

EGQ 110, 120: VOC sensors for indoor air quality

How energy efficiency is improved

Enables the demand-led control of ventilation systems and reduces energy consumption

Areas of application

Measurement of relative mixed-gas concentration (organic compounds in the room air), e.g. tobacco smoke, kitchen smells or body odour. Demand-led ventilation control in building services, e.g. in restaurants and office buildings.

Features

- Active measurement of volatile organic compounds (VOCs)
- Versions for fitting in rooms and in ducts
- EGQ 120 suitable for wall mounting
- Measuring span of output signal can be set by means of trim potentiometer

Technical description

- Measurement is effected with a semi-conductor mixed-gas sensor as per VDMA 24772
- EGQ 110: sensor tube (ø 30 mm) of black, glass fibre-reinforced thermoplastic
- EGQ 110: mixed-gas concentration measured using semi-conductor sensor element
- EGQ 110: immersion depth 52 to 156 mm; fixing bracket supplied
- EGQ 120: housing of pure white, fire-retardant thermoplastic (RAL 9010)
- Screw terminals for wires of max. 2.5 mm²

Type	Place of measurement	Output	Power	Weight kg
EGQ 110 F001	in duct	0...10 V	24 V~/=	0.28
EGQ 120 F001	in room	0...10 V	24 V~/=	0.10

Power supply 24 V~/= 1)	± 20%	Degree of protection EGQ 110 (at head of instrument) with PG11 cable screw fitting	IP 40 (EN 60529)
Power consumption	approx. 2.5 VA	Degree of protection EGQ 120	IP 54
Permissible load	> 5 kΩ	Protection class	III (IEC 60730)
Time constant in air (0.5 m/s) EGQ 110 / EGQ 120	100 s / 60 s		
Max. air speed	15 m/s	EGQ 110	EGQ 120
Ambient temperature EGQ 120	-20...70 °C	Wiring diagram A04427	A04427
Ambient humidity	5...95% rh	Dimension drawing M02200	M07634
		Fitting instructions MV 505363	MV 505499

Accessories

- 0303124 000*** Recessed junction box
0313187 001* Filter, complete, as a replacement unit, for EGQ 110
0313347 001* Intermediate cover plate for 76 × 76 mm, for EGQ 120
0370560 011 Cable screw fitting PG11, of plastic, for cable Ø 9...11 mm, for EGQ 110

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

1) Should be permanently connected to the power supply, and not be used for safety applications.

Operation

The VOC concentration is measured by a semiconductor sensor element and converted into a linear output signal of 0...10 V. A trimming potentiometer can be used to vary the sensitivity (span) of the output signal.

Engineering and fitting notes

The product should be used neither for safety applications nor for selective gas measurements. It does not attain peak accuracy until it has warmed up fully, so should always stay connected to the power supply. Operability is attained after a warm-up period of 30 minutes.

Calibrated ex works. The operating point can, however, be adapted to the local room conditions after approximately two days. Neither the duct nor the room version requires any maintenance.

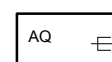
The duct version should not be fitted with the sensor tube facing upwards. The filter can be replaced if heavily contaminated.

Additional technical data

CE conformity as per
EMC Directive 89/336/EC EN 61000-6-1/ EN 61000-6-3



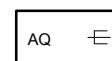
EGQ 110



Y04425



EGQ 120



Y02201



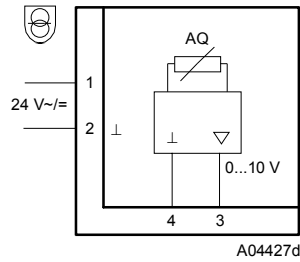
Anwenderhinweise

In general, VOC sensors age more rapidly if they are employed in very contaminated air or aggressive gases. Under such conditions, the sensor may drift prematurely. If the sensors are used in very contaminated air, a premature re-calibration or, if necessary, the replacement of the complete sensor is not covered by the general warranty provisions.

The ventilation system must be regularly provided with uncontaminated air in the room for 4–8 hours so that the VOC sensor can regenerate itself.

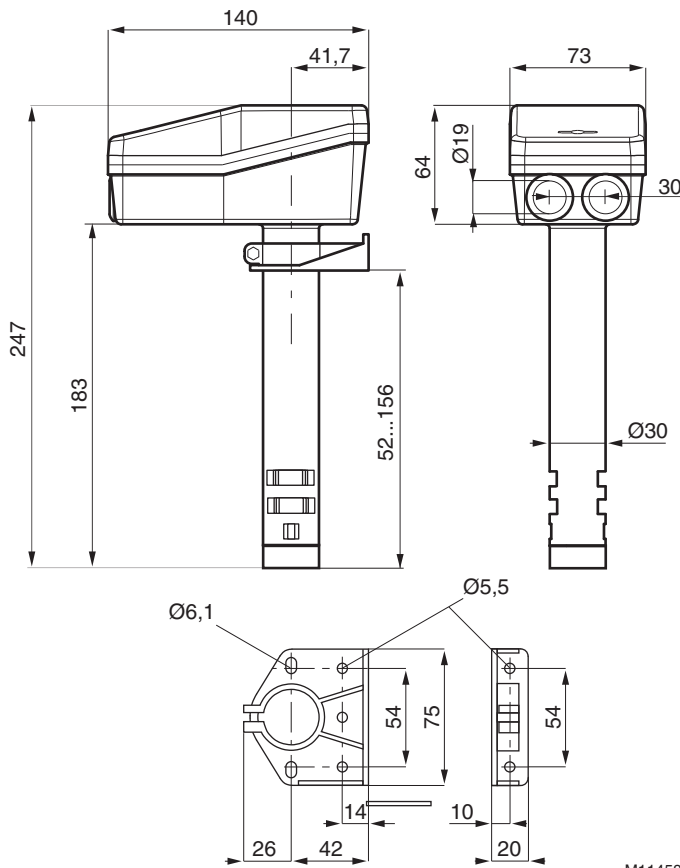
Wiring diagram

EGQ 110, 120

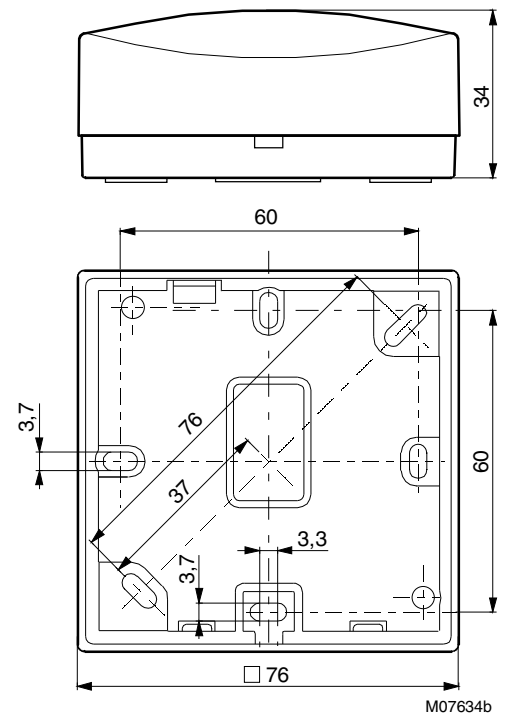


Dimension drawings

EGQ 110



EGQ 120



Accessories

