

**Thank you for choosing NIVELCO instrument
We are sure that you will be satisfied throughout its use!**

NIPRESS

D□□-4□□-□
PRESSURE TRANSMITTER

1. APPLICATION

The NIPRESS D-400 series pressure transmitters measuring pressure and converting it into voltage and current output can be used in 2- and 3-wire systems. The wide choice of the models makes it suitable for the most pressure measurement tasks whether relative or absolute pressure, static or dynamic measurement is required even at high temperatures. The series is available with two different accuracy classes.

Design of the transmitter, its overload capability and wide range of temperature and the possibility to install the unit in any position allows their application in the most different industrial circumstances. It is especially suitable for pressure measurement of contaminated mediums and at the bottom (level). Standard pressure transmitting fluid is silicone oil but on request unit with liquid acceptable in the food industry is also available. Transmitters can be delivered with plug in display UNICONT PLK-501 enabling on site reading.

2. TECHNICAL DATA

TYPE		D□□-4□□-□
Range		-1 – 400 bar (according to the order code)
Overload capability		According to the order code
Accuracy		$P_N > 0.4 \text{ bar}$: 0.25%, or 0.5% according to the order code $P_N \leq 0.4 \text{ bar}$: 0.5%
Medium temperature		Filling fluid silicone oil: -40 °C ... +125 °C High temperature version max. +300 °C
		Filling fluid food grade oil: -10 °C ... +125 °C High temperature version max. +250 °C
		Usage in vacuum max. +150 °C
Ambient temperature		-40 °C ... +85 °C
Sensing method		Piezoresistive, over 40 bar: capacitive
Materials of wetted parts	Sensor	1.4435 stainless steel (diaphragm)
	Sensor sealing	FKM (Viton, max. +200 °C), optional FFKM (recommended for medium temp. > +200 °C max. 100 bar), Dairy pipe, Tri-Clamp connection: without seals
	Process connection	Stainless steel: 1.4435 (316 L)
	Housing	Stainless steel: 1.4404 (316 L)
Output		4 – 20 mA; 0 – 10 V
Power supply		4 – 20 mA output: 8 – 32 V DC 0 – 10 V DC voltage output: 14 – 30 V DC
Load resistance		4 – 20 mA 2-wire current output $R_{max} = [(U_S - 8 \text{ V}) / 0.02 \text{ A}] \Omega$ 0 – 10 V DC voltage output: $R > 10 \text{ k}\Omega$
Process connection		According to the order code
Electric connection		Pg 9 DIN 43650 connection, M12 x 1 (4-pin), and integral cable version
Ingress protection		IP65 / IP67 (M12 x 1) / IP68 (integral cable version)
Electric protection		SELV Class III
Mass		~ 0.2 kg

User's manual



2.1 ACCESSORIES

- User's Manual,
- Warranty Card,
- Declaration of Conformity

2.2 ORDER CODE

NIPRESS D □ □ - 4 □ □ - □

MEASUREMENT / TEMPERATURE	CODE	PROCESS CONNECTION	CODE	CODE	RANGE (OVERLOAD CAPABILITY) BAR (1)	CODE	OUTPUT / EX	CODE
Relative / up to +125 °C	R	1/2" BSP ⁽⁵⁾	B	0	-1 – 0 (5) ⁽⁷⁾⁽³⁾	0 – 10 (40)	4 – 20 mA, 2-wire	2
Absolute / up to +70 °C ⁽²⁾	E	1/2" BSP ⁽⁶⁾	C	1	0 – 0.1 (0.5)	0 – 16 (80)	0 – 10 V, 3-wire	3
Relative / up to +150 °C high temperature ⁽³⁾	H	3/4" BSP ⁽²⁾	D	R	0 – 0.16 (1)	0 – 25 (80)		
		1" BSP	E	2	0 – 0.25 (1)	0 – 40 (105)		
Relative / up to +300 °C high temperature ⁽⁴⁾	J	1 1/2" BSP	F	3	0 – 0.4 (2)	0 – 60 (100)		
		3/4" Triclamp ⁽¹¹⁾	T	4	0 – 0.6 (5)	0 – 100 (200)		
		1" Triclamp ⁽⁸⁾	L	5	0 – 1.0 (5)	0 – 160 (400)		
		1 1/2" Triclamp ⁽⁹⁾	M	6	0 – 1.6 (10)	0 – 250 (400)		
		2" Triclamp ⁽⁹⁾	N	7	0 – 2.5 (10)	0 – 400 (600)		
		Pipe coupling DN25 ^{(7) (12)}	O	8	0 – 4.0 (20)			
		Pipe coupling DN40 ^{(7) (12)}	P	9	0 – 6.0 (40)			
		Pipe coupling DN50 ^{(10) (12)}	R					
		VARIVENT DN40/50 ⁽¹⁵⁾	V					

(1) Special range on request

(2) $p \geq 0.6 \text{ bar}$

(3) Up to max. 160 bar

(4) Up to max. 160 bar

(5) $p \geq 1 \text{ bar}$

(6) From -1 bar to 40 bar, up to +125 °C, without media separator

(7) From 0.25 bar to 40 bar

(8) From 0.25 bar to 16 bar

(9) $p \leq 16 \text{ bar}$

(10) From 0.25 bar to 25 bar

(11) From 4 bar to 8 bar

(12) In accordance to DIN 11851

(13) Up to max. +150 °C

(14) $0.4 \text{ bar} \leq p \leq 40 \text{ bar}$

(15) $p \leq 25 \text{ bar}$

2.3 DIMENSIONS

D□C - 4□□ - □ 1/2" BSP THREAD	D□E - 4□□ - □ 1" BSP THREAD	D□□ - 4□□ - □ WITH COOLING ELEMENT	D□□ - 4□□ - □ TRI-CLAMP	D□□ - 4□□ - □ DAIRY PIPE DIN 11851	D□V - 4□□ - □ VARIVENT DN40/50	TRANSMITTER WITH PLK-501-2
3/4" BSP available according to ordering code	1 1/2" BSP available according to ordering code					

DIMENSIONS	DAIRY PIPE DIN 11851			TRI-CLAMP			
	DN25	DN40	DN50	3/4"	DN25	DN32	DN50
A [mm]	23	32	45	14	23	32	45
B [mm]	44	56	68.5	25	50.5	50.5	64
P _N [bar]	≥ 0.25 ≤ 40	≥ 0.25 ≤ 40	≥ 0.25 ≤ 25	≥ 4 ≤ 8	≥ 0.25 ≤ 16	≤ 16	≤ 16

3. INSTALLATION

Due to its small size and weight NIPRESS D-400 can be directly installed on tanks, pipes, machines, etc without mounting device.

To provide chance for replacement of the instrument during operation to the use of closing armature is recommended. A simple ball valve will be suitable for lower pressures and for higher pressures (above 6 bar g) a three-way blow-off needle-valve can be suggested. For pressure measurements of mediums with temperatures over +75 °C, the application of high temperature version is suggested.

For measuring hydrostatic pressure for level the unit should be thread in a stub at the tank wall possibly near to the bottom.

Using longer impulse tube its proper sloping for the necessary de-aerating and emptying has to be ensured.

Measuring low pressures in systems with substantial height difference between the transmitter and place of measurement the hydrostatic pressure of the medium in the impulse pipe should be taken into consideration. In the case of outside installation the unit is supposed to be protected against rain or splash water.

3.1 INSTALLATION

For mounting and dismantling SW27 or SW44 open-end wrench should be used. Take care for the vulnerable flush face diaphragm.

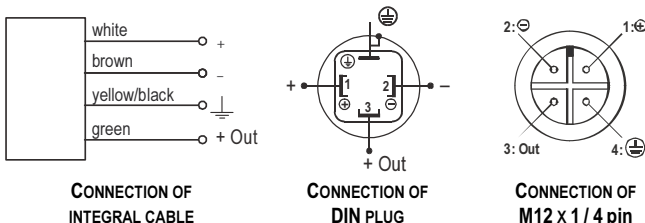
The cylindrical housing of the transmitter should not be gripped and tightened with pipe wrench!

The plug-in electric connector can be unplugged after releasing and removing its fastening screw. The connection insert can be pushed out by a screw driver from the direction of the screw.

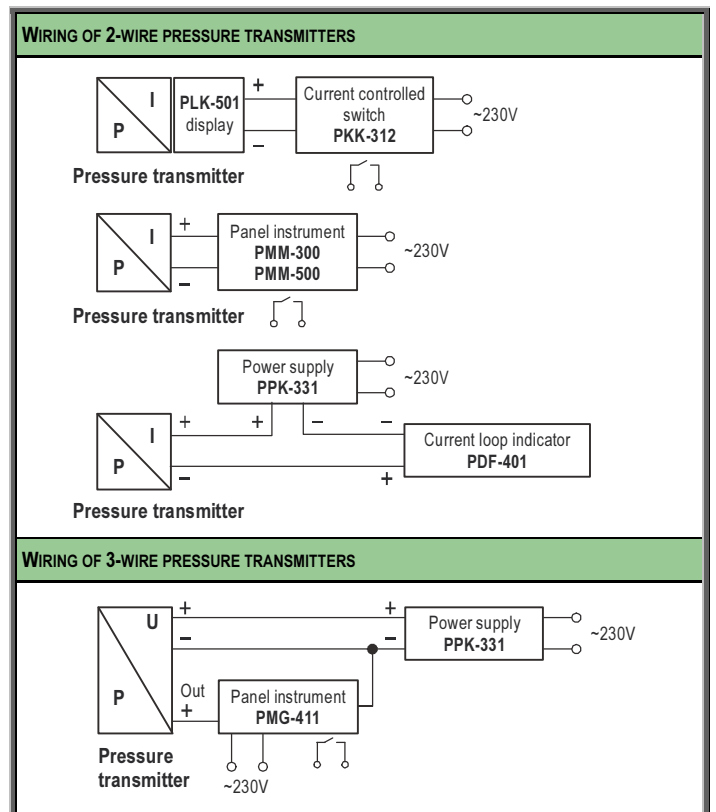
Pushing electric cable through the cable gland it can be connected to the relevant points of the connector. Make sure that the cable gland and sealing plate of the connector will be tight.

For the sake of noise suppression the transmitter should be grounded. If the grounding of the appliance with the pressure transmitter is appropriate no further action will be needed. If not, the grounding should be performed.

4. WIRING



4.1 EXAMPLES OF ARRANGEMENTS



5. MAINTENANCE AND REPAIR

The instrument does not require regular maintenance. If necessary possible dirt deposited should be cleaned off. All repairs will be carried out at the Manufacturer's premises.

6. STORAGE CONDITIONS

Storage temperature: -40 °C ... +85 °C
Relative humidity: max. 98 %

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