

# Product datasheet

Specifications



## Modular liquid level control relay, 8 A, 1 CO, 24...240 V AC/DC

Local distributor code: 403002744 RM22LG11MR

### Main

Range of product	Harmony Control Relays
Product or component type	Level control relay
Relay type	Level control relay
Relay name	RM22L
Relay monitored parameters	Detection by resistive probes
Time delay	Without
Switching capacity in VA	2000 VA
Minimum switching current	10 mA at 5 V DC
Maximum switching current	8 A AC
Utilisation category	AC-15 conforming to IEC 60947-5-1 DC-13 conforming to IEC 60947-5-1 AC-1 conforming to IEC 60947-4-1 DC-1 conforming to IEC 60947-4-1
Contacts type and composition	2 C/O

### Complementary

Maximum switching voltage	250 V AC
[Un] rated nominal voltage	24...240 V AC/DC 50/60 Hz
Supply voltage limits	20.4...264 V AC/DC
Power consumption	1.5 W DC
Output contacts	2 C/O
Nominal output current	8 A
Delay at power up	0.6 s
Maximum electrode voltage	12 V AC
Maximum electrode current	1 mA
Repeat accuracy	+/- 2 % for time delay
Measurement error	< 1 % over the whole range with voltage variation 0.05 %/°C with temperature variation
Maximum cable distance between devices	1000 m between probe and delay
Sensitivity scale	5...100 kOhm St (Standard Sensitivity)
Sensitivity adjustment	5...100 %

<b>Maximum supply current for sensors</b>	1 mA
<b>Cable capacitance</b>	1 nF at HS (High Sensitivity) for probe cable 2.2 nF at St (Standard Sensitivity) for probe cable 4.7 nF at LS (Low Sensitivity) for probe cable
<b>Overvoltage category</b>	III conforming to IEC 60664-1
<b>Insulation</b>	Between supply and measurement
<b>Connections - terminals</b>	Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end Screw terminals, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end
<b>Tightening torque</b>	0.6...1 N.m conforming to IEC 60947-1
<b>Housing material</b>	Self-extinguishing plastic
<b>Mounting support</b>	35 mm DIN rail conforming to EN/IEC 60715
<b>Mounting position</b>	Any position
<b>Electrical durability</b>	100000 cycles
<b>Mechanical durability</b>	10000000 cycles
<b>Contacts material</b>	Cadmium free
<b>Safety reliability data</b>	B10d = 120000 MTTFd = 125.5 years
<b>Width</b>	22.5 mm
<b>Net weight</b>	0.1 kg

## Environment

<b>Immunity to microbreaks</b>	100 ms DC 90 ms AC
<b>Electromagnetic compatibility</b>	Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1 Immunity for industrial environments conforming to EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/IEC 61000-6-4 Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2 Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2 Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 conforming to IEC 61000-4-3 Electrical fast transient/burst immunity test - test level: 4 kV level 4 (direct) conforming to IEC 61000-4-4 Electrical fast transient/burst immunity test - test level: 2 kV level 4 (capacitive coupling) conforming to IEC 61000-4-4 Surge immunity test - test level: 4 kV level 4 (common mode) conforming to IEC 61000-4-5 Surge immunity test - test level: 2 kV level 4 (differential mode) conforming to IEC 61000-4-5 Conducted and radiated emissions class B group 1 conforming to CISPR 11 Conducted and radiated emissions class B conforming to CISPR 22
<b>Standards</b>	EN/IEC 60255-1
<b>Product certifications</b>	GL RCM CCC CSA UL EAC CE
<b>Ambient air temperature for storage</b>	-40...70 °C
<b>Relative humidity</b>	93...97 % at 25...55 °C conforming to IEC 60068-2-30
<b>Vibration resistance</b>	0.075 mm (f= 10...58.1 Hz) not in operation conforming to IEC 60068-2-6 1 gn (f= 10...58.1 Hz) not in operation conforming to IEC 60068-2-6 0.035 mm (f= 58.1...150 Hz) in operation conforming to IEC 60068-2-6 0.5 gn (f= 58.1...150 Hz) in operation conforming to IEC 60068-2-6
<b>Shock resistance</b>	15 gn (duration = 11 ms) for not in operation conforming to IEC 60068-2-27 5 gn (duration = 11 ms) for in operation conforming to IEC 60068-2-27
<b>IP degree of protection</b>	IP20 (terminals) conforming to IEC 60529 IP40 (housing) conforming to IEC 60529 IP50 (front panel) conforming to IEC 60529

<b>Pollution degree</b>	3 conforming to IEC 60664-1
<b>Dielectric test voltage</b>	2.5 kV, 1 min AC 50 Hz conforming to IEC 60255-27

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Weight</b>	109.0 g
<b>Package 1 Height</b>	2.6 cm
<b>Package 1 width</b>	8.2 cm
<b>Package 1 Length</b>	9.5 cm
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	40
<b>Package 2 Weight</b>	4.999 kg
<b>Package 2 Height</b>	15 cm
<b>Package 2 width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Unit Type of Package 3</b>	P06
<b>Number of Units in Package 3</b>	640
<b>Package 3 Weight</b>	88.484 kg
<b>Package 3 Height</b>	75 cm
<b>Package 3 width</b>	60 cm
<b>Package 3 Length</b>	80 cm

## Offer Sustainability

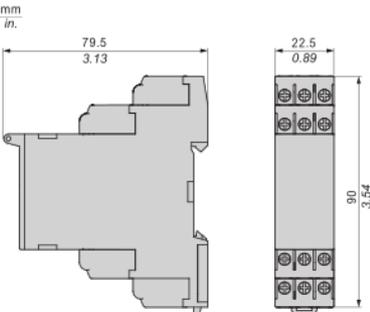
<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>RoHS exemption information</b>	<a href="#">Yes</a>
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>WEEE</b>	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

## Contractual warranty

<b>Warranty</b>	18 months
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Dimensions

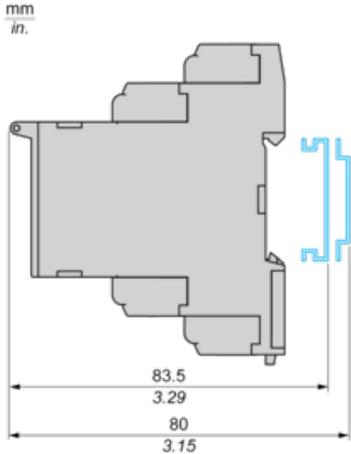
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**Mounting and Clearance**

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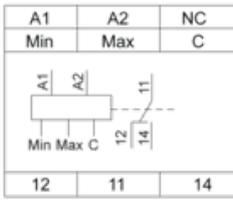
**Rail Mounting**



**Level Control Relay**

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Wiring Diagram



**A1,A2** : Supply voltage

**Max** : High level

**Min** : Low level

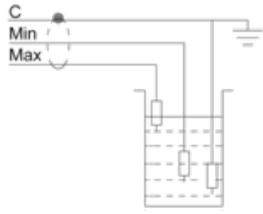
**C** : References or Tank earth electrode

**11-14,12** : 1st C/O contact of output relay

**Control by Electrodes**

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Wiring Diagram



**A1,A2** : Supply voltage

**Max** : High level

**Min** : Low level

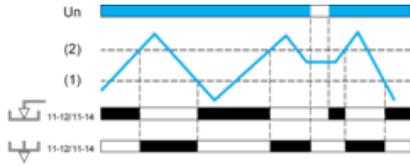
**C** : References or Tank earth electrode

**11-14,12** : 1st C/O contact of output relay

**Function Diagrams**

**Control of Two Levels**

Fill/Empty function



**Legend**

$U_n$  Nominal supply voltage

(1) Min. level

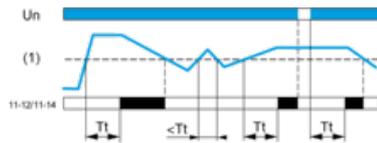
(2) Max. level

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

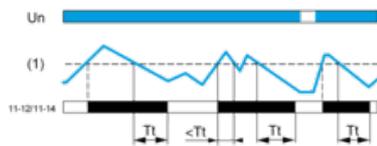
Relay status: black color = energized.

**Control of One Level**

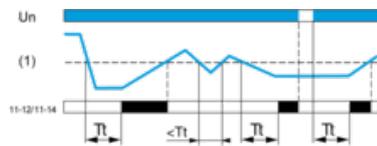
Empty function T on



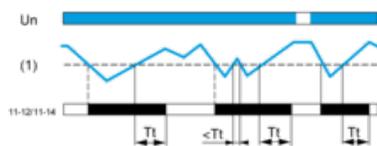
Empty function T off



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.