DISIBEINT

PNSA
DNSA
SNSA

LEVEL CONTROL RELAY FOR CONDUCTIVE LIQUIDS

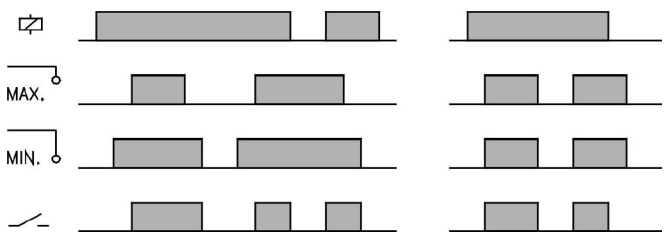
Difference	· Level control relay for conductive liquids. · Suitable for the more common applications.
Operating principle	**Maximum and Minimum control.** The relay operates when the liquid reaches the maximum level electrode (5:PNSA; Y2:DNSA-SNSA) and releases when it goes below the minimum level electrode (6:PNSA; Y1:DNSA-SNSA). **Maximum or Minimum control.** The relay operates when the liquid reaches the level electrode (5/6:PNSA; Y1/Y2:DNSA-SNSA) and releases when it goes below it.
Leds indication	Power on: Green Relay on: Red
Sensitivity	Adjustable from 10..100KΩ
Volt./Cur. in probes line	24 VAC / 4 mA (in shortcircuit)
Probes connection cables	Usually 1..2,5 mm² 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 isolation 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(PNSA) or Z1 (DNSA-SNSA).
Probes cable length	No specification detailed
Accessories	Electrodes type: NS, NR 43650, NR, NRA, NT, NRP, NP, NRT2. Separators: NR.SEP, NRA.SEP Attachment nuts: NR.TUE/P, NR.TUE/T Overvoltage protector: PS-3

Reference

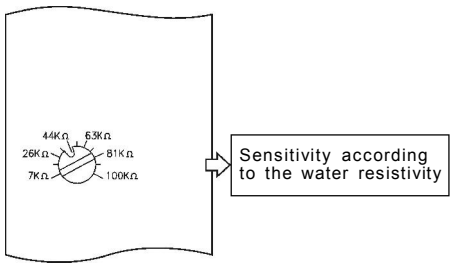
HOUSING		FUNCTION		OUTPUT		SUPPLY		RANGE	
P	Plug-in	**NS**	Level control relay	**A**	SPDT	**024**	24 VAC	**100**	10..100KΩ
D	DIN rail					**048**	48 VAC		
S	Flush mounting					**110**	110..125 VAC		
						230	220..240 VAC		
						400	380..415 VAC		

To compose the reference, select one option of each column. Example: **PNSA 400 100**

Operating diagram

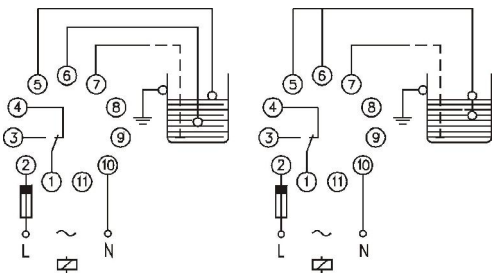


Adjustment buttons

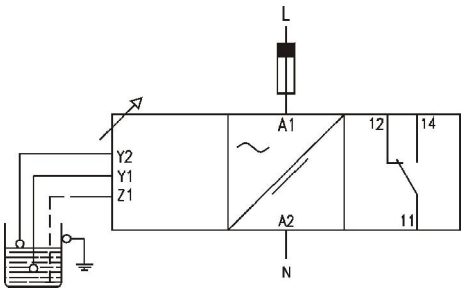


Connection diagram

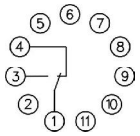
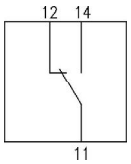
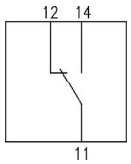
PNSA



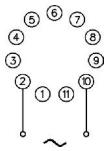
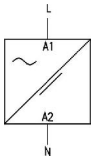
DNSA - SNSA



Output relays

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

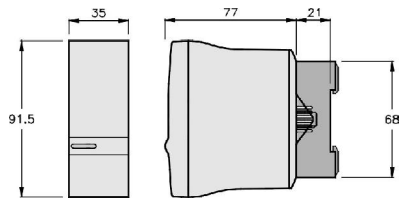
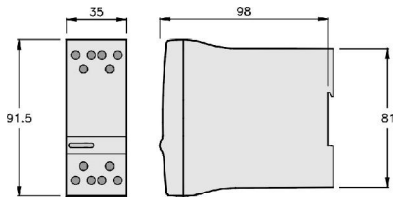
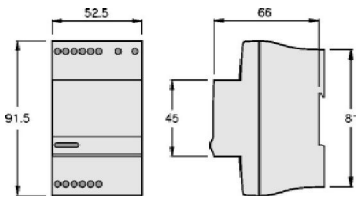
Supply

	AC	
	PNSA	DNSA/SNSA
		
Galvanic isolation	Yes	
Consumption	1,7 W	
Frequency	50 / 60 Hz	
Operating margins	-15..+10%	
Positive	-	
Protected polarity	-	

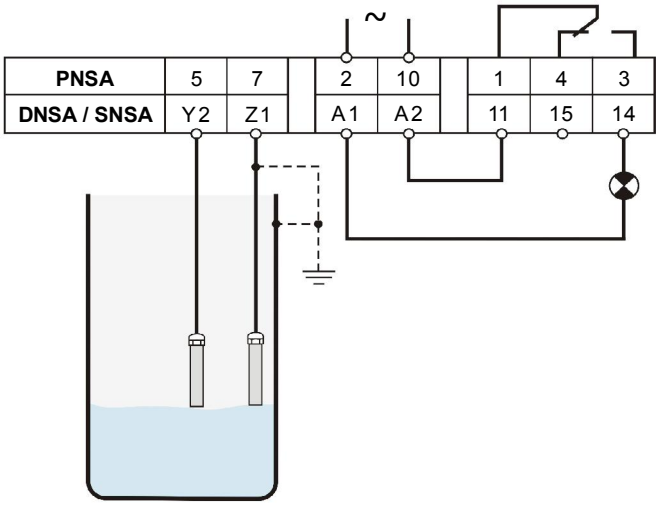
Constructive and anviromental data

	PNSA	DNSA	SNSA
Voltage phase-neutral	300 V	300 V	300 V
Overvoltage category	III	III	III
Rated impulse voltage	4 kV	4 kV	4 kV
Pollution degree	2	3	2
Protection	IP 20 B	IP 20	IP 20
Approximate weight	250 g	280 g	270 g
Storage temperature	-50..+85ºC	-50..+85ºC	-50ºC..+85ºC
Operating temperature	-20..+50ºC	-20..+50ºC	-20ºC..+50ºC
Humidity	30..85% HR	30..85% HR	30..85% HR
Housing	Cycoloy - Light grey	Cycoloy - Light grey	Cycoloy - Light grey
Socket	Lexan - Light grey	-	-
Visor leds	Lexan - Transparent	Lexan - Transparent	Lexan - Transparent
Button, terminal block, clip	Technyl - Dark blue	Technyl - Dark blue	Technyl - Dark blue
Pins of the socket	Nickel-plated brass	-	-
Pins of the terminal block	-	Brass	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

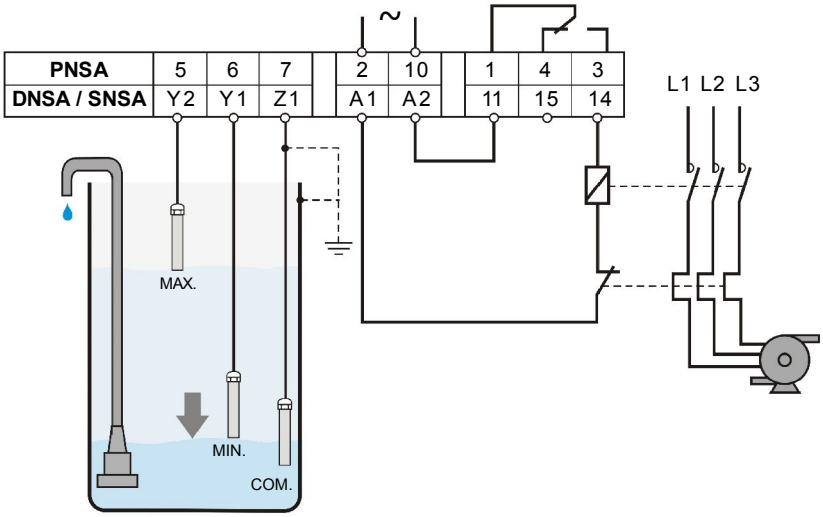
PNSA	DNSA	SNSA
		

EXAMPLES OF CONNECTIONS



Control to only one level point

The contact of relay remains activated while both electrodes are in contact with the liquid simultaneously.



Emptying control

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.

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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