

# GMD/W20 Series Carbon Dioxide Transmitters for Demand Controlled Ventilation Applications



## Features/Benefits

- Versatile transmitters
- Duct and wall mount models
- Incorporates Vaisala CARBOCAP® Sensor - the silicon-based NDIR sensor
- Excellent long-term stability
- Negligible temperature dependence
- Ease of installation
- Five year recommended calibration interval

*Vaisala CARBOCAP® Carbon Dioxide Transmitter Series GMD/W20 are designed for use in ventilation related applications.*

The duct mounted Vaisala CARBOCAP® Carbon Dioxide Transmitter Series GMD20 and wall mounted Vaisala CARBOCAP® Carbon Dioxide Transmitter Series GMW20 are specially designed for Demand Controlled Ventilation (DCV). They are easy to install and require almost no maintenance. The recommended calibration interval is five years.

### Vaisala CARBOCAP® technology

The GMD/W20 Series Transmitters use the silicon-based Vaisala CARBOCAP® Sensor. The simple structure and reference measurement capabilities make this Single-Beam, Dual-Wavelength NDIR sensor extremely stable and reliable.

The temperature and flow dependence of Vaisala CARBOCAP® Sensor is negligible. In addition, the measurement accuracy of the sensor is not affected by dust, water vapor or most chemicals.

### Versatile transmitters

The GMD/W20 series transmitters can be used independently, or they can be incorporated into building energy management systems. The series consists of duct mount units GMD20 and GMD20D and wall mount units GMW21/D and GMW22/D. Version D has a display. The variety of wall mount series sizes makes them easy to install for most standard junction boxes.

The duct units' compact sensor head design requires only a small hole in a ventilation duct, thereby minimizing the risk of leaking gaskets and measurement errors.

In addition to the standard 0...20 mA, 4...20 mA and 0...10 V outputs, there are three other options: two LonWorks® interfaces and a relay output. The relay output is standard with the display units.

### Improve indoor air quality with minimum energy costs

The use of the GMD/W20 series transmitters ensures the best possible control of air quality and results in considerable savings in energy consumption, maintenance and recalibration costs.

### Temperature option

The GMA20T temperature module, an option with the GMW21 wall mount unit, combines both CO<sub>2</sub> and temperature measurement into one transmitter. The GMA20T has an output of 0...10 V corresponding to a temperature range of 0...+50 °C (+32...122 °F).

# Technical Data

## Carbon dioxide

Measurement range	0...2000 ppm (nominal; can be calibrated for other ranges: 0...5000 ppm, 0...10,000 ppm, 0...20,000 ppm)
Accuracy at +25 °C (77 °F) against certified factory references	<± [30 ppm + 2.0% of reading] (incl. repeatability and calibration uncertainty)
Non-linearity	<±1 %FS
Temperature dependence of output (typical value)	0.15 %FS /°C
Long-term stability	<5 %FS /5 years
Response time (0 ...63% response)	1 minute

## Temperature (optional with wall model)

Output signal	0...10V
Corresponding measurement range	0...+50 °C (32...+122 °F)
Accuracy (@+25 °C)	±0.5 °C (±0.9 °F)
Warm up time	30 min
Sensor	Semiconductor IC

## General

Output signals	0...20 mA or 4...20 mA and 0..10 V
Resolution of analog outputs	0.5 %FS
Optional outputs	relay LonWorks® interface RS232 (with serial COM adapter for maintenance purposes)
Recommended external load:	
current output	max. 500 Ohm
voltage output	min. 1 kOhm
Power supply	nominal 24 VDC/VAC (18...30 VDC)
Power consumption	<2.5 W
Warm-up time	1 minute, 15 minutes full specification
Operating temperature range	-5...+45 °C (+23...113 °F)
Operating humidity range	0...85 %RH non-condensing
Air flow range (GMD20)	0...10m/s
Housing material	ABS plastic
Housing classification (electronics housing GMD20)	IP65 (NEMA 4)
Weight:	
GMD20 (D)	140 g (170 g)
GMW21 (D)	100 g (130 g)
GMW22 (D)	90 g (120 g)

## Accessories and options

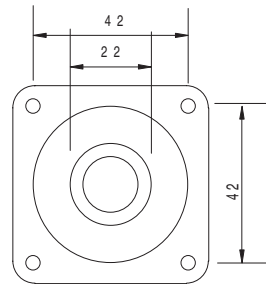
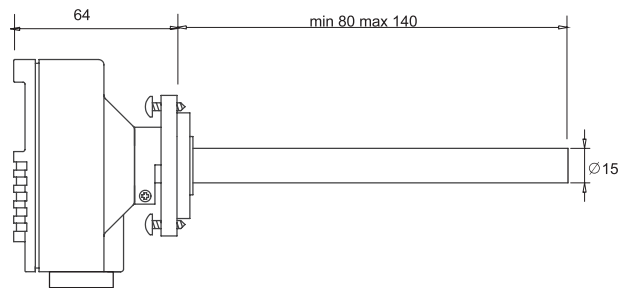
GMI21	display and relay option for GMD/W21/22
GMR20	relay output option
GML20	LonWorks® module with CO <sub>2</sub> signal (Not available when display option is added.)
GML20T	LonWorks® module with both CO <sub>2</sub> signal and temperature signals (Not available when display option is added.)
19222GM	calibration software kit (disk and serial COM adapter)
GMA20T	Analog temperature module for GMW21 (Not available when display option is added.)
GM70 w/pump option	hand-held CO <sub>2</sub> meter for field verification

The GMD/W20 Transmitters comply with EMC standard EN61326-1:1997 + Am1:1998 + Am2:2001; Generic Environment

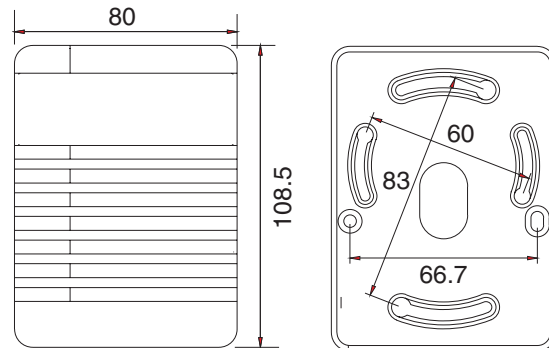
## Dimensions

Dimensions in mm

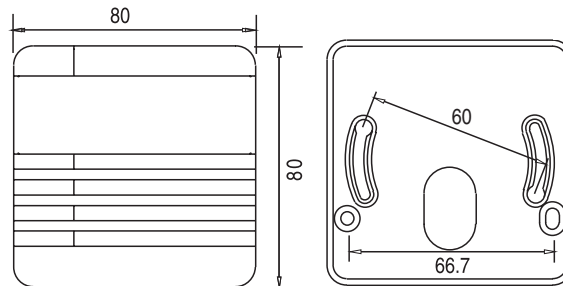
GMD20 and GMD20D



GMW21 and GMW21D



GMW22 and GMW22D



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