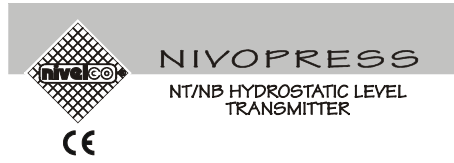


*Thank you for choosing a NIVELCO instrument.  
We are sure that you will be satisfied throughout its use.*



## APPLICATION

The NIVOPRESS NT-100 can be used for the level metering of masses and liquids. The instrument measures the pressure difference between the liquid head above the sensor and the atmospheric pressure. The electrical signal provided by the ceramic pressure sensor is converted into a 4 to 20 mA output signal proportional to the level changes. The use of the capacitance principle results in a stable measurement with accuracy better than 0.2% (even with adjusted span!). The span adjustment and scaling is done by simple pushbutton programming. A programmable damping helps to overcome output fluctuation caused by surface turbulence and fast level fluctuation.

## ORDER CODES

NIVOPRESS N   - 1   -

Type	Code
Transmitter	T
Transmitter/indicator	B

Range	Code
0-0,1bar (max.4bar)	1
0-0,2bar (max.6bar)	2
0-0,4bar (max.6bar)	3
0-1bar (max.10bar)	4
0-2bar (max.18bar)	5
0-4bar (max.25bar)	6
0-10bar (max.40bar)	7
0-20bar (max.40bar)	8

Seal	Code
FPM	1
EPDM	2

Process connection	Code
1 1/2" BSP	C
1 1/2" NPT	N
2" Triclamp (ISO2852)	R
DIN 40 Pipe coupling (DIN11851)	V
DIN 50 Pipe coupling (DIN11851)	W

Power supply	Code
12-30 V DC	4
12-30 V DC/Ex *	8

\* pending



USER'S MANUAL

## TECHNICAL DATA

Type	NT/NB-100		
Range	In accordance with the order code		
Zero adjustment	+20 %		
Turn down	1 : 4		
Overload capability (P <sub>max</sub> )	In accordance with the order code		
Damping time	0 ... 10 Sec		
Output	4 to 20 mA		
Local LCD indicator	Scale indication from -4090 to +4090		
Accuracy (F.S.O.)	< 0.2 %		
Temperature coeff.	< 0.1%/10 K		
Long term stability	<0.15%/year		
Operating voltage (U <sub>i</sub> )	12 to 30V DC		
Ex power supply	U <sub>max</sub> : 30 VDC, I <sub>max</sub> : 80 mA, P <sub>max</sub> : 80 W		
Maximum load resistance	$R_t \leq \frac{U_t - 12V}{0,02 A} \Omega$ (R <sub>t</sub> ≤ 600 Ω, U <sub>t</sub> :24V)		
Medium temperature	-30°C...+100°C		
Ambient temperature	-30°C...+70°C		
Process connection	In accordance with the order code		
Electric connection	Screw terminals for 2,5 mm <sup>2</sup> via cable gland Pg16		
Materials of	wetted parts	Probe Diaphragm seal Diaphragm	Stainless steel Ssi 316Ti EPDM or Viton Ceramic (AL <sub>2</sub> O <sub>3</sub> )
	non wetted part	Housing	Paint coated AL
Mechanical protection	IP 65		
Weight	1.25 kg		

Manufacturer:  
**Nivelco Process Control Co. Ltd.**  
H-1043 Budapest, Dugonics u. 11.  
Phone: (36-1) 369-7575 Fax: (36-1) 369-8585  
E-mail: sales@nivelco.hu http://www.nivelco.hu

## ACCESSORIES

- 1 x User's manual
- 1 x Gasket

## DIMENSIONS OF THE THREADED VERSION

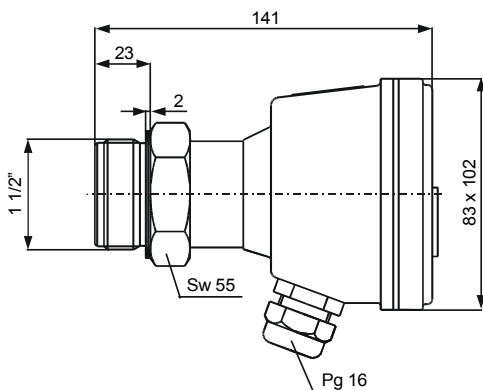


Fig. 1

## INSTALLATION

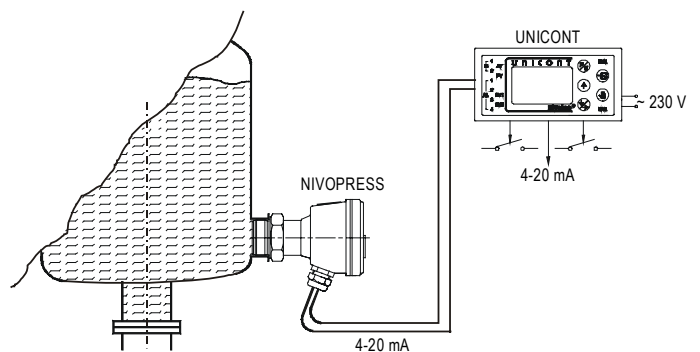


Fig. 2

## Installation (continued)

The NIVOPRESS NT-100 transmitter is to be screwed in a stub on the tank wall and fixed with a SW 55 open-end wrench. The position of the stub has to be chosen so that the ceramic surface of the transmitter should not be imposed to dynamic impact such as jet of liquid, in-rushing medium.

The housing of the screwed in transmitter is to be positioned with the gland looking down. The instrument is designed to allow a turn round of 340°.

## WIRING

Put the cable through the gland and connect wires in accordance with the marking at the screw terminal. (Fig.3).

Connect the safety ground to one of the grounding screw terminals either inside or outside of the housing.

After connecting the cables, make sure the cable gland is fixed for tightness.

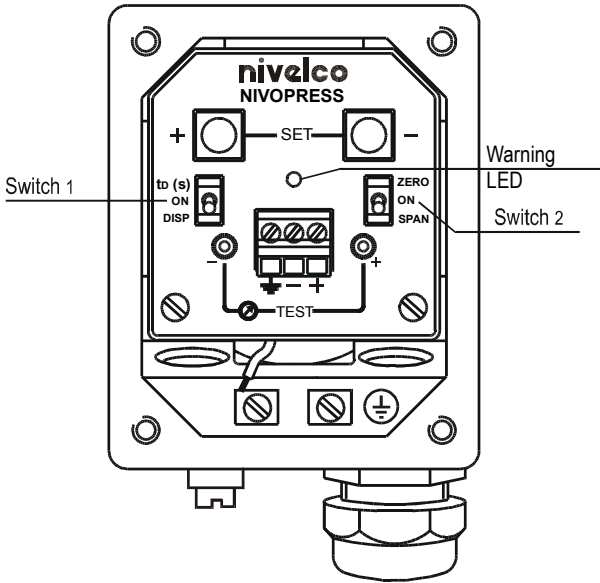


Fig. 3

## PROGRAMMING

### Calibration

All devices are factory calibrated either:

- to the nominal range of the model (in this case the 4/20 mA values of the current output are calibrated to the nominal pressure values, see "Order codes") or
- to the customer specified span (in this case the 4/20 mA values of the current output are calibrated to the minimum and maximum pressure values, specified by the customer's order)

Regardless of the factory calibration, the range/span can easily be modified on site as well.

### Zero adjustment

The ZERO point can be shifted up to +20% of the range.

1. Fill the tank up to the level (pressure) you wish to assign to 4 mA.
2. Set Switch 2 (see Fig.3) to the "ZERO" position.
3. Press both "SET+" and "SET-" push buttons simultaneously and the 4 mA value is stored.
4. Reset Switch 2 (see Fig.3) to the "ON" position to end the calibration.

### Span adjustment

The SPAN can be compressed to ¼ of the nominal range.

1. Fill the tank up to the (pressure) level you wish to assign to 20 mA.
2. Set Switch 2 (see Fig.3) to the "SPAN" position.
3. Press both "SET+" and "SET-" push buttons simultaneously and the 20 mA value is stored.
4. Reset Switch 2 (see Fig.3) to the "ON" position to end the calibration.

## Display scaling

Scaling of the display should be done after zero and span adjustment and start with both switches (1 and 2) in position "ON", then set Switch 1 to the "DISP" position

### Decimal point setting

Push button "SET+" to adjust desired position of the decimal point on the display.

### ZERO Display

1. Fill the tank up to the level you wish to assign to 4 mA.
2. Set Switch 2 to the "ZERO" position.
3. Adjust value on the display by pushing the buttons "SET+" and "SET-".

The value set by this adjustment will appear on the display whenever the output signal 4 mA is. Reset Switch 2 to "ON" position.

### SPAN Display

1. Fill the tank up to the level you wish to assign to 20 mA.
2. Set Switch 2 to the "SPAN" position.
3. Adjust value on the display by pushing the buttons "SET+" and "SET-".

The value set by this adjustment will appear on the display whenever the output signal 20 mA is. Reset Switch 2 to "ON" position.

End scaling of display by setting Switch 1 to "ON" position.

## Damping time

The damping time can be set between 0 and 10 sec.

1. Set Switch 1 (see Fig.3) to the "td(s)" position. This will reset the damping time to 0 sec.
2. Increase the damping time by pressing the "SET+" push-button. One press, corresponds to 1 sec increase. (i.e. press the "SET+" push-button 6 times for a damping time of 6 sec).
3. Reset the Switch 1 (see Fig.3) to the "ON" position to end programming the damping time.

## Warning LED

The ZERO point can be shifted up to +20% of the range. In case of calibration attempt over this value, the warning LED will light.

The same way this LED will light, if the SPAN (upper level) will be calibrated under the 25% value of the nominal range i.e. the attempted turn down exceeds 1:4.

Should the warning LED light, both switches have to be put in position "ON" and the adjustment should be repeated.

## MAINTENANCE

The instrument does not require regular maintenance. In some instances, however, the sensor probe may need occasional cleaning to remove surface deposits. This must be carried out gently, without harming the sensor probe.

## STORAGE CONDITIONS

Environment temperature range: -25°C to +55°C  
Relative humidity: max. 98 %

## WARRANTY

All Nivelco products are warranted free of defects in materials or workmanship for a period of two years from the date of purchase. Repairs under guarantee are carried out at the Manufacturer's premises. The Purchaser is liable for costs of dismantling and re-installation as well as transport costs.

Nivelco shall not be liable for misapplication, labour claims, direct or consequential damage or expense arising from the installation or use of equipment.