

Carbon-Dioxide Transmitter PHG

- ◆ Low cost
- ◆ Dual NDIR sensor built-in
- ◆ For HVAC and food processing applications
- ◆ Good accuracy, sensitivity and selectivity
- ◆ Low humidity and temperature dependence
- ◆ Duct mounting variant
- ◆ Local indicator available
- ◆ RS232 interface option

PHG transmitter measures CO₂ concentration in in-door atmospheres and converts it into standard current or voltage signal. PHG model uses dual non-dispersive infrared (NDIR) carbon-dioxide sensor providing improved accuracy and sensitivity as well as low temperature and humidity dependence. The transmitter can be equipped with local 4-digit LED display and RS232 serial interface. PHG mounting variants include free or duct installation with top or bottom mounted connector.

PHG application area includes indoor air control, ventilation, air-conditioning, mushroom control, etc.



Technical specifications

Input

Input type	Non-dispersive Infrared CO ₂ cell	
Measurement range	0...3000/5000/10000 ppm	
Accuracy		
Measurement error ⁽¹⁾	± 2 ppm (0...3000 ppm) at 10...50 °C	
Temperature dependence	10 ppm for 1 °C	
Warm-up time	max. 90 s (at 25 °C)	
Response time (0...80%)	max. 30 s (w/o sintered filter)	

Output

Output signal	0(4)...20 mA	0...10 V
Output update	2 s	2 s
Minimum output load	-	1 MΩ
Maximum output load	350 Ω at 20 mA	-
Over-scale limit	35 ± 2 mA	17 ± 2 V

Interface

Interface type	RS232, 9600 bps
Function	CO ₂ data transmission
Protocol	ASCII, free

Power supply

Supply voltage	15...32 VDC
Admissible variations	1 Vp-p at 50 Hz
Consumption	max. 90 mA (150 mA w/ indicator)

⁽¹⁾ Including nonlinearity error

⁽²⁾ Straight or angles female part included

⁽³⁾ Radial and axial mounting accessories can be ordered separately (see 'Accessories')

⁽⁴⁾ Small POM flange DN16.5.

Local indicator

Digital display	4 LED indicators, 14 mm
Display resolution	1 ppm
Display refresh	1 s
Accuracy	0.2% from span
Temperature drift	0.01% from span for 1 °C

Operating conditions

Operating temperature	0...50 °C
Operating humidity	0...85 %RH, non-condensing
Storage temperature	-10...60 °C

Design and materials

Case material	ABS/PC plastic
Inlet material	POM plastic
Housing dimensions (no connector)	80x80x70 mm
Wiring	4-pin M12 connector ⁽²⁾
Sensor protection	plastic cap with polyester filter
Sintered filter (option)	stainless steel, 75 μm
Protection class	IP65 (excluding gas inlet)
Mounting	free ⁽³⁾ duct
Process connection	none movable flange ⁽⁴⁾
Gas inlet length	30 mm 130 mm
Weight	max. 250 g max. 350 g

Ordering code PHG - G0.G6.G9.G11.G15 - #1.#2

Code	Feature or option	Code values
G0	Case	free mounting B - bottom connector, T - top connector
		duct mounting DB - bottom mounted connector, DT - top mounted connector
G6	Input range	03 - 0...3000 ppm, 05 - 0...5000 ppm, 10 - 0...10000 ppm
G9	Serial interface	X - none, A - RS232
G11	Output signal	E - 0...20 mA, F - 4...20 mA, K - 0...10 V, Z - other (specify!)
G15	Connector	C1A - angled M12 connector, C1S - straight M12 connector
#1	Sintered filter	X - none, S - sintered filter mounted
#2	Local indicator	X - none, A - local indicator mounted

* contact COMECO