



THG03

CO2 Temperature & Humidity Transmitter / Indoor type



Application

〈 Feature 〉

- Integrated 3 sensors in 1 device with optional LCD display
- Measuring temperature, humidity and carbon dioxide
- 2 analog outputs or Modbus RS-485
- Optional analogue 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 : CO2 ; down : T & H take turns)
digit	CO2 : 4 digits ; T & H : 3 digits & 1 decimal
digit height	17.84 mm

Input

CO2	NDIR sensor
temperature & humidity	MEMS sensor

Measuring Range

CO2	0 ... 2000 PPM
temperature	0 ... 50 °C
humidity	0 ... 100 %RH (non-condensing)

Output

analogue output	0 ... 5 V / 0 ... 10 V / 4 ... 20 mA
Modbus	RS-485
signal connection	3-wire
load resistance (voltage)	voltage output : $\geq 10K\Omega$; current output : $< 250\Omega$
warm-up time	< 2 min. , stable time 20 mins.
temperature influence	T & H : max. -0.15 % RH / °C (0 °C to 80 °C)
response time	CO2 : $t_{90} < 2$ min. T & H : t_{63} (15 °C to 45 °C / 33 to 75 % RH) ≤ 10 sec.
sampling time	CO2 : about 6 secs. ; T & H : about 3 secs.
data logger	via RS-485 by using eyc free software

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

CO2	± 40 PPM ± 3 % of reading
temperature	± 0.4 °C
humidity	± 3 % RH (20 ... 90 % RH)

Environment

media measured	air
working temp. / humidity for T & H	0 ... 50 °C / 0 ... 95 % (non-cond.)
working temp. / humidity for CO2	0 ... 50 °C / 0 ... 85 %
storage temperature	-20 ... + 60 °C

Electrical

power supply	DC 12 ... 36 V & AC 24 V ± 10 %
current consumption	DC : 150 mA / AC : 120 mA ;
starting current	DC 24V : 250 mA ; DC 12 V : 550 mA ; AC 24V : 230 mA ; AC 12V : 250 mA
electrical connection	analogue & communication : 4P connector

Installation

installation	wall
--------------	------

Protection

protection degree	IP 20
electric 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

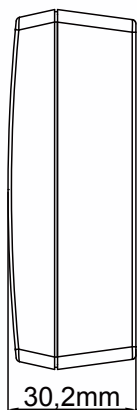
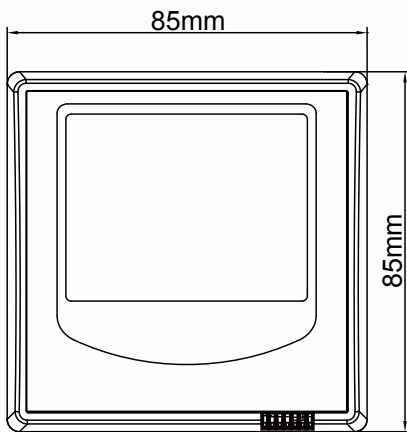
Material

case	PC (PC - 110) (UL94V-2)
weight	100 g

Ordering Guide

type	THG03	-	G	T	6	1	-	30	2	-	0	D
CH1 function	temperature humidity CO2 RS-485	-	T H G N									
CH2 function	temperature humidity CO2 RS-485			T H G N								
output	4 ... 20 mA 0 ... 10 V 0 ... 5 V RS-485				1 6 7 N							
power supply	12 ... 36 VDC 24 ± 10 % VAC & 12 ... 36 VDC (optional)					1 3						
temperature range	0 ... 50°C RS-485						-	30 00				
CO2 range	0 ... 2000 PPM RS-485								2 0			
Modbus	analogue RS-485 RS-485 + analogue									-	0 1 2	
option	without display display											N D

Dimension



Diagram

