R)   |
| Mounting support                   | 35 mm symmetrical DIN rail conforming to IEC 60715   |
| Electrical durability              | 100000 cycles  |
| Mechanical durability              | 30000000 cycles  |
| Operating rate                     | <= 360 operations/hour full load   |

## Environment

|                                       |  |
|---------------------------------------|--|
| Immunity to microbreaks               | 50 ms  |
| Electromagnetic compatibility         | Emission standard for industrial environments IEC 61000-6-4<br>Emission standard for residential, commercial and light-industrial environments IEC 61000-6-3<br>Immunity for industrial environments NF EN/IEC 61000-6-2 |
| Standards                             | NF EN 60255-6<br>IEC 60255-6   |
| Product Certifications                | C-tick[RETURN]GOST[RETURN]UL[RETURN]GL[RETURN]CSA  |
| Ambient Air Temperature for Storage   | -40...158 °F (-40...70 °C)   |
| Ambient Air Temperature for Operation | -4...122 °F (-20...50 °C)  |
| Relative humidity                     | 95 % 131 °F (55 °C) IEC 60068-2-30   |
| Vibration resistance                  | 0.35 mm 5...57.6 Hz)IEC 60068-2-6/IEC 60255-21-1<br>1 gn 57.6...150 Hz)IEC 60068-2-6/IEC 60255-21-1  |
| Shock resistance                      | 15 gn 11 ms IEC 60255-21-1   |
| IP degree of protection               | IP20 IEC 60529 terminals)<br>IP30 IEC 60529 casing)  |
| Pollution degree                      | 3 IEC 60664-1  |
| Dielectric test voltage               | 2 kV AC 50 Hz  |
| Non-dissipating shock wave            | 4 kV   |

## Ordering and shipping details

|                   |                                      |
|-------------------|--------------------------------------|
| Category          | 22380-RELAYS-MEASUREMENT (RM17-RM35) |
| Discount Schedule | CP2                                  |
| GTIN              | 3389119405256                        |
| Returnability     | Yes                                  |
| Country of origin | ID                                   |

## Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Number of Units in Package 1 | 1                       |
| Package 1 Height             | 1.73 in (4.4 cm)        |
| Package 1 Width              | 2.91 in (7.4 cm)        |
| Package 1 Length             | 3.70 in (9.4 cm)        |
| Package 1 Weight             | 4.59 oz (130.0 g)       |
| Unit Type of Package 2       | S03                     |
| Number of Units in Package 2 | 48                      |
| Package 2 Height             | 11.81 in (30.0 cm)      |
| Package 2 Width              | 11.81 in (30.0 cm)      |
| Package 2 Length             | 15.75 in (40.0 cm)      |
| Package 2 Weight             | 15.83 lb(US) (7.181 kg) |

## Offer Sustainability

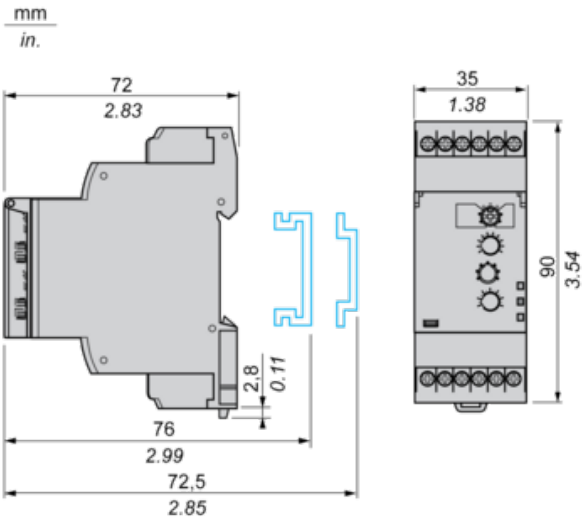
|                            |   |
|----------------------------|---|
| Sustainable offer status   | Green Premium product   |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>   |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)  |
| Mercury free               | Yes   |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>  |
| RoHS exemption information | <a href="#">Yes</a>   |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>   |
| Circularity Profile        | <a href="#">End Of Life Information</a>   |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.  |

## Contractual warranty

|          |           |
|----------|-----------|
| Warranty | 18 months |
|----------|-----------|

Speed Control Relays

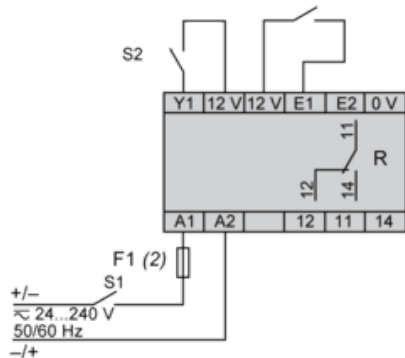
Dimensions and Mounting



## Speed Control Relays

### Wiring Diagrams

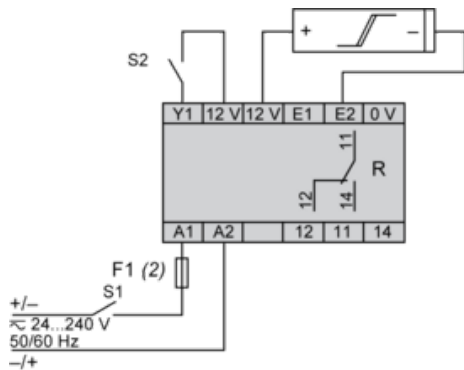
Contact input



(2) A quick-blow fuse or circuit-breaker.

S2 Inhibit - Reset

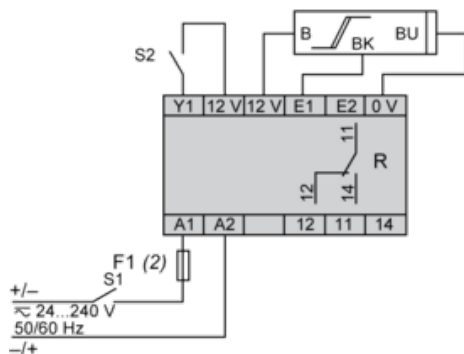
Namur proximity sensor input



(2) A quick-blow fuse or circuit-breaker.

S2 Inhibit - Reset

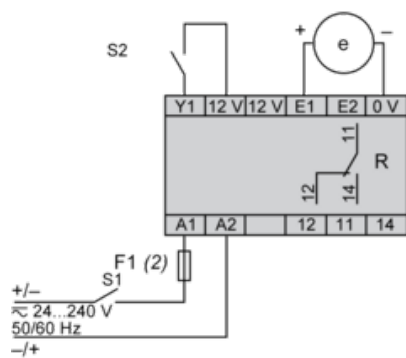
NPN/PNP sensor input



(2) A quick-blow fuse or circuit-breaker.

S2 Inhibit - Reset

0-30 V voltage input



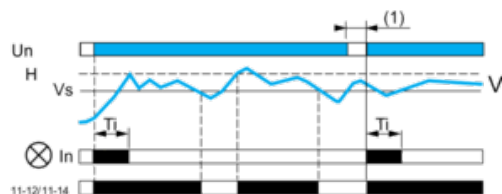
(2) A quick-blow fuse or circuit-breaker.

S2 Inhibit - Reset

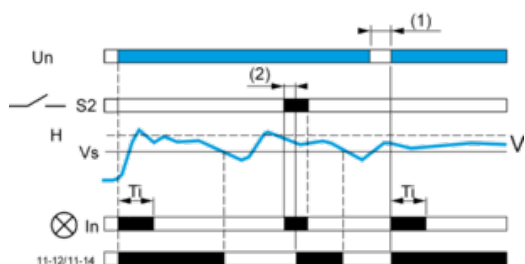
## Function Diagrams

### Underspeed Control

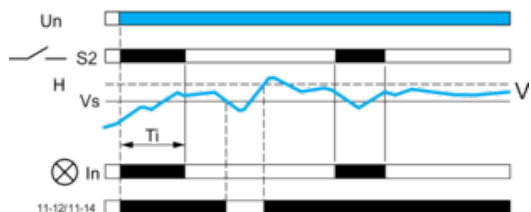
Without memory ("No Memory" mode)



With memory ("Memory" mode)

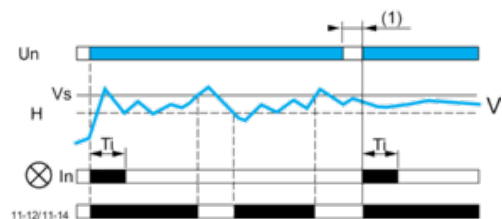


With inhibition by S2 ("Inhib./S2" mode)

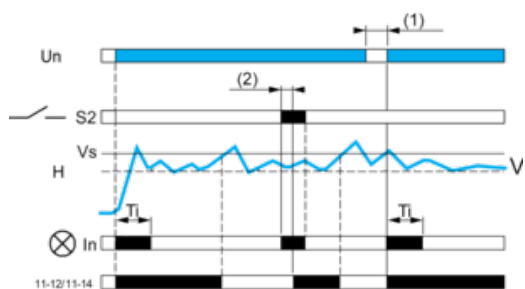


### Overspeed Control

Without memory ("No Memory" mode)



With memory ("Memory" mode)



### Legend

- Ti Starting inhibition time delay
- Un Supply voltage
- V Monitored speed
- H Hysteresis

Vs Overspeed threshold

S2 Inhibition external contact

In LED indicating the inhibition status

(1) Power break to reset the output relay

(2) S2 contact closure to make the output relay return to normal state

11-12/11-14 Output relay connections

Relay status: black color = energized.

NOTE: In "Memory" mode, the relay opens after the time delay and stays in that position when crossing of the threshold is detected. The power supply voltage must be switched off to reset the product.

With inhibition by S2 ("Inhib./S2" mode)

