Product data sheet
Characteristics

RM4LA32F
liquid level control relay RM4-L - 110..130 V AC

Main

Range of product	Zelio Control
Product or component type	Industrial measurement and control relays
Relay type	Liquid level control relay
Relay name	RM4-L
Relay monitored parameters	Detection by resistive probes
Time delay	Adjustable 0.1...10 s
Power consumption	2.7 VA AC
Contacts type and composition	2 C/O

Complementary

[Un] rated nominal voltage	110...130 V AC 50/60 Hz
Operating voltage tolerance	0.85...1.1 Uc
Width	22.5 mm
Output contacts	2 C/O
Maximum electrode voltage	24 V AC
Maximum electrode current	1 mA
Maximum cable capacity	0 mF
Cable length	<= 1000 m
Sensitivity scale	25...500 kOhm HS (High Sensitivity) 2.5...50 kOhm St (Standard Sensitivity) 0.25...5 kOhm LS (Low Sensitivity)
Marking	CE : EMC 89/336/EEC CE : LVD 73/23/EEC
Overvoltage category	III conforming to IEC 60664-1
[Ui] rated insulation voltage	500 V conforming to IEC
Supply frequency	50/60 Hz +/- 5 %
Supply disconnection value	> 0.1 Uc
Operating position	Any position without derating
Connections - terminals	Screw terminals 2 x 2.5 mm², flexible cable without cable end Screw terminals 2 x 1.5 mm², flexible cable with cable end
Tightening torque	0.6...1.1 N.m
Mechanical durability	30000000 cycles
[Ith] conventional free air thermal current	8 A
[Ie] rated operational current	0.3 A at 115 V DC-13 70 °C conforming to VDE 0660 0.3 A at 115 V DC-13 70 °C conforming to IEC 60947-5-1/1991 0.1 A at 250 V DC-13 70 °C conforming to VDE 0660 0.1 A at 250 V DC-13 70 °C conforming to IEC 60947-5-1/1991 3 A at 250 V AC-15 70 °C conforming to VDE 0660 3 A at 250 V AC-15 70 °C conforming to IEC 60947-5-1/1991 3 A at 24 V AC-15 70 °C conforming to VDE 0660 3 A at 24 V AC-15 70 °C conforming to IEC 60947-5-1/1991 3 A at 115 V AC-15 70 °C conforming to VDE 0660 3 A at 115 V AC-15 70 °C conforming to IEC 60947-5-1/1991 2 A at 24 V DC-13 70 °C conforming to VDE 0660 2 A at 24 V DC-13 70 °C conforming to IEC 60947-5-1/1991
Switching capacity in mA	10 mA at 12 V
Switching voltage	250 V AC <= 440 V AC
Contacts material	90/10 silver nickel contacts
Number of cables	2

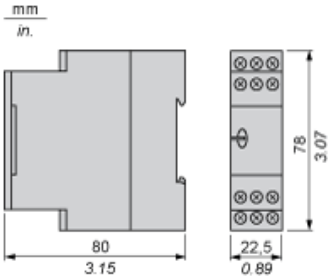
CAD overall width	23 mm
CAD overall height	78 mm
CAD overall depth	80 mm
Terminals description ISO n°1	(15-16-18)OC (25-26-28)OC (A1-A2)CO (B1-B2-B3)CO
Output relay state	According to chosen function
9 mm pitches	2.5
Product weight	0.165 kg

Environment

Standards	EN/IEC 60255-6
Product certifications	CSA GL UL
Ambient air temperature for storage	-40...85 °C
Ambient air temperature for operation	-20...65 °C
Relative humidity	15...85 % 3K3 conforming to IEC 60721-3-3
Vibration resistance	0.35 ms (f = 10...55 Hz) conforming to IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to IEC 60068-2-27
IP degree of protection	IP50 (casing) conforming to IEC 60529 IP20 (terminals) conforming to IEC 60529
Pollution degree	3 conforming to IEC 60664-1
Dielectric test voltage	2.5 kV
Non-dissipating shock wave	4.8 kV
Resistance to electrostatic discharge	8 kV air conforming to IEC 61000-4-2 level 3 6 kV contact conforming to IEC 61000-4-2 level 3
Resistance to electromagnetic fields	10 V/m conforming to IEC 61000-4-3 level 3
Resistance to fast transients	2 kV conforming to IEC 61000-4-4 level 3
Protection against electric shocks	2 kV conforming to IEC 61000-4-5 level 3
Disturbance radiated/conducted	CISPR 11 group 1 - class A CISPR 22 - class A

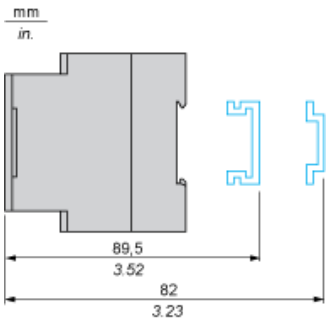
Liquid Level Control Relays

Dimensions

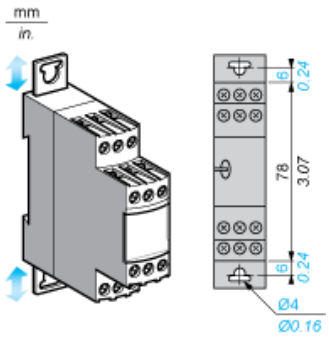


Liquid Level Control Relays

Rail mounting

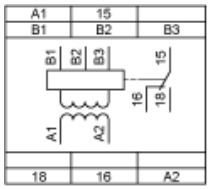


Screw fixing



Liquid Level Control Relays

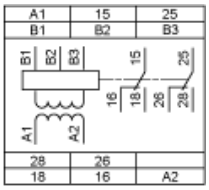
RM4LG01 Wiring Diagram



A1- Supply voltage Electrodes (see table below)
A2,
B1,
B2,
B3
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

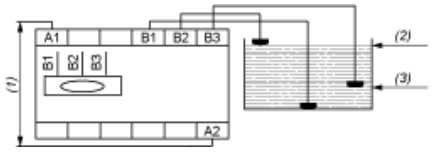


A1- Supply voltage Electrodes (see table below)
A2,
B1,
B2,
B3
15-18,15-16 1st C/O contact of the output relay
25-28,25-26 2nd C/O contact of the output relay

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

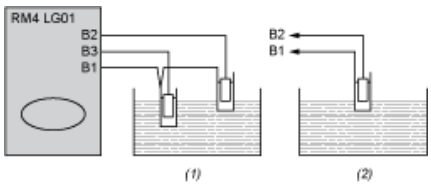
Connection Examples

Control by Electrodes



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

Control by Probes

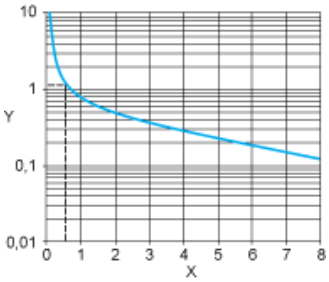


(1) 2 levels
(2) 1 level

Electrical Durability and Load Limit Curves

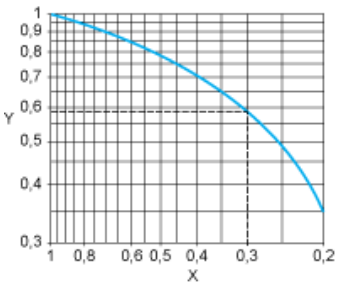
AC Load

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 φ)
Y Reduction factor K

Example: An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.5 A and cos φ = 0.3.

For 0.5 A, curve 1 indicates a durability of approximately 1.5 million operating cycles.

As the load is inductive, it is necessary to apply a reduction coefficient k to this number of cycles as indicated by curve 2.

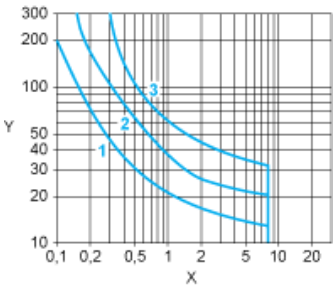
For cos φ = 0.3: k = 0.6

The electrical durability therefore becomes:

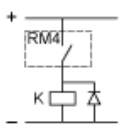
1.5 x 10^6 operating cycles x 0.6 = 900 000 operating cycles

DC Load

Load limit curve



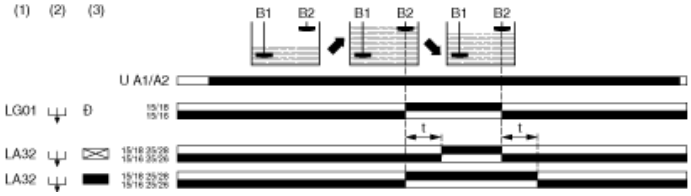
X Current in A
Y Voltage in V
1 L/R = 20 ms
2 L/R with load protection diode
3 Resistive load



Function Diagrams

Empty Function

Maximum level detection (2 electrodes or 1 probe LA9RM201)

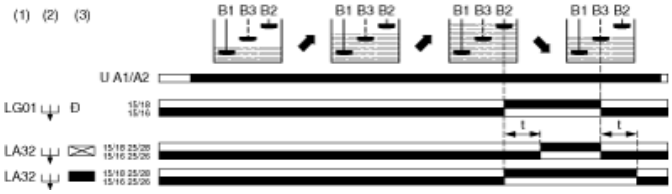


U A1/Supply voltage
A2
B1 Reference electrode
B2 High/low level electrode
(1) Type RM4
(2) Function switch
(3) Time delay switch
15/16, Output relays connections (refer to Connections and Schema)
15/18;
25/26,
25/28

Relay status: black color = energized.

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

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



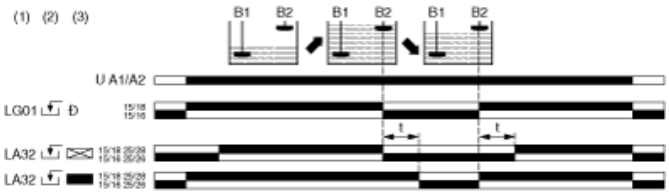
U A1/Supply voltage
A2
B1 Reference electrode
B2 High level electrode
B3 Low level electrode
(1) Type RM4
(2) Function switch
(3) Time delay switch
15/16, Output relays connections (refer to Connections and Schema)
15/18;
25/26,
25/28

Relay status: black color = energized.

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

Fill Function

Maximum level detection (2 electrodes or 1 probe LA9RM201)

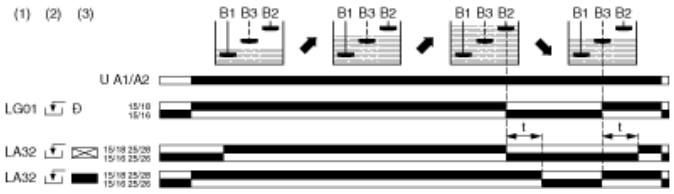


U A1/Supply voltage
A2
B1 Reference electrode
B2 High/low level electrode
(1) Type RM4
(2) Function switch
(3) Time delay switch
15/16Ò Output relays connections (refer to Connections and Schema)
15/18;
25/26,
25/28

Relay status: black color = energized.

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

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



U A1/Supply voltage
A2
B1 Reference electrode
B2 High level electrode
B3 Low level electrode
(1) Type RM4
(2) Function switch
(3) Time delay switch
15/16Ò Output relays connections (refer to Connections and Schema)
15/18;
25/26,
25/28

Relay status: black color = energized.

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

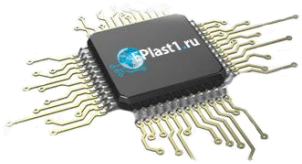
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.