

# ESCO2THWxxDM



## Environmental Sensor, CO<sub>2</sub>, 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 CO<sub>2</sub> 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 CO<sub>2</sub>, 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
<input type="checkbox"/>	2	CO <sub>2</sub> 2000 ppm
	5	CO <sub>2</sub> 5000 ppm
<input type="checkbox"/>	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 <sub>2</sub> )
Humidity only through Modbus	RS485 (CO <sub>2</sub> , 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

<b>Sensor type</b>	CO <sub>2</sub>	NDIR
	Temperature & Humidity	MEMS
<b>Media measured</b>	Air	
<b>Working range</b>	CO <sub>2</sub>	0...2000 ppm / 0...5000 ppm
	Temperature	0...50°C (32...122°F)
	Humidity	0...100%
<b>Signal connection</b>	3-wire	
<b>Accuracy (@ +25°C; V=24 VDC)</b>	CO <sub>2</sub>	±40 ppm+3%
	Temperature	±0.5°C
	Humidity	±3% RH (20-90%RH)
<b>Warm-up time (CO<sub>2</sub>)</b>	< 2 min, stable time 20 min	
<b>Response times (t90) CO<sub>2</sub> (@ +23°C)</b>	< 2 min.	
<b>Time Sampling CO<sub>2</sub></b>	about 6 secs.	
<b>Load resistance</b>	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 <sub>2</sub> / down array displays temp. and humidity which can interchange	
	CO <sub>2</sub>	Four-digital numbers
	Temperature & Humidity	Three-digital numbers and one decimal place
	Height of character	17.84 mm
Display size	47.8 mm x 41.1 mm	

## ▶ Wiring

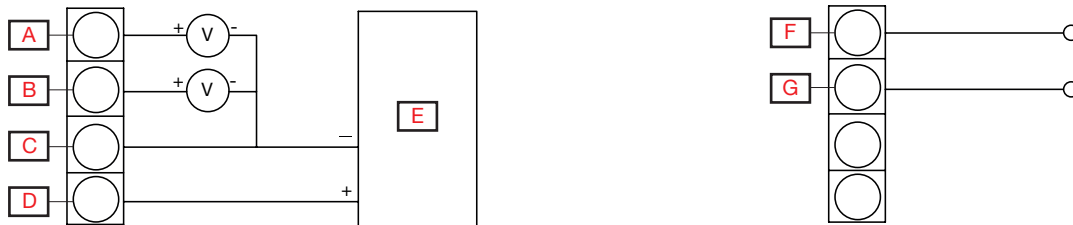


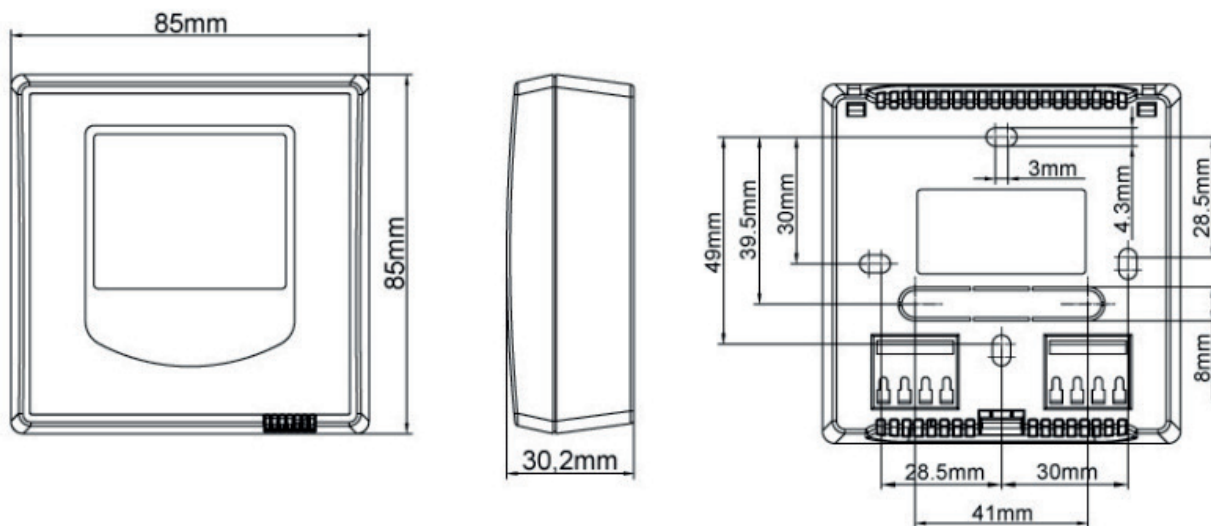
Fig. 1 RS485 signal connector

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	
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