

EE600

Differential Pressure Sensor

The EE600 is dedicated for reliable measurement of differential pressure in HVAC, building automation and filter monitoring applications. The multi-range device can be employed for air as well as all non-flammable and non-aggressive gases.

Measurement Performance

The EE600 is available with full scale (FS) 1,000 Pa (4 inch Water Column) and 10,000 Pa (40 inch WC) and offers an outstanding accuracy of $\pm 0.5\%$ FS. For the versions with analogue outputs, several measuring ranges are selectable with DIP-switches. The piezo-resistive, no flow-through pressure sensing element stands for outstanding long-term stability.

Analogue and Digital Outputs

The measured data is available on the analogue voltage and current outputs or on the RS485 interface with Modbus RTU or BACnet MS/TP protocol.

Functional and Robust

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

Configurable and Adjustable

The setup and adjustment can be easily performed with DIP-switches and push buttons on the electronics board (EE600 with analogue outputs) or with an optional adapter and the free EE-PCS configuration software (EE600 with RS485 interface). The setup includes pressure range, output signal, response time, display units and backlight. Beside differential pressure measurement, the EE600 can be set up for volume flow or air velocity measurement, as well as for filter monitoring or level indication. A zero and span point adjustment can be easily performed with push buttons on the electronics board.



Features

Accuracy $\pm 0.5\%$ FS
Multi-range (analogue outputs)
 » 0 ... 250 / 500 / 750 / 1000 Pa
 » 0 ... 2500 / 5000 / 7500 / 10000 Pa

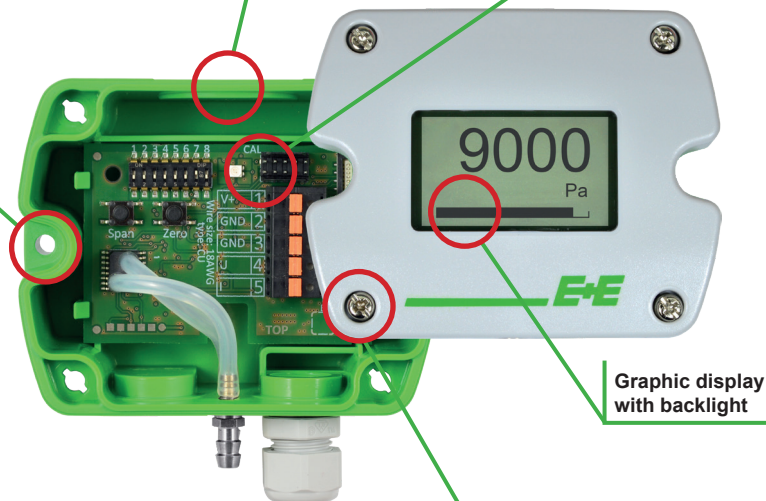
Service interface for configuration (RS485 version)

- » Measurands
 - » Differential pressure
 - » Volume flow (k-factor input)
 - » Air velocity (k-factor input)
- » Application setting
 - » Filter monitoring
 - » Level indicator

Knockout for 1/2" conduit fitting (US)

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

Test report according to DIN EN 10204-2.2

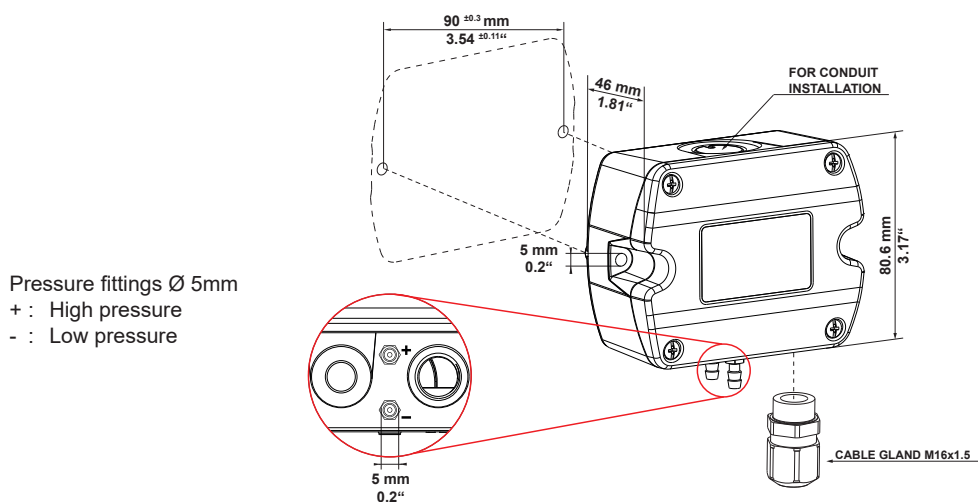


Graphic display with backlight

User configurable and adjustable
 » Pressure range
 » Output signal
 » Response time
 » Display units and backlight
 » Zero and span point adjustment

Enclosure
 » IP65 / NEMA 4 protection class
 » Bayonet screws - open/closed with a 1/4 rotation

Dimensions (mm/inch)



Technical Data

Measured Value

Differential Pressure (Δp)

Measurement principle	Piezoresistive, no flow-through		
Accuracy at 20 °C (68 °F)	± 0.5 % FS		
(incl. hysteresis, non-linearity and repeatability)	FS = full scale (1000 Pa or 10000 Pa)		
Response time t_{90}	50 ms / 500 ms / 2 s / 4s selectable with DIP switches ¹⁾		
Analogue outputs	selectable in the range from 0.5 to 30 s using EE-PCS ²⁾		
RS485			
Temperature dependency	typ. < 0.03 % from FS/K		
Long-term stability	< 0.5 % from FS/year		
Overload limits			
0...1000 Pa (4 inch WC)	± 10000 Pa (± 40 inch WC)		
0...10000 Pa (40 inch WC)	± 80000 Pa (± 320 inch WC)		

Outputs

Analogue outputs ³⁾	0-5 V or 0-10 V	-1 mA < I_L < 1 mA	I_L = load current
selectable with	and		
DIP switches ¹⁾	0-20 mA or 4-20 mA (3-wire)	$R_L \leq 500 \text{ Ohm}$	R_L = load resistor
Measurement range	I: 0...250 / 500 / 750 / 1000 Pa	(0...1 / 2 / 3 / 4 inch WC)	
selectable with DIP switches ¹⁾	II: 0...2500 / 5000 / 7500 / 10000 Pa	(0...10 / 20 / 30 / 40 inch WC)	
Digital interface	RS485 (EE600 = 1/2 unit load)		
Protocol	Modbus RTU or BACnet MS/TP		

General

Power supply	15-35 V DC or 24 V AC ±20 %		
Current consumption, typ. at 0 Pa / 24 V DC			
	Analogue outputs	RS485	
without display	23 mA	8 mA	
with display and backlight	49 mA	29 mA	
Display	Graphic, with backlight		
Display units	Pa, mbar, inch WC, kPa		
Analogue outputs	selectable with DIP switches ¹⁾		
RS485	configurable using EE-PCS ²⁾		
Connection			
Analogue outputs	spring terminals, max. 1.5 mm ² (AWG16)		
RS485	screw terminals, max. 2.5 mm ² (AWG14)		

1) Factory setup analogue outputs: measurement range 0...100 % FS; 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) Factory setup RS485: response time t_{90} : 500 ms; display unit: Pa; display backlight: on

3) Voltage and current output signals available simultaneously at the spring loaded terminals.

Housing material	Polycarbonate, UL94V-0 (with display UL94HB) approved	
Protection class	IP65 / NEMA 4	
Cable gland	M16 x 1.5	
Electromagnetic compatibility	DIN EN 61326-1 DIN EN 61326-2-3	
Humidity range	0...95 % RH (non condensing)	
Temperature ranges	Operation: -20...60 °C (-4...140 °F) Storage: -40...70 °C (-40...158 °F)	



Accessories (see data sheet "Accessories")

Pressure connection set (included in the scope of supply)	HA011304
USB configuration adapter	HA011066
E+E Product Configuration Software (Download: www.epluse.com/Configurator)	EE-PCS

Ordering Guide

		EE600	
Hardware	Measuring range ¹⁾	0...1000 Pa (0...4 inch WC, 0-10 mbar, 0-1 kPa) 0...10000 Pa (0...40 inch WC, 0-100 mbar, 0-10 kPa)	HV52 HV53
	Output	analogue (voltage and current outputs) RS485 interface	A7 J3
	Display	with display without display	D2 no code
Setup RS485	Protocol	Modbus RTU ²⁾ BACnet MS/TP ³⁾	P1 P3
	Baud rate	9600	BD5
		19200	BD6
		38400	BD7
		57600 ⁴⁾	BD8
76800 ⁴⁾	BD9		

1) Measuring ranges 0...25% / 50 % / 75 % / 100 % FS selectable by DIP switches for analogue outputs

2) Factory setting: Even Parity, Stopbits 1; Modbus Map and communication setting: See User Guide and Modbus Application Note at www.epluse.com/ee600.

3) Factory setting: No Parity, Stopbits 1; Product Implementation Conformance Statement (PICS) available at www.epluse.com/ee600.

4) Only for BACnet MS/TP

Order Examples

EE600-HV52A7

Measuring range: 0...1000 Pa (0...4 inch WC, 0-10 mbar, 0-1 kPa)
 Output: analogue (voltage and current outputs)
 Display: without display

EE600-HV53A7D2

Measuring range: 0...10000 Pa (0...40 inch WC, 0-100 mbar, 0-10 kPa)
 Output: analogue (voltage and current outputs)
 Display: with display