

# Product datasheet

Specifications



## Modular liquid level control relay, 5 A, 2 CO, 24...240 V AC/DC

Local distributor code: 389834939    RM35LM33MW

EAN Code : 3389119405232

### Main

|                               |                                                                                                                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product              | Harmony Control Relays                                                                                                                                                                                                     |
| Product or component type     | Level control relay                                                                                                                                                                                                        |
| Relay type                    | Level control relay                                                                                                                                                                                                        |
| Relay name                    | RM35L                                                                                                                                                                                                                      |
| Relay monitored parameters    | Detection by resistive probes                                                                                                                                                                                              |
| Time delay                    | Adjustable 0.1...5 s, +/- 10 %                                                                                                                                                                                             |
| Switching capacity in VA      | 1250 VA                                                                                                                                                                                                                    |
| Minimum switching current     | 10 mA at 5 V DC                                                                                                                                                                                                            |
| Maximum switching current     | 5 A AC/DC                                                                                                                                                                                                                  |
| Power consumption             | 5 VA AC                                                                                                                                                                                                                    |
| Measurement range             | 250 Ohm...1 MOhm                                                                                                                                                                                                           |
| Utilisation category          | AC-12 conforming to IEC 60947-5-1<br>AC-13 conforming to IEC 60947-5-1<br>AC-14 conforming to IEC 60947-5-1<br>AC-15 conforming to IEC 60947-5-1<br>DC-12 conforming to IEC 60947-5-1<br>DC-13 conforming to IEC 60947-5-1 |
| Contacts type and composition | 2 C/O                                                                                                                                                                                                                      |

### Complementary

|                             |                                                               |
|-----------------------------|---------------------------------------------------------------|
| Reset time                  | 1750 ms                                                       |
| Maximum switching voltage   | 250 V AC/DC                                                   |
| [Un] rated nominal voltage  | 24...240 V AC/DC 50/60 Hz +/- 10 %                            |
| Supply voltage limits       | 20.4...264 V AC/DC                                            |
| Operating voltage tolerance | - 15 % + 10 % Un<br><br>1.5 W DC                              |
| Output contacts             | 2 C/O                                                         |
| Nominal output current      | 5 A                                                           |
| Delay at power up           | 0.6 s                                                         |
| Measurement accuracy        | +/- 10 % of the full scale value<br>+/- 20 % for the HS range |
| Repeat accuracy             | +/- 2 % for time delay                                        |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measurement error                     | 0.5 %/°C with temperature variation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Sensitivity scale                     | 0.25...5 kOhm LS (Low Sensitivity)<br>5...100 kOhm St (Standard Sensitivity)<br>50...1000 kOhm HS (High Sensitivity)                                                                                                                                                                                                                                                                                                                                                                                                     |
| Sensitivity adjustment                | 5...100 %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Maximum supply current for sensors    | 1 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Cable capacitance                     | 1 nF at HS (High Sensitivity) for probe cable<br>2.2 nF at St (Standard Sensitivity) for probe cable<br>4.7 nF at LS (Low Sensitivity)                                                                                                                                                                                                                                                                                                                                                                                   |
| Marking                               | CE : 73/23/EEC<br>CE : EMC 89/336/EEC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Overvoltage category                  | III conforming to IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Insulation resistance                 | > 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60255-5<br>> 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60664-1<br>> 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60255-5<br>> 500 MOhm at 500 V DC between supply and relay output conforming to IEC 60664-1<br>> 500 MOhm at 500 V DC between measurement and relay output conforming to IEC 60255-5<br>> 1 MOhm at 500 V DC between supply and measurement conforming to IEC 60664-1 |
| [Ui] rated insulation voltage         | 250 V conforming to IEC 60664-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 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, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) flexible with cable end<br>Screw terminals, 1 x 0.2...1 x 2.5 mm² (AWG 24...AWG 12) flexible with cable end                                                                                                                                                                               |
| Tightening torque                     | 0.6...1 N.m conforming to IEC 60947-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Housing material                      | Self-extinguishing plastic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Local signalling                      | LED (yellow) for relay ON<br>LED (green) for power ON<br>LED (yellow) for timer ON                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting support                      | 35 mm symmetrical DIN rail conforming to EN/IEC 60715                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Electrical durability                 | 100000 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mechanical durability                 | 30000000 cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Operating rate                        | <= 360 operations/hour full load                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Safety reliability data               | B10d = 170000<br>MTTFd = 182.6 years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Width                                 | 35 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Environment                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Immunity to microbreaks               | 100 ms DC<br>90 ms AC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Electromagnetic compatibility         | Emission standard for industrial environments conforming to EN/IEC 61000-6-4<br>Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3<br>Immunity for industrial environments conforming to NF EN/IEC 61000-6-2                                                                                                                                                                                                                                                 |
| Standards                             | EN/IEC 60255-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product certifications                | CSA<br>GL<br>UL<br>C-Tick<br>GOST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Ambient air temperature for storage   | -40...70 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Ambient air temperature for operation | -20...50 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Relative humidity                     | 95 % at 55 °C conforming to IEC 60068-2-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| IP degree of protection               | IP20 (terminals) conforming to IEC 60529<br>IP30 (casing) conforming to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|                         |                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------|
| Pollution degree        | 3 conforming to IEC 60664-1                                                                      |
| Dielectric test voltage | 2 kV, 1 min AC 50 Hz conforming to IEC 60255-5<br>2 kV, 1 min AC 50 Hz conforming to IEC 60664-1 |

### Packing Units

|                              |           |
|------------------------------|-----------|
| Unit Type of Package 1       | PCE       |
| Number of Units in Package 1 | 1         |
| Package 1 Height             | 4.700 cm  |
| Package 1 Width              | 7.800 cm  |
| Package 1 Length             | 9.700 cm  |
| Package 1 Weight             | 141.000 g |
| Unit Type of Package 2       | S03       |
| Number of Units in Package 2 | 48        |
| Package 2 Height             | 30.000 cm |
| Package 2 Width              | 30.000 cm |
| Package 2 Length             | 40.000 cm |
| Package 2 Weight             | 7.448 kg  |
| Unit Type of Package 3       | P06       |
| Number of Units in Package 3 | 384       |
| Package 3 Height             | 75.000 cm |
| Package 3 Width              | 60.000 cm |
| Package 3 Length             | 80.000 cm |
| Package 3 Weight             | 65.660 kg |

### Offer Sustainability

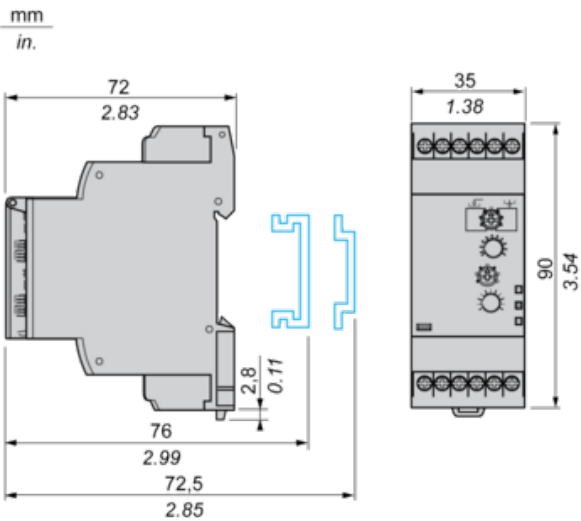
|                            |                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                             |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                 |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope)<br><a href="#">EU RoHS Declaration</a> |
| 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>                                                           |

### Contractual warranty

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

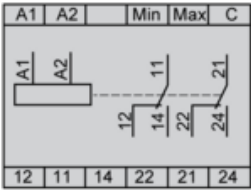
Level Control Relays

Dimensions and Mounting



Level Control Relays

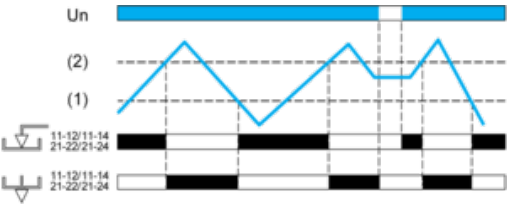
Wiring Diagram



Function Diagrams

Control of Two Levels

Fill/Empty function



Legend

$U_n$  Supply voltage

(1) Min. level

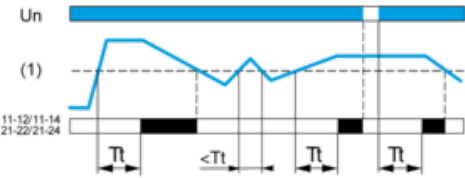
(2) Max. level

11-12/11-14, 21-22/21-24 Output relay connections

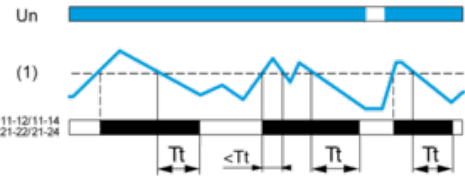
Relay status: black color = energized.

Control of One Level

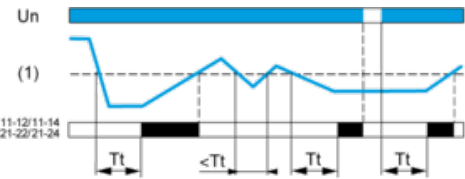
Empty function T on



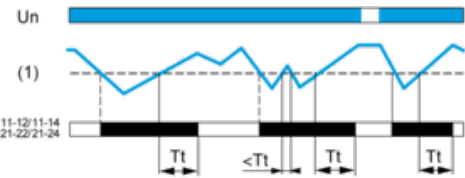
Empty function T off



Fill function T on



Fill function T off



Legend

$T_t$  Time delay after crossing of threshold

$U_n$  Supply voltage

(1) Level threshold

11-12/11-14, 21-22/21-24 Output relay connections

Relay status: black color = energized.

Dimensions

