Duct sensor CO_2

Active sensor (0...10 V) for measuring CO_2. Dual channel CO_2 technology. IP65 / NEMA 4X rated enclosure.

5-year warranty

Type Overview

Type	Output signal active CO_2
22DC-51	0...5 V, 0...10 V

Technical data

Electrical Data	Nominal voltage	AC/DC 24 V
	Remark about nominal voltage range	AC 19...29 V / DC 15...35 V
	Power consumption AC	4.3 VA
	Power consumption DC	2.3 W
	Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm^2
	Cable entry	Cable gland with strain relief ø6...8 mm (1/2" NPT conduit adapter included)
Functional Data	Application	air
	Voltage output	1 x 0...5 V, 0...10 V, min. resistance 10 kΩ
	Output signal active note	output 0...5/10 V with jumper adjustable
Measuring Data	Measured values	CO_2
Specification CO_2	Sensing element technology	NDIR (non dispersive infrared) dual channel
	Measuring range	0...2000 ppm
	Accuracy	±(50 ppm + 3% of measured value)
	Long term stability	±50 ppm p.a.
	Time constant τ (63%) in the air duct	Typical 33 s @ 1 m/s
Materials	Cable gland	PA6, black
	Housing	Cover: PC, orange Bottom: PC, orange Seal: NBR70, black UV resistant UL94 5VA
	Probe material	PA6, black
Safety Data	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP65
	Degree of protection NEMA/UL	NEMA 4X
	Enclosure	UL Enclosure Type 4X
	EU Conformity	CE Marking

Technical data

Safety Data

Certification IEC/EN	IEC/EN 60730-1
Quality Standard	ISO 9001
UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
Type of action	Type 1
Rated impulse voltage supply	0.8 kV
Pollution degree	3
Ambient humidity	Max. 95% RH, non-condensing
Ambient temperature	0...50°C [32...122°F]
Fluid humidity	Max. 95% RH, non-condensing
Fluid temperature	0...50°C [32...122°F]
Operating condition airflow	min. 1 ft/s [0.3 m/s] max. 40 ft/s [12 m/s]

Safety Notes

This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorized modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied with during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Remarks

General Remarks Concerning Sensors

Sensing devices with a transducer should always be operated in the middle of the measuring range to avoid deviations at the measuring end points. The ambient temperature of transducer electronics should be kept constant. The transducers must be operated at a constant supply voltage (±0.2 V). When switching the supply voltage on/off, onsite power surges must be avoided.

Remark: Occurring draft leads to a better carrying-off of dissipative power at the sensor. Thus temporally limited fluctuations might occur upon temperature measurement.

Information self-calibration feature CO_2

All CO_2 sensors are subject to drift caused by the aging process of the components, resulting in regular re-calibration or replacement of units. However, the dual channel technology integrates automatic self-calibration technology vs. common used ABC-Logic sensors. Dual channel self-calibration technology is ideally suited for applications operating 24/7 hours such as those in hosiptals or other commerical applications. Manual calibration is not required.

Parts included

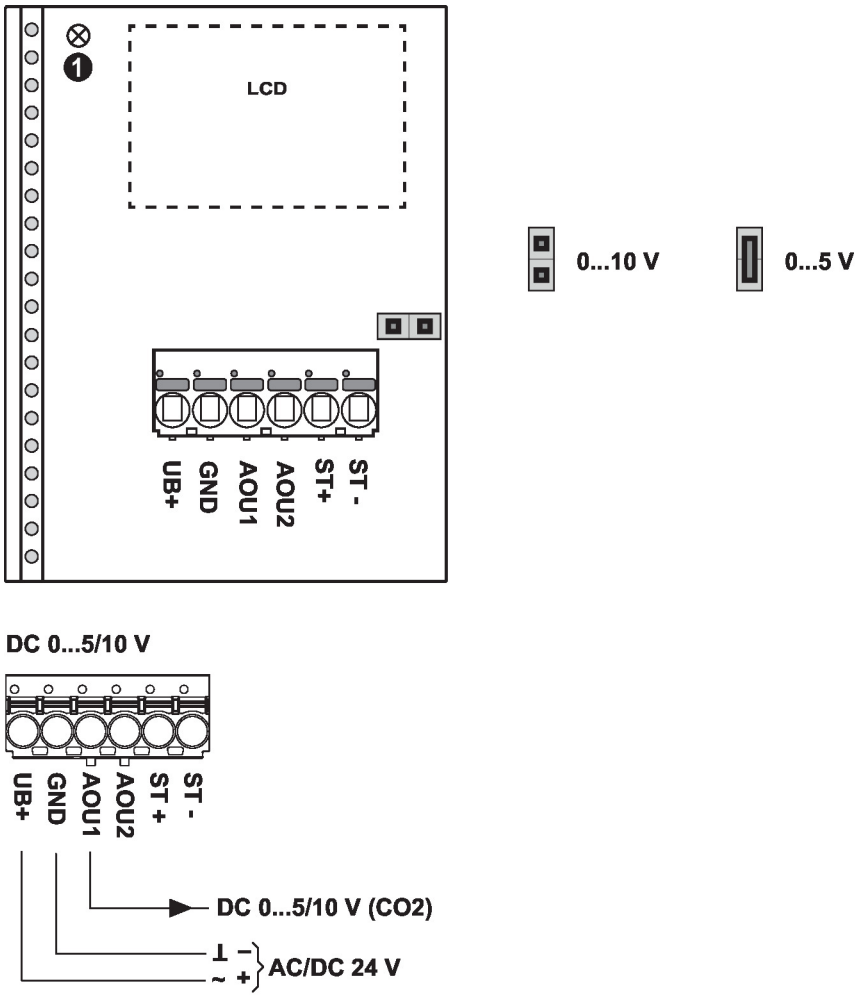
Description	Type
Mounting flange for duct sensor 19.5 mm, up to max. 120°C [248°F], Plastic	A-22D-A34
1/2" NPT conduit adapter	

Accessories

Optional accessories

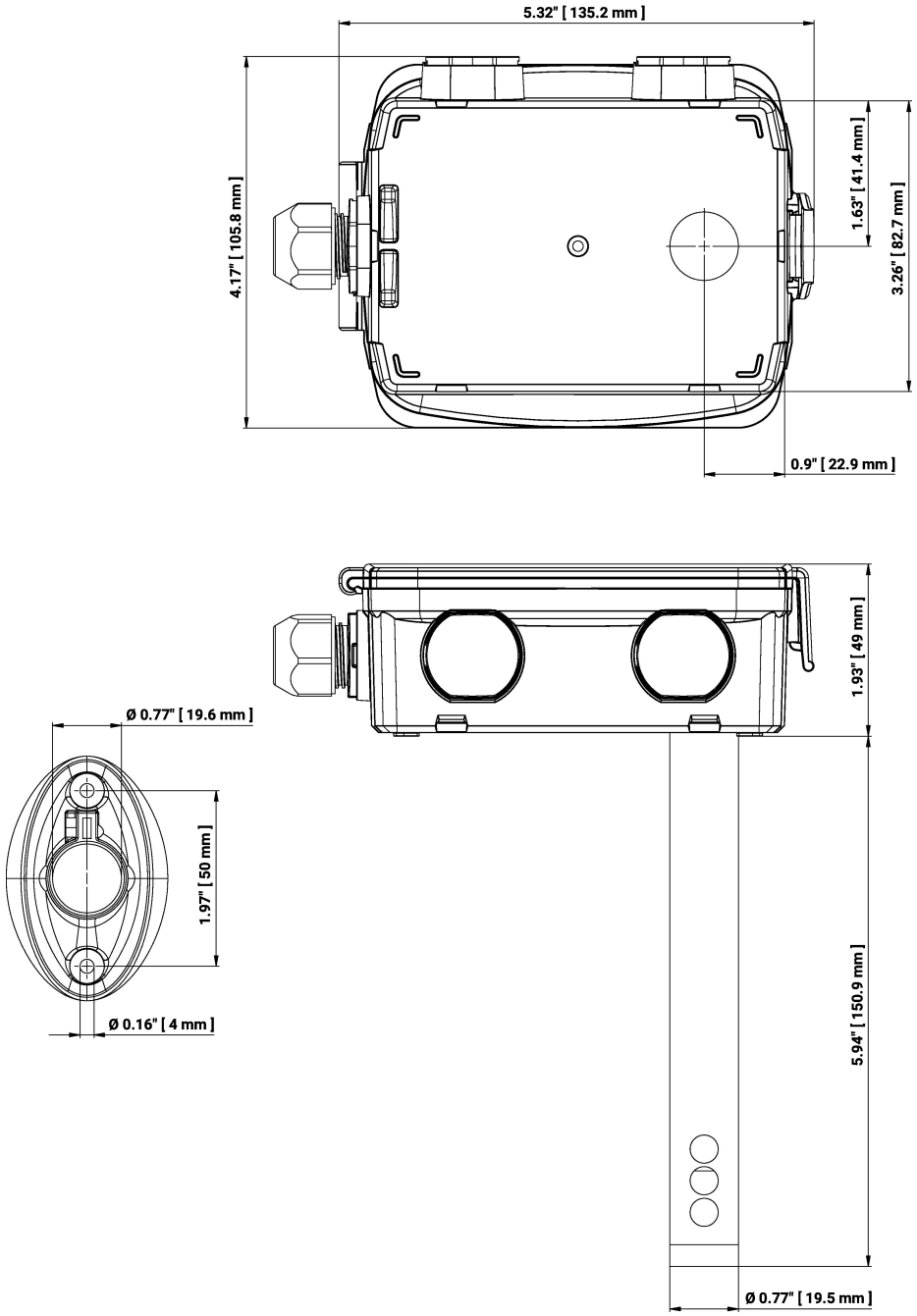
Description	Type
Replacement filter sensor probe tip, wire mesh, Stainless steel	A-22D-A06
Mounting plate L housing	A-22D-A10

Wiring Diagram



① Status LED

Dimensions



Type	Probe length	Weight
22DC-51	6" [150 mm]	0.57 lb [0.26 kg]

Further documentation

• Installation instructions