

EGQ 120: Room transducer, air quality, surface-mounted

How energy efficiency is improved

Allows demand-controlled regulation of ventilation systems and reduces energy consumption

Features

- Measures the relative mixed gas concentration (organic components in the room air), such as tobacco smoke, kitchen vapours or human body odours
- Demand-based ventilation control in buildings such as restaurants and offices
- Active VOC semi-conductor sensor (volatile organic compound) for measuring the mixed gas concentration
- Adjustment of the output signal using a trim potentiometer
- Suitable for fitting directly to walls

Technical data

Power supply		
Power supply		24 V=/ $\pm 10\%$
Power consumption		1.2 W / 2.2 VA
Warming-up time		Approx. 30 min
Parameters		
	Time constant in moving air (0.5 m/s)	Approx. 100 seconds
Ambient conditions		
	Admissible ambient temperature	-20...50°C
	Admissible ambient humidity	Max. 85% rh, no condensation
Inputs/outputs		
	Output signal	0...10 V, min. load 10 k Ω
Construction		
	Housing	Pure white
	Housing material	ABS, ASA
	Connection terminals	Screw terminal, max. 1.5 mm ²
	Weight	65 g
Standards, directives		
	Type of protection	IP30 (EN 60529)
CE conformity according to	EMC Directive 2004/108/EC	EN 60730-1 (mode of operation 1, residential premises)
Overview of types		
Type	Description	
EGQ120F031	Room transducer, air quality, surface-mounted	

Description of operation

The VOC concentration is recorded with a tin-dioxide measuring element and converted to a linear 0...10 V output signal. The offset of the output signal can be adjusted using a trim potentiometer. The voltage of the output signal increases if the air quality deteriorates.

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

All related product regulations must also be adhered to. Changing or converting the product is not admissible.

Engineering and fitting notes



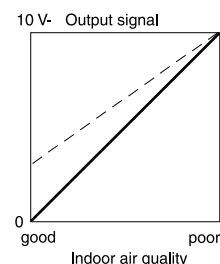
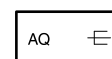
CAUTION!

Damage to device!

► Electrical devices may only be installed and fitted by a qualified electrician!



EGQ120F031



The device may not be used for safety applications or for selective gas measurements. It only achieves full accuracy after a certain warming-up time, which is why it should be permanently connected to the power supply. It is sufficiently ready for operation after a 30-minute warming-up time. Delivered with factory calibration. However, the operating point can be adjusted individually according to the conditions in the room after 2 days.

Electrical connection

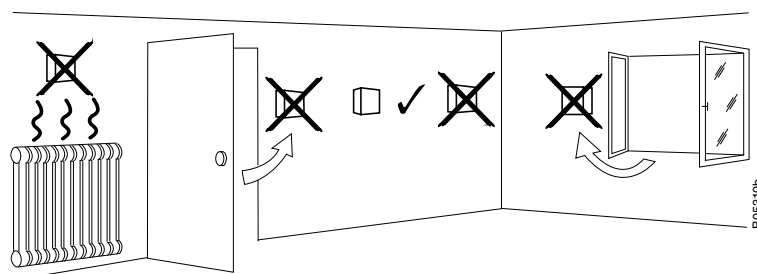
The devices are designed for operation with safety extra low voltage (SELV/PELV). The technical data for the devices applies when connecting them to the power supply.

Sensors with transducers must usually be operated in the middle of the measuring range, because higher deviations can occur at the end points of the measuring range. The ambient temperature of the transducer electronics must be kept constant.

Current/voltage peaks when switching the supply voltage on/off must be avoided.

Fitting

The EGQ 120 is suitable for surface mounting. For further information, see the fitting instructions. Incorrect fitting can result in incorrect measuring results. Therefore, always observe the fitting instructions. The place of installation must also be chosen carefully to ensure reliable measurement. Cold outer walls and fitting above heat sources (radiators, for example) and right next to doors with draughts must be avoided, as well as direct sunlight. Furnishings, such as curtains, cabinets or shelves, can hinder the flow of room air to the sensor and thereby cause discrepancies in the measurements. Heating pipes inside the walls can also affect the measurement. Do not use silicone or similar materials to seal the pipes in the wall.



Start-up

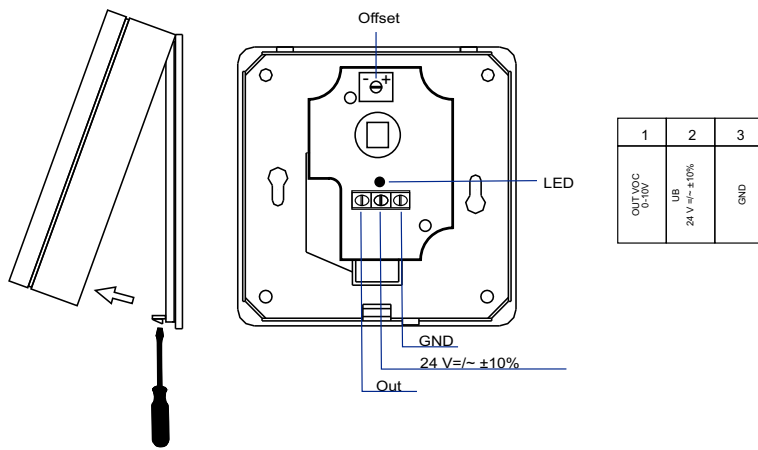
Individual adjustment of the output signal is performed using a trim potentiometer. It is used to raise or reduce the offset of the output signal.

1. Connect the sensor and switch on the operating voltage.
2. Ensure good air quality in the vicinity of the sensor.
3. Check the output signal after approximately 30 minutes of operation. The voltage should range between 1...3 V. If the voltage is too high or too low, make the necessary adjustments using the trim potentiometer on the printed circuit board: turn the trim potentiometer anticlockwise until the red LED lamp goes out.

The output signal is now at about ≤ 0.7 V.

4. The sensor is now ready for operation. The output voltage increases if the air quality deteriorates.

Connection diagram



Dimension drawing

