DISIBEINT

PNCA / PNCB
DNCA / DNCB

LEVEL CONTROL WITH DC SUPPLY

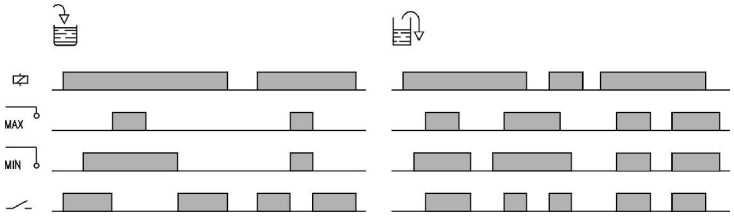
Field of application	· Suitable for DC supply voltage. Filling or emptying control.
Operating principle **FILLING**	**Max. and Min. control.** The relay operates when the liquid level is below the minimum electrode (6:PNCA/B; Y1:DNCA/B)) and releases when the liquid level is above the maximum electrode (5:PNCA/B; Y2:DNCA/B). **Max. or Min. control.** The relay operates when the liquid level is below the electrode (5-6:PNCA/B; Y1/Y2:DNCA/B) and releases when the liquid level is above the electrode (5-6:PNCA/B; Y1/Y2:DNCA/B).
Operating principle **EMPTYING**	**Max. and Min. control.** The relay operates when the liquid reaches the maximum electrode (5:PNCA/B; Y2:DNCA/B) and releases when it goes below the minimum level electrode (6:PNCA/B; Y1:DNCA/B). **Max. or Min. control.** The relay operates when the liquid reaches the electrode (5-6:PNCA/B; Y1/Y2:DNCA/B) and releases when it goes below the electrode.
Leds indication	Power on: Green · Relay on: Red
Sensitivity ranges	Adjustable from 8..45KΩ
Probes line	3,2mA rms (in shortcircuit) to 6,2VCA (V_{PEAK})
Probes connection cables	Usually 1 to 2,5 mm^2 section cables are used, with good insulation and without shielding. In some installations (when the supply and probe lines are parallel in the same tube and with long distances) shielded cable is recommended. The resistance between cables and ground must be at least 200 KΩ. The screen is connected to ground.
Connection of the common electrode	If the tank is not conductive, an additional probe must be fitted for connecting the common electrode, terminal 7(PNCA) or Z1 (DNCA/B).
Probes cable length	< 100 mts.

Reference

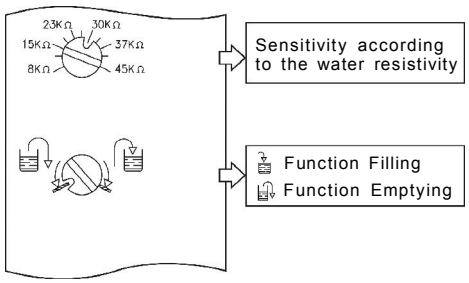
HOUSING		FUNCTION		OUTPUT		SUPPLY		RANGE	
P	Plug-in	**NC**	Level control with DC supply	**A**	SPDT	**712**	12 VDC	**45K**	8KΩ..45 KΩ
D	DIN rail			**B**	DPDT	**724**	24 VDC		
						024	24 VAC		
						048	48 VAC		
						110	110..125 VAC		
						230	220..230 VAC		
						400	380..415 VAC		
						901	15..70 VAC/DC		
						902	60..240 VAC/DC		

To compose the reference, select one option of each column. Example: **PNCA 724 45K**

Operating diagram

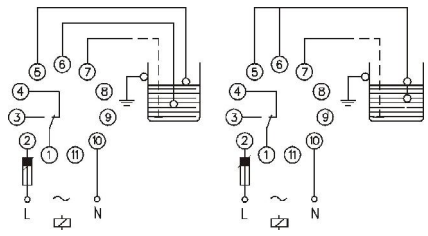


Adjustment buttons

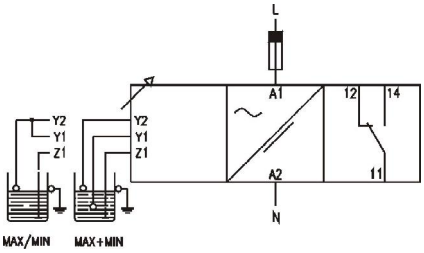


Connection diagram

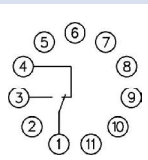
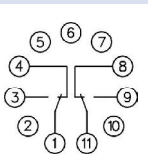
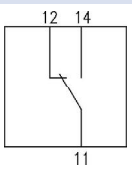
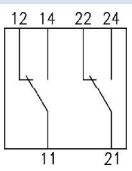
PNCA / PNCB



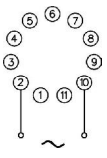
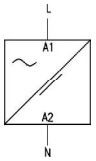
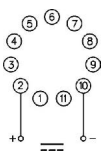
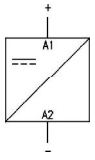
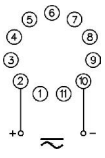
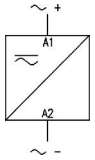
DNCA / DNCB



Output relays

		PNCA	PNCB	DNCA	DNCB
					
Resistive load	AC	10 A / 250 V	8 A / 250 V	10 A / 250 V	8 A / 250 V
	DC	0,4 A / 200 V 10 A / 24 V	0,25 A / 200 V 8 A / 24 V	0,4 A / 200 V 10 A / 24 V	0,25 A / 200 V 8 A / 24 V
Inductive load	AC	5 A / 250 V	2,5 A / 250 V	5 A / 250 V	2,5 A / 250 V
	DC	5 A / 24 V	4 A / 24 V	5 A / 24 V	4 A / 24 V
Mechanical life		> 30 x 10^6 operations		> 30 x 10^6 operations	
Max. switching rate, mech.		72.000 operations / hour		72.000 operations / hour	
Electrical life at full load		360 operations / hour		360 operations / hour	
Contact material		AgNi 90/10		AgNi 90/10	
Maximum voltage		440 VAC		440 VAC	
Operating voltage		250 VAC		250 VAC	
Volt. between changeovers		2500 VAC		2500 VAC	
Voltage between contacts		1000 VAC		1000 VAC	
Voltage coil/contact		5000 VAC		5000 VAC	
Distance coil/contact		10 mm		10 mm	
Isolation resistance		> 10^4 MΩ		> 10^4 MΩ	

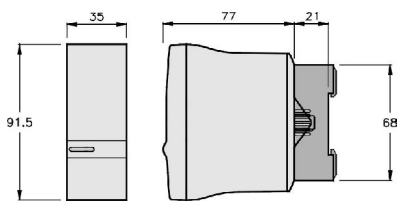
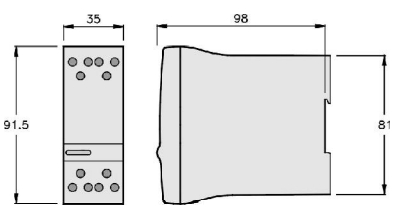
Supply

	AC		DC		ACDC	
	PNCA / PNCB	DNCA / DNCB	PNCA / PNCB	DNCA / DNCB	PNCA / PNCB	DNCA / DNCB
						
Galvanic isolation	Yes		No		9XX: Yes	UXX: No
Consumption	1,6 VA		1,2 W		1,6 W	1,7 W
Frequency	50 / 60 Hz		-		-	
Operating margins	±10%..-15%		±10%		-	
Positive	-		Terminal 2	Terminal A1	Terminal 2	Terminal A1
Protected polarity	-		Yes		Yes	

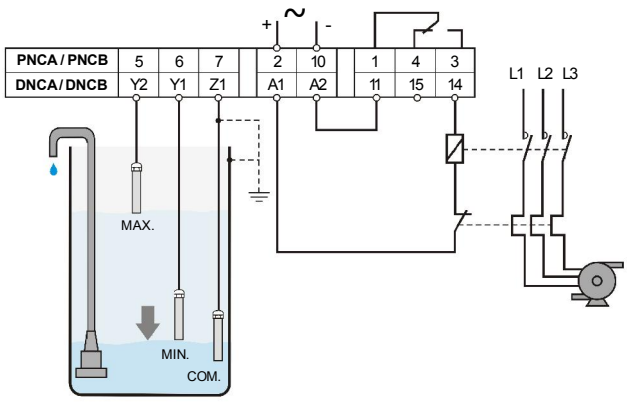
Constructive and anviromental data

	PNCA / PNCB	DNCA / DNCB
Voltage phase-neutral	300 V	300 V
Overvoltage category	III	III
Rated impulse voltage	4 kV	4 kV
Pollution degree	2	3
Protection	IP 20 B	IP 20
Approximate weight	250 g	280 g
Storage temperature	-50..+85ºC	-50..+85ºC
Operating temperature	-20..+50ºC	-20..+50ºC
Humidity	30..85% HR	30..85% HR
Housing	Cycoloy - Light grey	Cycoloy - Light grey
Socket	Lexan - Light grey	-
Visor leds	Lexan - Transparent	Lexan - Transparent
Button, terminal block, clip	Technyl - Dark blue	Technyl - Dark blue
Pins of the socket	Nickel-plated brass	-
Pins of the terminal block	-	Brass
Approvals	Designed and manufactured under EEC standards. Electromagnetic compatibility , directives 89/366/EEC and 92/31/EEC. Electric safety, directive 73/23/EEC. Plastics: UL 91 V0	

Dimensions

PNCA / PNCB	DNCA / DNCB
	

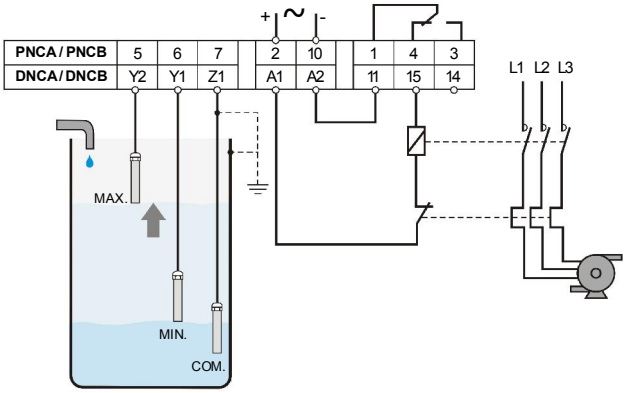
EXAMPLES OF CONNECTION



Emptying control

Selector in position 

The relay maintains the level between upper and lower electrodes. When the liquid reaches the top electrode is placed on the pump will stop when the liquid falls below the minimum electrode.



Filling control

Selector in position 

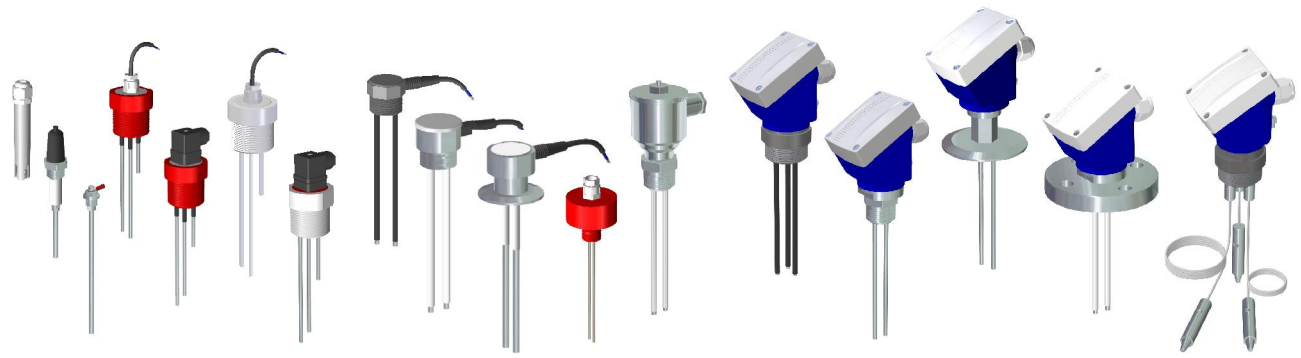
The relay maintains the level between maximum and minimum electrodes. The filling pump starts when the liquid is below the minimum electrode and stop when the liquid reaches the maximum electrode.

LEVEL SENSORS FOR CONDUCTIVE LIQUIDS

· Compact and electrode holder exclusive use electrodes in conductive liquids. Control points are used to separate or combined level including wells and reservoirs of different height.
· They need to connect to a level relay for conductive liquids.
· The number of electrodes is determined by the chosen relay function.

Follow these links for:

Further information on the level sensors
Know the installation conditions of the conductive level relays



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