NENUTEC®

INNOVATIVE MEMBER OF SWISTEC

NPRCxxxx(-2) – pressure difference transmitter

INSTALLATION AND OPERATION INSTRUCTIONS



The appearance of the product may differ from the illustration. Technical specifications are subject to change.

NPRCxxxx.(-2) SERIES

APPLICATION AND USE

NPRCxxxx((-2) are single or dual port pressure transmitters with one or two universal outputs for 0...10 V or 4...20 mA (DIP switch selectable).

TECHNICAL SPECIFICATION

Power supply	24 V AC/DC ±15 %
Protection class	IP54
Calculated power consumption	
0...10 V mode	2 VA (rms) / min. trafo size 7.5 VA
4...10 V mode	2.7 VA (rms) / min. trafo size 9 VA
Overall accuracy, pressure	≤ 1 % full scale
Annual deviation (typical)	
P1250 models	±2 Pa
P2500 models	±4 Pa
P7500 models	±20 Pa
Damping (settable)	1, 2, 4 and 8 s
Working temperature range	-25…+50°C
Operating humidity	Max. 95 % r.h. (non condensing)
Overvoltage on any terminal	Max. ±18 V (referenced to GND)

Universal outputs PS1, PS2

Configured as 0...10 V	Load impedance ≥ 10 kΩ,
	Output impedance ≤ 35Ω
Configured as 4...10 mA	Output is actively sourced into a resistive load impedance to signal ground.
	The load impedance must be between 40...500Ω

Pressure ranges (full scale)

Model		Pa (factory setting)	mbar	mmH_2O	inH_2O
NPRC12	*PS1*	0…1250	0…12.5	0…125	0…5
NPRC25	*PS1*	0…2500	0…25	0…250	0…10
NPRC12S25-2	*PS1*	0…1250	0…12.5	0…125	0…5
	PS2	0…2500	0…25	0…250	0…10

Uwaga: The suffix in the name denotes the number of sensors in the unit. The suffix “-2” indicates two sensors. No suffix means one sensor only.

The “S” in the name denotes split/different sensor ranges for PS1 and PS2.

INSTALLATION

1. Mount the transmitter horizontally or vertically on a stable, vibration free surface. If the unit is installed in a humid environment, install it vertically with the cable gland edge of the unit pointing down to allow moisture to escape.

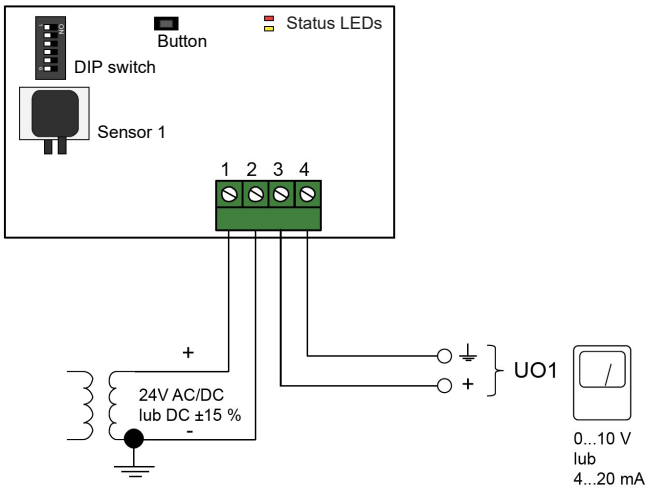
   Take extra care when connecting the hoses to the inlet ports, as the thin inner connections of the inlets are very sensitive. The lid should be kept closed while performing the connections, or the thin tubing might detach from the sensor.
2. Refer to the graphics below for wiring. Use the leftmost cable gland for supply voltage and use the rightmost gland for output signals in order to minimise crosstalk between supply wires and signal wires.
3. Set the DIP-switch to the desired operational mode and parameters.
4. Power up the unit.

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WIRING

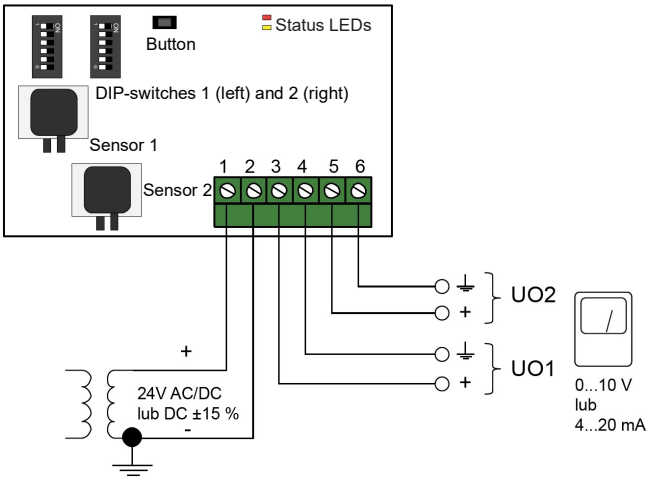
1. G (+)
2. G0 (-)
3. UO1 +
4. UO1 GND
5. UO2 +
6. UO2 GND



Wiring for models with one sensor

Terminals 2, 4 and 6 are galvanically the same (GND/G0).

For models with two sensors, the leftmost DIP-switch controls sensor 1 and the rightmost DIP-switch controls sensor 2 (see diagram 2 below).



Wiring for models with two sensors

DIP SWITCHES

The transmitter features one or two DIP-switches for setting up suitable pressure range, output function and damping time factor.

If the DIP-switch settings are changed, all changes will take place immediately.

If a factory reset is performed, the pressure sensors will be reset to the factory calibration.

DIP switch	Parameter	Key pattern	Parameter setting
1	Output signal	OFF	0...10 V
		ON	4...20 mA
2, 3 and 4	Pressure range	2 = OFF, 3 = OFF, 4 = OFF	Range 1
		2 = ON, 3 = OFF, 4 = OFF	Range 2
		2 = OFF, 3 = ON, 4 = OFF	Range 3
		2 = ON, 3 = ON, 4 = OFF	Range 4
		2 = OFF, 3 = OFF, 4 = ON	Range 5
		2 = ON, 3 = OFF, 4 = ON	Range 6
		2 = OFF, 3 = ON, 4 = ON	Range 7
		2 = ON, 3 = ON, 4 = ON	Not used in this version
5 and 6	Damping time factor	5 = OFF, 6 = OFF	1 s
		5 = ON, 6 = OFF	2 s
		5 = OFF, 6 = ON	4 s
		5 = ON, 6 = ON	8 s

Pressure ranges

DIP-switches 2, 3 and 4 are used to select the current pressure range of the transmitter (see above). Depending on the sensor model(s) in the device, the different range settings will yield the following outputs (Pa):

	Pressure range	1250 Pa sensor	2500 Pa sensor
Measurement range [Pa]	Range 1	0...50	0...100
	Range 2	0...100	0...300
	Range 3	0...300	0...500
	Range 4	0...500	0...1000
	Range 5	0...700	0...1500
	Range 6	0...1000	0...2000
	Range 7	0...1250	0...2500

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BUTTON

Quick press: Zero-set pressure sensors.

Disconnect the pressure ports before zeroing. Let the unit warm up for 10 minutes before attempting the procedure. Zeroing usually takes a few seconds. The yellow LED will light up while the zeroing operation is in progress.

If the yellow LED starts blinking during the zeroing procedure, the unit has failed to zero-set properly. Otherwise, ensure that the pressure ports are open and unobstructed and then power-cycle the unit and try again.

If the procedure still fails, a sensor error is present and the unit must then be replaced.

Long press (10 s): Reset to factory settings.

The red and yellow LEDs will flash alternating for the duration of the operation. The unit will then reset and restart.

STATUS LED

The red status LED will light up at power-on and go out shortly thereafter when the on-board sensory circuitry is ready for operation.

Blinking red LED after power-up: The unit has lost important system settings and must be taken back to the factory for reprogramming.

Steady red LED during normal operation: The unit is damaged and should be returned or discarded.

CE

EMC emissions & immunity standards

This product conforms to the requirements of the EMC Directive 2014/30/EC and product standard EN60730-1.

RoHS

This product conforms with the Directive 2011/65/EU (RoHS) of the European Parliament and of the Council.

Due to continuous product improvement, specifications are subject to change without notice.

Nenutec Polska

00-236 Warszawa
ul. Świętojerska 5/7
tel.: +48-(0)-504-050225
nenutec@nenutec.pl