# VAISALA

# GMD20 Series Carbon Dioxide Transmitters for Demand Controlled Ventilation Applications



*The GMD20 series transmitters are designed for use in ventilation-related applications.*

## Features/Benefits

- Versatile transmitters

- Reliable measurement with sensor inside the duct

- Incorporates Vaisala CARBOCAP® Sensor - the silicon-based NDIR sensor

- Excellent long-term stability

- Negligible temperature dependence

- Ease of installation

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

## Vaisala CARBOCAP® Technology

The GMD20 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 dependences of the sensor are negligible. In addition, the measurement accuracy is not affected by dust, water vapor and most chemicals.

## Versatile Transmitters

The GMD20 series transmitters can be used independently, or incorporated into building energy management systems. The series consists of duct mount units GMD20 and GMD20D. Version D has a display.

The duct units' compact sensor head design fits inside the ventilation duct, eliminating 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 two other options: one LonWorks® interface and a relay output. The relay output is standard with the display units.

## Improve Indoor Air at Minimal Energy Costs

The use of the GMD20 series transmitters ensures the best possible control of air quality and results in considerable savings in energy consumption, maintenance and recalibration costs.

# Technical Data

## Performance

CARBON DIOXIDE MEASUREMENT

| | |
|---|---|
| Measurement range | 0 ... 2000 ppm |
| | (nominal; can be calibrated for other ranges: |
| | 0 ... 5000 ppm, 0 ... 10,000 ppm, 0 ... 20,000 ppm) |
| Accuracy (including repeatability, non-linearity | |
| and calibration uncertainty) | $\pm$ (2 % of range + 2% of reading) |
| Long-term stability | $<\pm$5 % of range / 5 years |
| Response time (63%) | 1 minute |
| Warm-up time | 1 minute, 15 minutes full specifications |

## Inputs and Outputs

| | |
|---|---|
| Outputs | 0 ... 20 or 4 ... 20 mA and 0 ... 10 V |
| Optional outputs | relay |
| | LonWorks® interface |
| Resolution of analog outputs | 8 bits |
| Recommended external load: | |
|   current output | max. 500 ohm |
|   voltage output | min. 1 kohm |
| Operating voltage | nominal 24 VAC/DC (18 ... 30 VDC) |
| Connections | screw terminals, wire size 0.5 ... 1.5 mm² |
| Power consumption | <2.5 W |

## Operating Environment

| | |
|---|---|
| Temperature | -5 ... +45 °C (+23 ... +113 °F) |
| Humidity | 0 ... 85 %RH, non-condensing |
| Flow velocity (GMD20) | 0 ... 10 m/s |
| Electromagnetic compatibility | EN61326-1, Generic Environment |

## Mechanics

| | |
|---|---|
| Housing material | ABS plastic |
| Housing classification (GMD20 electronics housing) | IP65 |
| Weight: GMD20 (D) | 140 g (170 g) |

## Accessories and Options

| | |
|---|---|
| Display and relay option for GMD20 | GMI21 |
| Relay output option | GMR20 |
| LonWorks® module with $CO_2$ signal | GML20 |
| (Not available when display option is added) | |
| Serial COM adapter | 19040GM |
| Hand-held meter for field verification | GM70 |

## Dimensions

Dimensions in mm

GMD20 and GMD20D
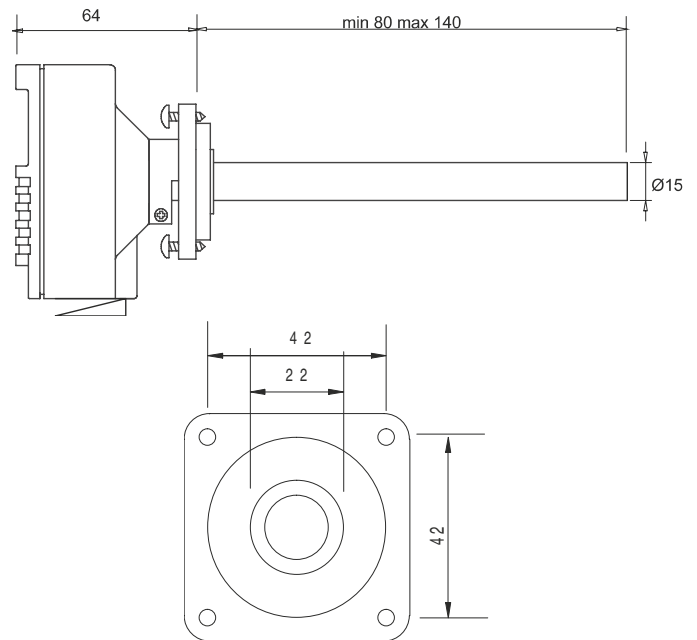


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