

EGQ 212, 222: Transducers for CO₂ and temperature

Used for selective measurement of the CO₂ content and the temperature of the room air as the basis for demand-led ventilation. The CO₂ level serves as an indicator of human body odour and exhaled air.

Infra-red-spectroscopic sensor as per VDMA sheet 24772. Screw terminals for wire of up to 2.5 mm². EGQ 212: Lower part of housing with sensor tube (Ø 30 mm) of black, glass-fibre-reinforced thermoplastic; yellow housing cover of thermoplastic. Includes fixing bracket with seal for duct fitting. Depth of insertion: 40...166 mm. EGQ 222: Housing 76 × 76 of thermoplastic; for fitting on walls; pure white (RAL 9010).

Type	Fitted in	CO ₂ range	Temp. range	Voltage	Weight [kg]
EGQ 212 F001	duct	0...2000 ppm	0...50 °C	24 V~/=	0.3
EGQ 222 F001	room	0...2000 ppm	0...50 °C	24 V~/=	0.3

Power supply 24 V~/=	± 20%	Permissible ambient temp.	0...50 °C
Power consumption	< 2 W	Permissible ambient humidity	0...95 %rh without condensation
Ready for operation	within 2 min	Degree of protection: EGQ 212 (at head)	IP 54 (EN 60529)
		EGQ 222	IP 30
Accuracy:-			
CO ₂ (T = constant) ¹⁾	± 20 ppm		
Temperature	± 0.3 °C		
Output signals			
CO ₂ (0...2000 ppm)	0...10 V, load > 2 kΩ	Wiring diagram	EGQ 212 A05842
Temp. (0...50 °C)	0...10 V, load > 2 kΩ	Dimension drawing	EGQ 222 A04674
Measurement cycle	60 s	Fitting instructions	M04347 MV 505877
			M07634 MV 505878

Accessories

- 0303124 000*** Recessed junction box
0313347 001* Intermediate cover plate for 76 × 76
0370560 011 Cable screw fitting (Pg 11), of plastic, for cable of Ø 9...11 mm for EGQ 110

*) Dimension drawing or wiring diagram are available under the same number

1) At temperatures of 0...50 °C, the tolerance is ± 5% of the displayed value, i.e. at least ± 50 ppm.

Operation

The CO₂ measuring principle is based on infra-red spectroscopy. The greater the CO₂ content in the room air, the lower the penetration of infra-red light. The electronic evaluation unit calculates the CO₂ concentration from this.

Engineering and fitting notes

Local safety regulations must be observed. The CO₂ transducer must not be used for measuring safety levels of gas.

The transducer should be fitted in a place that is representative of CO₂ levels: normally, 1.5 to 2 metres above floor level in the case of room transducers. The transducer should be located where it has a good throughflow of air, as is the case with temperature sensors, for instance.

In any case, it should not be located nearer than about one metre to the room occupants, because of the high CO₂ content of exhaled air.

To prevent the exchange of gas between the surrounding air and the duct air, the duct housing should be well sealed.

LED EGQ 222

There is a 3 mm red LED in the sensor. The LED indicates the status of sensor.

Explanation of the various LED signals:-

LED activity	ON time	OFF Time	Explanation
• Flashes continuously	0.1 s	14.9 s	Normal sensor operation
• Flashes continuously	0.3 s	0.7 s	Warm-up time after power on (results not stable)
• On whilst zeroing key is pressed			Zeroing key pressed
• Flashes three times after zeroing key has been released	0.2 s	0.2 s	Confirmation of zeroing
• Continuously on			Error (results incorrect)
• Continuously off			Sensor off



