

EE610

Low Differential Pressure Sensor

The EE610 is dedicated for the highly accurate measurement of low differential pressure in applications like clean rooms, hospitals, laboratories, isolation chambers or in the pharmaceutical industry. It is suitable for air as well as all non-flammable and non-aggressive gases.

Measurement Performance

The EE610 offers ± 0.5 Pa accuracy for the measuring ranges ± 25 / ± 50 / ± 100 Pa and $0 \dots 100$ Pa (± 0.1 / ± 0.2 / ± 0.4 and $0 \dots 0.4$ inch water column) selectable with DIP switches. The piezo-resistive, no flow-through pressure sensing element stands for outstanding long term stability.

Outputs

The measured data is available on the analogue output, whereby both voltage and current signals are available simultaneously at the spring loaded terminals.

Functional and Robust

The IP65 / NEMA 4 enclosure minimizes installation costs. External mounting holes allow installation with closed cover, the electronics are thus protected against construction site damage and pollution.

Configurable and Adjustable

The setup and adjustment of the EE610 can be performed with DIP-switches and push buttons on the electronics board: bidirectional or unidirectional pressure range, output signal, time constant, display units and backlight.



Features

Multi-range

- » ± 25 / ± 50 / ± 100 Pa
- » $0 \dots 100$ Pa

Accuracy ± 0.5 Pa

**Knockout for $\frac{1}{2}$ "
conduit fitting (US)**

**Graphic display
with backlight**

External mounting holes

- » Mounting with closed cover
- » Electronics protected against construction site pollution
- » Easy and fast mounting

**Status LED
Spring loaded terminals**

User configurable and adjustable

- » Pressure range
- » Output signal
- » Response time
- » Display units and backlight
- » Zero and span point adjustment

**Test report according
to DIN EN 10204 – 2.2**

Enclosure

- » IP65 / NEMA 4 protection class
- » Bayonet screws - open/closed with a $\frac{1}{4}$ rotation

Technical Data

Measured Value

Differential Pressure (Δp)

Measurement principle	piezoresistive, no flow-through	
Measurement range	$\pm 25 / \pm 50 / \pm 100$ Pa ($\pm 0.1 / \pm 0.2 / \pm 0.4$ inch WC)	
selectable with DIP switches ¹⁾	0...100 Pa (0...0.4 inch WC)	WC = water column
Accuracy at 20 °C (68 °F), typ. (incl. hysteresis, non-linearity and repeatability)	± 0.5 Pa = 0.5 % FS	FS = full scale
Response time t_{90}	50 ms / 500 ms / 2 s / 4 s selectable with DIP switches ¹⁾	
Temperature dependency, typ.	0.03 Pa / K	
Long-term stability	< 0.5 Pa / year	
Overload limits	± 7000 Pa (± 28 inch WC)	

Outputs

Analogue outputs selectable with DIP switches	0-5 V or 0-10 V and 0-20 mA or 4-20 mA (3-wire)	$-1 \text{ mA} < I_L < 1 \text{ mA}$ $R_L \leq 500 \text{ Ohm}$	I_L = load current R_L = load resistor
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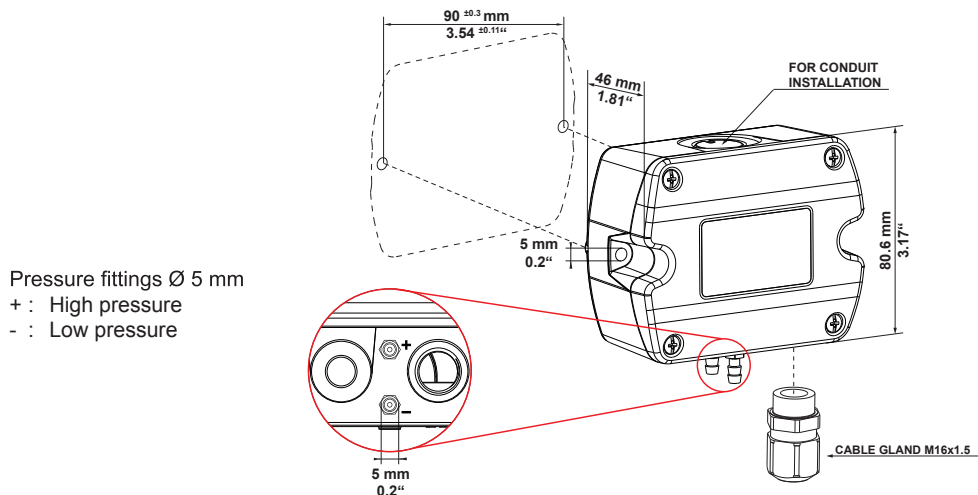
General

Power supply	15-35 V DC or 24 V AC ± 20 %
Current consumption, typ. at 0 Pa / 24 V DC	23 mA (without display) 49 mA (with display and backlight)
Display	graphic, with backlight
Display units	Pa, mbar, inch WC, mm H ₂ O selectable with DIP switches ¹⁾
Connection	spring terminals, max. 1.5 mm ²
Housing material	polycarbonate, UL94V-0 (with display UL94HB) approved
Protection class	IP65 / NEMA 4
Cable gland	M16 x 1.5
Electromagnetic compatibility	EN61326-1 EN61326-2-3
Humidity range	0...95 % RH (non condensing)
Temperature ranges	operation: $-20...60$ °C ($-4...140$ °F) storage: $-40...70$ °C ($-40...158$ °F)



- 1) Factory setup: measurement range ± 100 Pa; response time t_{90} : 50 ms; display unit: Pa; display backlight: on; analogue outputs: 0-10 V and 4-20 mA. Other ranges upon request.
2) Voltage and current output signals available simultaneously at the spring loaded terminals.

Dimensions in mm (inch)



Accessories (included in the scope of supply)

Pressure connection set

2 m (6.6 ft) PVC hose with two ABS pressure connection nipples. For details see operation manual and data sheet "Accessories".

Order code: HA011304



Ordering Guide

		EE610-
Full scale range ¹⁾	± 100 Pa (± 1 mbar, ± 0.4 inch WC, ± 10.2 mm H ₂ O)	HV51
Output	analogue (voltage and current outputs)	A7
Display ²⁾	without display	no code
	with display	D2

1) Measuring ranges ± 25 / ± 50 / ± 100 Pa and 0...100 Pa selectable by DIP switches

2) Display units Pa, mbar, inch WC, mm H₂O selectable by DIP switches

Order Examples

EE610-HV51A7

Measuring range: ± 100 Pa
Output: analogue
Display: without display

EE610-HV51A7D2

Measuring range: ± 100 Pa
Output: analogue
Display: with display