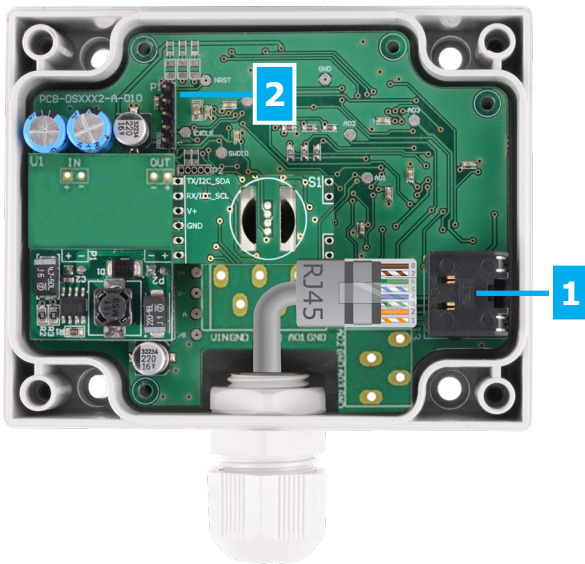# SENTERA
C O N T R O L S

DCTHM-2
Intelligent temperature and humidity duct sensor, PoM

The DCTHM-2 are intelligent sensors featuring adjustable temperature and relative humidity ranges. The used algorithm generates an output value based on the measured temperature and relative humidity levels, which can be used to directly control an EC fan, an AC fan speed controller or an actuator powered damper. They are Power over Modbus supplied and all parameters are accessible via Modbus RTU.

Key features

- 24 VDC power supply via RJ45 (PoM)
- Selectable temperature and relative humidity ranges
- Fan speed control based on T and rH
- Bootloader for updating the firmware via Modbus RTU communication
- Modbus RTU communication
- Long-term stability and accuracy

Technical specifications

Supply voltage		24 VDC, Power over Modbus
Imax		15 mA
Typical range of use	Temperature range	-30—70 °C
	Relative humidity range	0—100 % rH (non-condensing)
Accuracy		±0,4 ºC (-30—70 ºC)
		±3 % rH (0—100 % rH)
Min. airflow velocity		1 m /s
Protection standard		Enclosure: IP54, probe: IP20

Modbus registers

The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:

https://www.sentera.eu/en/3SMCenter

For more information about the Modbus registers, please refer to the product Modbus Register Map.

Standards

CE

- Low Voltage Directive 2014/35/EC
  - EN 60529:1991 Degrees of protection provided by enclosures (IP Code) Amendment AC:1993 to EN 60529
  - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements

- EMC Directive 2014/30/EC:
  - EN 60730-1:2011 Automatic electrical controls for household and similar use - Part 1: General requirements
  - EN 61000-6-1:2007 Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
  - EN 61000-6-3:2007 Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments Amendments A1:2011 and AC:2012 to EN 61000-6-3
  - EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
  - EN 61326-2-3:2013 Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning

- WEEE Directive 2012/19/EC

- RoHs Directive 2011/65/EC

Article codes

Article code	Supply	Imax	Connection
DCTHM-2	24 VDC, PoM	15 mA	RJ45

Area of use

- Demand controlled ventilation based on temperature and relative humidity
- Suitable for mounting in air ducts

Wiring and connections

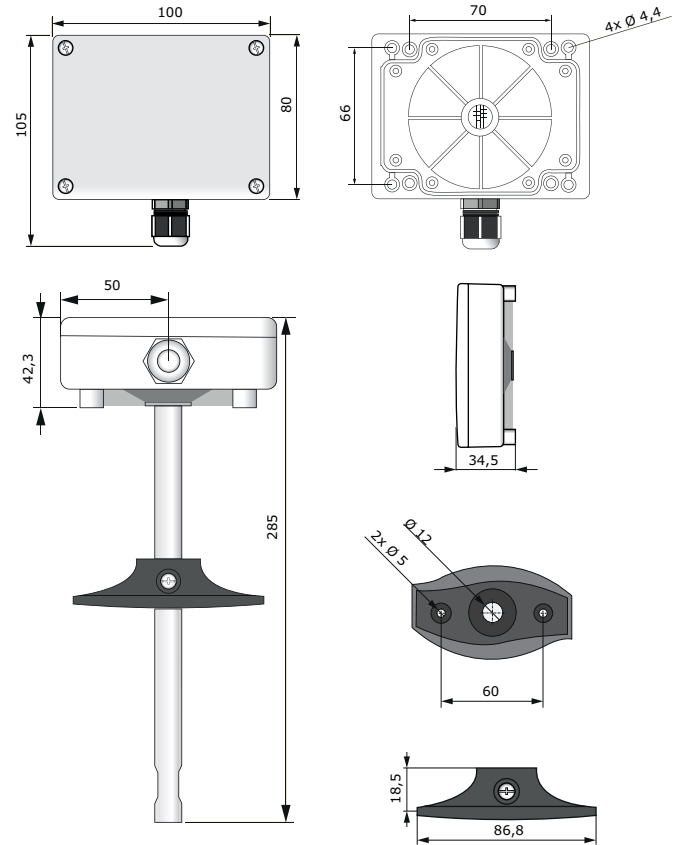|	
24 VDC	Supply voltage
GND	Ground
A	Modbus RTU communication, signal A
/B	Modbus RTU communication, signal /B

GND — 8 mm
/B — 8 mm
A — 8 mm
24 VDC — 8 mm
RJ45

Settings

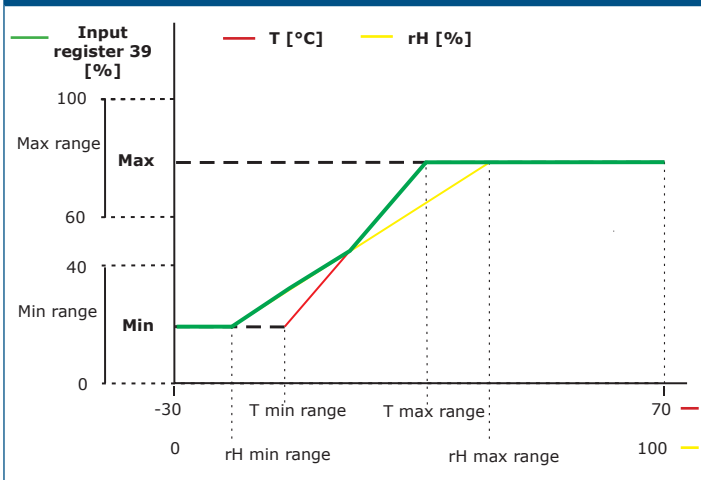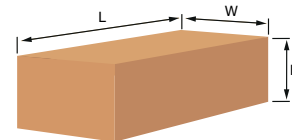|		
1 - RJ45 socket		Plug the communication and power cable into the socket
2 - PROG header, P1	1 2 3 4 5	Put a jumper onto pins 1 and 2 and wait for at least 5 seconds to reset the Modbus communication parameters
	1 2 3 4 5	Put a jumper onto pins 3 and 4 and restart the supply to enter bootloader mode

Operational diagram

Note: *The output changes automatically depending on the highest of the T and rH values, i.e. the highest of the two output values controls the output. See the green line in the operational diagram above. One or multiple sensors can be deactivated. E.g. it is also possible to control the output based on the measured temperature values only.*

Fixing and dimensions

Packaging

Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
DCTHM-2	Unit (1 pc.)	310	115	115	0,16 kg	0,28 kg
	Box (20 pcs.)	590	380	505	3,20 kg	6,41 kg

Global trade item numbers (GTIN)

Packaging	DCTHM-2
Unit	05401003017913
Box	05401003503645