

DE23 || Differential Pressure Transmitter

The DE23 is a 2-wire transmitter.

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

Examples of applications:

- Air conditioning and ventilation systems
- Environmental monitoring
- Clean rooms and laboratories

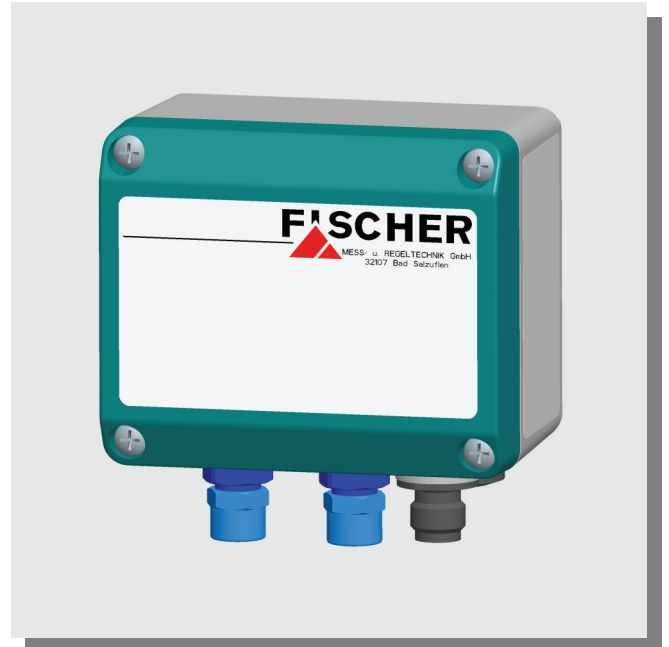
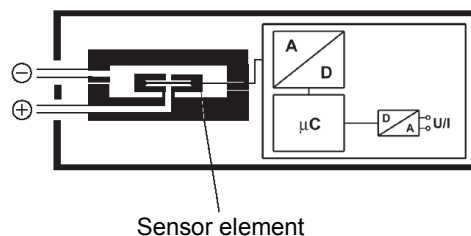
Principles of Operation

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

The pressure is measured directly by a micromachined silicon-on-glass differential capacitance sensor element.

Pressure changes cause capacitance changes interpreted by the integrated electronics.

Functional Scheme



Main Features

- Low pressures measurable without long-term drift
- Robust design; over-pressure protected; maintenance-free

Typical Applications

- Condition monitoring of filters
- Precision air duct measurements
- Clean room pressure balance monitoring
- Burner air feed low pressure detection
- Oven air feed control



Specifications

General

Base measuring range	Pa	0-25	0-50	0-100	0-250	0-500	0-1000	- 25...+ 25	- 50...+ 50	- 100...+ 100
Max. static operating pressure	bar	1.0								
Max. safe pressure	bar	1.7								
Straight line error (max.)°	%FS	1.0								
Repeatability°	%FS	0.1								
TC span and offset max.°°	%FS 10K	0.6								

° Straight-line error = nonlinearity + hysteresis; at 25 °C

°° Compensated temperature range 4 to 50 °C

Operating temp. (ambient)	-10 ... 70°C
Operating temp. (media)	-10 ... 70°C
Storage temperature	-20 ... 70°C
Protection class housing	IP 65 acc. to DIN EN 60529

Electrical

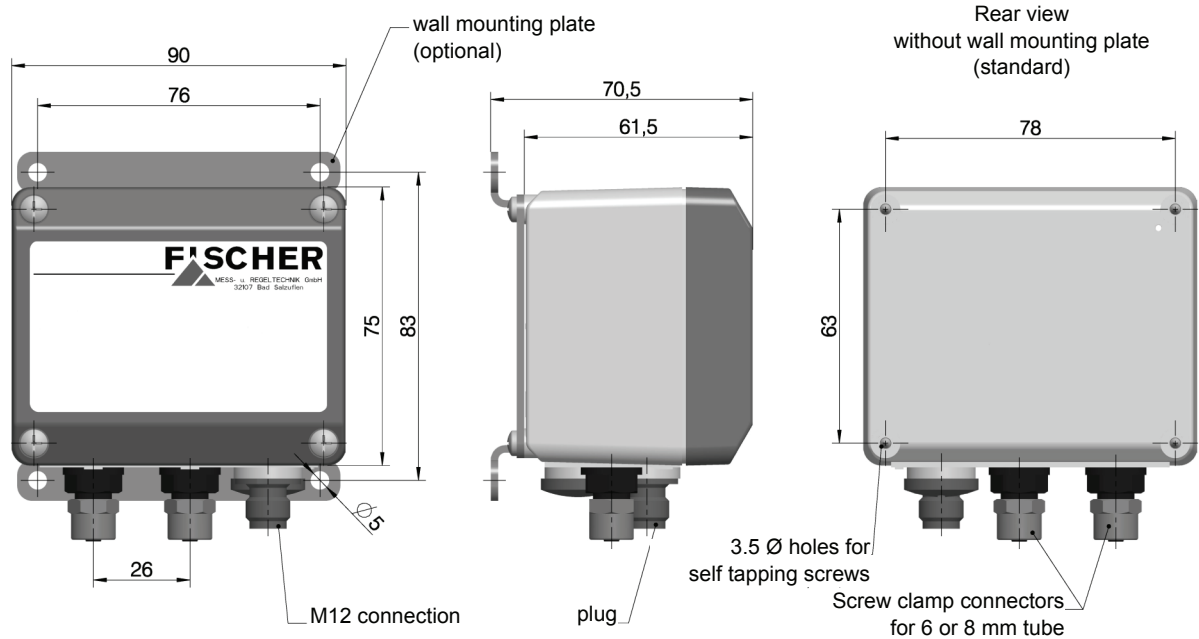
Nominal supply voltage	24 V DC
Operating supply voltage	12 ... 36 V DC
Output signal	4 ... 20 mA 2-wire
Output signal load impedance	$R_L \leq (U_B - 12 \text{ V}) / 0.02 \text{ A}$

Connections, Materials, Mounting

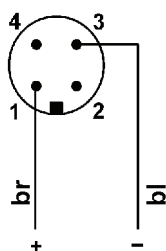
Electrical connection	1 round-shell connector M12 (5 pin, male)
Pressure connections	Screw clamp connectors (aluminum) for 6/4 mm or 8/6 mm tube
Materials, housing	Polyamide PA 6,6
Materials, media contact	Silicon, PVC, aluminium, brass
Mounting	Rear mounting holes for back-panel mounting Wall mounted with mounting plate

If the instrument is intended for outdoor application, we highly recommend using an adequate protective housing (or at least a big enough shelter) as protection against UV-radiation on the membrane keyboard and against exposure of the instrument to rain or snow.

Dimensions (all units in mm unless otherwise stated)



Connection Scheme
2-wire



Ordering Code

Differential Pressure Transmitter DE23

		#	#		B	9	#	#	M	
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Range

0 ... 25 Pa	>	D	1
0 ... 50 Pa	>	J	6
0 ... 100 Pa	>	D	4
0 ... 250 Pa	>	D	6
0 ... 500 Pa	>	J	7
0 ... 1000 Pa	>	D	9
- 25.0 ... + 25.0 Pa	>	L	5
- 50.0 ... + 50.0 Pa	>	L	2
- 100.0 ... + 100.0 Pa	>	L	7

Pressure Connection

Screw clamp connectors (aluminum) for 6/4 mm tube	>	4	0
Screw clamp connectors (aluminum) for 8/6 mm tube	>	4	1

Electrical Output Signal

4 - 20 mA linear, 2-wire	>	B
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Power Supply

24 V DC	>	9
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Electrical Connection

M12 connection	>	M
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Mounting

Standard (rear mounting holes)	>	0
Mounting rail	>	S
Wall mounting plate	>	W

Accessories

Ordering Code	Description	Pin	Length
06401995	M12 connector plug with cable	5 pin	2 m
06401996	M12 connector plug with cable	5 pin	5 m
04005144	Wall mounting set		