

DE25 || Digital Differential Pressure Transmitter

The DE25 is a differential pressure transmitter with a 3-wire electrical interface.

It is suitable for accurate measurement of positive / negative gauge pressure or differential pressure of air and gases.

Application examples:

- Air conditioning plant and systems
- Ventilation systems
- Environmental monitoring

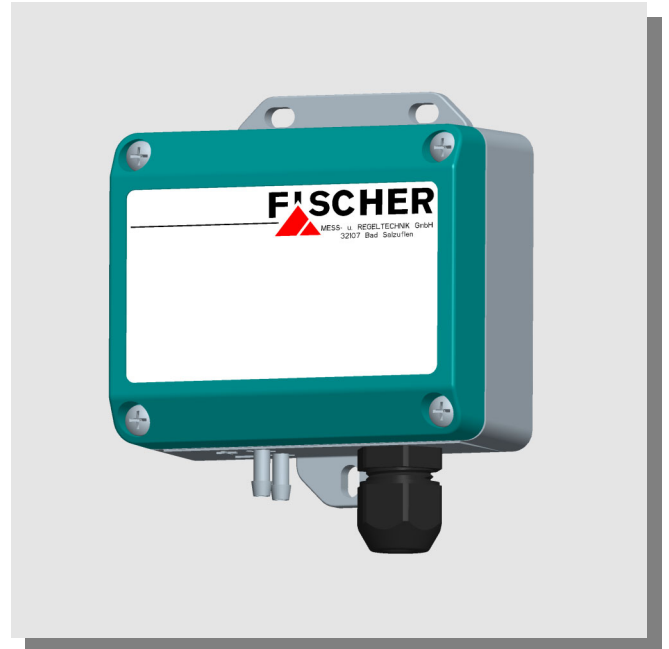
Principles of Operation

The instrument is based on a piezo-resistive sensor element and can measure positive gauge, negative gauge or differential pressure.

The pressure is measured directly by a piezo-resistive resistance bridge that is formed on the surface of an integral silicon diaphragm in each sensor.

Change of pressure results in change of resistance.

The instrument's internal microcontroller transmits the measured value through a D/A converter as a voltage or current signal output.



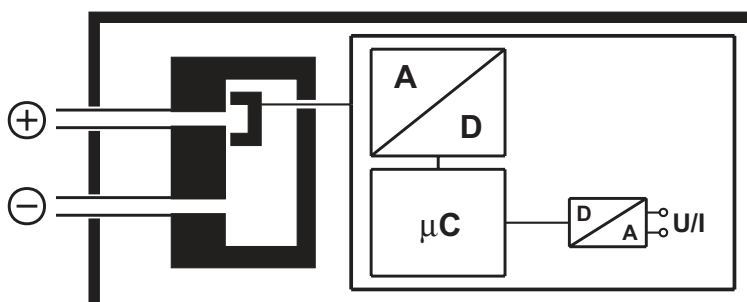
Main Features

- Easy to install
- High sensitivity and resolution
- IP65

Typical Applications

- Air conditioning and ventilation systems
- Filter systems
- Plant and mechanical engineering

Functional Scheme

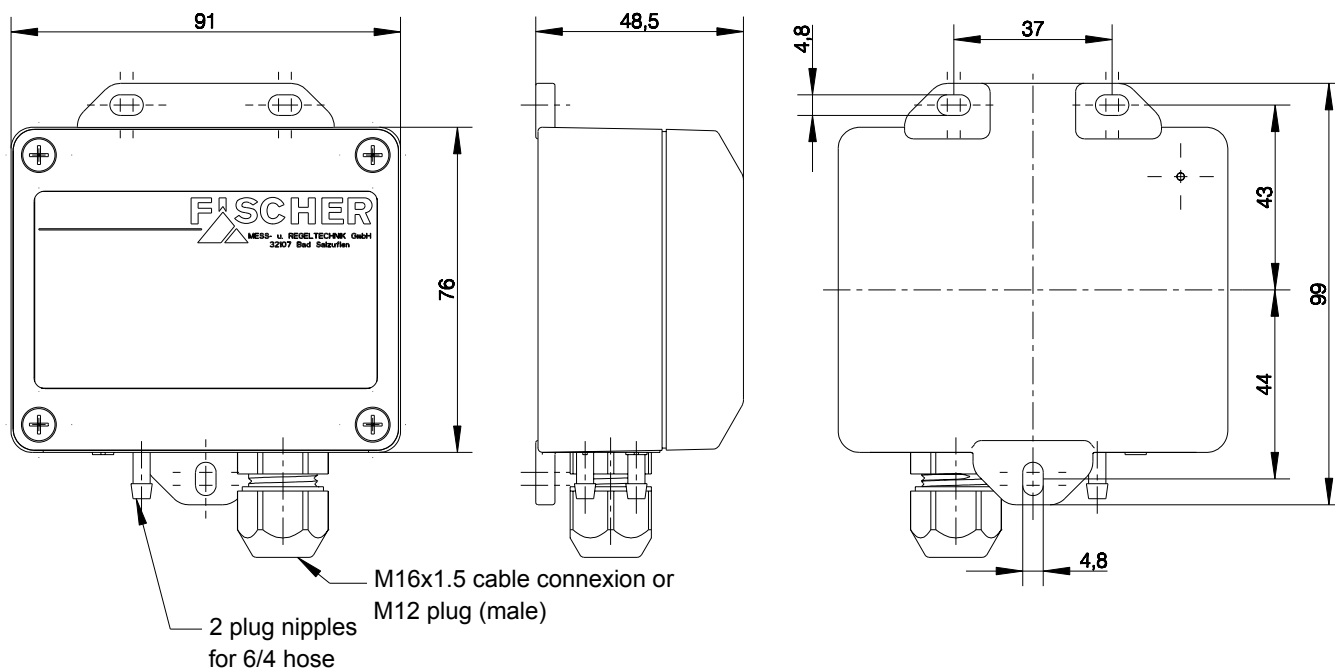


Specifications

General									
Ranges	0...2.5 mbar up to 0...100 mbar (see Ordering Code)								
Max. static operating pressure	see Ordering Code								
Burst pressure	1.5x max. static operating pressure								
Linearity	± 1% FS (typical 0.5%)								
Hysteresis	± 0.2% FS (typical 0.05%)								
Perm. ambient temperature	-10...+50°C								
Perm. medium temperature	-10...+50°C								
Tc zero point / span	Max. 1% FS / 10K								
Pressure connections	Threaded connections of Aluminium for hoses 6/4								
Electrical connection	Inner terminal strip, M12 plug connector								
Protection class	IP65 per EN 60529								
Electrical Data									
Output signal	<table border="0"> <tr> <td>0...20 mA</td> <td>4...20 mA</td> <td>0...10V</td> <td>0...5V</td> </tr> <tr> <td></td> <td>3-wire</td> <td></td> <td>3-wire</td> </tr> </table>	0...20 mA	4...20 mA	0...10V	0...5V		3-wire		3-wire
0...20 mA	4...20 mA	0...10V	0...5V						
	3-wire		3-wire						
Nominal voltage	24V DC/AC								
Max. operating voltage	12...32V DC/AC								
Load	<table border="0"> <tr> <td>$R_L \leq ((U_B - 10V) * 50 \Omega) + 300 \Omega$</td> <td>$U_B = 12..15V \quad R_L \geq 100K\Omega$</td> </tr> <tr> <td></td> <td>$U_B \geq 15V \quad R_L \geq 2 K\Omega$</td> </tr> </table>	$R_L \leq ((U_B - 10V) * 50 \Omega) + 300 \Omega$	$U_B = 12..15V \quad R_L \geq 100K\Omega$		$U_B \geq 15V \quad R_L \geq 2 K\Omega$				
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Current / voltage limit	<table border="0"> <tr> <td>approx. 23 mA</td> <td>approx. 13 V</td> </tr> </table>	approx. 23 mA	approx. 13 V						
approx. 23 mA	approx. 13 V								
Materials, Mounting									
Materials (media contact)	Silicon, glass reinforced polyester, aluminium, NBR								
Materials (housing)	Polyamide PA 6.6, polycarbonate PC								
Mounting	<p>Integral rear mounting links</p> <p>If the instrument is intended for outdoor application, we highly recommend using an adequate protective housing (or at least a big enough shelter) as permanent protection against UV-radiation and against exposure of the instrument to rain or snow.</p>								

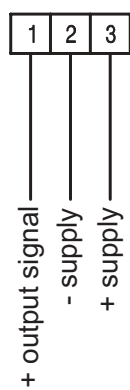
The differential pressure transmitter is short circuit, overvoltage and reverse battery protected.

Dimensions (all units in mm unless otherwise stated)



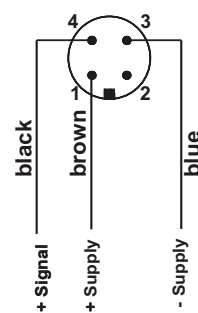
Electrical Connection

Inner terminal strip



Connection Scheme

M12



Plug M12 (male)
Supply and output signal

Ordering Code

Digital Differential Pressure Transmitter

DE 25

			0	4	5		K	0	0		W
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Range	Max. Static Pressure	↑	↑	↑	↑	↑	↑	↑
0 4 mbar	50 mbar	> 5	2					
0 6 mbar	50 mbar	> 5	3					
0 . . . 10 mbar	100 mbar	> 5	4					
0 . . . 16 mbar	100 mbar	> 5	5					
0 . . . 25 mbar	250 mbar	> 5	6					
0 . . . 40 mbar	250 mbar	> 5	7					
0 . . . 60 mbar	500 mbar	> 5	8					
0 . . 100 mbar	500 mbar	> 5	9					
- 2.5 . . 2.5 mbar	50 mbar	> A	6					
- 4 4 mbar	50 mbar	> A	7					
- 6 6 mbar	50 mbar	> A	8					
- 10 . . . 10 mbar	100 mbar	> A	9					
- 16 . . . 16 mbar	100 mbar	> B	1					
- 25 . . . 25 mbar	250 mbar	> B	2					
- 40 . . . 40 mbar	250 mbar	> C	5					
- 60 . . . 60 mbar	500 mbar	> B	3					
Accuracy								
Straight line error ≤ 2.5%		>	K					
Straight line error ≤ 1%		>	M					
Pressure Connection								
6/4 mm hose nipples		>	4	5				
Electrical Output								
0 - 20 mA linear, 3-wire		>	A					
0 - 10 V DC linear, 3-wire		>	C					
4 - 20 mA linear, 3-wire		>	P					
0 - 5 V DC linear, 3-wire		>	U					
Operating Voltage								
24 V DC/AC (12-32 V DC/AC)		>	K					
Electrical Connection								
El. connection with inner terminal strip		>	E					
M12 plug connector		>	M					
Mounting								
Integral rear mounting links		>	W					