



Indoor Air Quality Transmitter Series

Air Quality

www.eyc-tech.com


■ THR23

Temp. / Humidity

■ GS23

CO₂

■ THG03

Temp. / Humidity / CO₂

■ TGP03

Temp. / Humidity / CO₂ / PM2.5

| Features |

- Measuring temperature, humidity, carbon dioxide and PM2.5
- Analog outputs and RS-485
- LCD display and real-time data monitoring
- Long-term stability
- Easy installation and maintenance
- Data can be logged and transferred to PC via RS-485 software

| Applications |

Monitoring indoor environments HVAC / Data centers / Indoor ventilation, regulation, and air conditioning systems / Production warehouses / Commercial smart office buildings / Residential homes / Green industries / Convenience stores and department stores / Storage rooms / Vegetable and fruit storage rooms / Mushroom cultivation / Incubation rooms / Indoor public spaces / Museums / Libraries

Specification

Sensor type

Temperature	MEMS
Humidity	MEMS
CO ₂	NDIR
PM2.5	Infrared LED

Environment

Medium	Air
Operating Temp.	0 ... 50°C
Operating Humidity	0 ... 85%RH
Storage Temp.	-20 ... +60°C

Measuring range

Temperature	0 ... 50°C
Humidity	0 ... 100%RH(Non-condensing)
CO ₂	0 ... 2000 PPM
PM2.5	0 ... 500 µg/m ³

Electrical

Power supply	DC 24 V±10% & AC 24 V±10%
Current consumption	DC : 150 mA / AC : 120 mA
Starting current	DC 24 V : 250 mA / AC : 230 mA
Electrical connection	Terminal block

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

Temperature	±0.3°C
Humidity	±2.5%RH (at 30 ... 80%RH)
CO ₂	±40 PPM±3% of reading
PM2.5	±10 µg/m ³ ±5% of reading
Temp. influence	±0.15%RH/°C

Response time

Temperature & Humidity	t63(15 ... 45°C / 33 ... 75%RH) ≤ 10 sec
CO ₂	t90 < 2 min.
PM2.5	3 sec

Analog output

Output signal	0 ... 10 V / 4 ... 20 mA / RS-485
Signal connection	3-wire
Load resistance	Voltage output : ≥100 KΩ Current output : <250 Ω
Warm-up time	< 2 min., stable time 20 mins.

Installation

Installation	Wall mount
--------------	------------

Protection

IP rating	IP20
Electrical protection	■ Reverse polarity ■ Short-circuit

Certification

Certification	CE
---------------	----

Digital output

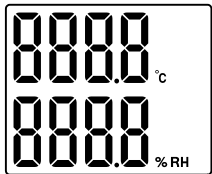
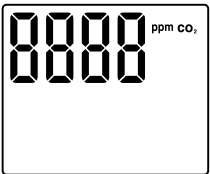
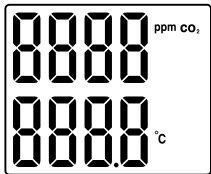
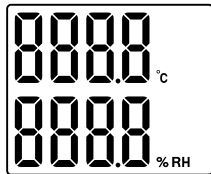
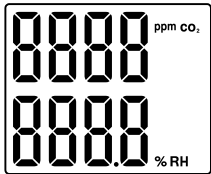
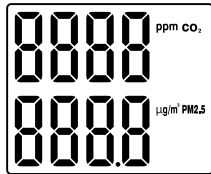
Output signal	RS-485
Protocol	Protocol
Interface	Modbus RTU
Address	1 ... 247
Baud rate	9600, 19200, 38400, 57600, 115200

Material

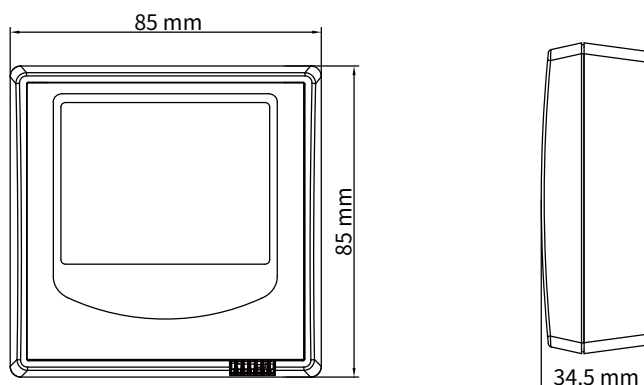
Housing	PC(PC-110)(UL94V-2)
Weight	115 g (Display) / 100 g (Without display)

Display

Display : LCD without backlight / Digit height : 17.91 mm

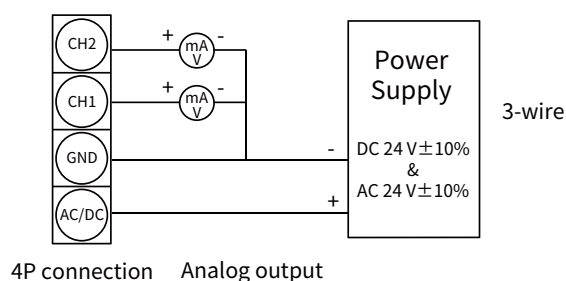
THR23	GS23	THG03	TGP03
Up : Temp. (3 digits + 1 decimal) Down : Humidity (3 digits + 1 decimal)	Up : CO ₂ (4 digits) Down : None	Up : CO ₂ (4 digits) Down : Temp. (3 digits + 1 decimal)	Up : Temp. (3 digits + 1 decimal) Down : Humidity (3 digits + 1 decimal)
			
No switch	No switch	Up : CO ₂ (4 digits) Down : Humidity (3 digits + 1 decimal)	Up : CO ₂ (4 digits) Down : PM2.5 (3 digits + 1 decimal)
			

| Dimension |

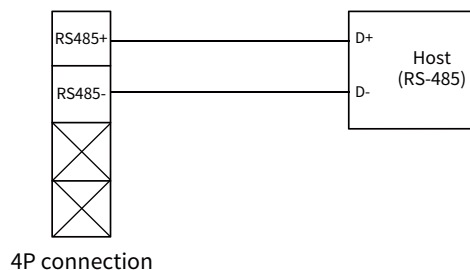
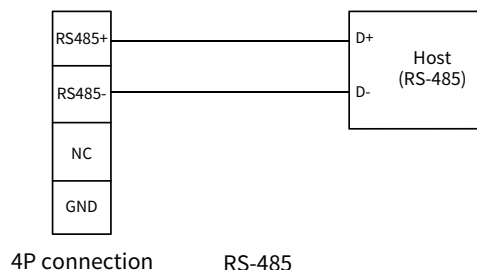
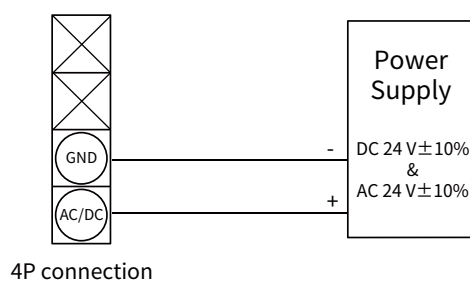


| Diagram |

■ Analog & RS-485



■ RS-485



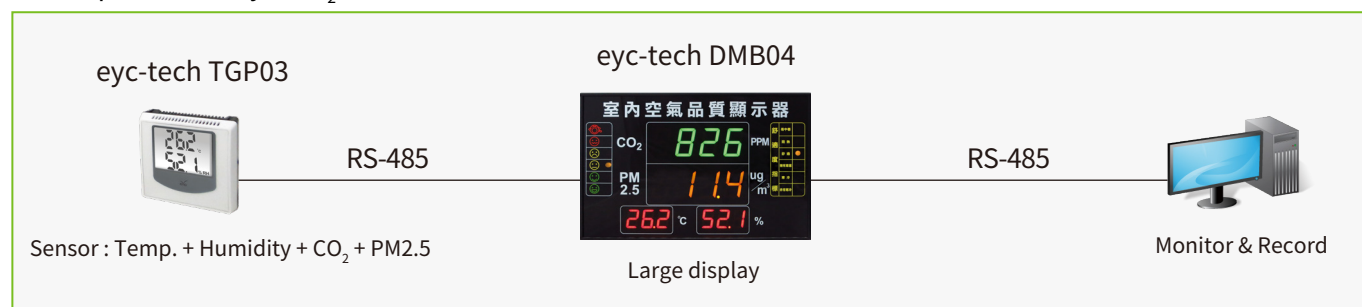
*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

| Ordering Guide |

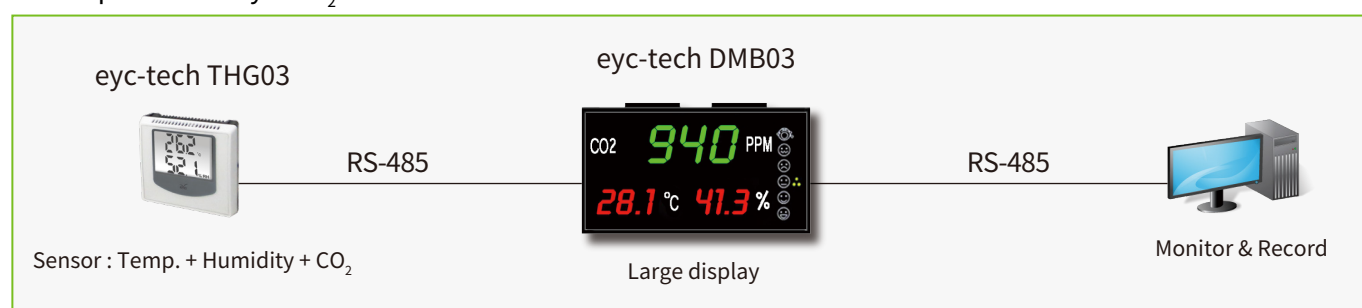
Product ordering number	Function				Analog output		Digital output	Display
	Temp.	Humidity	CO ₂	PM2.5	Type	Channel		
THR23-NNN3-00-9D	V	V			No	No	RS-485	Yes
THR23-NNN3-00-9N	V	V			No	No	RS-485	No
THR23-TH13-30-1D	V	V			4 ... 20 mA	CH1 : Temp., CH2 : Humidity	No	Yes
THR23-TH13-30-1N	V	V			4 ... 20 mA	CH1 : Temp., CH2 : Humidity	No	No
THR23-TH63-30-1D	V	V			0 ... 10 V	CH1 : Temp., CH2 : Humidity	No	Yes
THR23-TH63-30-1N	V	V			0 ... 10 V	CH1 : Temp., CH2 : Humidity	No	No
GS23-1132-2D			V		4 ... 20 mA	CH1 : CO ₂	RS-485	Yes
GS23-1632-2D			V		0 ... 10 V	CH1 : CO ₂	RS-485	Yes
THG03-NNN3-000-2D	V	V	V		No		RS-485	Yes
TGP03-3D	V	V	V	V	No		RS-485	Yes

| Optional Combination |

■ Temp. + Humidity + CO₂ + PM2.5



■ Temp. + Humidity + CO₂



| Additional Option Test Report |

For more detailed information please contact us.

■ ILAC / TAF

YUDEN-TECH CO.,LTD. Calibration Laboratory - (ILAC / TAF) Test report.

(TAF accreditation : 3032, complying with ISO / IEC 17025) TAF has mutual recognition arrangement with ILAC MRA

Project	Measurand level or range
Hygrometer	Temperature : 0°C ... 69.5°C
	Humidity : 10% ... 95%

■ ISO 9001

Project	Measurand level or range
Temperature and Humidity	Temperature : 0°C ... 200°C
	Humidity : 0.1% ... 99.8%