

# 22. FLUID LEVEL CONTROL RELAYS

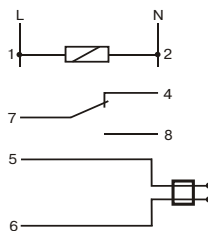
## ONE-POSITION

### PURPOSE

Fluid level control relays are devised to detect the presence of conductive liquids reaching the level of the sensor.

## PZ-828

### PZ-828 RC ADJUSTABLE SENSITIVITY



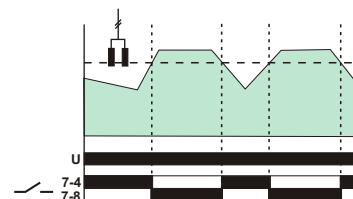
supply	230V AC
current load	<16A
contact	1 C/O
sensitivity PZ-828 (factory setting)	50KΩ
PZ-828 RC (adjustable)	4,5+220KΩ
power supply indicator	green LED
working mode indicator	red LED
power consumption	1,1 W
terminal	screw terminals 2,5mm <sup>2</sup>
dimensions	2 modules (35 mm)
fixing	on rail TH-35

#### output 5-6 galvanic separated

flooding probe	electrode
dimension of sensor / length of wire	30×20×5mm/1,5m
length / pitch of electrodes	30mm / 5mm
sensor voltage	<6V~
sensor current	<0,13mA

### FUNCTIONING

In dry conditions, the relay's contact remains in the 7-4 position. Once the sensor becomes flooded with liquid, the red LED indicator lights up, and the contact is shifted to the 7-8 position. After the level of the conductive liquid decreases (and the electrodes of the flooding sensor depart), the contact returns to position 7-4.



### How to connect the probe

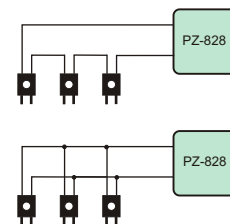
The design of the probe makes it possible to install the probe on a flat horizontal base, for example on the floor in a room where hydro-valves and flow pipes are installed or in a laundry room. Thanks to such a design of the probe, any failure or flooding of a room with a liquid can be quickly detected as well as electric circuits can be simultaneously switched off or the sound or light signalling system (alarm system) can be actuated. The probe cable can be extended to 100m.

A maximum of 10 probes can be connected in parallel connection or in series connection to 5-6 output:

**series connection** - for a dependant system that controls the level of liquid in many points a simultaneous short-circuit of all sensors connected must occur in order to activate the relay.

**parallel connection** - for an alternative system that controls the level of liquid in many points - a short-circuit of at least one of the sensors connected must occur.

In case of a series connection, the sensitivity of the sensors is reduced (conductivity is



## TWO-POSITION

### PURPOSE

Fluid level control relays are devised to detect the presence of conductive liquids reaching the level of the sensor.

## PZ-829

### PZ-829 RC ADJUSTABLE SENSITIVITY



Flooding probes  
3-piece set

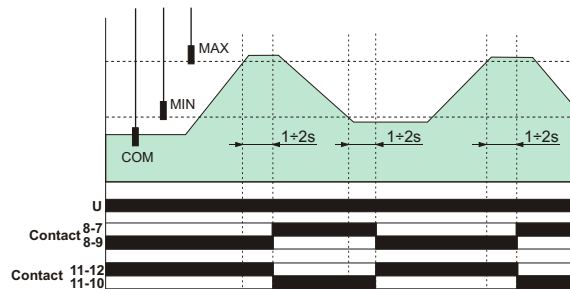
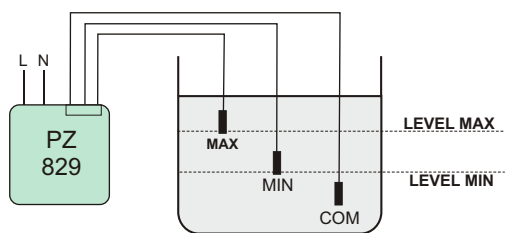
supply	230V AC
current load	2×(<16A)
contact	2×1C/O
sensitivity PZ-829 (factory setting)	50KΩ
PZ-829 RC (adjustable)	4,5+220KΩ
contact switching delay	
for level MIN	1+2sec
for level MAX	1+2sec
power supply indicator	green LED
working mode indicator	2×red LED
power consumption	1,1 W
terminal	screw terminals 2,5mm <sup>2</sup>
dimensions	3 modules (52,5 mm)
fixing	on rail TH-35

#### output 4-5-6 galvanic separated

flooding probe	acid-resistant steel electrode in a plastic case with stuffing box
dimension of sensor/length of wire	Ø15/length 9,5cm
sensor voltage	<6V~
sensor current	<0,13mA

**FUNCTIONING**

After the liquid level decreases to MIN (i.e. electrodes MIN and COM spaced), the RMIN contact is switched to position 11-12, whereas the RMAX contact remains in position 8-9. On the other hand, when the MAX liquid level is reached (MAX and COM electrodes shorted), the relay's RMIN contact will be switched to position 11-10, whereas the RMAX into position 8-7.



**ATTENTION!**

In order to avoid relay switching, caused by momentary or accidental electrode shorting by liquid flows, the switching system has been equipped with a 1-2 sec. delay unit. The electrode probe is connected by means of a cable with wire diameter up to 1 mm and maximum length of 100 m.

**THREE-POSITION**

**PZ-831 RC**



supply	230V AC
current load	3x(<8A )
contact	3x1NO
sensitivity	1+180KΩ
contact switching delay	<2sec
power supply indicator	green LED
working mode indicator	3xred LED
power consumption	1,1 W
terminal	screw terminals 2,5mm <sup>2</sup>
dimensions	3 modules (52,5 mm)
fixing	on rail TH-35

**output 3-4-5-6 galvanic separated**

flooding probe	acid-resistant steel electrode in a plastic case with stuffing box
dimension of sensor/length of wire	Ø15/length 9,5cm
sensor voltage	<6V~
sensor current	<0,13mA

**FUNCTIONING**

In dry condition (all probes open), all the transformer's contacts are also open. If the base probe COM and the next level probe are closed due to a liquid presence, the contact for a given probe will close, e.g. once the first R1 level probe (the COM base probe and the R1 level probe closed) is submerged, the 11-12 contact will close. The same procedure applies to the R2 and R3 level probes. On the other hand, once the liquid level drops below the probe level (the COM probe and the level probe open), the contact for a given probe will open as well.

