GMT220 Series Carbon Dioxide Transmitters for Harsh and Humid Industrial Applications

FOR HARSH ENVIRONMENTS

The GMT220 series transmitters are designed to measure CO_2 in harsh and humid environments. Materials are corrosion resistant. The housing is dust and waterproof to NEMA 4/IP65 standards.

The transmitters are well suited for demanding industrial CO_2 applications, such as:

- Horticulture and fruit storage
- Greenhouses and mushroom farming
- Safety alarming and leakage monitoring
- Demand control ventilation in harsh environments

HIGH-END MEASUREMENT TECHNOLOGY

THE GMT220 series transmitters incorporate the new industrial CARBOCAP® sensor. The patented sensor has unique reference measurement capabilities. Its critical parts are made of silicon; this gives the sensor outstanding stability over both time and temperature. By lengthening the time between calibration intervals, the user saves both time and money.

OPTIMAL MEASUREMENT RANGE FOR EACH APPLICATION

The user has a choice of measurement ranges up to 20% CO_2: the GMT221 for higher concentrations of CO_2 and the GMT222 for lower concentrations of CO_2. The transmitter can be connected to various measurement systems. In addition to standard analog, voltage and current outputs, there are also two configurable alarm relay outputs. Activated relays are indicated by LED lights on the cover. An optional LonWorks® digital interface is also available.

INTERCHANGEABLE PROBES

The GMT220 probes are truly interchangeable. They can be removed and reattached or replaced at any time – without the need for calibration and adjustment. The probes can be attached directly to the transmitter body or, when used with a cable, installed remotely into hard-to-reach places or areas with dangerously high levels of CO_2.

SIMPLE INSTALLATION

A separate mounting plate makes installing the transmitter easy - simply attach the mounting plate to the wall and lock the transmitter body in place.

The plastic plate protecting the electronics inside the housing includes easy instructions for the electrical connections.

GMT220
Transmitter with
GMP221 probe
and cable

GMT220 transmitter
with GMP221 probe

EASY FIELD MAINTENANCE

Since the probes of the GMT220 transmitters are truly interchangeable, they facilitate easy field maintenance. The probes can either be replaced with newly calibrated probes or with separate probes that are only used as a reference for calibration checking. This minimizes downtime. The end user can do field maintenance without any additional equipment or heavy and expensive calibration gas bottles. Any replaced probes can be sent to Vaisala for recalibration.

OPTIONS

- Digital LCD Display

The four-digit LCD panel displays diagnostics and the ppm or % (CO_2) symbols. Back lighting makes the display easy to see in dark locations.

- Spare Probes

The interchangeable GMP221 and GMP222 probes can be ordered separately.

- Probe Cable

The two meter probe cable facilitates remote installation. Install the probe in the area with high CO_2 levels; mount the transmitter outside that area.

- Mounting Flange and Clips

Remote installation of the probe e.g. in a duct, a chamber or on the wall is possible with a mounting flange or two clips.

- LonWorks® Module

LonWorks is available as a digital interface option.

VAISALA
100 Commerce Way, Woburn, MA 01801
TEL: 1-888-VAISALA (824-7252) FAX: (781) 933-8029
E-MAIL: incsales@vaisala.com Access catalog on-line at: www.vaisala.com/inc/ssdcat

TECHNICAL DATA - GMT220 SERIES

Measurement Ranges

GMT221	0...2 % CO_2
	0...3 % CO_2
	0...5 % CO_2
	0...10 % CO_2
	0...20 % CO_2
GMT222	0…2000 ppm
for low concentrations	0…3000 ppm
	0…5000 ppm
	0…7000 ppm
	0…10 000 ppm
Accuracy at 77 °F (+25 °C) against certified factory references	
GMT221	<±[0.02% CO_2 + 2% of reading]
GMT222	<±[20 ppm CO_2 +2% of reading]
(incl. repeatability and calibration uncertainty)	
Nonlinearity	<±0.5% FS
Temperature dependence of output (typical value)	-0.05% FS /°F (-0.1% FS /°C)
Pressure dependence (typ.)	0.15% of reading/hPa
Long-term stability	<±5% FS/2 years
Response time (63%)	
GMT221	20 seconds
GMT222	30 seconds

General

Analog output signals	0...20 or 4...20 mA and 0...10 V
Resolution of analog outputs	0.03% FS
Recommended external load:	
current output	max. 400 Ohm
voltage output	min. 1 kOhm
Two pre-or user-defined relay outputs	
Power supply	nominal 24 VAC/DC max. 30VAC/60VDC, 0.5A
Power consumption	<4 W
Warm-up time	<15 minutes
Operating temperature range	-4°...+140 °F (-20°...+60 °C)
Storage temperature range	-22…+158 °F (-30…+70 °C)
Operating humidity range	0...100% RH non-condensing
Housing material	
transmitter body	ABS plastic
probe	PC plastic
Housing classification	NEMA 4 (IP 65)
Weight:	
GMT221	max. 280 g
GMT222	max. 300 g
Probe cable length	2m(optional)

Accessories

GMP221, GMP222	spare probe
(use the order form to define measurement range etc.)	
GM25245	clips (2 pcs) for attaching the probe
GM45156	mounting flange for the probe
25665GM	2.0 m probe cable
GML220	LonWorks® module
19040GM	serial COM adapter

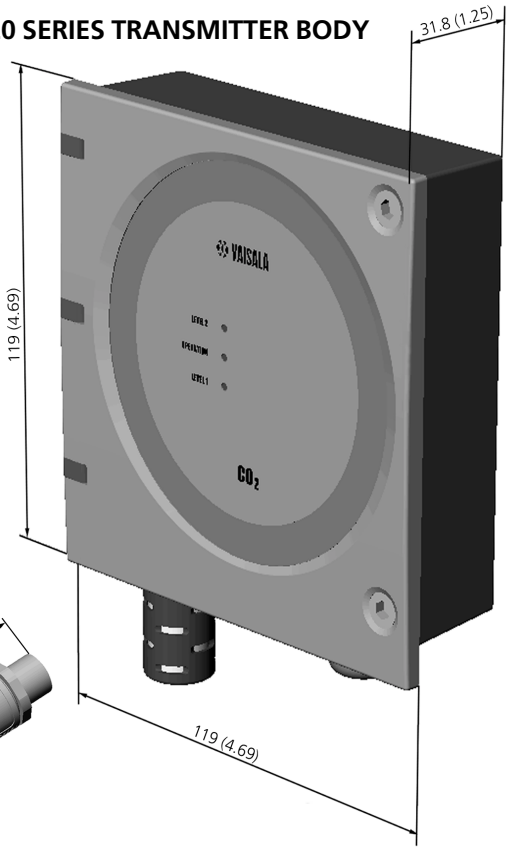
The GMT221/222 transmitters comply with the following EMC standards and have passed the following tests:

EN 50081-1	(EN 55022 class B = CISPR 22)
En 50082-1	
	(IEC 1000-4-2, 8 kV air)
	(IEC 1000-4-3, 80 - 1000 MHz, 80% AM, 3V/m)
	(IEC 1000-4-4, 500V)
	(IEC 1000-4-6, 0.15 - 80 MHz, 80% AM, 3V/m)
	(IEC 1000-4-5, 500 V)

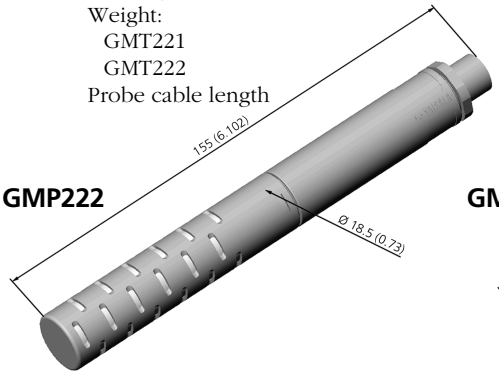
GMT220, GMP221/222

Dimensions in mm (inches)

GMT220 SERIES TRANSMITTER BODY



GMP222



GMP221