GMW80 Series Carbon Dioxide and Temperature Transmitters for Demand-Controlled Ventilation

The GMW86P and GMW86PT transmitters.

Features/Benefits

- Cost-efficient, affordable

- Reliable and maintenance-free operation up to 15 years

- Superior stability due to 2nd-gen proprietary CARBOCAP® technology

- Improved accuracy due to low self-heating of microglow light source

- Easy to install, easy to use

- Versatile – works well in buildings occupied 24/7

- Ideal for demand-controlled ventilation

The Vaisala CARBOCAP® Carbon Dioxide and Temperature Transmitter Series GMW80 is based on a second-generation technology for improved reliability and stability. The transmitters are designed to fulfill the needs for CO_2 measurements in standard demand-controlled ventilation applications. Temperature measurement is always included in the GMW80 series transmitters. The optional temperature set-point potentiometer gives you the flexibility needed for a variety of projects.

The CARBOCAP® sensors measure CO_2 accurately immediately when powered on. As they have a built-in reference measurement they do not need a lengthy learning phase before the measured values are correct. Proper operation can be verified immediately after snapping on the device cover.

Easy Installation

With modern buildings often having hundreds of sensors, the installation time per unit can be a significant cost factor. Returning to the building site to check sensor operation adds further costs.

The GMW80 series transmitters include a number of subtle design features that have been introduced to make installation and commissioning quick and easy. The pull-out tab makes opening the transmitter faster than before, while also doubling as a quality check slip and holder for the anti-tamper screw. The backplate can be twisted onto pre-mounted screws, and the wiring can be done easily on the clearly marked backplate. The electronics can be snapped on later when the building automation system is commissioned.

Reliable Operation

The GMW80 series transmitters are optimized for low maintenance. The second-generation, low-power CARBOCAP® technology enables a longer lifetime and superior stability than ever before. As the power consumption is low, the heat generated by the electronics does not distort the temperature inside the sensor. The internal reference in the CO_2 sensor guarantees the best stability and operation even in constantly occupied buildings without frequent readjustments.

The reliable operation and accurate measurement values of the GMW80 series transmitters contribute to the significant cost savings brought by demand-controlled ventilation.

Technical Data

GMW86P and GMW86PT

Performance

CARBON DIOXIDE

Measurement range	0 ... 2000 ppm
Accuracy	
+20 ... +30 °C	±(30 ppm +3 % of reading)
+10 ... +20 °C, +30 ... +40 °C	±(35 ppm +3.7 % of reading)
+0 ... +10 °C, +40 ... 50 °C	±(40 ppm +4.8 % of reading)
Stability in typical HVAC conditions	±(15 ppm + 2 % of reading) over 5 years
Warm-up time	1 min; 10 min for full specification
Response time (63 %)	60s
Carbon dioxide sensor	Vaisala CARBOCAP®GM10

TEMPERATURE

Sensor	Class F0.15 IEC 60751
Product lifetime	>15 years

Operating Environment

Operating temperature range	0 ... +50 °C (+32 ... 122 °F)
Operating humidity range	0 ... 95 %RH
	Dewpoint <30 °C (+86 °F)
Storage temperature range	-40 ... +70 °C (-40 ... 158 °F)
Electromagnetic compliance	EN61326-1, Industrial Environment

Mechanics

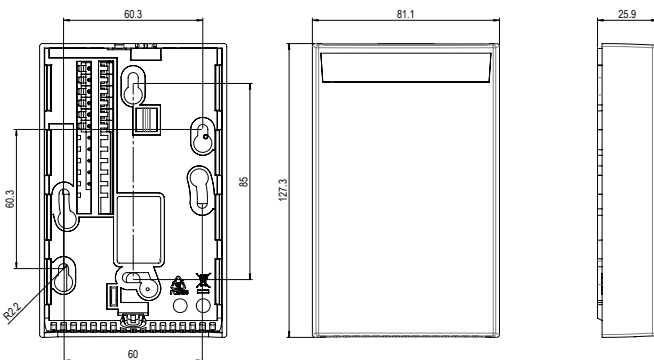|	
IP class	IP30
Housing material	ABS/PC UL-V0 approved
Housing color	White (RAL9003)
Output connector	Screw terminal
	max. wire size 2mm² (AWG14)
Weight	
GMW86P	114 g
GMW86PT	120 g

Inputs and Outputs

Supply voltage	18 ... 35 VDC, 24 VAC ±20 % 50/60 Hz
Max. current consumption	45 mA at 18 VDC, 100 mA at 24 VAC

CO_2

Outputs	4 ... 20 mA, 0 ... 10V
Scale	0 ... 2000 ppm
Current loop resistance (4 ... 20mA)	0 ... 600 Ω
Voltage output load resistance	10KΩ min
Temperature	Pt1000 RTD
TEMPERATURE SETPOINT (GMW86PT)	10 KΩ potentiometer

Spare Parts and Accessories
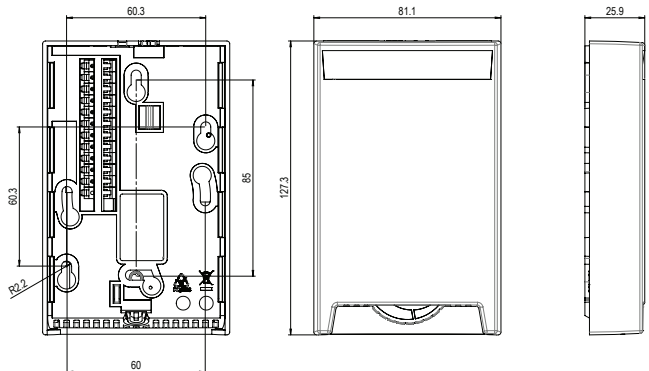
CO_2 module	GM10SP80

GMW86P

CO_2 4 ... 20mA/0 ... 10V output
T Pt1000 RTD

GMW86PT

CO_2 4 ... 20mA/0 ... 10V output
T Pt1000 RTD

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