

DXTH

Dual duct sensor / switch for temperature and humidity

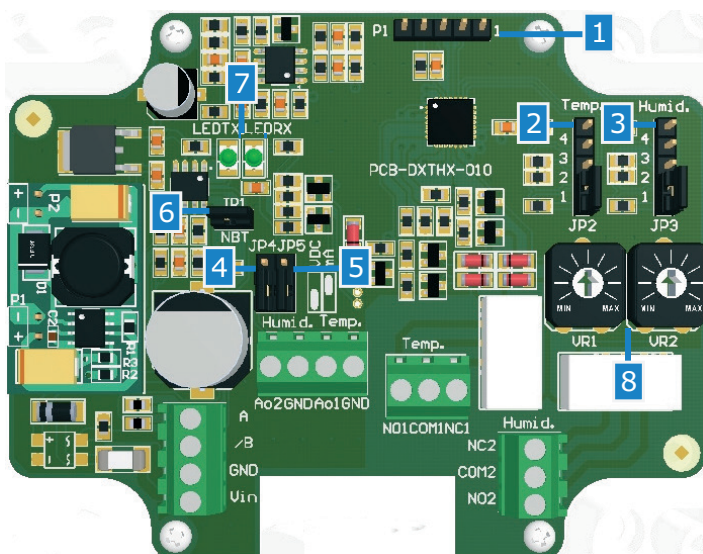
The DXTH series are dual duct transmitters / switches which measure temperature and relative humidity. For each, there are 4 pre-defined ranges acting as measurement windows plus one user-definable range. These units are equipped with Modbus RTU (RS485) communication and have an analog and a relay output for each measuring unit.

Key features

- Microcontroller based design
- Built-in temperature sensor & digital humidity sensor
- 2 analog outputs and 2 relay outputs
- Modbus RTU (RS485)
- Multiple temperature and humidity ranges as measurement windows
- Selectable switching points
- Fixed hystereses
- Innovative self-calibrating algorithm
- Long-term stability and accuracy

Technical specifications

Outputs	2 analog outputs (0–10 VDC / 0–20 mA) 2 C/O relay outputs (230 VAC / 2 A)	
Power consumption	No load: maximum 40 mA Full load: maximum 80 mA	
Load resistance	0–10 VDC mode > 500 Ω 0–20 mA mode < 500 Ω	
Sensor temperature ranges	0–30 °C 10–40 °C 20–50 °C 0–50 °C	
Sensor temperature range (Modbus selection)	0–50 °C, free selectable	
Relative humidity ranges	20–90 % rH 0–60 % rH 0–80 % rH 0–100 % rH	
Relative humidity range (Modbus selection)	0–100 % rH, free selectable	
Relay switching points	selectable by trimmers	
Fixed hystereses	2 °C and 5 % rH	
Protection standard	Enclosure: IP54, probe: IP20	
Ambient conditions	Temperature	0–50 °C
	Rel. humidity	< 100 % rH (non-condensing)



Article codes

	Supply	Connection
DXTHG	15–24 VAC ±10 % 18–34 VDC	3-wire
DXTHF	18–34 VDC	4-wire

Area of use

- Monitoring and maintaining temperature and relative humidity in HVAC duct applications

Wiring and connections

Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
Ao1	Analog output (0–10 VDC / 0–20 mA)
GND	Ground
Ao2	Analog output (0–10 VDC / 0–20 mA)
GND	Ground
NO1	Normally open contact 1
COM1	Common contact 1
NC1	Normally closed contact 1
NO2	Normally open contact 2
COM2	Common contact 2
NC2	Normally closed contact 2
Connections	Cable cross section: max. 1,5 mm²
	Cable gland clamping range: 5–10 mm

Caution: If an external AC / DC powered unit (G-series) is using the same safety transformer as a DC powered unit (F-series), a **SHORT CIRCUIT** in the source may result when connecting 3-wire applications (common ground)!

If an AC power supply is used with any of the units in a Modbus network, the GND terminal should **NOT BE CONNECTED** to other units on the network or via the CNVT-USB-RS485 converter. This may cause permanent damage to the communication semiconductors and / or the computer!



Modbus registers



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

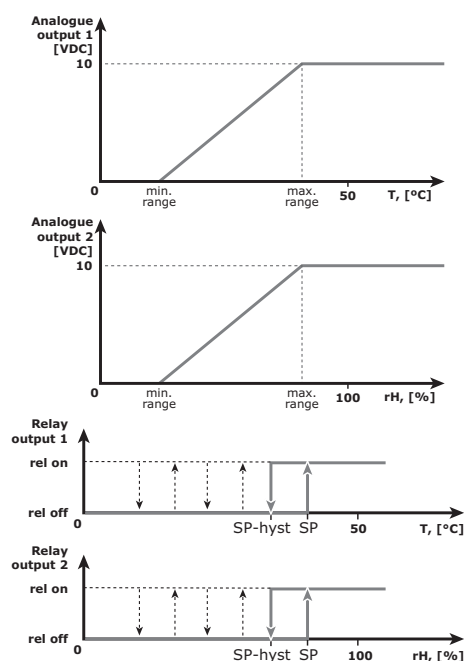


The parameters of the unit can be monitored / configured through the 3SModbus software platform. You can download it from the following link:

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

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

Operational diagram(s)



Standards

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC: EN 61326
- WEEE Directive 2012/19/EC
- RoHS Directive 2011/65/EC



Settings

1 - Modbus settings reset jumper P1		Put and hold for 20 seconds
2 - Temperature range setting JP2		0—30 °C
		10—40 °C
		20—50 °C
		0—50 °C
3 - Relative humidity range setting JP3		20—90 % rH
		0—60 % rH
		0—80 % rH
		0—100 % rH
4 - Output Ao1 mode selection JP4		0—10 VDC
		0—20 mA
5 - Output Ao2 mode selection JP5		0—10 VDC
		0—20 mA
6 - Network bus resistor jumper JP1 (NBT)		The DXTH is the first or the last unit
7 - Modbus communication indication	Blinking green	Transmitting
	Blinking green	Receiving
8 - Setpoint trimmers		VR1 - switching point for relay 1 VR2 - switching point for relay 2

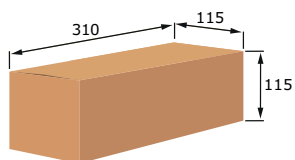
(indicates the position of the jumper.)



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Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
DXTHF	Unit (1 pc.)	310	115	115	0,23 kg	0,35 kg
	Box (20 pcs.)	590	380	505	4,60 kg	4,60 kg
DXTHG	Unit (1 pc.)	310	115	115	0,23 kg	0,35 kg
	Box (20 pcs.)	590	380	505	4,60 kg	4,60 kg

Fixing and dimensions

