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Single-voltage multifunction relay

LVM40...

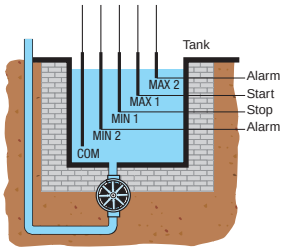
Order code	Auxiliary supply voltage	Type of output contacts	Qty per pkg	Weight
	[V] 50/60Hz	❶	n°	[kg]
Multifunctions. Automatic resetting.				
LVM40 A024	24VAC	1 C/O +1 N/O	1	0.278
LVM40 A127	110-127VAC	1 C/O +1 N/O	1	0.278
LVM40 A240	220-240VAC	1 C/O +1 N/O	1	0.278
LVM40 A415	380-415VAC	1 C/O +1 N/O	1	0.278

❶ Two relay outputs; one with c/o (SPDT) and the other with N/O (SPST).

FUNCTIONS

A- Emptying with MIN and/or MAX alarms.

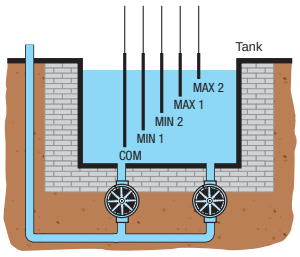
B- Filling with MIN and/or MAX alarms.



EXAMPLE OF EMPTYNG OPERATION
To achieve this type of operation, two electrodes are used to control the liquid between the fixed limits using MIN1 and MAX1 and two alarm levels using MIN2 and MAX2. When one of the alarm electrodes is wet, the alarm relay is de-energised.
The alarm can be caused by pump malfunction, insufficient pump delivery capacity, MAX control level failure or MIN level electrode shorted.
With a proper connection, only the MIN alarm or MAX alarm can be activated or neither of the two can be activated so the relative output contacts can be used for pump control.

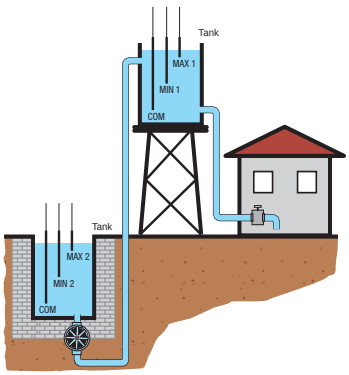
C- Emptying with pump priority change.

D- Filling with pump priority change.



EXAMPLE OF EMPTYNG OPERATION
This operation is obtained by using four electrodes positioned at four different levels and two relay outputs to control two pumps.
For example, one can place the four electrodes, MIN1, MIN2, MAX1 and MAX2, in increasing order from the lowest to the highest levels and must control the tank emptying. Usually. The level is controlled between the MIN1 and MAX1 levels by starting one of the two pumps but this case is different so the pumps can be mainteined at the best efficiency and optimise thei wear.
When the liquid wets the MAX2 level and because the first pump is faulty or else a higher delivery capacity is needed, the second stand-by pump is activiated to back up the first pump. When the liquid lowers and no longer wets the MIN2 level, the second pump is stopped and then when the MIN1 level is no longer wet, the first pump is stopped too.

E- Tank filling and well drawing with alarm.



EXAMPLE OF OPERATION
Two electrodes are used in this operation to control the tank level and another two for the well. One relay is used to activate the pump while the other for dry running / no water alarm.
When the well liquid wets the MAX2 level and the liquid wets the MIN1 tank level, the tank-filling pump is activated. When the tank MAX1 level is wet, the pump is stopped.
During the tank filling, the pump could stop before the MAX1 level is wet because the well MIN2 level is no longer wet.
Should the tank MIN1 level no longer be wet at which the pump should restart but the well MIN2 level is also no longer wet, then the alarm relay is de-energised.

Operational characteristics
- Use with 5 sensing electrodes, MIN1, MAX1, MIN2, MAX2 and COM
- 2.5-200kOhm adjustable sensitivity
- Sensitivity adjustment: 25-50-100-200kOhm
- Separate sensitivity adjustment of MAX electrodes for foam detection
- Insensitivity to stray electrode-cable capacitance
- Programming selector for 5 different functions:
  - Standard emptying and alarms
  - Standard filling and alarms
  - Emptying and filling with priority start-up change control
  - Filling with priority start-up change pump
  - Well draining and tank filling and alarms
- Double insulation between each supply, electrodes and output relay circuits
- Adjustable probe signal delay: 1-10s
- Adjustable pump start delay: 0-30min
- Green LED indicator for power on
- Red LED indicators for output relay and electrode state
- Modular DIN 43880 housing, 3 modules
- IEC degree of protection: IP40 on front (only when mounted in housing or electric board with IP40); IP20 on terminals.

Certifications and compliance
Certifications obtained: UL Listed, for USA and Canada (File E93601), as Auxiliary Devices - Level control relays.
Compliant with standards: IEC/EN 60255-5, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL508, CSA C22.2 n° 14.

Electrodes and electrode holders
Use electrodes or electrode holders type: SN1/PS31/PS3S/SCM/CGL or similar. See page 18-5.

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- Logistics systems for the shipment of materials almost anywhere in the world.
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To access the product, click on the green button.

Product	Code	Reference	Product link
LEVEL MONITORING RELAYS, MODULAR VERSION, SINGLE-VOLTAGE. MULTIFUNCTIONS. AUTOMATIC RESETTING, 24VAC	LVM40A024		Buy on EAN
Auxiliary supply voltage 110...127VAC	LVM40A127		Buy on EAN
Auxiliary supply voltage 220...240VAC	LVM40A240		Buy on EAN
Auxiliary supply voltage 380...415VAC	LVM40A415		Buy on EAN