



THG03

CO₂ Temp. & Humidity Transmitter(Indoor)

Gas

www.eyc-tech.com



Features

- Integrated 3 sensors in 1 device with optional LCD display
- Measuring temperature, humidity and carbon dioxide
- 2 analog outputs or Modbus RS-485
- Optional analog output + RS-485
- Quick easy installation and maintenance due to well designed
- Cost-efficient and reliable
- Data can be logged and transferred to PC via RS-485 function link free software

Application

Monitoring the air quality in indoor environments / HVAC / Air conditioning / Museums / Greenhouse /
Testing environments work places / Supermarkets / Data centers / Production warehouses /
Indoor public / Places to regulate the ventilation system to save energy

Specification

Display

Display	LCD module without backlight
Display readout	Double line character (Up : CO ₂ ; Down : T & H take turns)
Digit	CO ₂ : 4 digits ; T & H : 3 digits & 1 decimal
Digit height	17.84 mm

Input

CO ₂	NDIR sensor
Temp. & humidity	MEMS sensor

Measuring range

CO ₂	0 ... 2000 PPM
Temp.	0 ... 50°C
Humidity	0 ... 100%RH(Non-condensing)

Output

Analog output	0 ... 5 V / 0 ... 10 V / 4 ... 20 mA
Modbus	RS-485
Signal connection	3-wire
Load resistance	Voltage output : $\geq 10 K\Omega$ Current output : $< 250 \Omega$
Warm-up time	< 2 min ; Stable time 20 min
Temp. influence	T & H : Max. $-0.15\%RH/^{\circ}C(0 \dots 80^{\circ}C)$
Response time	CO ₂ : $t_{90} < 2$ min T & H : $t_{63}(15 \dots 45^{\circ}C / 33 \dots 75\%RH) \leq 10$ sec
Sampling time	CO ₂ : About 6 sec ; T & H : About 3 sec
Data logger	Via RS-485 by using eyc free software

Accuracy(at +25°C ; DC 24 V ; 101.3 kPa)

CO ₂	± 40 PPM $\pm 3\%$ of reading
Temperature	$\pm 0.5^{\circ}C$
Humidity	$\pm 5\%RH(30 \dots 80\% RH)$

Environment

Medium	Air
Operating Temp. / Humid. T&H	0 ... 50°C / 0 ... 100%RH(Non-condensing)
Operating Temp. / Humid. CO ₂	0 ... 50°C / 0 ... 85%RH
Storage temperature	-20 ... + 60 °C

Electrical

Power supply	DC 12 ... 36 V & AC 24 V $\pm 10\%$
Current consumption	DC : 150 mA / AC : 120 mA
Starting current	DC 24 V : 250 mA / DC 12 V : 550 mA AC 24 V : 230 mA / AC 12 V : 250 mA
Electrical connection	Analog & communication : 4P connector

Installation

Installation	Indoor and Wall mount
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Protection

IP rating	IP20
Electrical protection	■ Polarity protection ■ Short-circuit

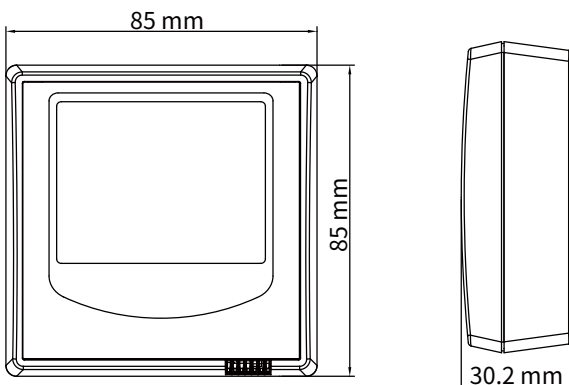
Certification

CE Certification	Emission EN 61326-1 : 2013 CISPR11 : 2015 Group1 Class B EN 55011 : 2009 / A1 : 2010 Immunity EN 61326-1 : 2013 IEC 61000-4-2 : 2008 IEC 61000-4-3 : 2006+A1 : 2007+A2 : 2010 IEC 61000-4-8 : 2009
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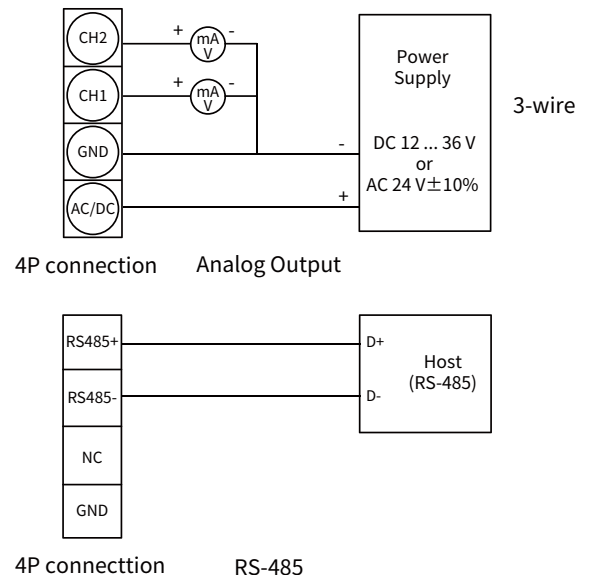
Material

Housing	PC(PC-110)(UL94V-2)
Weight	100 g

Dimension



Diagram



Ordering Guide

Type	THG03	-	G	T	6	1	-	30	2	-	0	D
CH1 function	Temperature	-	T									
	Humidity	-	H									
	CO ₂	-	G									
	RS-485	-	N									
CH2 function	Temperature			T								
	Humidity			H								
	CO ₂			G								
	RS-485			N								
Output	4 ... 20 mA				1							
	0 ... 10 V				6							
	0 ... 5 V				7							
	RS-485				N							
Power supply	DC 12 ... 36 V					1						
	DC 12 ... 36 V & AC 24 V±10%					3						
Temperature range	0 ... 50°C						-	30				
	No / RS-485						-	00				
CO ₂ range	2000 PPM								2			
	No / RS-485								0			
Modbus	Analog									-	0	
	RS-485									-	1	
	RS-485+analog									-	2	
Option	without display											N
	Display											D

| Additional Option (ILAC / TAF) Test Report |



Additional option: (ILAC / TAF) Test report - Standard calibration laboratory (TAF accreditation: 3032, complying with ISO / IEC 17025)
TAF has mutual recognition arrangement with ILAC MRA

Project	Measurand level or range
Resistance thermometer	-40°C ... +300°C
Thermocouple thermometer	-20°C ... +300°C

Project	Measurand level or range
Hygrometer	3 basic points (25°C / 30%, 50%, 80%)
	Temperature: 0°C ... 70°C
	Humidity: 10% ... 95%