

ESCO2THWxxDM



Environmental Sensor, CO₂, Temperature & Humidity Transmitter, Wall type



Main features

- Wall mounting
- 0-10 V or 4-20 mA Output
- 2000 or 5000 ppm measuring range
- Compact housing to measure 3 variables
- With Modbus communication
- Comes with LCD display
- Software for monitoring: ESCO2 Soft

Applications

- Environmental monitoring for various building
- Monitoring for HVAC process / air conditioning/ environmental ventilation control
- Humidity and CO₂ monitoring for house and building

Description

Non-dispersive infrared (NDIR) sensor and MEMS sensor for good long-life and long-term stability and with an exceptionally high accuracy. Compact 3-in-1 wall mount sensor for CO₂, temperature and humidity. Perfectly suitable to be used in building environmental monitoring. Comes with LCD display and Modbus communication.

References

Product selection key



ESCO2THW ☐ ☐ DM

Enter the code option instead of ☐

Code	Option	Description
ESCO2TH	-	Model
W	-	Wall mounting
☐	2	CO ₂ 2000 ppm
	5	CO ₂ 5000 ppm
☐	A	Output 4...20 mA
	V	Output: 0...10 V
D	-	Display
M	-	Modbus RS485

Type selection

Mounting	Range	Output	communication	Code
Wall	2000 ppm	0...10 V	Modbus RS485	ESCO2THW2VDM
Wall	5000 ppm	0...10 V	Modbus RS485	ESCO2THW5VDM
Wall	2000 ppm	4...20 mA	Modbus RS485	ESCO2THW2ADM
Wall	5000 ppm	4...20 mA	Modbus RS485	ESCO2THW5ADM

Features

Power Supply

Power supply	DC	12 ... 36 V
	AC	24 V $\pm 10\%$
Current consumption	DC	150 mA
	AC	120 mA
Starting current	DC	12 V: 550 mA
	DC	24 V: 250 mA
	AC	24 V: 230 mA

Outputs

2 x Analogue output	0-10 V or 4-20 mA (only T and CO ₂)
Humidity only through Modbus	RS485 (CO ₂ , T and H)

Environmental

Ambient temperature	0° ... +50°C (32° ... +122°F)	Operating
	-20° ... +60°C (-4° ... +140°F)	Storage
Degree of protection	IP20	
Electrical protection	Polarity protection and short circuit	

Measuring Values

Sensor type	CO ₂	NDIR
	Temperature & Humidity	MEMS
Media measured	Air	
Working range	CO ₂	0...2000 ppm / 0...5000 ppm
	Temperature	0...50°C (32...122°F)
	Humidity	0...100%
Signal connection	3-wire	
Accuracy (@ +25°C; V=24 VDC)	CO ₂	±40 ppm+3%
	Temperature	±0.5°C
	Humidity	±3% RH (20-90%RH)
Warm-up time (CO₂)	< 2 min, stable time 20 min	
Response times (t90) CO₂ (@ +23°C)	< 2 min.	
Time Sampling CO₂	about 6 secs.	
Load resistance	Voltage output	> 10 KΩ

Mechanics/electronics

Connection

Electrical connection	signal & communication	Screw terminal
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Display

Display type	LCD double line character	
Display range	Up array displays CO ₂ / down array displays temp. and humidity which can interchange	
	CO ₂	Four-digit numbers
	Temperature & Humidity	Three-digit numbers and one decimal place
	Height of character	17.84 mm
Display size	47.8 mm x 41.1 mm	

Wiring

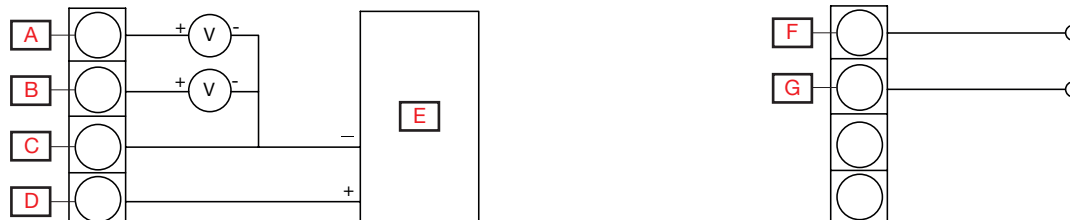


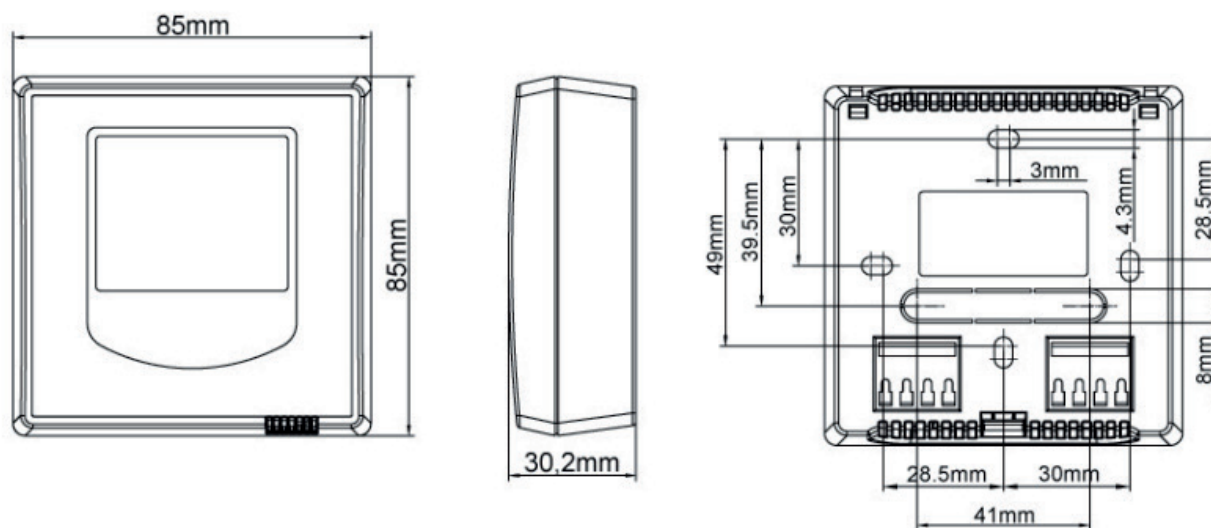
Fig. 1 RS485 signal connector

A	CH 1	E	12...36 VDC and 24 VAC
B	CH 2	F	RS485+
C	GND	G	RS485-
D	AC/DC		

Housing

Housing	PC fire-proof class (PC-110)
Installation	Wall mounting
Weight	100 g

Dimensions



Compatibility and conformity

Approvals and markings

CE-marking





Delivery contents and accessories

Delivery contents

Environmental sensor: ESCO2THWxxDM



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