

Description

Combination sensor Modbus is a sensor for users who want a discreet sensor without display or LED indicators for data which is easily accessible via an app/PC.

The combination sensor is maintenance free and is supplied in a white design for wall mounting.

Sensor Modbus / ES 1099 is available in a model for measuring temperature and humidity (RH), item 48402 Humidity Sensor Modbus M25 / ES 1099, and in a model measuring CO₂, temperature and humidity (RH), item 48401 CO₂-Humidity Sensor Modbus M25 / ES 1099. Model is stated on the product label.

Note, if model 48402 without CO₂ measurement is chosen, the Modbus Register 3000 (CO₂Level) value is 0.

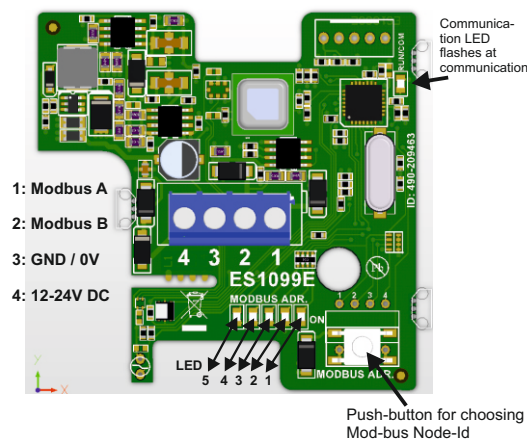
Warning

 ESD-Sensitive when lid is removed. Be certain to be ESD-discharged before touching push-button, so product isn't harmed.

Mounting

Must be wall mounted on a level, stable non-moving nor vibrating surface in a non-condensating environment. Avoid direct sunlight and thermal stress.

Connections



To choose ModBus Node-Id press push-button for 4-5 seconds.

When letting go of the push-button the LED of current Node-Id flashes. push the button number of times corresponding to the required Node-id. To control the setting press the push-button shortly and read the number of LEDs glowing.

Technical specifications

Supply Voltage: 12-24V DC
 Current draw / consumption: 45mA@12Vdc - 25mA@24Vdc
 Enclosure: IP 30
 Dimension (HxWxD): 70x70x30mm
 Operating Temperature: 15-35°C non-condensing
 Humidity: 0-80%RH non-condensing
 Communication Protocol: ModBus, Baud rate 9600

Measurement Area and Precision

Temperature: 0-60°C, ±0.2°C typically / ±0.5°C max. RH: 0-100% RH, ±2%
 CO₂: 400-2000ppm, ±40ppm



QR-code for download of this product sheet

ModBus Interface

ModBus interface:

Baud Rate: 9600

Mode: RTU

Data Bits: 8

Parity: Even

Stop Bit(s): 1

ModBus Node-Id

Node-Id	LED glowing
102	No. 1
103	No. 1 and 2
104	No. 1, 2 and 3
105	No. 1, 2, 3 and 4
106	No. 1, 2, 3, 4 and 5

ModBus Register

Input Register	Description	Formatting
0	CO ₂ level (0-2000ppm)	0=0ppm, 2000=2000ppm
1	Temperature (0.0 - 60.0°C)	0=0,0°C, 500=50,0°C
2	RH (0-100%)	0=0%, 100=100%
3	Internal Temperature (0.0 - 60.0°C, step 1°C)	0=0,0°C, 500=50,0°C
4	Firmware Version (000.0)	

Calibrating of CO₂ sensor

The CO₂ sensor uses the widely used ABC algorithm, which ensures long life without calibration. Only the room cannot be used constantly, but must regularly get sufficient airflow to lower the CO₂ to fresh air level.

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Written by: HN/DF

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Manufacturer: **LS Control A/S**, Industrivej 12, DK-4160 Herlufmagle