EE660

Low Air Velocity Sensor

The EE660 is optimized for highly accurate measurement of very low air velocity in laminar flow control and special ventilation applications, for instance in clean rooms.

Excellent Measurement Performance

The E+E thin film sensing element employed in EE660 operates on the hot film anemometer principle, which stands for excellent accuracy down to 0.15 m/s (30 ft/min), high insensitivity to pollution and low angular dependency.

Analogue and Digital Outputs

The air velocity measured data is available as current and voltage outputs, on the RS485 interface with Modbus RTU or BACnet protocol, as well as on the optional display.

Easy Configuration and Adjustment

The EE660 is user configurable with jumpers on the electronics board or via software. An optional configuration adapter and the free EE-PCS Product Configuration Software facilitate the adjustment of EE660 and the display setup.

Features

Display

» Large, easily readable
» With backlight
» 180° rotatable

Smooth cover surface

» No accumulation of dust in protruding edges

Electronics on the underside of the board

» Optimum protection against mechanical damage during installation

E+E sensing element

» Excellent accuracy
» Long-term stability
» Low sensitivity to pollution
» Low angular dependency

Appropriate for US mounting requirements

» Knock-out for ½" conduit fitting

External mounting holes

» Easy and fast mounting with closed cover
» Electronics protected against construction site pollution
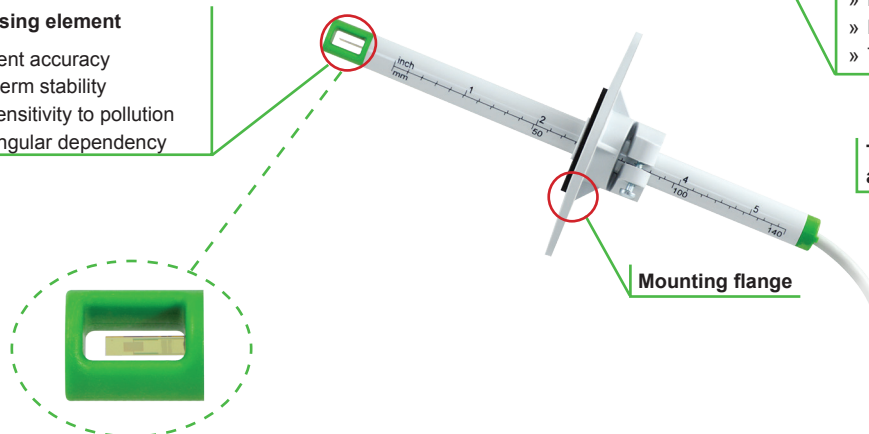
Bayonet screws

» Open/closed with a ¼ rotation

Adjustment configuration

» Measuring range
» Response time
» RS485 Setup
» Termination resistor

Test report according DIN EN 10204 - 2.2

Mounting flange

Technical Data

Measurand

Working range [1]	0...1 m/s	(0...200 ft/min)
	0...1.5 m/s	(0...300 ft/min)
	0...2 m/s	(0...400 ft/min)

Accuracy at 20 °C [2] (68 °F), 45 % RH, 1013 hPa	0.15...1 m/s (30...200 ft/min)	± (0.04 m/s (7.9 ft/min)	+ 2 % of mv)
	0.15...1.5 m/s (30...300 ft/min)	± (0.05 m/s (9.8 ft/min)	+ 2 % of mv)
	0.15...2 m/s (30...400 ft/min)	± (0.06 m/s (11.8 ft/min)	+ 2 % of mv)

Response time τ_{90} [3]	typ. 4 sec or typ. 1 sec (at constant temperature)

Output

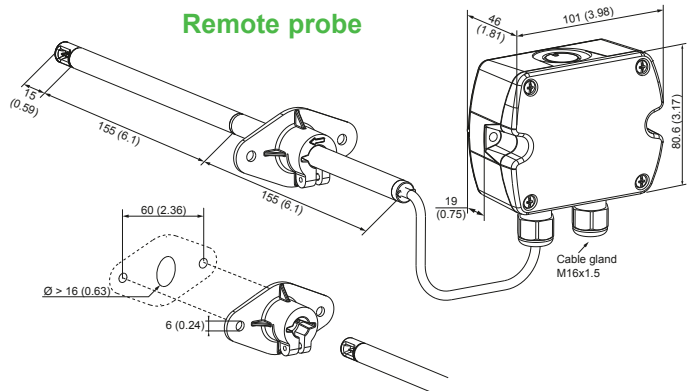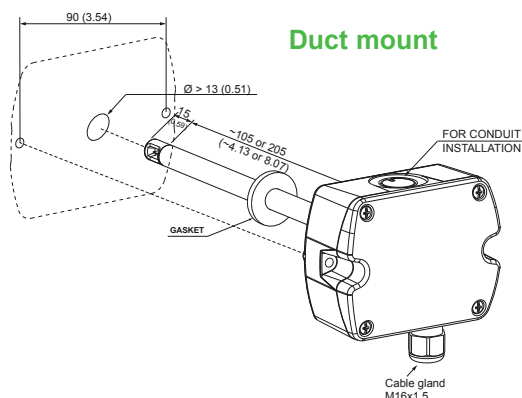|	
Analogue 0...1 m/s / 0...1.5 m/s / 0...2 m/s [1]	0 - 10 V and 4 - 20 mA -1 mA < I_L < 1 mA R_L < 450 Ω (linear, 3-wires)
Digital interface	RS485 with max. 32 devices on one bus
Protocol	Modbus RTU or BACnet MS/TP

General

Power supply (Class III) �III	24 V AC/DC ± 20 %

Current consumption (max.)		AC supply - no display	DC supply - no display	AC supply - with display	DC supply - with display
	Analogue ouput	74 mA rms	41 mA	180 mA rms	85 mA
	Digital output	120 mA rms	50 mA	-	-

Angular dependence	< 3% of the measured value at | $\Delta\alpha$ | < 10°
Electrical connection	screw terminals max. 1.5 mm² (AWG 16)
Cable gland	M16x1.5
Electromagnetic compatibility	EN61326-1 EN61326-2-3 Industrial Environment
Housing material	Polycarbonate, UL94V-0 (with Display UL94HB) approved
Protection class	Enclosure IP65 / NEMA4, remote probe IP20
Temperature range	working temperature probe -25 ... +50 °C (-13...122 °F) working temperature electronic -10 ... +50 °C (14...122 °F) storage temperature -30 ... +60 °C (-22...140 °F)
Working range humidity	5...95 % RH (non-condensing)

CE

1) Selectable by jumper, only for analogue output
2) The accuracy statement includes the uncertainty of the factory calibration with an enhancement factor k=2 (2-times standard deviation).
   The accuracy was calculated in accordance with EA-4/02 and with regard to GUM (Guide to the Expression of Uncertainty in Measurement).
3) Selectable by jumper (analogue) and slide switch (digital)

Dimensions mm (inch)

Duct mount

Remote probe

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Ordering Guide

			EE660-		
Configuration	**Model**	duct mount	T2		
		remote probe		T3	
	Output	0-10 V and 4-20 mA	A7		
		RS485	J3		
	Probe length	100 mm (3.94")	L100		
		200 mm (7.88")	L200		
		300 mm (11.82")		L300	
	Cable length	1 m (3.3 ft)		K1	
		2 m (6.6 ft)		K2	
		5 m (16.4 ft)		K5	
		10 m (32.8 ft)		K10	
	Display	no display	no code		
		with display (only for analogue ouput A7)	D2		
	Display unit	m/s	no code		
		ft/min	DA21		
Setup RS485	**Protocol**	Modbus RTU [1]	P1		
		BACnet MS/TP [2]	P3		
	Baud rate	9600	BD5		
		19200	BD6		
		38400	BD7		
		57600 [3]	BD8		
		76800 [3]	BD9		

1) Factory setting: Even Parity, Stopbits 1
2) Factory setting: No Parity, Stopbits 1
3) Only for BACnet MS/TP

Order Examples

EE660-T3J3L300K1P1BD5

Model: remote probe
Output: RS485
Probe length: 300 mm (11.82")
Cable length: 1 m (3.3 ft)
Display: no display
Protocol: Modbus RTU
Baud rate: 9600

EE660-T2A7L200

Model: duct mount
Output: 0-10 V and 4-20 mA
Probe length: 200 mm (7.88")

Accessories

USB configuration adapter
Product configuration software
Power supply adapter

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