BELIMO®

Duct Sensor CO₂

For CO₂ measurement in duct applications.
Dual channel CO₂ technology.
NEMA 4X / IP65 rated enclosure.

5 YEAR WARRANTY

Type Overview

Type	Output signal active CO₂	Output signal active VOC	Output signal active temperature	Output signal passive temperature	Output signal active CO₂/VOC	Output signal active humidity	Display type
22DC-11	DC 0...5 V, DC 0...10 V	-	-	-	-	-	-
22DC-110L	DC 0...5 V, DC 0...10 V	-	-	NTC10k (10k2)	-	-	-
22DCK-11	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V	-	DC 0...5 V, DC 0...10 V	-	-
22DCM-11	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V	-	-	-	-
22DCV-11	DC 0...5 V, DC 0...10 V	DC 0...5 V, DC 0...10 V	-	-	-	-	-
22DTC-11	DC 0...5 V, DC 0...10 V	-	DC 0...5 V, DC 0...10 V	-	-	-	-
22DTM-11	DC 0...5 V, DC 0...10 V	-	DC 0...5 V, DC 0...10 V	-	-	DC 0...5 V, DC 0...10 V	-
22DTM-1106	DC 0...5 V, DC 0...10 V	-	DC 0...5 V, DC 0...10 V	-	-	DC 0...5 V, DC 0...10 V	LCD

Technical Data

Electrical data	Power Supply DC	15...24 V, ±10%, 1.5 W
	Power Supply AC	24 V, ±10%, 2.9 VA
	Electrical connection	Removable spring loaded terminal block max. 2.5 mm²
	Cable entry	Cable gland PG11 Ø6...10 mm, with strain relief Ø6...8 mm
Functional data	Sensor Technology	NDIR (non dispersive infrared) with stainless steel wire mesh filter
	Output signal active note	Output DC 0...5/10 V with Jumper adjustable Voltage output: min. 10 kΩ load
	Display	LCD, Measured values: CO₂, temperature, rH
	Media	Air

Measuring data	Measured values	CO_2 VOC Mix CO_2/VOC Temperature Humidity
	Measuring range CO_2	0...2000 ppm
	Measuring range humidity	0...100% rH
	Measuring range temperature	0...50 °C [32...120 °F]
	Accuracy CO_2	±75 ppm; >750 ppm: ±10% of measuring value
	Accuracy humidity	±2% between 10...90% r.H. @ 21 °C
	Accuracy temperature passive	±0.5 °C @ 21 °C NTC.. : ±0.2 °C @ 25 °C
	Operating condition air flow	min. 0.3 m/s max. 10 m/s
Materials	Cable gland	PA6, black
	Housing	Cover: Lexan, Belimo orange NCS S0580-Y6OR Bottom: Lexan, Belimo orange NCS S0580-Y6OR Seal: 0467 NBR70, black
	Probe material	PA6, black
Safety data	Ambient humidity	85% r.H., non-condensing
	Ambient temperature	0...50 °C [32...120 °F]
	Medium temperature	0...50 °C [32...120 °F]
	Operating condition air flow	min. 0.3 m/s max. 10 m/s
	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class UL	UL Class 2 Supply
	EU Conformity	CE Marking
	Certification IEC/EN	IEC/EN 60730-1
	Certification UL	pending
	Degree of protection IEC/EN	IP65
	Degree of protection NEMA/UL	NEMA 4X
	Quality Standard	ISO 9001
	Weight	0.26 kg

Safety notes

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The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with
• Local laws, health & safety regulations, technical standards and regulations
• Condition of the device at the time of installation, to ensure safe installation
• This data sheet and installation manual

Remarks

Information Self-Calibration Feature CO_2

All gas sensors are subject to drift caused by components, resulting in regular re-calibration or replacement 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 hosiptals or other commerical applications. Manual calibration is not required.
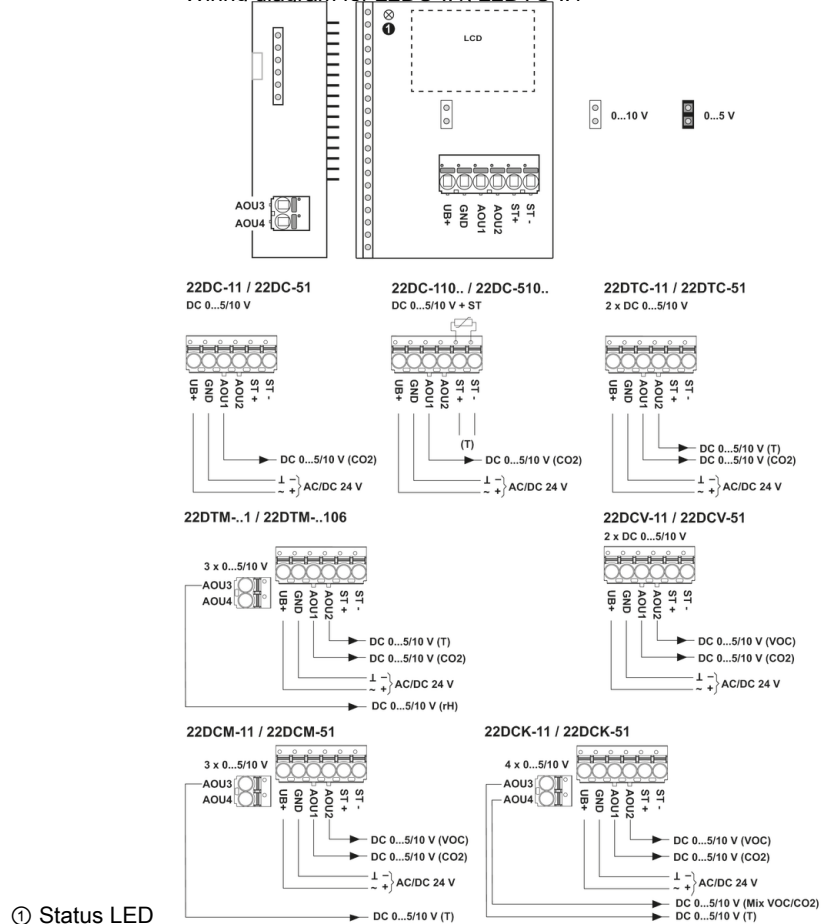
Accessories

	Scope of delivery	Mounting flange	
	Optional accessories	**Description**	**Type**
		Replacement filter Stainless steel, wire mesh	A-22D-A06

Wiring diagram

Wiring diagram for 22DC-..1, 22DTC-..1

0...10 V   0...5 V

22DC-11 / 22DC-51
DC 0...5/10 V

22DC-110.. / 22DC-510..
DC 0...5/10 V + ST

22DTC-11 / 22DTC-51
2 x DC 0...5/10 V

DC 0...5/10 V (CO2)
AC/DC 24 V

(T)
DC 0...5/10 V (CO2)
AC/DC 24 V

DC 0...5/10 V (T)
DC 0...5/10 V (CO2)
AC/DC 24 V

22DTM-..1 / 22DTM-..106
3 x 0...5/10 V

22DCV-11 / 22DCV-51
2 x DC 0...5/10 V

DC 0...5/10 V (T)
DC 0...5/10 V (CO2)
AC/DC 24 V
DC 0...5/10 V (rH)

DC 0...5/10 V (VOC)
DC 0...5/10 V (CO2)
AC/DC 24 V

22DCM-11 / 22DCM-51
3 x 0...5/10 V

22DCK-11 / 22DCK-51
4 x 0...5/10 V

DC 0...5/10 V (VOC)
DC 0...5/10 V (CO2)
AC/DC 24 V
DC 0...5/10 V (T)

DC 0...5/10 V (VOC)
DC 0...5/10 V (CO2)
AC/DC 24 V
DC 0...5/10 V (Mix VOC/CO2)
DC 0...5/10 V (T)

① Status LED

Dimensions