



NIVOPRESS D

LEVEL AND PRESSURE TRANSMITTER



- ◆ 4-20 mA output
- ◆ HART communication
- ◆ Stainless steel flush diaphragm
- ◆ Wide variety of process connections
- ◆ Great choice of ranges
- ◆ Accuracy 0,25 %
- ◆ Plastic or aluminium housing
- ◆ IP 67 protection
- ◆ ATEX certified versions

ABOUT NIVOPRESS DT

NIVOPRESS DT series is a 2-wire microprocessor controlled pressure and level gauge. The loop powered transmitter can be converted into indicator by the use of the plug in display module. The unit measures the hydrostatic pressure and for level gauging it compares the water head with the actual atmospheric pressure.

The piezoresistive sensor is protected by a flush diaphragm with silicon oil between the two for pressure transfer.

Smart electronics makes on site and HART communication remote programming possible.

EEx ia and EEx d certified models are also available.

APPLICATION

NIVOPRESS DT flush diaphragm pressure and level transmitters/indicators provide simple and highly reliable solution for the continuous monitoring of the pressure and level of liquids and masses.

Its robust design, high overload capability and wide temperature range renders it applicable in the most arduous circumstances.

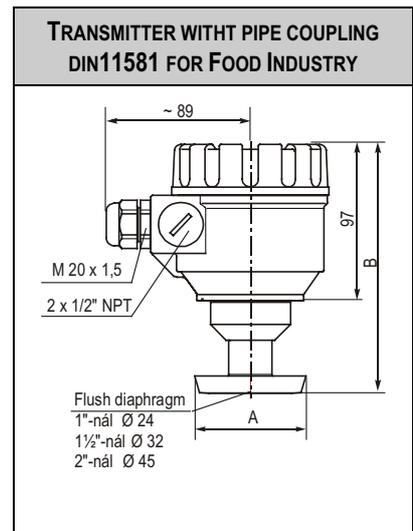
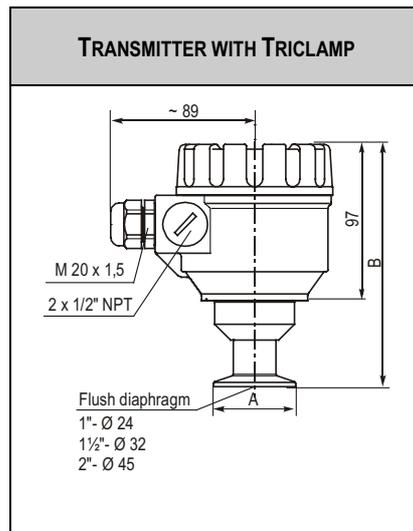
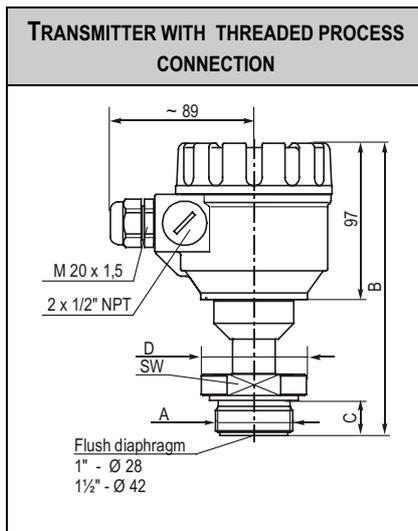
The flat surface of the diaphragm avoids the risk of material build up and the maximum medium temperature of 125 °C allows proper (CIP) cleaning required by the regular cleaning processes of the food industry and similar hygienic applications.

TECHNICAL DATA

Measurement	Level, pressure
Sensor	Piezoresistive silicium sensor, with protection diaphragm
Pressure transfer medium	Silicone oil*
Range	In accordance with the order code
Maximum pressure	In accordance with the order code
Turn down	~ 1 : 2
Zero adjustment	50% of the range
Output	4 ... 20 mA (limit values 3.9 ... 20.5 mA); HART (minimum loop resistance 250 ohm)
Damping	0 ... 30 s, selectable
Error indication	22 mA or 3.8 mA
Maximum load	$R_s = (U_s - 12 V) / 0,02 A$, U_s = voltage of the power supply
Display module	6 digit LCD, engineering units and bargraph
Power supply	10 ... 36 V DC
Accuracy (linearity, hysteresis, repeatability)	0,25 % ($p \leq 0.4 \text{ bar} \pm 0.5 \%$)
Range of temperature compensation	0 °C ... 70 °C ($p \leq 0.4 \text{ bar } 0^\circ\text{C} \dots 50^\circ\text{C}$)
Ambient temperature	-40 °C ... +70 °C with display module: -25 °C ... +70 °C
Medium temperature	-25 °C ... +125 °C
Electric protection	Class III
Ingress protection	IP 65
Ex marking	Ex II 1 G EEx ia IIC T6 ... T4
Intrinsic safety data	$U_{max}: 30 V$, $I_{max}: 140 \text{ mA}$, $P_{max}: 1W$, $C_i < 20 \text{ nF}$, $L_i < 200 \mu\text{H}$
Process connection	In accordance with the order code
Electric connection	Outer diameter of the cable: $\varnothing 6 \dots \varnothing 12 \text{ mm}$ for M 20 x 1.5 conduit Wire cross section: max. 1.5 mm ²
Housing	Paint coated aluminium or plastic
Material of wetted parts	Protection diaphragm: stainless steel DIN 1.4435 Process connection: stainless steel DIN 1.4435 Gasket: VITON $p < 100 \text{ bar}$ NBR $p \geq 100 \text{ bar}$ EPDM for special order
Mass	approximately 2 kg with aluminium housing 1.6 kg with plastic housing

* For special order edible oil

DIMENSIONS



TYPE	DTE... DBE...	DTF... DBF...	DTS... DBS...	DTT... DBT...
A	1" BSP	1 1/2" BSP	1" NPT	1 1/2" NPT
B	193	185	~197	~189
C	19	22	26	27
D	50	65	52	70
SW	44	55	40	55

TYPE	DTL... DBL...	DTM... DBM...	DTN... DBN...
	1"	1 1/2"	2"
A	50.5	50.5	64
B	183	183	167

TYPE	DTO... DBO...	DTR... DBR...	DTP... DBP...
	DN 25	DN 50	DN 40
A	44	68.5	56
B	186	166	170

PROGRAMMING

- The transmitter supports three different ways of programming:
- On site, without SAP-203 display module by modifying the process pressure and measuring the output current.
 - On site, with SAP-203 display module without the need for pressure changes.
 - Remotely by HART on PC or by the universal control unit of MultiCONT PR-100.

Sophisticated programming with HART or with the SAP-203 indicator module: measurement of level, volume and pressure, as well as error indication, damping, linearisation.

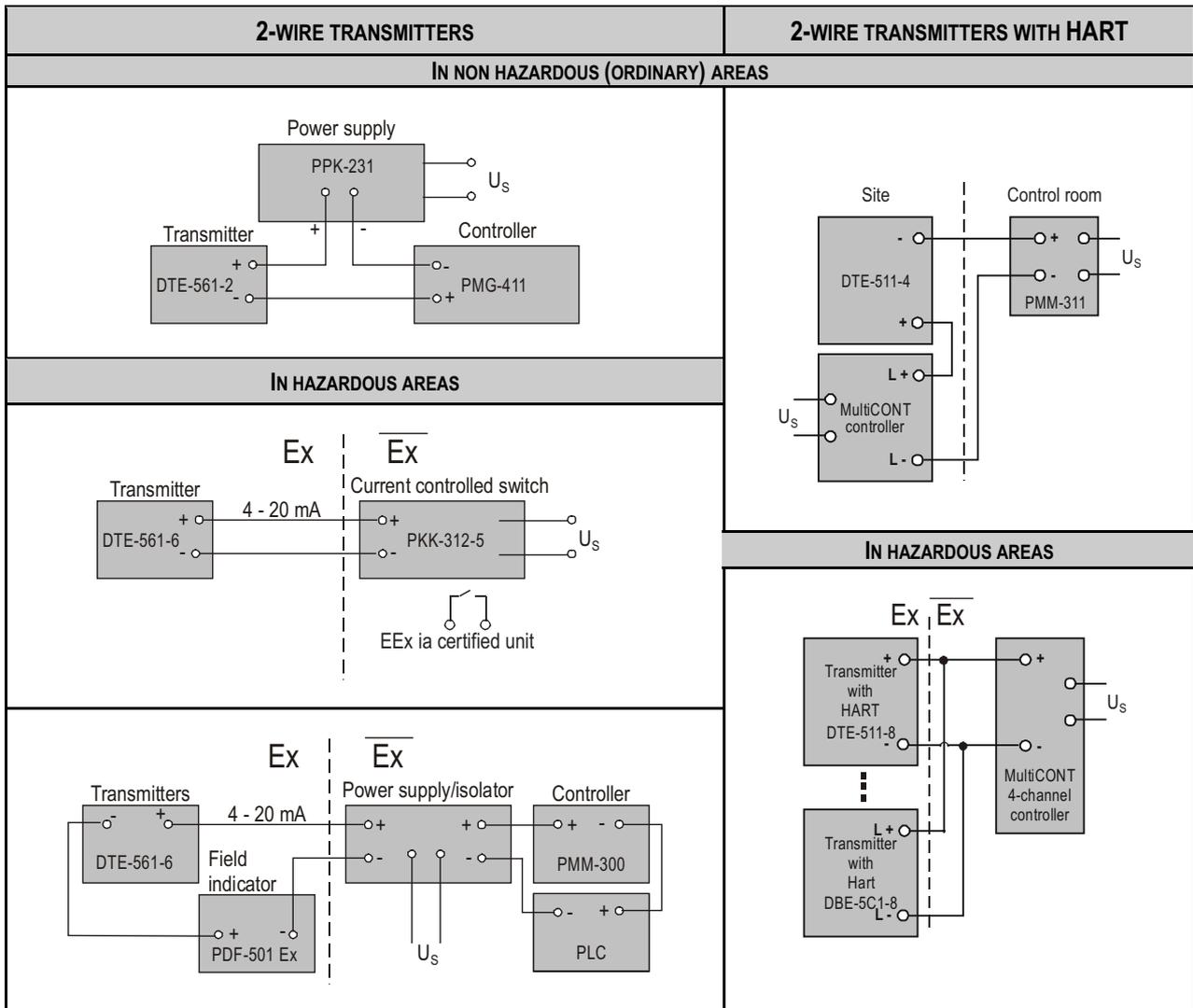
EX PROTECTION

The unit is suitable for level measurement in hazardous areas. The Ex marking is:  1G EEx ia IIC T6 ... T4

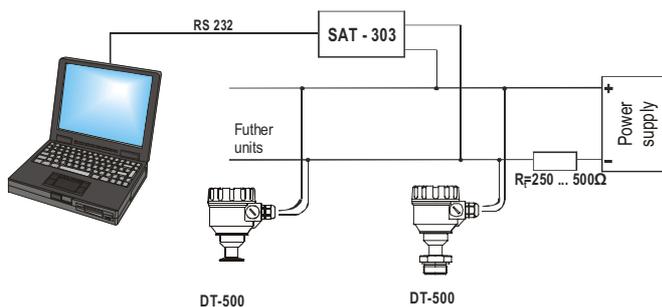
CONDITIONS OF THE EX APPLICATION

- The intrinsically safe unit can only be powered by a duly certified EEx ia IIC power supply with features according to the Technical Data above.
- Housing of the transmitter should be grounded.

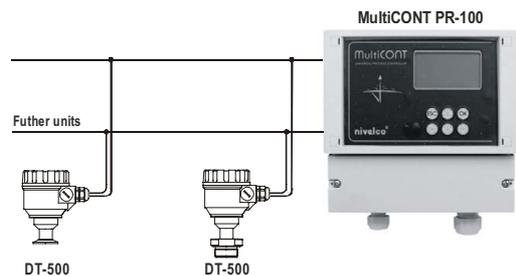
APPLICATIONS



ARRANGEMENT WITH PC



ARRANGEMENT WITH MULTICONT PR-100



ORDER CODE (Not all combination possible)

NIVOPRESS D - 1 -

FUNCTION	CODE
Transmitter	T
Transmitter + Display	B

PROCESS CONNECTION	CODE
1" BSP	E
1½" BSP	F
1" Triclamp	L
1½" Triclamp	M
2" Triclamp	N
FI DN 25*	O
FI DN 40*	P
FI DN 50*	R
1" NPT	S
1½" NPT	T

*Pipe coupling for Food Industry DIN11581

HOUSING	CODE
Aluminium	5
Plastic	6

RANGE / MAXIMUM PRESSURE	CODE
-1 ... 0 bar 3 bar	0
0 ... 0.1 bar 0.5 bar	1
0 ... 0.25 bar 1 bar	2
0 ... 0.4 bar 1 bar	3
0 ... 0.6 bar 3 bar	4
0 ... 1.0 bar 3 bar	5
0 ... 1.6 bar 6 bar	6
0 ... 2.5 bar 6 bar	7
0 ... 4.0 bar 20 bar	8
0 ... 6.0 bar 20 bar	9
0 ... 10 bar 20 bar	A
0 ... 16 bar 60 bar	B
0 ... 25 bar 60 bar	C
0 ... 40 bar 100 bar	D
0 ... 60 bar 120 bar	E
0 ... 100 bar 250 bar	F
0 ... 160 bar 500 bar	G
0 ... 250 bar 500 bar	H
0 ... 400 bar 600 bar	J

OUTPUT / Ex	CODE
4 ... 20 mA	2
4 ... 20 mA / HART	4
EX VERSIONS	
4 ... 20 mA / EEx ia	6
4 ... 20 mA / HART/ EEx ia	8

ACCESSORIES TO ORDER



HART MODEM: SAT-303



DISPLAY: SAP-203

ADDITIONAL INSTRUMENTS

To complete the temperature transmitter to fulfil process tasks such as further signal processing, display in the control room or limit switching the following units are suggested for:

- MultiCONT PR-100 wall mounting, universal, multi-channel controller/indicator
- UNICONT PMM-312 panel mount controller/indicator
- UNICONT PDF-501 on site loop indicator
- UNICONT PKK-312 current controlled switch



PR-100



PMM-312



PDF-501



PKK-312