Temperature Transducer with Bacnet & Modbus RS485

Description

Duct temperature and humidity sensor / transmitter is applicable to all kinds of building automation, environment monitoring, HVAC systems. Product appearance is simple, direct connection terminals, convenient installation.Products use high performance embedded microprocessor, and high-precision sensors to meet all kinds of high precision,high stability of the temperature and humidity measurement requirements , and variety needs of different environments.Duct temperature sensor / transmitter has current, voltage, 485 output signal to select, using 485 serial port out put and Modbus communication protocol. It is commonly used in HVAC, electrical plant,environment monitoring,dynamic environment monitoring, agricultural environmental monitoring, meteorological environmental monitoring,environmental monitoring of biological pharmacy, airport, subway stations, hotel,museum,

XDUCER-WTS-100

XDUCER-T-150

XDUCER-D-TH

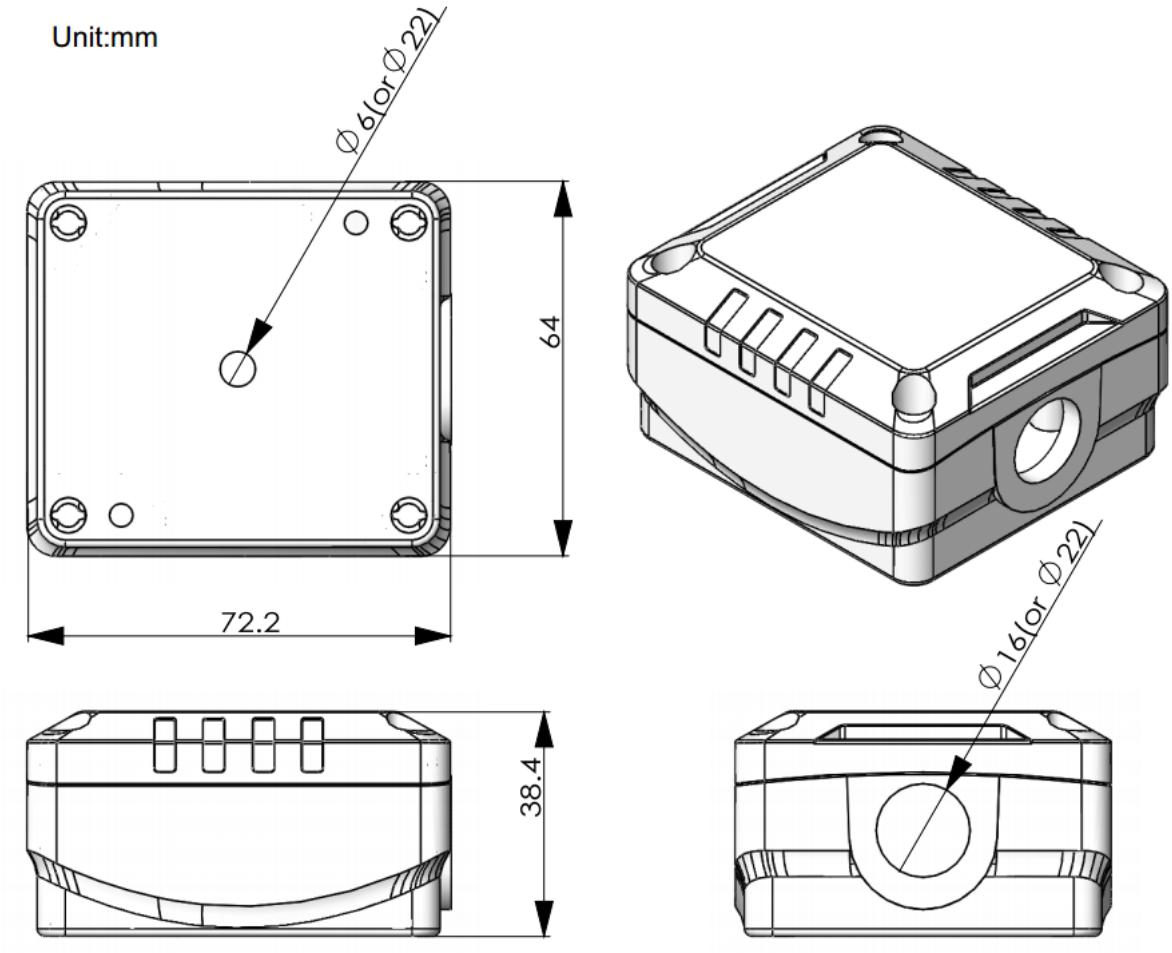
Higslights

-High precision temperature and humidity sensor
-Applicable to all types of air environmental monitoring
- HVAC systems
-Advanced circuit design, high accuracy,stable performance
-Appearance is concise,easy to install, cost-effective

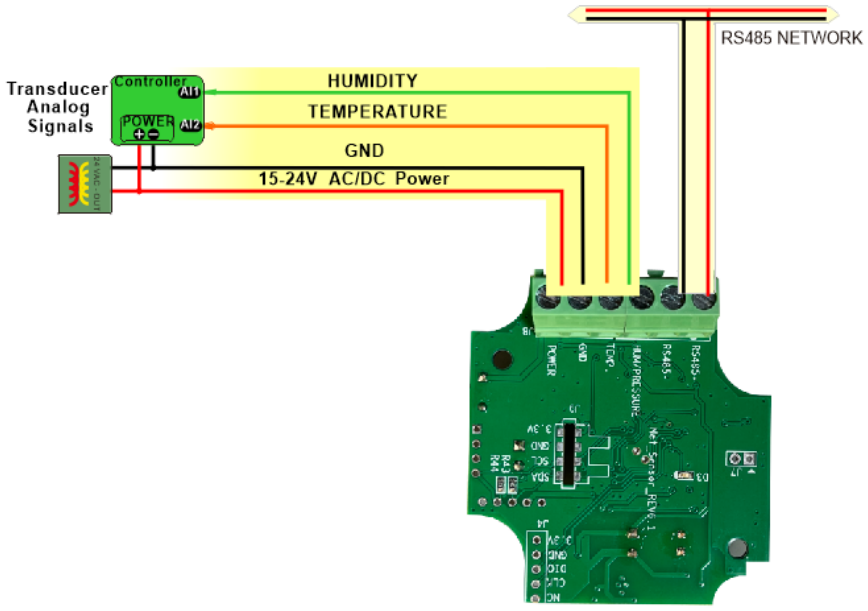
Specifications

Typical Application	Duct Mount Indoors		
Output Signal Type	420mA,0-10V		
Output Signal Drice	>500Ω for mA mode,75 mA max output drive for voltagemode		
Power	15-24V+/-10%,AC or DC,1 watt typical		
Operating Temp	-50~+60℃, 0-95% non condensing		
Plastic Housing	Flammability rating UL 94V0 file E194560		
Control Features	N/A		
HUM	Sensor Type	Capacitive	
	Range	0-100%Non-Condensing	
	Accuracy	3%@25℃,20-80%	
	Drift	<0.5%RH/year	
TEMP	Sensor Type	10K thermistor	
	Range	-40-150℃(-60~340 ℉)	
	Accuracy	<±0.5℃@25℃	
Size	72mmX64mmX38.4mm		
Protocol	Modbus	Data Bit	8
Modbus ID	1	Odd/Even Parity	None
Baud Rate	115200	Stop Bit	1

Dimension



Wiring Diagram



Part Number Scheme

XDUCER — T —150

Code	Description
XDUCER	Transducer Sensor

Code	Option
T	Temp
WTS	Water Temperature Sensor

Code	Probe Length
100	4''
150	6''
200	8''

Brass Wells

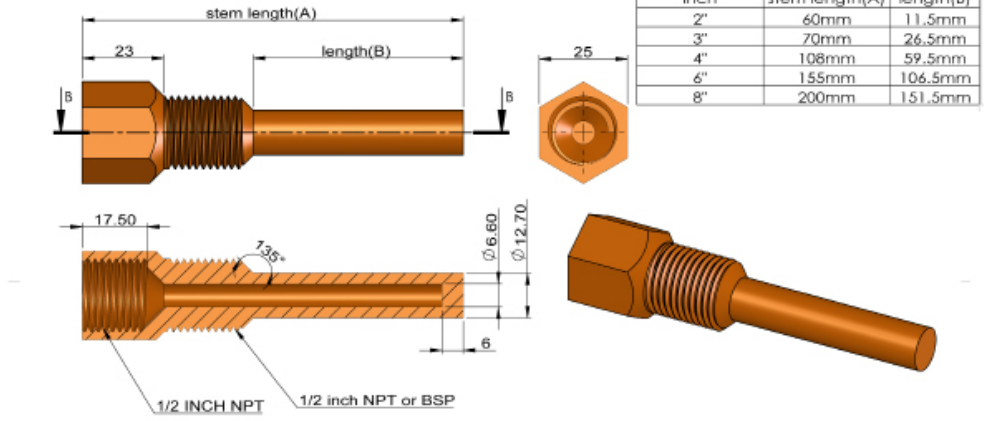
Description:

The brass thermowells which is machined from a single piece of bar stock, no welds, are designed for mounting temperature sensors in pipes and tanks. The thermowells are designed to reduce the stress encountered in a flowing fluid installation which produces a constantly oscillating force that can eventually crack a probe unless mounted within one of these wells. The wells are designed to handle the stress, while providing good thermal contact with fluid. They also provide isolation, if the sensor needs to be serviced the system can remain in operation without having to drain the lines.

Features & Options:

- Lengths: 4” , 6”,and 8”
- Brass
- Construction: machined from a single piece of bar stock, no welds.
- Other Lengths or Materials Available Upon Request
- Limited Lifetime Warranty
- NPT or BSP thread need to be specified when order

Dimensions

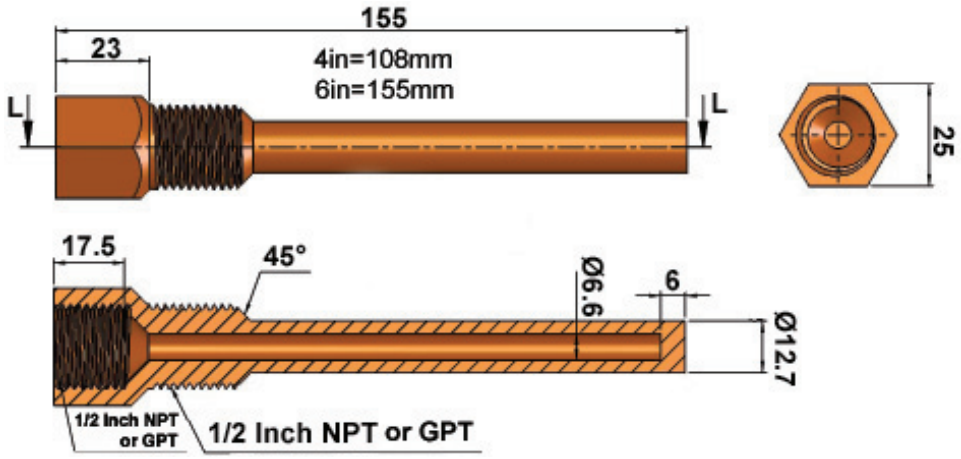


standard		
inch	stem length(A)	length(B)
2"	60mm	11.5mm
3"	70mm	26.5mm
4"	108mm	59.5mm
6"	155mm	106.5mm
8"	200mm	151.5mm

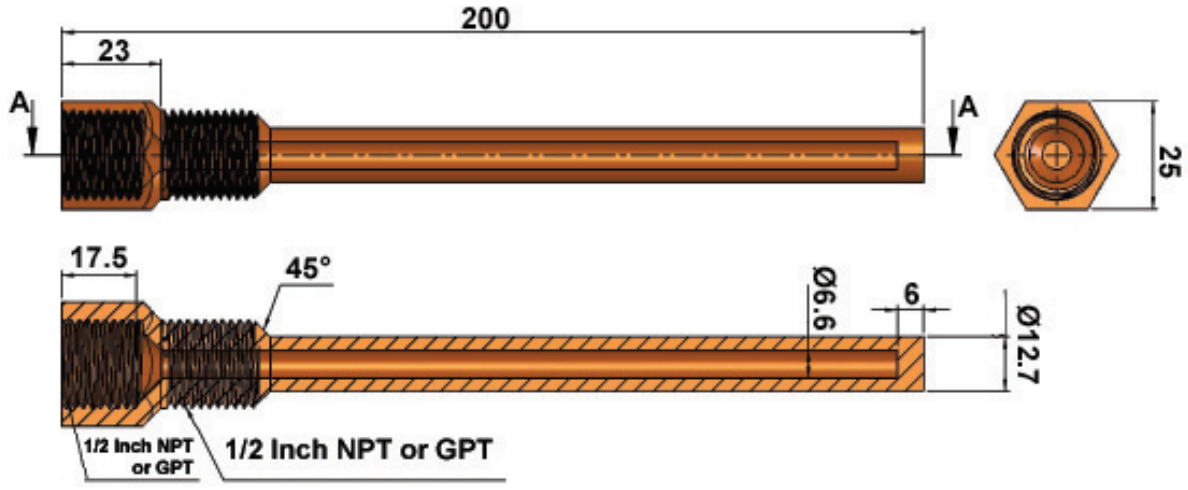
note

internal thread is standard for NPT

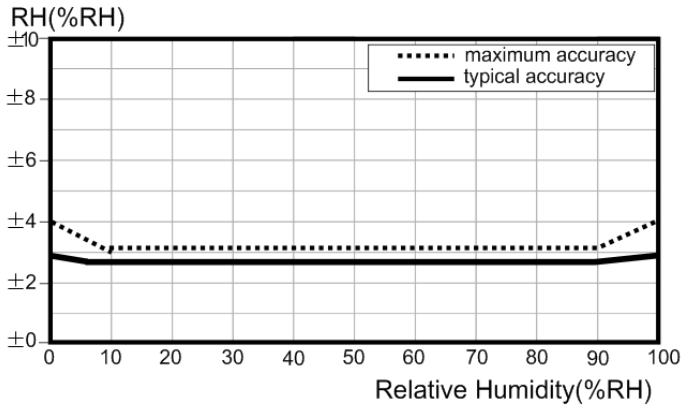
4 inch & 6 inch Dimensions (mm):

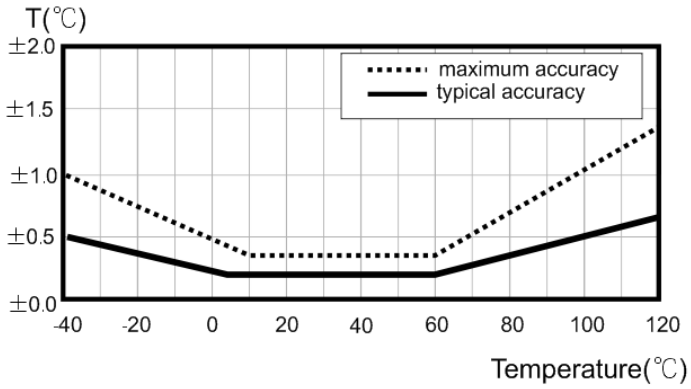


8 inch Dimensions (mm):



Accuracy Curves



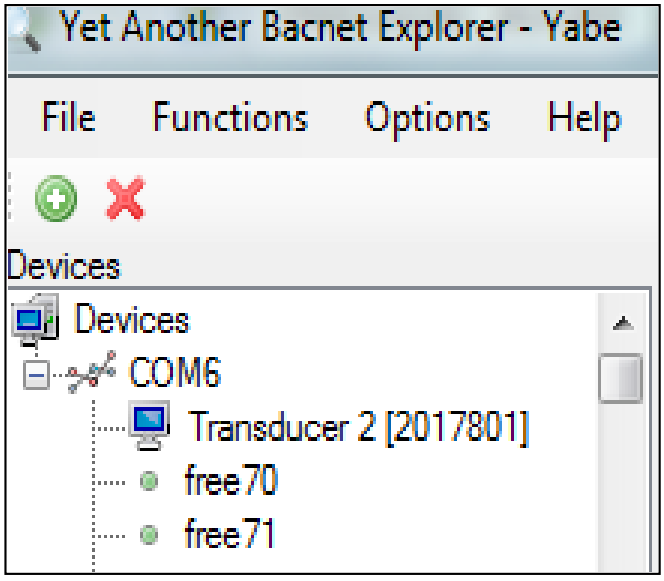


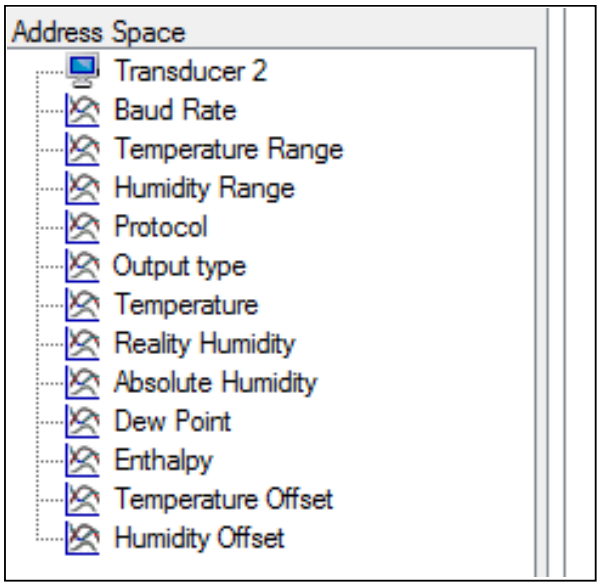
Modbus Register List

Address	Register and Description
0-3	Serial number
4	Software version
6	Modbus address
8	Hardware version
17	1=0.....10V,0=4.....20mA
18	0=0-100,1=-20....80,2=0....50,3=-50.....50
19	0=dewpoint,1=enthalpy,2=absolute humidity,3=reasl humidity
25	Potentionmeter R1 AD value
27	Potentionmeter R2 AD value
34	SHT 35 temperature
35	SHT 35 humidity
45	NTC temperature
36	Potentionmeter R1 offset value
37	Potentionmeter R2 offset value
38	Temperature with offset
39	Humidity with offset
41	Dew point value
42	Enthalpy value
44	Absolute humidity
51	Test switch,if on, input voltage to register 52,53
52	Input voltage for temperature output,500 mean 5.00v
53	Input voltage for humidity output ,500 mean 5.00v
54	Input current for temperature output,4 mean 4mA
55	Input current for humidity output, 4 mean 4mA
60-76	NTC sensor17 calibration point
80	NTC sensor’s AD value

Bacnet Object List

Supported Bacnet Object Types		
analog-value,device		
Supported Bacnet Services		
Who-is, i-am		
object-identifier, object-name, object-type,present-value,units,object-list,vendor-id, vendor-name,system-status,confirmes-service,unconfirmed-service		
MSTP Object		
Analog-Value	AV0:baudrate select	
	AV1:Temperature range	0=0-100℃ 1=-20.....80℃， 2=0...50℃ 3=-50...50℃
	AV2:Humidity range	0=dewpoint,1=enthalpy,2=absolute humidity,3=real humidity
	AV3:Protocol	0=Modbus; 1=Bacnet
	AV4:Output type	0=4~20mA, 1=0-10V
	AV5:Temperature	
	AV6:Reality humidity	
	AV7:absolute humidity	
	AV8:Dew point	
	AV9:Enthalpy	
	AV10:Temperature Offset	Range:-4.0~4.0
	AV11:Humidity Offset	Range:-4.0~4.0
Device	device-identifier,device-name	

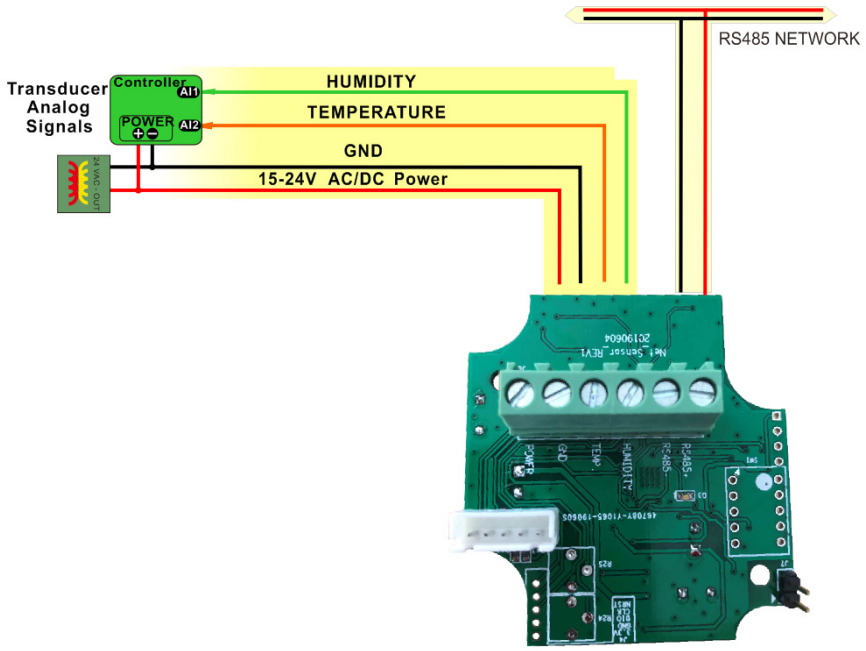




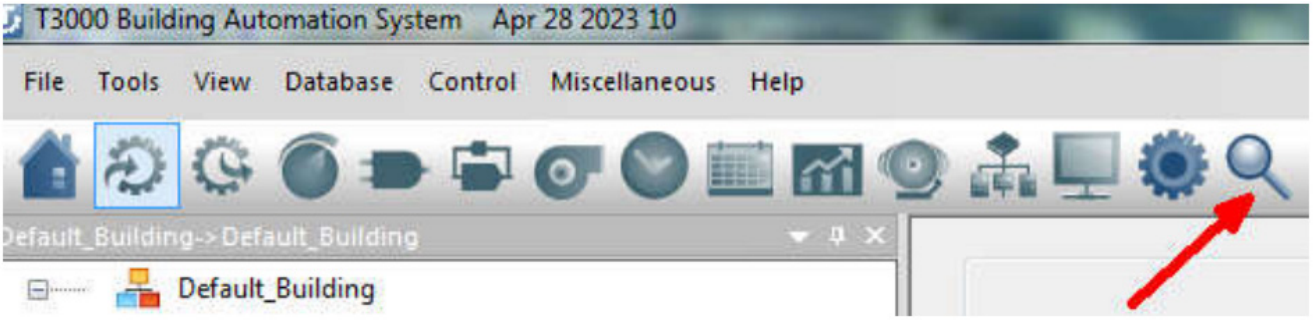
Getting Started

Please use 15 to 24V AC or DC power supply to power up the Net Sensor. Connect Net Sensor to computer with RS485 cable

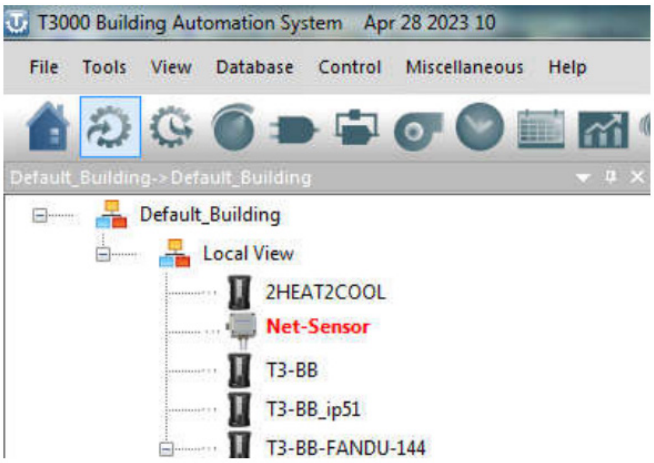
Pay attention to the line sequence of RS485.



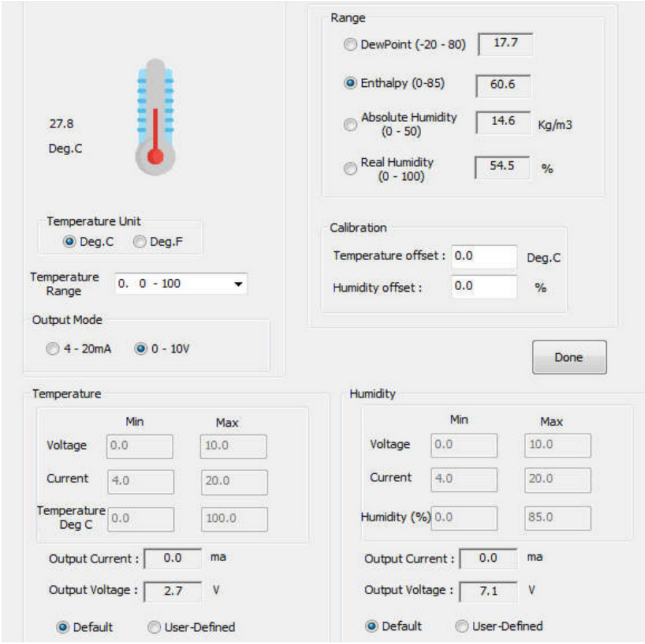
Visit https://temcocontrols.com/ftp/software/09T3000Software.zip, download T3000 software and install it; Start T3000 software, click the magnifying glass icon to scan



Then you will find it in the device list.



Click on the device name to see its details



You can also click Tools->Register View to access the Modbus register list of the device