

## Medium differential pressure sensors

- ranges from +/-2bar to 0-200mbar
- accuracy 0.25%
- 2-wire 4-20mA or 3-wire 0-5Voutput
- compact and lightweight
- welded-aluminium construction
- very rugged
- IP65 protection
- wet air and aggressive vapours compatible

### Description

The DT\_MP series pressure sensors provide accurate measurement of gas and liquids differential pressure in medium ranges from 2bar down to 200mbar. The standard output is 2-wire 4 to 20mA current loop, voltage output being an option. They are suitable for mono or bi-directional measurement.

### Operation

A high-resolution contactless inductive position detector measures the position of a convoluted diaphragm exposed to the process media differential pressure. The detector is sealed from the media. The detector operation is insensitive to the media allowing the sensor operation with any media chemically compatible with its construction materials. The sensing element, the transducer, the electronics and the mechanical parts are optimised for every single application.

### Performances

The DT\_MP series design favours ruggedness and reliability and makes it suitable for demanding industrial applications. The micro-processor based electronics enhances compensation quality as well as it potentially offers a gateway to digital communications. The DT\_MP series combine well-proven techniques with state of the art design.



actual size

### Applications

- Test benches
- Process
- OEM

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DT\_MPdocen0c

Represented by

# DT\_MP series

## Medium differential pressure sensors

### Pressure measurement specification

- **standard ranges:**
  - **bi-directional:** -0.2 to +0.2bar, -0.5 to +0.5bar, -1 to +1bar, -2 to +2bar
  - **uni-directional:** 0 to +0.2bar, 0 to +0.5bar, 0 to +1bar, 0 to +2bar
- **non-standard ranges:** maximum full scale 2bar, minimum 0.2bar
- **overpressure:** 5bar
- **line pressure:** 20bar maximum
- **compatible media:** see physical description
- **supply voltage:** 6.5V to 30V (voltage output: 8.5V to 30V)
- **standard output signal:** 4-20mA 2-wire
- **optional output signal:** 0 - 5V 3-wire
- **load impedance:**  $R_c(\text{k}\Omega)_{\text{max}} = (\text{Valim}-6.5) \times 0.05$   
for voltage output  $R_{c\text{min}} = 10\text{k}\Omega$
- **operating temperature range:** -40 to +70°C
- **humidity:** 0 - 100%
- **user settings:** user-accessible digital encoders
  - **zero:** +/-50%
  - **gain:** +/-10% min
  - **damping:** from 0 to 10 sec

### Performance data

(values referenced to full scale)

- **precision (non-linearity, repeatability, hysteresis):** 0.25%
- **resolution:** 4.10<sup>-4</sup>
- **line pressure effect:** 2.5.10<sup>-3/5</sup> bar maximum
- **long-term stability:** +/- 0.3% typ over a year at reference conditions
- **compensated temperature range:** 0 à 50°C
- **temperature effects:** ≤2.10<sup>-4</sup>/°C on zero and sensitivity
- **supply voltage effects:** ≤ 5.10<sup>-4</sup>/ Volt
- **consumption:** ≤ 3.7 mA (basic)
- **protection:** reverse excitation protected
- **response time:** 50msec (excepting damping)
- **insulation resistance:** >1GΩ@500V
- **CE-compliance:** EMC-emission to EN61000-6-3 and  
EMC-immunity to EN61000-6-2 (EN61000-6-1 for voltage output)

### Physical description

- **housing:** aluminium alloy alodine1000-treated
- **construction:** EB-welded
- **sensing element:** beryllium copper and brass
- **pressure ports:** M5 female
- **environmental protection:** IP 65
- **electrical connection :** DIN43650 (plug supplied)
- **weight:** 350g
- **mounting:** 2x M4 holes 4 mm deep and 2x8-32 holes 3/16 deep

### Options

- **pressure adaptors** 1/8NPTf or 1/8BSPPf
- **calibration certificate**
- **improved accuracy**
- **voltage output (0 to 5V)**
- **expanded compensated temperature range**
- **mounting bracket**

### Ordering information

for example: **DT 500 T12 P**

500 = positive full scale in mbar

T meaning current output

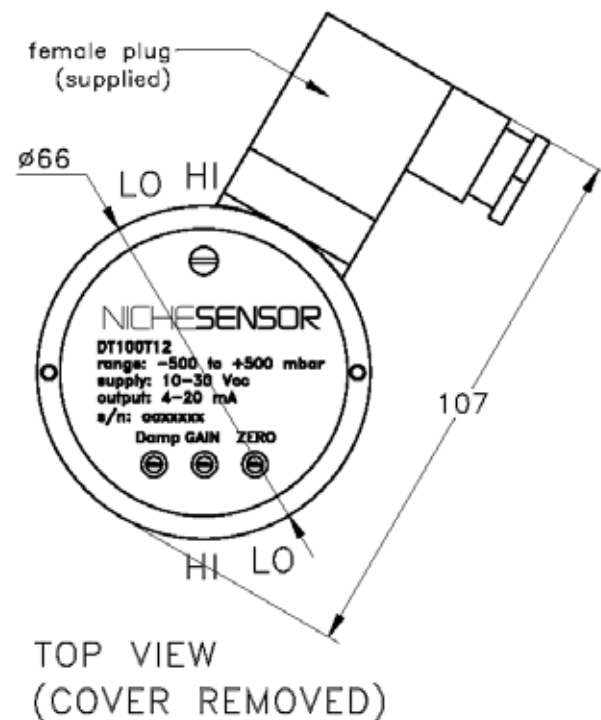
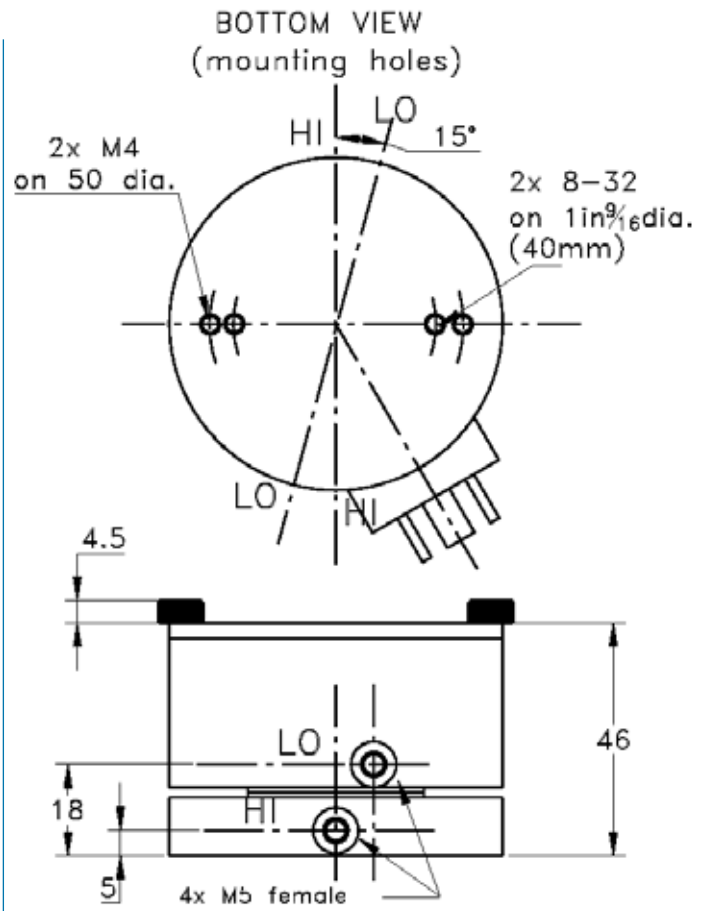
12 meaning 12mA at zero pressure

P meaning an option (to be precised)

> 4 to 20mA output for -500 to +500 mbar pressure sensor

### Related products

DT\_ULP and DT\_LP series ; stainless steel DS series



dimensions in mm

specifications subject to change without notice

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