



CHINA SENSOR

中国传感器 - 原装正品, 现货直供

AQ-Transmit Datasheet (Air Quality Transmitter)



1. Properties

The AQ-Transmit determines with the help of a specific two-beam infrared photometer, the concentration of carbon dioxide in the air mixture at an ambient temperature of -10 to +50° C (measuring range 0-3,000 ppm). It is compact, robust, easy to handle, in normal applications maintenance-free and therefore in particular suitable for monitoring air quality in interior rooms (for e.g. conference rooms, low-energy houses). The attractive housing is made of plastic and can be mounted on the wall or directly on in-wall connectors.

The AQ-Transmit infrared measuring system detects the concentration of carbon dioxide faster, more accurately and at less cost than conventional infrared systems because;

- The measured signals are evaluated and processed according to a new digital algorithm and,
- The material and construction of the sample cell are novel

The infrared measuring system determines the absolute CO₂ content of the surrounding air, monitors itself continuously and signals malfunctions of the hard- and software. The whole measuring range is linear. Power supply occurs via 24 V DC.

Basic processing and output of the measured values (linear output, either 4-20 mA or 0-10 V) are integrated into the measuring system. Evaluation and further processing of the measured values occur in a downstream device according to the users specifications (for e.g. ventilation system, limit monitor, display, programmable logic controller). For connection to Ethernet, a special module is available which supplies the net with the measured values.

In normal applications calibration is not necessary, however, if required, calibration can be carried out by an expert.

2. Design of the gas measuring system

The two-beam infrared sensor is mounted in a plastic housing on a sensor holder above the diffusion opening. In addition, a transmitter containing a signal amplifier and an output of 4-20 mA or 0-10 V is arranged in the housing. The transmitter based on the three-wire system processes and transmits the measured signals (see Fig. 1).



Fig. 1: Gas measuring system AQ-Transmit.

3. Technical data

Transmitter		
Power supply		Screw terminals
	Electric current	about 100 mA
Connections	Pin 1	24 V DC \pm 5%
	Pin 2	4-20 mA or 0-10 V
	Pin 3	0 V
Ambient temperature	-10° C to +50° C	
Air pressure	900 hPa to 1100 hPa	
Permissible humidity	15-95% relative humidity	non-condensing
Output	4-20 mA	max. load 450 Ω
	or 0-10 V	min. 1 K Ω
Housing	Plastic	white
Type of protection (housing)	IP 30	
Weight of housing	about 150 g	
Size of housing	about L78 x W78 x H35 mm	
Connecting cable	3x1.5 ² Cu	shielded cable
Sensor		
Gas contact	via diffusion	
Measuring range	0-3,000 ppm CO ₂	
Heating-up time	5 min	
Accuracy	\pm 2% at 25°C	FS (full scale)
Reproducibility	\pm 1%	
Reaction time	about 30 s	

4. Connection of AQ-Transmit

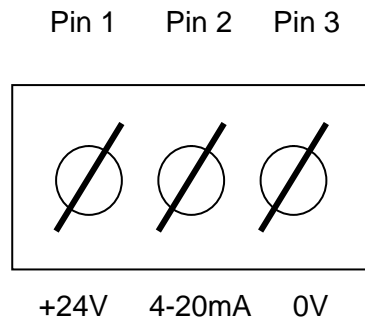


Fig. 2: Connection of AQ-Transmit. Pin 2 optionally 0-10 V.

The gas measuring system has to be connected to the downstream unit by means of a three-core shielded cable (see Fig. 2). Connection to circuit occurs via Pin 1 and Pin 3, reading of the measured values via Pin 2 (either 4-20 mA or 0-10 V).

5. Calibration of the gas measuring system

The device is in normal applications maintenance-free, calibration therefore usually not necessary. If required, calibration can be carried out by a specialist.

6. Other

The user should test whether the gas measuring system AQ-Transmit is suitable for his application under the given conditions. Special attention has to be paid to compatibility of materials: For e.g. the sample cell must not corrode under any circumstances and the filters must not become opaque.

WARNING Personal Injury DO NOT USE these products as safety or Emergency Stop devices or in any other application where failure of the product could result in personal injury. Failure to comply with these instructions could result in death or serious injury.	CAUTION Do not exceed maximum ratings Failure to comply with these instructions may result in product damage. It is the customer's responsibility to ensure that this product is suitable for use in their application.
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