

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 VOC mixed gas concentration (organic components in the room air), such as tobacco smoke, kitchen vapours
- Demand-based ventilation control in buildings such as restaurants and offices
- Active VOC semi-conductor sensor for measuring mixed gas concentration
- Suitable for direct wall mounting and recessed junction boxes

Technical data

Power supply		
Power supply		15...35 VDC / 19...29 VAC SELV
Power consumption		Typ. 0.4 W at 24 VDC Typ. 0.8 VA at 24 VAC
Start-up current		Max. 1.6 A
Parameters		
Type of sensor		VOC (heated metal oxide semiconductor)
Ambient conditions		
Ambient temperature		-35...70 °C
Ambient humidity		Max. 85% rh, non-condensing
Inputs/Outputs		
Output signal		Active, 0...10 V, min. load 10 kΩ
Construction		
Colour		Traffic white (RAL9016)
Housing material		Polycarbonate (PC) UL94-V0
Cable inlet		Through the rear wall
Connection terminals		Spring-type terminals, max. 1.5 mm ²
Weight		65 g
Standards, directives		
Type of protection		IP20 (EN 60529) after fitting
CE conformity ¹⁾	EMC-D 2014/30/EU (CE)	EN 60730-1 (mode of operation 1, residential premises)
	RoHS-D 2011/65/EU & 2015/863/EU (CE)	EN IEC 63000

Overview of types

Type	Description
EGQ120F032	Room transducer, active, air quality

Accessories

Type	Description
0300230010	USB Bluetooth® dongle

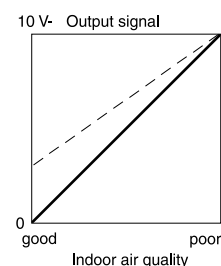
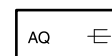
Description of operation

The EGQ 120 room transducer measures the concentration of volatile organic compounds (VOCs) in indoor spaces such as residential premises, offices, restaurants and conference rooms. VOCs are gaseous and vaporous substances in the room air. VOC sensors measure most of the odours that humans can smell which indicate air quality (e.g. bodily odours, tobacco smoke, odours from materials, furniture, carpets, paint, adhesives etc.). The VOC value is an application-specific indicator

¹⁾ Explanation of abbreviations in the "Additional technical information" section of the product data sheet and in the appendix to SAUTER product catalogues



EGQ120F032



of room air quality and does not give any information on the components or composition of the substances.

The VOC concentration is recorded with a tin-dioxide measuring element and converted to a linear 0...10 V output signal. The voltage of the output signal increases if the air quality deteriorates. The VOC sensor oxidises the organic molecules that come into contact with it, causing the resistance of the semiconductor to change.

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.

The device is only intended for use inside buildings. Modifying or converting the product is not admissible.

Improper use

The product is not suitable for:

- Safety applications
- Outdoor use and use in areas where there is a risk of condensation

Engineering and fitting notes



NOTICE!

Connection and fitting may only be carried out by an authorised electrician. The regulations and rules of electrical installation must be observed.



NOTICE!

Electronic components can be damaged by electrostatic discharge (ESD).
▶ Do not touch the PCB, exposed sensor elements and connections.

The device is not failsafe. In cases where a failure or malfunction of the room transducer could result in personal injury or damage to the controlled system or other property, additional protective and warning devices must be incorporated into the system. Integrate monitoring or alarm systems, safety or limit controllers for this purpose.

Electrical connection

The devices are designed for operation with safety extra low voltage (SELV/PELV). The electrical connection is made via spring-type terminals. Wire stripping length approx. 8 mm.

The device may only be connected when the power cable is disconnected from the electrical supply. It is advisable to protect the room transducer from electrical damage with a 2AT safety fuse. No such fuse is integrated in the device.

Cable-related measurement deviations

When routing the cables, remember that electromagnetic fields (EMC interference) can affect the measuring accuracy. This effect increases the longer the cable is and the smaller the conductor cross-section is. Therefore always use shielded connection and signal cables and/or avoid laying parallel with power cables.

Fitting

The EGQ 120 is suitable for mounting in a 60 mm recessed junction box or directly on the wall. A fitting height of 140 to 150 cm is recommended.

The lower section of the housing can be premounted and wired separately from the upper section.



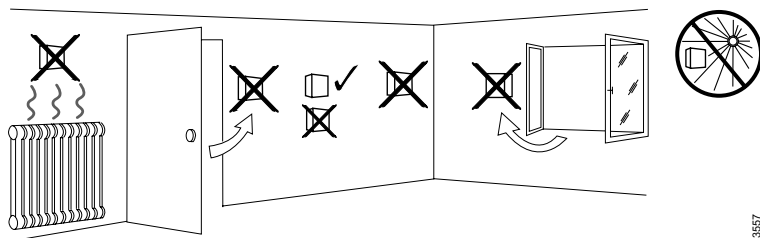
Note

The following fitting instructions must be observed.

- Incorrect fitting can lead to incorrect measuring results. The place of installation must also be chosen carefully to ensure reliable measurement.
 - The air vents must not be covered or sealed.
 - The Micro-USB port and the fastening screw on the underside of the housing must not be obstructed by other devices.
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Avoid:

- Poorly insulated exterior walls
- Heat sources (e.g. radiators, lamps, heating pipes)
- Doors and windows with draughts
- Direct sunlight
- Corners of rooms and alcoves
- Proximity to curtains, cupboards, shelves and other furnishings. These can prevent the flow of room air around the sensor.
- Multiple devices directly above each other. A device's own heat can affect the one above it.



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Also, air flowing from the ducts and pipes of the electrical installation can cause measurement errors. Empty pipes and installation pipes should therefore be well sealed. To protect the sensitive VOC sensor, do not use silicone or other outgassing sealants.

Removal

Remove the upper section of the housing as follows:

1. Undo the slotted-head screw on the underside.
2. Slightly tilt the housing from below.
3. Insert a flat-blade screwdriver into the notch at the top and carefully push down the latch until the upper section of the housing is released and can be taken off.

Commissioning

The device does not reach maximum accuracy and operational readiness until several minutes after switching on. The signals generated while switching on may fluctuate and not correspond to the measured value.

The room transducer must be operated in the middle of its measuring range because increased deviations can occur at the end points of the measuring range.

The VOC sensor is factory-calibrated and can be recalibrated via the USB interface if necessary.

Configuration

The device can be configured using the SAUTER Room Sensor Connect mobile app. The app supports the following functions:

- Communication via USB Bluetooth® dongle (accessory 0300230010)
- Reading device information and live data
- Custom configuration of output signals
- Adjusting measuring ranges
- Readjustment of offset values
- Parameterisation of the live zero signal (1...10 V etc.)
- Adjustment of maintenance intervals
- Saving and loading configurations

The mobile app is available free of charge in the Google Play Store and the Apple App Store.



Connecting the device to the Room Sensor Connect mobile app

1. Install the app and activate Bluetooth on the mobile device.
2. Connect the USB dongle to the EGQ (see fitting instructions P100020342).
 - > The connected room transmitter is displayed in the app under "Connection Manager".
3. Perform the required device configurations or read out data.
4. After use, close the app and remove the USB dongle.

Additional information

	Document no./link
Fitting instructions for EGQ	P100019818
Fitting instructions for USB dongle	P100020342
Declaration on materials and the environment	MD 37.121

Abbreviations used

CE	Manufacturer's Declaration of Conformity for the European Union (EU)
EMC-D	Electromagnetic Compatibility Directive 2014/30/EU
RoHS-D	Restriction of Hazardous Substances in Electrical and Electronic Equipment Directives 2011/65/EU & 2015/863/EU

Disposal

When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram

EGQ120F032

3	VOC
2	MM
1	LS

Dimension drawings

All dimensions in mm.

