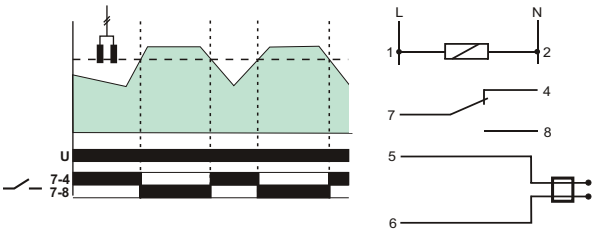
24. FLUID LEVEL CONTROL RELAYS

PURPOSE

Fluid level control relays are used to detect the presence of fluid conductive the current on the level of mounted flooding sensors

ONE-POSITION

PZ-828 / PZ-828 RC ADJUSTABLE SENSITIVITY



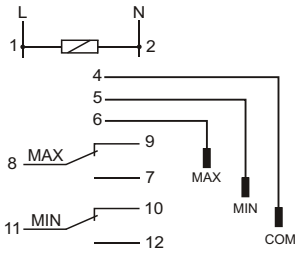
supply	230V AC
current load	<16A
contact	1 C/O
sensiviti PZ-828 (factory setting)	50KΩ
PZ-828 RC (adjustable)	4,5÷220KΩ
power supply indicator	green LED
working mode indicator	red LED
power consumption	1,1 W
terminal	screw terminals 2,5mm²
dimensions	2 modules (35 mm)
fixing	on rail TH-35

output 5-6 galvanic separated

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.

TWO-POSITION

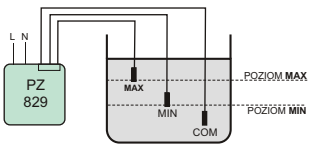
PZ-829 / PZ-829 RC ADJUSTABLE SENSITIVITY

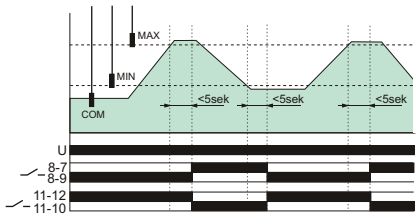


supply	230V AC
current load	2×(<16A)
contact	2×1C/O
sensiviti PZ-828 (factory setting)	50KΩ
PZ-828 RC (adjustable)	4,5÷220KΩ
contact switching delay	
for level MIN	1÷2sec
for level MAX	1÷2sec
power supply indicator	green LED
working mode indicator	2×red LED
power consumption	1,1 W
terminal	screw terminals 2,5mm²
dimensions	3 modules (52,5 mm)
fixing	on rail TH-35

output 4-5-6 galvanic separated

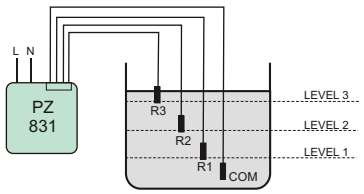
After the liquid level decreases to MIN (i.e. electrodes MIN and COM spaced), the MIN joint is switched to position 11-12, whereas the MAX joint remains in position 8-9. On the other hand, when the MAX liquid level is reached (MAX and COM electrodes shorted), the relay's MIN joint will be switched to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

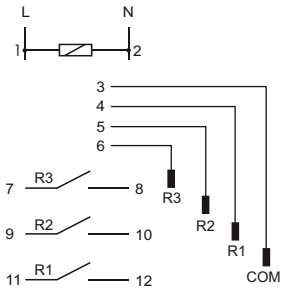




THREE-POSITION

PZ-831 RC

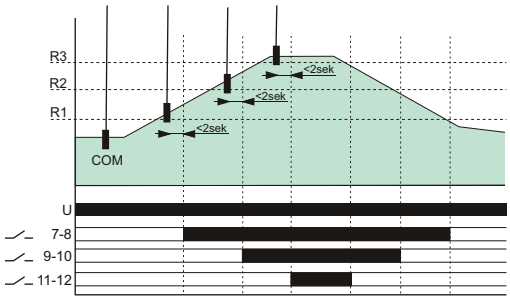




supply	230V AC
current load	3×(<8A)
contact	3×1NO
sensitivity	1÷180KΩ
contact switching delay	<2sec
power supply indicator	green LED
working mode indicator	3×red LED
power consumption	1,1 W
terminal	screw terminals 2,5mm²
dimensions	3 modules (52,5 mm)
fixing	on rail TH-35

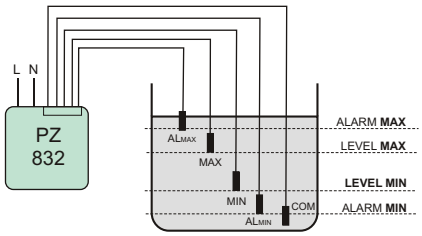
output 3-4-5-6 galvanic separated

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.

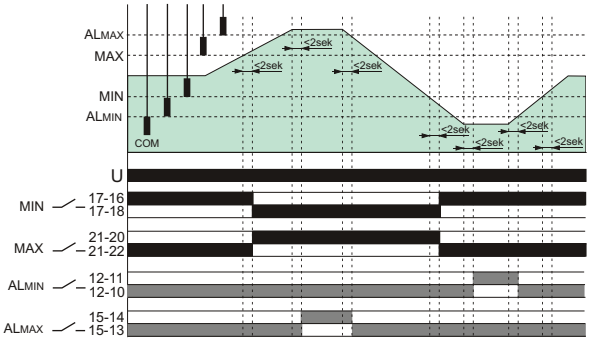


TWO-POSITION WITH EMERGENCY STATES MIN I MAX

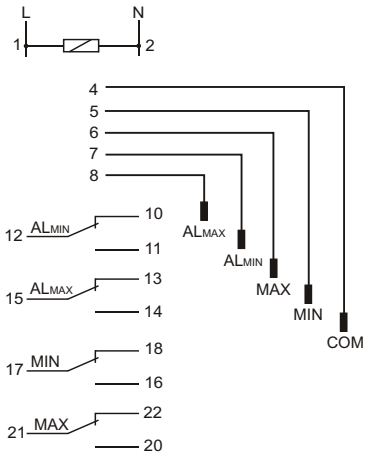
PZ-832 RC



supply	230V AC
joint	separate 4×(1P)
current load MIN and MAX	2×(<16A)
current load ALmin and ALmax	2×(<8A)
sensiviti - to set	1÷100KΩ
switching joints delay	1÷2sec
Voltaof measured outputs	<6V
power supply	green LED
working mode	yellow LED
state MIN and MAX	2×green LED
state ALmin and ALmax	2×red LED
power consumption	1,1W
connection	screw terminals 2,5mm²
dimensions	3 modules (52,5mm)
fixing	on rail TH-35



joints 4-5-6 -7-8 galvanic separated



Relay control MAX and MIN statues set by user of controlled fluid. After the liquid level decreases to MIN (i.e. electrodes MIN and COM spaced), the MIN joint is switched to position 17-16 (FILLING), whereas the MAX joint remains in position 21-22. On the other hand, when the MAX liquid level is reached (MAX and COM electrodes shorted), the relay's MIN joint will be switched to position 17-18 (EMPTYING), whereas the MAX into position 21-20. Emergency state: ***ALmin*** *(dry running) - after the liquid level decreases to* ***ALmin*** *(i.e. electrodes MIN and COM spaced), the ALmin joint is switched to position 12-11;* ***ALmax*** *(overflow) after level is reached* ***Almax*** *(ALmax and COM electrodes shorted), the relay's* ***Almax*** *joint will be switched to position 15-14.*

PROBE PZ

flooding probe	electrode
dimension of probe/lengthof cable	30×20×5mm/1,5m
length/pitch of electrodes	30mm / 5mm
probe voltage	<6V~
probe current	<0,13mA
lenght of conection wire	<100m
dedicated	PZ-828, PZ-828 RC

PROBE PZ2

flooding probe	acid-resistant steel electrode in + plastic box for electrode + gland PG9
dimension of probe	Ř15, l=9,5cm
probe voltage	<6V~
probe current	<0,13mA
connection cable	e.g. <1mm²
lenght of conection wire	<100m
dedicated	PZ-829, PZ-829 RC
	PZ-831 RC, PZ-832 RC

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