

# PNEA DNEA



## LEVEL CONTROL RELAY FOR HIGH RESISTIVITY LIQUIDS

Field of application	<ul style="list-style-type: none"> <li>· Suitable for high resistivity liquids: distilled waters, demineralized waters, etc.</li> <li>· Filling or emptying control.</li> </ul>
Operating principle <b>FILLING</b>	<p><b>Max. and Min. control.</b> The relay operates when the liquid level is below the minimum electrode (6:PNEA; Y1:DNEA) and releases when the liquid level is above the maximum electrode (5:PNEA; Y2:DNEA).</p> <p><b>Max. or Min. control.</b> The relay operates when the liquid level is below the electrode (5-6:PNEA; Y1/Y2:DNEA) and releases when the liquid level is above the electrode (5-6:PNEA; Y1/Y2:DNEA).</p>
Operating principle <b>EMPTYING</b>	<p><b>Max. and Min. control.</b> The relay operates when the liquid reaches the maximum level electrode (5:PNEA; Y2:DNEA) and releases when it goes below the minimum level electrode (6:PNEA; Y1:DNEA).</p> <p><b>Max. or Min. control.</b> The relay operates when the liquid reaches the electrode (5-6:PNEA; Y1/Y2:DNEA) and releases when it goes below the electrode.</p>
Leds indication	Power on: Green Relay on: Red
Sensitivity	Normal: From 10..100 KΩ High: From 200KΩ..4M7
Voltage in probes line	24 VAC
Current in probes line	4mA (in shortcircuit)
Probes connection cables	Usually 1..2,5 mm <sup>2</sup> 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(PNEA) or Z1 (DNEA).
Resist. cables/ground	> 200KΩ
Probes cable length	No especification detailed.

Reference	HOUSING		FUNCTION	OUTPUT	SUPPLY		RANGE	
	<b>P</b>	Plug-in	<b>NE</b>	Level control to high sensibility	<b>A</b> 1 NANC	<b>024</b>	24 VAC	<b>100</b>
<b>D</b>	DIN rail	<b>230</b>				220..230 VAC	<b>4M7</b>	

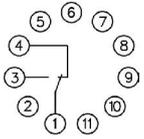
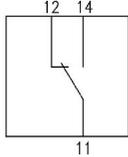
To compose the reference, select one option of each column. Example: **PNEA 230 4M7**

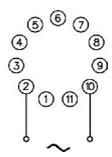
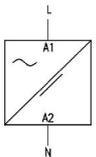
**Operating diagram**

**Adjustment buttons**

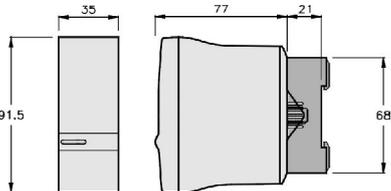
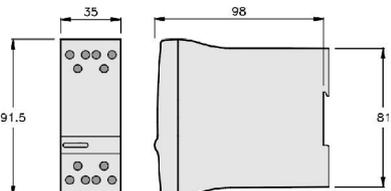
**Connection diagram PNEA**

**Connection diagram DNEA**

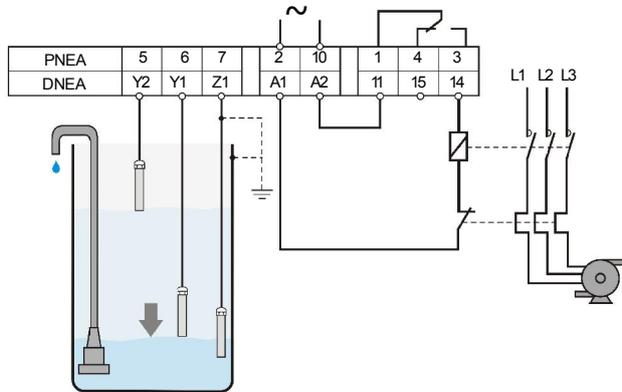
		PNEA	DNEA	
Output relays				
	Resistive load	AC	8 A / 250 V	8 A / 250 V
		DC	0,25 A / 200 V 8 A / 24 V	0,25 A / 200 V 8 A / 24 V
	Inductive load	AC	2,5 A / 250 V	2,5 A / 250 V
		DC	4 A / 24 V	4 A / 24 V
	Mechanical life		> 30 x 10 <sup>6</sup> operations	> 30 x 10 <sup>6</sup> operations
	Max. switching 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 <sup>4</sup> MΩ	> 10 <sup>4</sup> MΩ	

		AC
Supply		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>PNEA</p> </div> <div style="text-align: center;">  <p>DNEA</p> </div> </div>
	Galvanic isolation	Yes
	Consumption	1,6 VA
	Frequency	50 / 60 Hz
	Operating margins	±10..-15%
	Positive	-
	Protected polarity	-

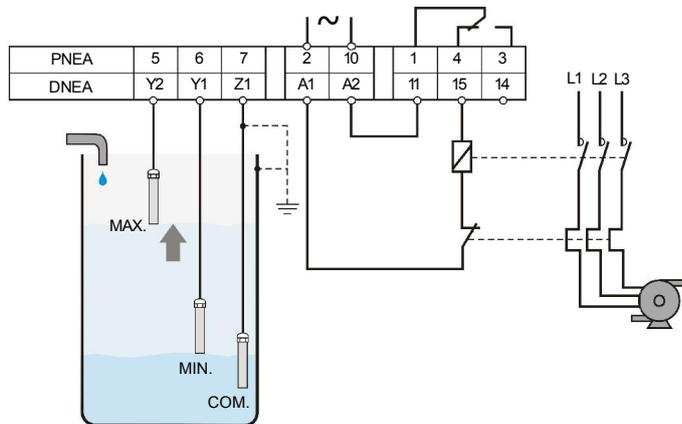
		PNEA	DNEA
Constructive and environmental data	Voltage phase-neutral	300 V	300 V
	Overvoltage category	III	III
	Rated impulse voltage	4 kV	4 kV
	Pollution degree	2	3
	Protection	IP 20 B	IP 20
	Approximate weight	250 g	280 g
	Storage temperature	-50..+85°C	-50..+85°C
	Operating temperature	-20..+50°C	-20..+50°C
	Humidity	30..85% HR	30..85% HR
	Housing	Cyclooy - Light grey	Cyclooy - 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		

		PNEA	DNEA
Dimensions			

## EXAMPLES OF CONNECTIONS

**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 upper and lower electrodes. The filling pump starts when the liquid is below the minimum electrode and stop when the liquid reaches the top 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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