

CO₂ TRANSMITTER FOR DUCT MOUNTING

EE85 Series

Duct mounted CO₂ transmitters EE85 series are designed for HVAC applications. The CO₂ sensing element uses the Non-Dispersive Infrared Technology (NDIR). A patented auto-calibration procedure compensates for drift caused by the aging of the sensing element and guarantees outstanding long term stability.

Installed into a duct a small flow of air will be established by convection through the probe into the transmitter housing and back into the duct. Inside the transmitter housing the air will diffuse through a membrane into the CO₂ sensing element. The operation in closed loop air stream avoids pollution of the CO₂ sensor.

Measuring ranges 0..2000ppm and 0...5000ppm correspond to analogue voltage output 0 - 5/10V or 4 - 20mA. The instrument can be easily positioned in the duct with the standard mounting flange.



EE85

Typical Applications

- Building management for residential and office areas
- Ventilation control

Features

- Very simple installation
- Compact housing
- Auto-calibration
- Measuring ranges: 0...2000ppm or 0...5000ppm

Technical Data EE85

Measuring Value

CO₂

Measurement principle	Non-Dispersive Infrared Technology (NDIR)	
Sensing element	E+E Dual Source Infrared System	
Measuring range	0...2000ppm / 0...5000ppm	
Accuracy at 20°C (68°F) and 1013mbar	0...2000ppm:	< ± (50ppm +2% of measuring value)
	0...5000ppm:	< ± (50ppm +3% of measuring value)
Response time $\tau_{63}^{1)}$	< 120s	
Temperature dependence	typ. 2ppm CO ₂ /°C	
Long term stability	typ. 20ppm / year	
Sample rate	ca. 30s	

Outputs

0...2000ppm / 0...5000ppm	0 - 5V	-1mA < I _L < 1mA
	0 - 10V	-1mA < I _L < 1mA
	4 - 20mA	R _L < 500 Ohm

General

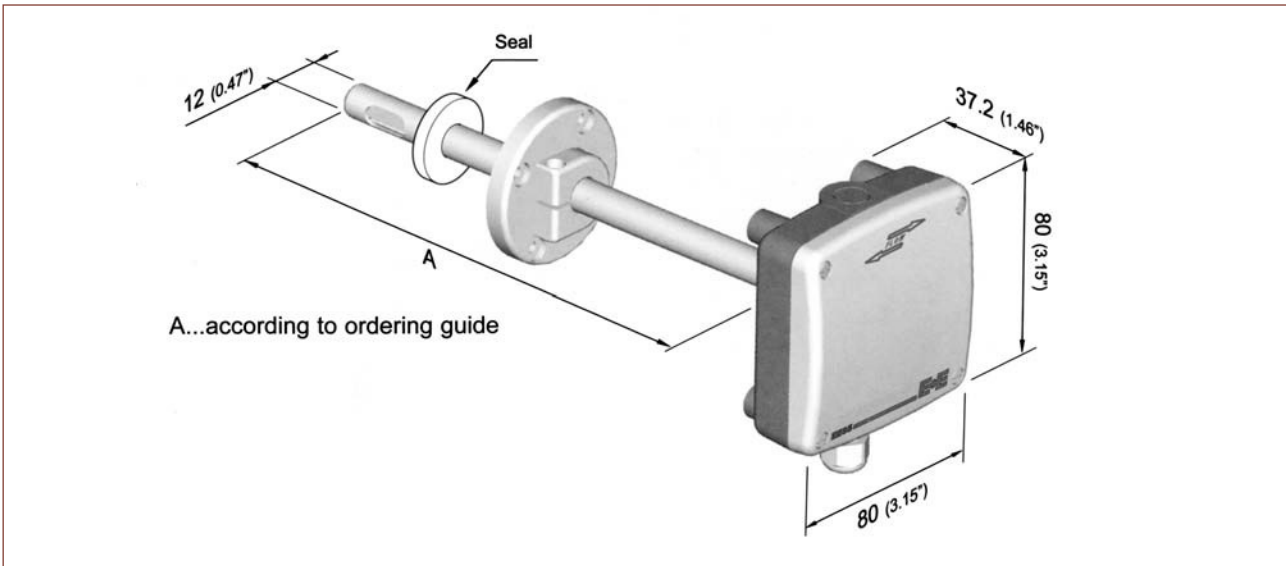
Supply voltage SELV	24V AC ±20%	15 - 35V DC	SELV = Safety Extra Low Voltage
Power requirement	< 3W		
Warm up time ²⁾	< 5 min		
Housing / protection class	PC / housing: IP65, probe: IP20		
Cable gland	M16 x 1.5 cable ø 4.5 - 10 mm (0.18 - 0.39")		
Electrical connection	Screw terminals max. 1.5mm ² (AWG16)		
Electromagnetic compatibility	EN 61000-6-3	ÖVE EN61326-1+A1+A2:05.2002	CE
	EN 61000-6-1 FCC Part15	ICES-003 ClassB	
Working temperature and conditions	-5...55°C (23...131°F)		0...95% RH (not condensation)
Storage temperature and conditions	-20...60°C (-4...140°F)		0...95% RH (not condensation)

¹⁾ Minimum flow speed 1m/s (200ft/min).

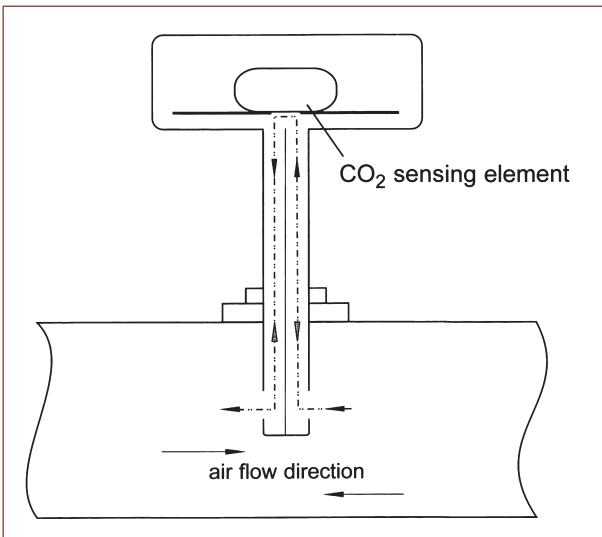
²⁾ Warm up time for performance according to specification.

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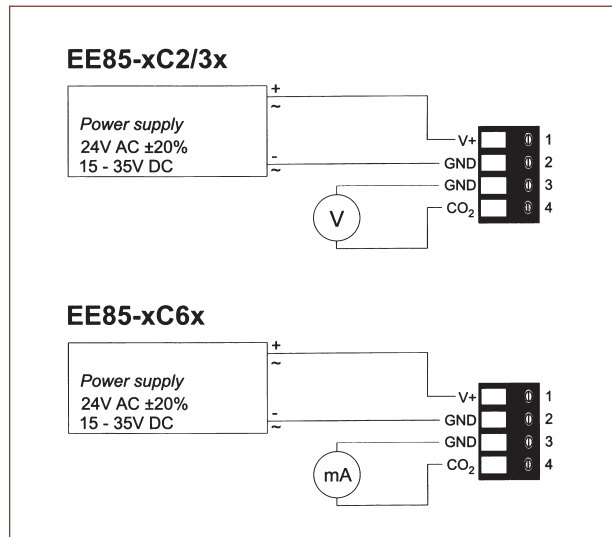
Dimensions (mm)



Operation Principle



Connection Diagram



Ordering Guide EE85

Measuring Range		Model		Output		Probe Length (see dimensions "A")	
0...2000ppm	(2)	CO ₂	(C)	0 - 5V	(2)	50mm	(2)
0...5000ppm	(5)			0 - 10V	(3)	200mm	(5)
				4 - 20mA	(6)		
EE85-							

Order Example

EE85-5C35
 Measuring range: 0...5000ppm
 Model: CO₂
 Output: 0 - 10V
 Probe length: 200mm

