

Product data sheet

Specifications



liquid level control relay RM4-L - 110..130 V AC

RM4LG01F

⚠ Discontinued on: Mar 31, 2022

⚠ Discontinued

Main

Range Of Product	Harmony Relay
Relay Type	Liquid level control relay
Product Or Component Type	Industrial measurement and control relays
Relay Name	RM4-L
Relay Monitored Parameters	Detection by resistive probes
Time Delay	Without
Power Consumption	2.6 VA AC
Contacts Type And Composition	1 C/O

Complementary

Maximum Switching Voltage	440 V AC
Operating Voltage Tolerance	0.85...1.1 Uc
Output Contacts	1 C/O
Maximum Electrode Voltage	24 V AC
Maximum Electrode Current	1 mA
Maximum Cable Capacity	0 mF
Sensitivity Scale	5...100 kOhm
Marking	CE : EMC 89/336/EEC CE : LVD 73/23/EEC
Overvoltage Category	III IEC 60664-1
[Ui] Rated Insulation Voltage	500 V IEC
Supply Disconnection Value	> 0.1 Uc
Operating Position	Any position without derating
Connections - Terminals	Screw terminals, 2 x 1.5 mm ² flexible with cable end Screw terminals, 2 x 2.5 mm ² flexible without cable end
Tightening Torque	5.31...9.74 lbf.in (0.6...1.1 N.m)
Mechanical Durability	30000000 cycles
[Ith] Conventional Free Air Thermal Current	8 A

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

[Ie] Rated Operational Current	2 A 158 °F (70 °C) 24 V DC-13 IEC 60947-5-1/1991 2 A 158 °F (70 °C) 24 V DC-13 VDE 0660 3 A 158 °F (70 °C) 115 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 115 V AC-15 VDE 0660 3 A 158 °F (70 °C) 24 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 24 V AC-15 VDE 0660 3 A 158 °F (70 °C) 250 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 250 V AC-15 VDE 0660 0.1 A 158 °F (70 °C) 250 V DC-13 IEC 60947-5-1/1991 0.1 A 158 °F (70 °C) 250 V DC-13 VDE 0660 0.3 A 158 °F (70 °C) 115 V DC-13 IEC 60947-5-1/1991 0.3 A 158 °F (70 °C) 115 V DC-13 VDE 0660
Switching Capacity In Ma	10 mA 12 V
Switching Voltage	250 V AC
Contacts Material	90/10 silver nickel contacts
Number Of Cables	2
Width	0.89 in (22.5 mm)
Terminals Description Iso N°1	(B1-B2-B3)CO (15-16-18)OC (A1-A2)CO
Output Relay State	According to chosen function
9 Mm Pitches	2.5
Net Weight	0.36 lb(US) (0.165 kg)

Environment

Electromagnetic Compatibility	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
Standards	EN/IEC 60255-6
Product Certifications	UL CSA GL
Ambient Air Temperature For Storage	-40...185 °F (-40...85 °C)
Ambient Air Temperature For Operation	-4...149 °F (-20...65 °C)
Relative Humidity	15...85 % 3K3 IEC 60721-3-3
Ip Degree Of Protection	IP20 IEC 60529 terminals) IP50 IEC 60529 casing)
Pollution Degree	3 IEC 60664-1
Dielectric Test Voltage	2.5 kV
Resistance To Electrostatic Discharge	6 kV contact IEC 61000-4-2 level 3 8 kV air IEC 61000-4-2 level 3
Resistance To Electromagnetic Fields	9.14 V/m (10 V/m) IEC 61000-4-3 level 3
Resistance To Fast Transients	2 kV IEC 61000-4-4 level 3
Protection Against Electric Shocks	2 kV level 3 IEC 61000-4-5
Disturbance Radiated/Conducted	CISPR 22 - class A CISPR 11 group 1 - class A

Ordering and shipping details

Category	22376-RELAYS-MEASUREMENT(RM4)
Discount Schedule	CP2

Gtin	3389110334708
Returnability	No
Country Of Origin	ID

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1

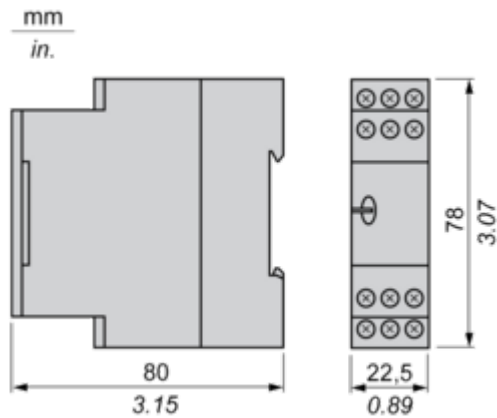
Contractual warranty

Warranty	18 months
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Dimensions Drawings

Liquid Level Control Relays

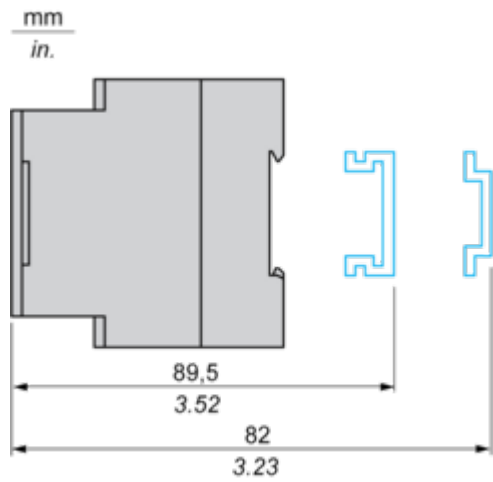
Dimensions



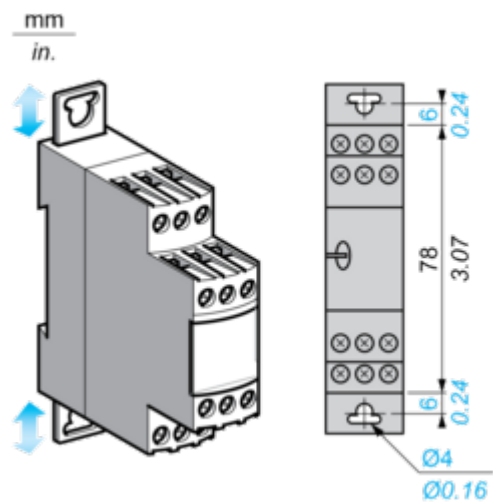
Mounting and Clearance

Liquid Level Control Relays

Rail mounting



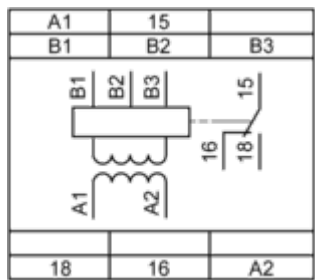
Screw fixing



Connections and Schema

Liquid Level Control Relays

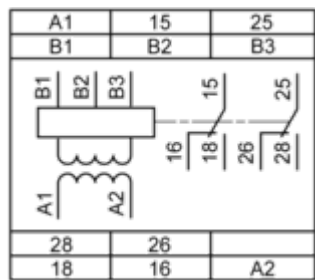
RM4LG01 Wiring Diagram



A1-A2, B1, B2, B3 Supply voltage Electrodes (see table below)
15-18,15-16 1st C/O contact of the output relay

Electrodes and level controlled	
B1	Reference or tank earth electrode
B2	High level
B3	Low level

RM4LA32 Wiring Diagram

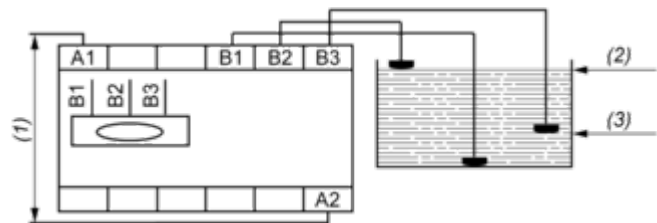


A1-A2, B1, B2, B3 Supply voltage Electrodes (see table below)
15-18,15-16 1st C/O contact of the output relay
25-28, 25-26 2nd C/O contact of the output relay

Electrodes and level controlled	
B1	Reference or tank earth electrode
B2	High level
B3	Low level

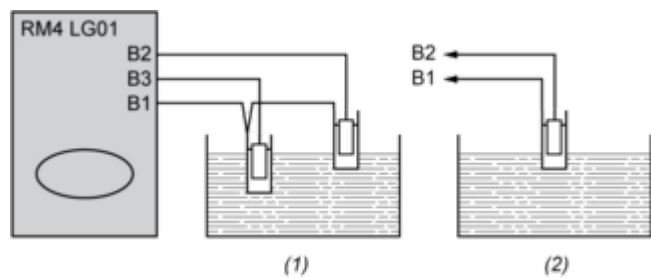
Connection Examples

Control by Electrodes



- (1) Supply voltage
- (2) High level
- (3) Low level

Control by Probes



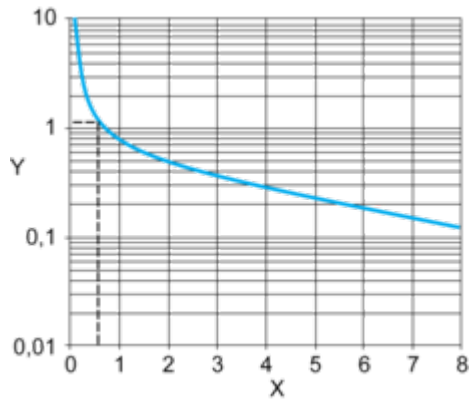
- (1) 2 levels
- (2) 1 level

Performance Curves

Electrical Durability and Load Limit Curves

AC Load

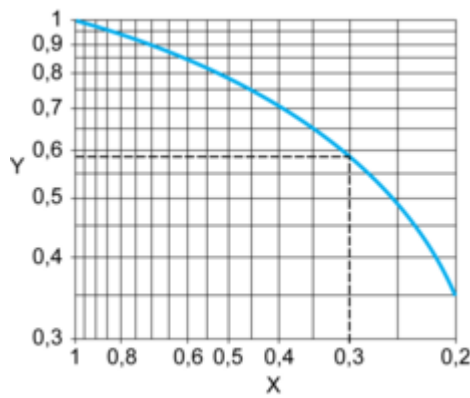
Curve 1: Electrical durability of contacts on resistive load in millions of operating cycles



X Current broken in A

Y Millions of operating cycles

Curve 2: Reduction factor k for inductive loads (applies to values taken from durability Curve 1)

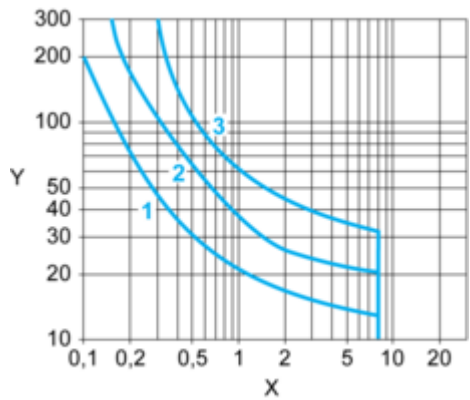


X Power factor on breaking ($\cos \varphi$)

Y Reduction factor K

DC Load

Load limit curve

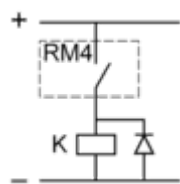


X Current in A

Y Voltage in V

1 L/R = 20 ms

- 2 L/R with load protection diode
- 3 Resistive load

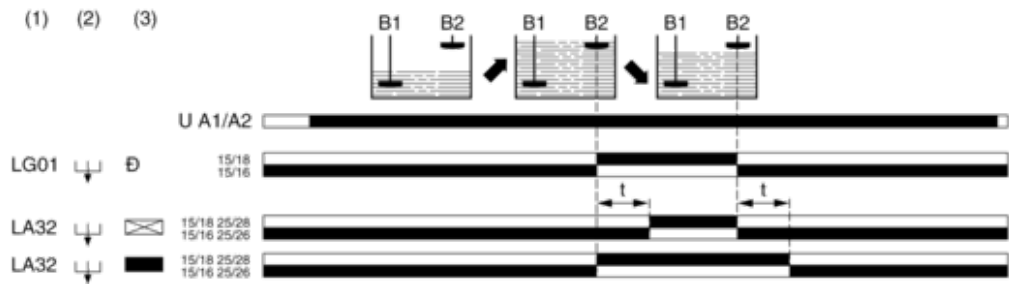


Technical Description

Function Diagrams

Empty Function

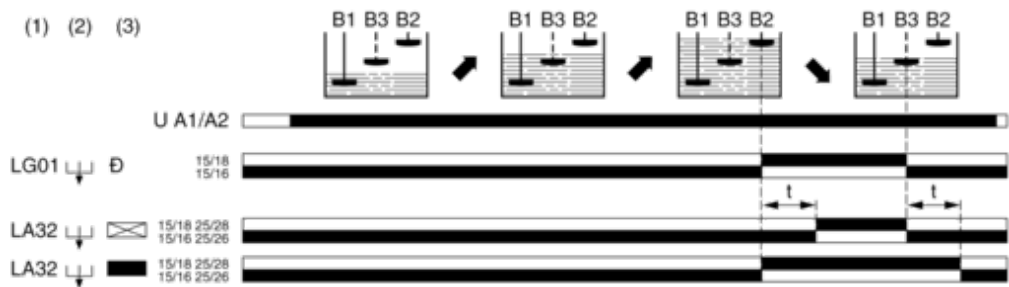
Maximum level detection (2 electrodes or 1 probe LA9RM201)



Legend

- U A1/A2 Supply voltage
- B1 Reference electrode
- B2 High/low level electrode
- (1) Type RM4
- (2) Function switch
- (3) Time delay switch
- 15/16, 15/18; 25/26, 25/28 Output relays connections
- Relay status: black color = energized.

Regulation between a maximum and a minimum level (3 electrodes or 2 probes LA9RM201)

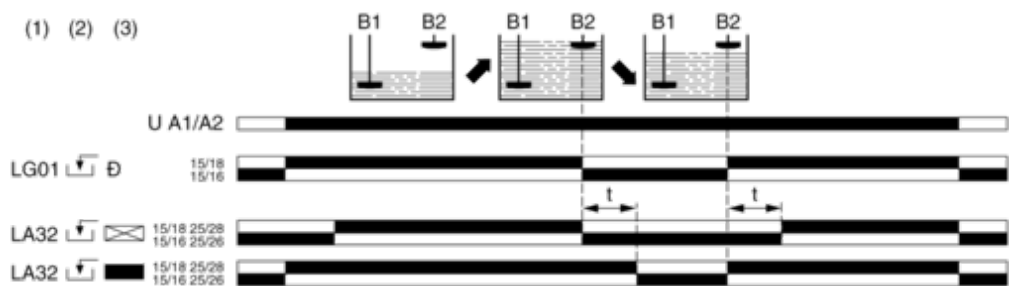


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Fill Function

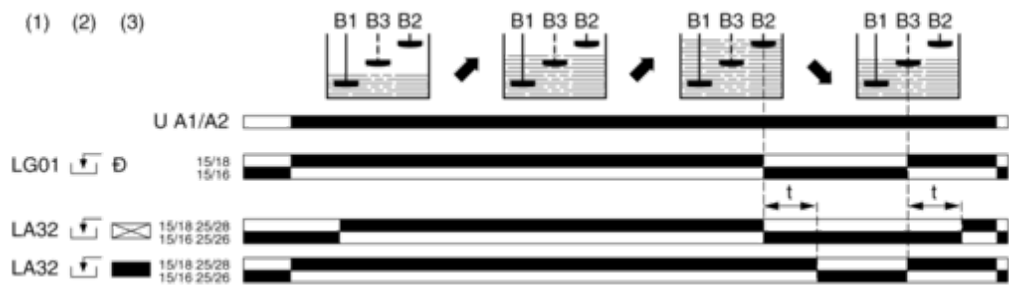
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NOTE: On RM4LA32, a time delay can be set on energization or de-energization of the output relay.