

12 Channel Precision Temp Sensor Module

Description

The T3-PT12 is a precision temperature measurement module which can accept up to twelve instrument grade sensors. The unit accepts platinum Pt elements, either 100 ohm or 1k ohm variety. It also can accept 10k thermistors, Type II and Type III. Cabling can be accomplished using two, three or four wire connections. Communications is supported over Bacnet and Modbus over both RS485 and the Ethernet ports. All readings and the various settings are available as Bacnet objects and Modbus registers.

Highlights:

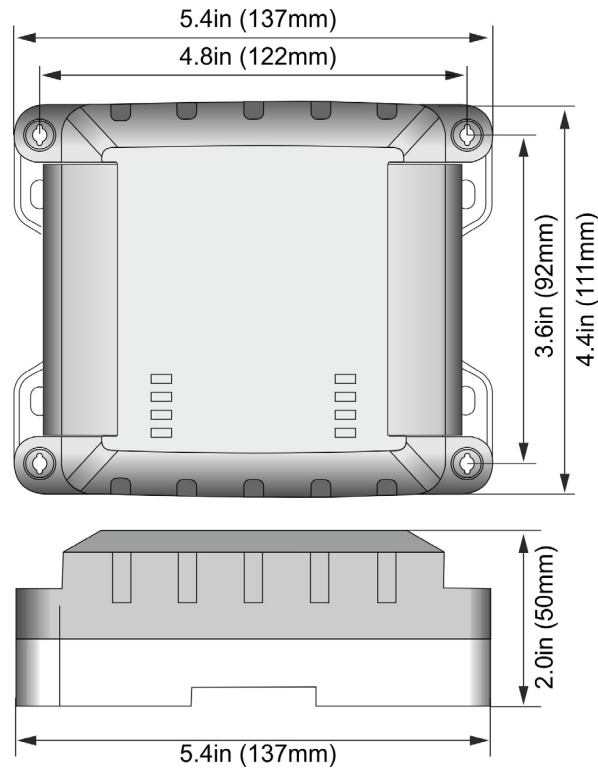
- 12 Analog PT100 or PT1000 Inputs
- Serial RS485 Standard
- Light-weight and Compact
- Probe Connection: 2, 3 and 4 wires
- Communications: Bacnet and Modbus protocol Supports both MSTP and IP connections
- UL listed ABS enclosure with rubberized texture creates a high end feel
- The RS485 port has separate upstream and a downstream connectors to make troubleshooting easier
- Each input as well as the RS485 connections have a separate screw terminal, there's no need to gang two wires under one terminal for any of the terminations
- T3000 front end is free and open source: <http://tinyurl.com/hgxavu5>



Specifications

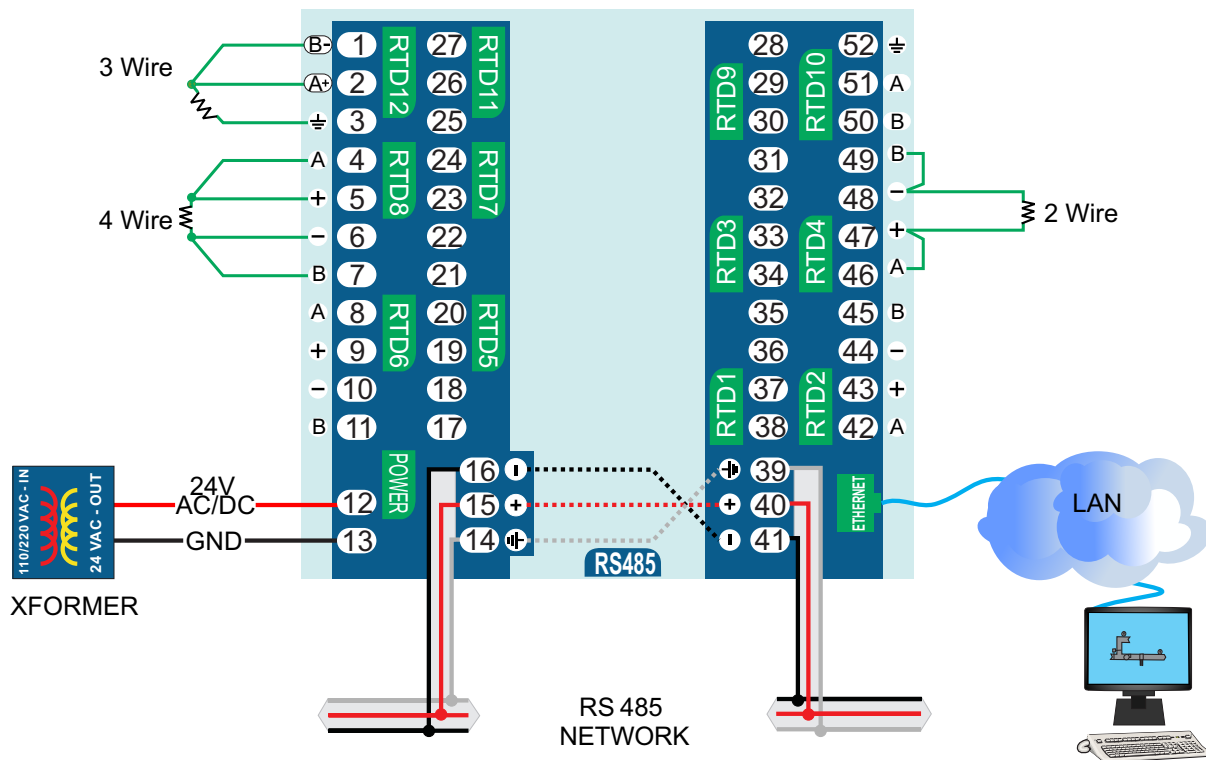
Sensor Type	PT100 or PT1000	
	Accuracy	Temperature Range
PT100	+/- 0.01°C	-200°C to 300°C
PT1000	+/- 0.01°C	-200°C to 300°C
Probe Connection	2, 3 and 4 wires	
Communications	Bacnet and Modbus protocol, supports both MSTP and IP connections	
Power Supply	12~24VAC/DC ±10%, 50-60Hz	
Baudrate	9600, 19.2k, 38.4k, 57.6k, 115.2kBaud	

Dimension



Wiring Diagram

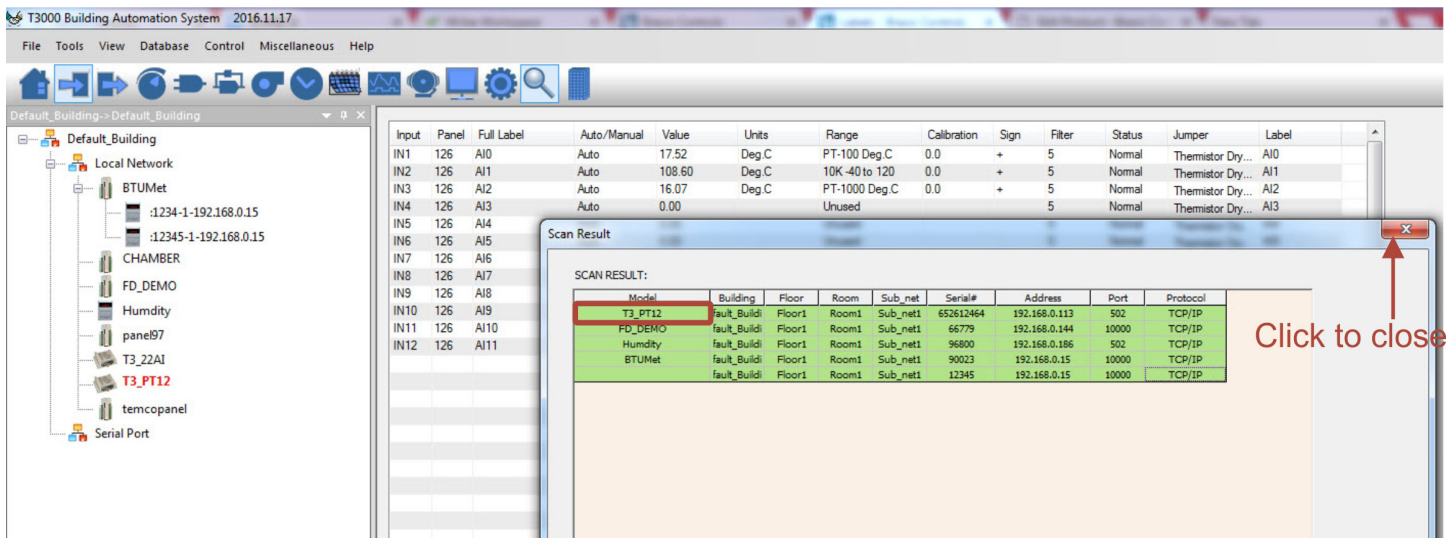
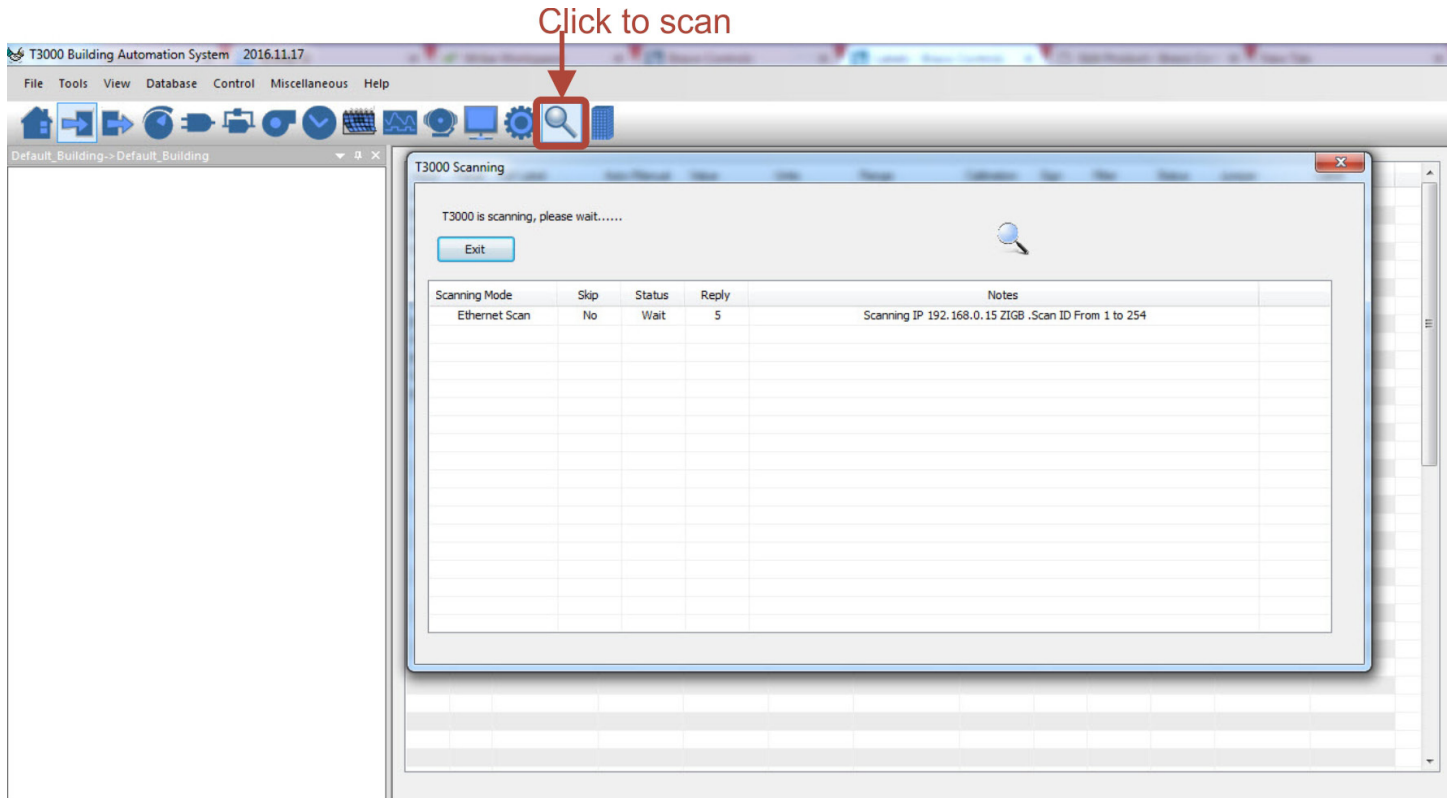
T3-PT12 WIRING DIAGRAM



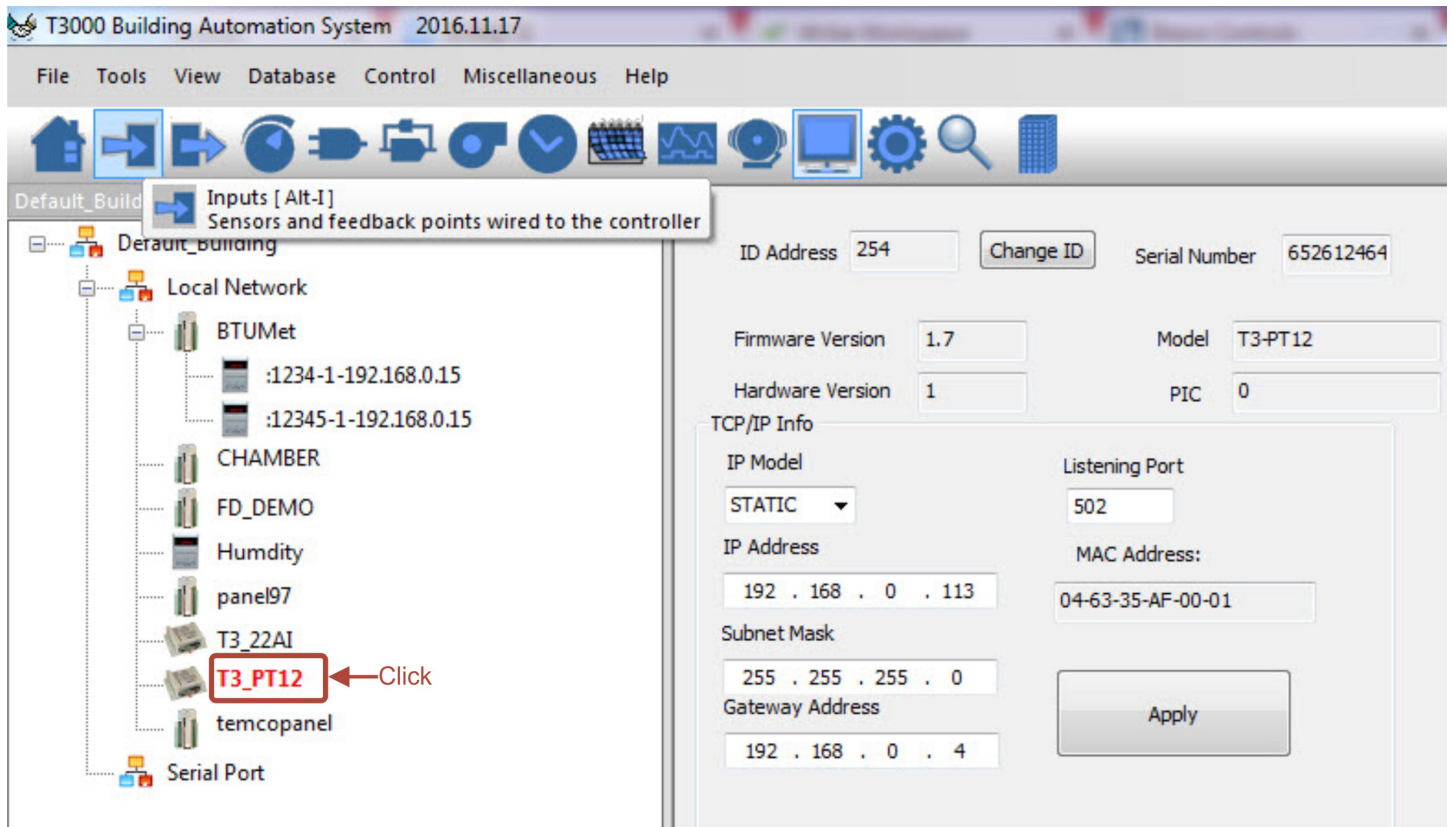
- 1: There are eight connectors including RTD1 to RTD8 which support 2, 3 and 4 wire sensors.
- 2: Due to limitations on the space, the four other connectors including RTD9 to RTD 12 only support 2 and 3 wire connections.
- 3: The RS485 port has two connectors, one typically for upstream devices and the other for downstream devices. These two connectors are internally tied together.

T3000 Operation

- 1). Connect sensor T3-PT12 to PC by RS485.
- 2). OPEN T3000 and click the button to scan. The following view will appear then close it as the picture shows.



3). Click T3-PT12 log and the T3000 will show all the information.



4). Click the Range 'PT-100Deg.C' log and the T3000 will show the information.

1.Click to show the information

The screenshot shows the T3000 Building Automation System interface. On the left is a tree view of the building structure. The main area contains a table of input points. A red box highlights the 'Range' column, and a red arrow points to the 'PT-100 Deg.C' entry in the 'Range' column for input point IN10.

Input	Panel	Full Label	Auto/Manual	Value	Units	Range	Calibration	Sign	Filter	Status	Jumper	Label
IN1	126	AI0	Auto	26.36	Deg.C	Unused	0.0	+	5	Normal	Themistor Dry...	AI0
IN2	126	AI1	Auto	0.00		Unused	0.0	+	5	Normal	Themistor Dry...	AI1
IN3	126	AI2	Auto	16.10	Deg.C	PT-1000 Deg.C	0.0	+	5	Normal	Themistor Dry...	AI2
IN4	126	AI3	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI3
IN5	126	AI4	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI4
IN6	126	AI5	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI5
IN7	126	AI6	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI6
IN8	126	AI7	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI7
IN9	126	AI8	Auto	0.00	Deg.C	Unused			5	Normal	Themistor Dry...	AI8
IN10	126	AI9	Auto	25.00	Deg.C	10K -40 to 120	0.0	+	5	Normal	Themistor Dry...	AI9
IN11	126	AI10	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI10
IN12	126	AI11	Auto	0.00		Unused			5	Normal	Themistor Dry...	AI11

2.Click to show

The screenshot shows the 'Select Range Number' dialog box. The 'Enter Units Number' field is set to 31. The 'PT100 -40 to 150' range is selected. The 'Input Analog Units' section is expanded, showing various sensor ranges.

Enter Units Number: 31 OK Cancel PT100 -40 to 150

Digital Units

- 0. Unused
- 1. Off/On
- 2. Close/Open
- 3. Stop/Start
- 4. Disable/Enable
- 5. Normal/Alarm
- 6. Normal/High
- 7. Normal/Low
- 8. No/Yes
- 9. Cool/Heat
- 10. Unoccupy/Occupy
- 11. Low/High
- 12. On/Off
- 13. Open/Close
- 14. Start/Stop
- 15. Enable/Disable
- 16. Alarm/Normal
- 17. High/Normal
- 18. Low/Normal
- 19. Yes/No
- 20. Heat/Cool
- 21. Occupy/Unoccupy
- 22. High/Low

Input Analog Units

- 31. PT100 -40 to 150 Deg.C
- 32. PT100 -40 to 250 Deg.F
- 33. 10K-40 to 120 Deg.C(Type2)
- 34. 10K-40 to 250 Deg.F(Type2)
- 35. PT1000 -40 to 150 Deg.C
- 36. PT1000 -40 to 250 Deg.F
- 37. 10K-40 to 120 Deg.C(Type3)
- 38. 10K-40 to 250 Deg.F(Type3)
- 39. A10K -50 to 110 Deg.C
- 40. A10K -60 to 200 Deg.F
- 41. 0.0 to 5.0 Volts
- 42. 0.0 to 100 Amps
- 43. 0.0 to 20 ma
- 44. 0.0 to 20 psi
- 45. Low Speed Count
- 46. 0.0 to 3000 FPM
- 47. 0 to 100 %(0-5V)
- 48. 0 to 100 %(4-20ma)
- 49. 0.0 to 10.0 Volts
- 50. Table 1
- 51. Table 2
- 52. Table 3
- 53. Table 4
- 54. Table 5
- 55. High Speed Count
- 56. HZ