

ODXT

Outdoor temperature sensor / switch



The ODXT series are combined outdoor temperature sensors / switches with 4 pre-defined and one user-definable ranges via Modbus. They feature with Modbus RTU (RS485) communication and have a relay output and an analog / modulating output (0–10 VDC / 0–20 mA / PWM). They are temperature compensated and provide long-term stability and enhanced performance of the sensor / switch.

Key features

- 1 relay and 1 analog / modulating output
- Multiple ranges
- Measurement of wide temperature ranges
- Modbus RTU (RS485) communication
- Selectable switching point via Modbus
- Selectable temperature ranges by jumpers or via Modbus RTU
- Selectable hysteresis by jumpers or via Modbus RTU
- Long-term stability and accuracy

Technical specifications

Outputs	1 analog / modulating output (0–10 VDC / 0–20 mA / PWM - frequency 1 kHz) 1 C/O relay output (230 VAC / 2 A)	
Power consumption	No load: maximum 25 mA Full load: maximum 55 mA	
Maximum power consumption	ODXTG	1,32 W
	ODXTF	0,96 W
Nominal or average power consumption in normal operation	ODXTG	0,95 W
	ODXTF	0,72 W
Imax	ODXTG	55 mA
	ODXTF	40 mA
Sensor temperature range (Modbus selection)	-55–80 °C, user definable	
Hysteresis (jumper selection)	1 / 2 / 3 / 4 °C	
Hysteresis (Modbus selection)	1 / 2 / 3 / 4 / 5 °C	
Switching point	Selectable via Modbus RTU	
Accuracy	< ± 0,01 %	
Protection standard	IP65 (according to EN 60529)	
Ambient conditions	Temperature	-55–80 °C
	Rel. humidity	< 95 % rH (non-condensing)



Article codes

	Supply
ODXTG	15–24 VAC ±10 % 18–34 VDC
ODXTF	18–34 VDC

Area of use

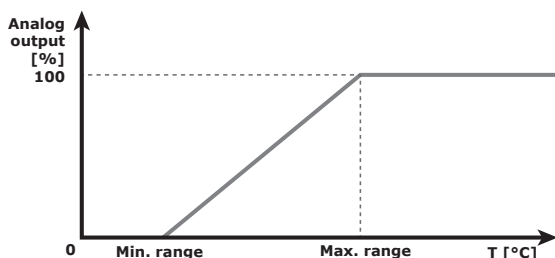
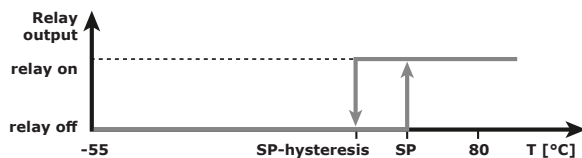
- Temperature control in HVAC applications
- Suitable for outdoor use

Wiring and connections

Article type	ODXTF	ODXTG	
Vin	18–34 VDC	18–34 VDC	15–24 VAC ±10%
GND	Ground	Common ground*	AC ~*
A	Modbus RTU (RS485), signal A		
/B	Modbus RTU (RS485), signal /B		
AO1	Analog / modulating output 1 for temperature measurement (0–10 VDC / 0–20 mA / PWM)		
GND	Ground AO1	Common ground*	
NO1	Normally open contact		
COM1	Common contact		
NC1	Normally closed contact		
Connections	Cable cross section: max. 1,5 mm ²		
	Cable gland clamping range: 3–6 mm		

***Caution:** Never connect the common ground of G type articles to other devices powered by a DC voltage. If an AC power supply is used with a unit on 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!

Operational diagrams

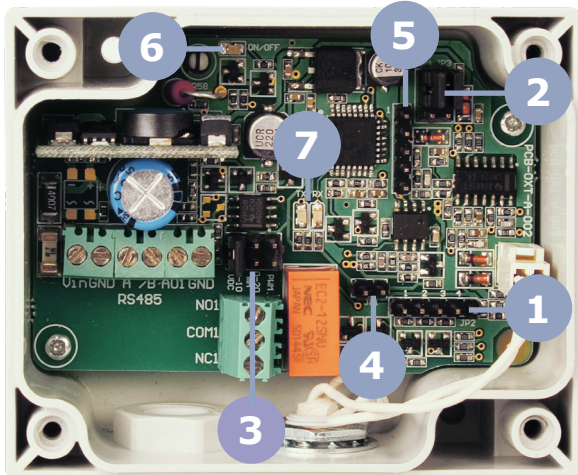


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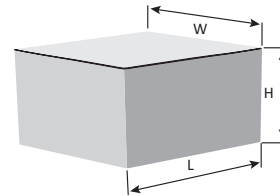
Settings



1 - Sensor range setting JP2		-55—45 °C
		-40—60 °C
		-30—70 °C
		-20—80 °C
2 - Hysteresis selection JP3 & JP4		1 °C
		2 °C
		3 °C
		4 °C
3 - Analog / modulating output selection		0—10 VDC
		0—20 mA
		PWM (open collector)
4 - Internal pull-up resistor jumper, JP1		connected to 12,5 VDC
		connected to 3,3—30 VDC
5 - PROG header, P1		Put a jumper onto pins 1 and 2 and wait for at least 5 seconds to reset the Modbus communication parameters
		Put a jumper onto pins 3 and 4 and restart the supply to enter bootloader mode
6 - Operating indication	Continuous	Normal operation
7 - Modbus communication indication	Blinking	Transmitting / receiving

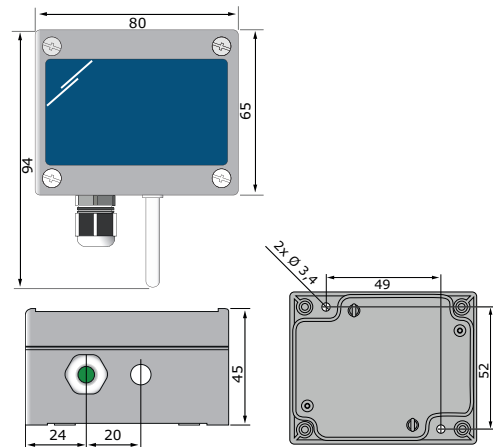
indicates the position of the jumper

Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
ODXT	Unit (1 pc.)	95	85	70	0,12 kg	0,15 kg
	Carton (10 pcs.)	495	185	87	1,20 kg	1,63 kg
	Box (60 pcs.)	590	380	280	7,20 kg	10,40 kg

Fixing and dimensions



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

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC: EN 61000-6-3:2007/A1:2011/AC:2012
- WEEE Directive 2012/19/EU
- RoHS Directive 2011/65/EU

