

# Industrial Temperature Sensor - Product Code



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## WIN-SN-TnH-M/DUCT

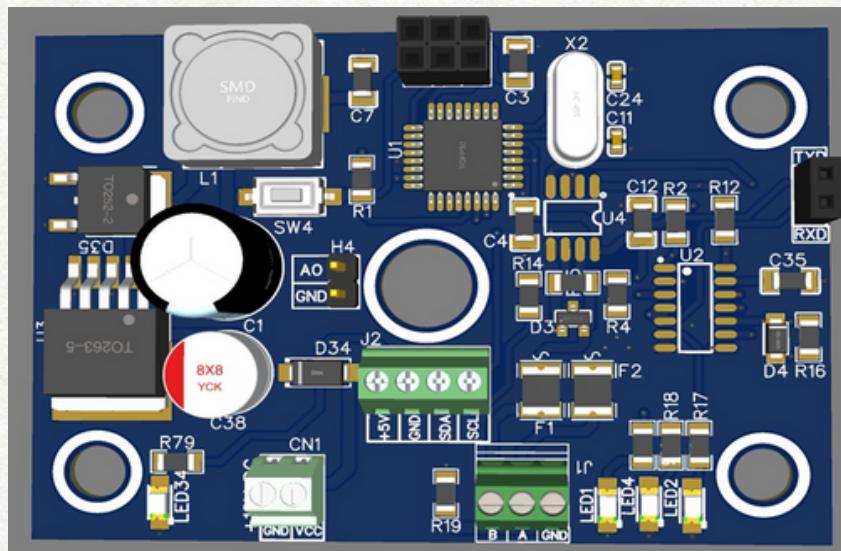
**WIN-SN-TnH-M/DUCT** is a versatile data acquisition device designed for real-time monitoring in industrial applications, specifically ducts. It supports a wide range of external sensors with I2C, Analog, and UART output interfaces, providing flexibility for various measurement. The device integrates seamlessly with Modbus RS485 networks, offering reliable communication and long-range data transfer up to several meters, ideal for large-scale installations. Its robust design makes it suitable for duct installations in HVAC systems, environmental monitoring, and process control. Configurable data sampling rates, multi-sensor compatibility, and easy configuration, **WIN-SN-TnH-M/DUCT** ensures accurate data acquisition and reliable performance in demanding environments, making it an excellent choice for industrial and IoT applications.

## Key Features

- Supports multiple sensor types (I2C, Analog, UART)
- RS485 Modbus RTU communication
- Configurable data sampling rates
- Industrial-grade build quality

Sensor Name	Measuring Parameter	Measuring Range	Operating Temperature	Measuring Accuracy
AHT21	Temperature Humidity	-40°C ~ 120°C. 0~100% RH.	-40°C ~ 120°C.	0.3°C, 2.0%RH

## Technical Specifications



UART Sensor

## Product Specifications

- Product dimension: 103\*80\*230 mm.
- Power supply DC: 12V-24V @1.5A.

## Configuration Setting

Communication Speed	9600 - 115200 (SW selectable)
Data Bits	8
Parity	None
Stop bit	bit 1
CRC	Yes
Function code	0X03 (Read Holding Register)

## Recommended Cable Electrical Characteristics: -

22 AWG Cable - Shielded and twisted pair should be used.

Tinned Copper - Recommended

Nominal Conductor DCR - 14.7 ohm / 1000 ft

Nominal Capacitance - 11 pf / feet (conductor to conductor)

High Frequency Non-Insertion Loss - 0.5db / 100ft

Mbpoll1

Tx = 580: Err = 0: ID = 1: F = 03: SR = 1000ms

	Name	00000	Name	00010
0	Temperature	280	Default Baudr...	960
1	Humidity	507	Selectable Baud	0
2		0	Default SlaveID	1
3		0	Selectable Slave	0
4		0	Default Parity	3
5		0	Selectable Pari...	0
6		0	Default Stopbit	1
7		0	Selectable stop	0
8		0		
9		0		

Fig 1

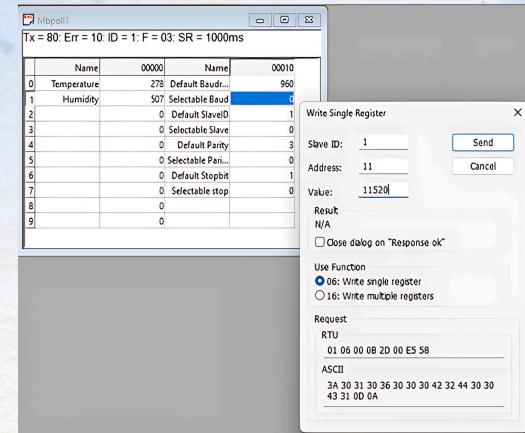


Fig 2

Fig 1 shows the default configuration setting of the product. Baudrate is 9600, SlaveID is 1, Parity None, and stop bit is 1.

1. To change baudrate from 9600 to desired, at the selectable baudrate column type desired baudrate(Eg. 115200\*10=115200) as shown in fig.2 . Press reset button on the PCB or restart the device.

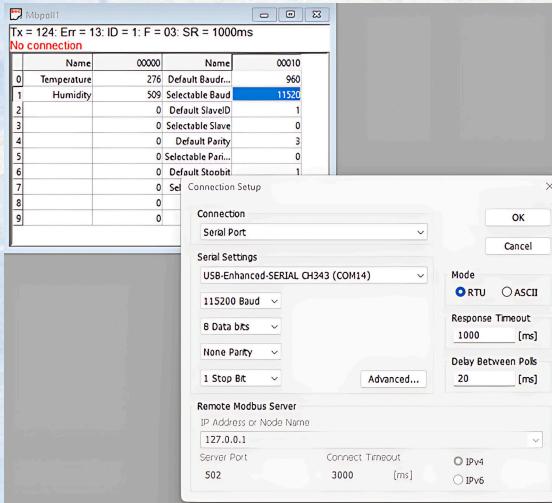


Fig 3

Mbpoll1

Tx = 134: Err = 13: ID = 1: F = 03: SR = 1000ms

	Name	00000	Name	00010
0	Temperature	275	Default Baudr...	11520
1	Humidity	514	Selectable Baud	0
2		0	Default SlaveID	1
3		0	Selectable Slave	0
4		0	Default Parity	3
5		0	Selectable Pari...	0
6		0	Default Stopbit	1
7		0	Selectable stop	0
8		0		
9		0		

Fig 4

2. Connect device to Modbus by selected baudrate (i.e. 115200) as shown in fig 3.

3. Fig4 device is connected to Modbus by selected baud rate as shown in fig 4.

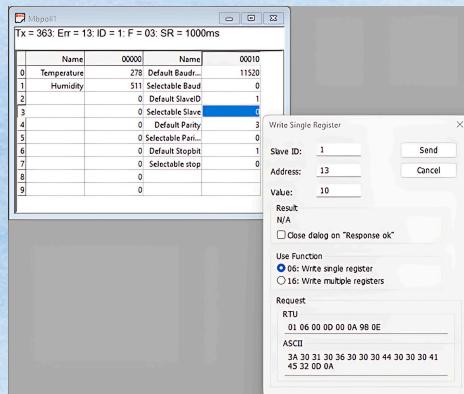


Fig 5

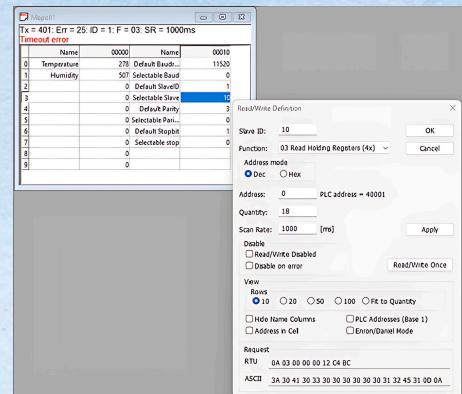


Fig 6

4. To change Slave id from 1 to 10, At selectable slave colum type desired slave ID(eg. 10). And now connect with updated Slave ID (I.E. 10)
5. Fig7 shows the device is connected to Modbus by updated configuration that is baudrate is 115200 and slave id is 10.

	Name	00000	Name	00010
0	Temperature	278	Default Baudr...	11520
1	Humidity	506	Selectable Baud	0
2		0	Default SlaveID	10
3		0	Selectable Slave	0
4		0	Default Parity	3
5		0	Selectable Pari...	0
6		0	Default Stopbit	1
7		0	Selectable stop	0
8		0		
9		0		

Fig 7

## Important Note:

Temperature and Humidity Data are provided in the multiple of 10. For deriving the correct value this no needs to be divided by 10 to obtain the actual reading. Example. Temperature  $280/10 = 28.0$  °C and Humidity  $507/10 = 50.7\%$ .

Baudrate is provided in devised of 10. Example. Baudrate  $960 * 10 = 9600$ .

## Technical Support -

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