Temperature Sensor RS 485

RS-485 INPUT/OUTPUT
Each 485 Sensor comes with a unique 12-character address and is designed to be used as a slave in a multi-drop master/slave RS-485 network. The Senor data rate is fixed at 9600 bits per second. The protocol uses ASCII characters only and is defined below.

Note:-
 "Commands" are issued by the master and replies are issued by the particular Sensor being addressed.
Protocol Features:-1. All data in ASCII, Start char: ?, Stop char: !, return data from TSPOT '#'
Unique 12-character delimited serial number affixed to each device. e.g. <A0B1C2D3E4F5>
Broadcast Commands: Address = <000000000000>

To query serial number from single device or multiple devices.
Command: ?<000000000000>SN! Reply: #<A0B1C2D3E4F5>SN!

Command Device Reset: ?<Address>RS!,
 Command: ?< 000000000000>RS! Reply: N/A

Individual Commands: Address = <Device Address>
Protocol to request Fahrenheit temperature data: ?<Address>TF!
 Command: ?<A0B1C2D3E4F5>TF! Reply: #<A0B1C2D3E4F5>77.9F!

Protocol to request Celsius temperature data: ?<Address>TC!
 Command: ?< A0B1C2D3E4F5>TC! Reply: #<A0B1C2D3E4F5>25.5C!

Protocol to request Software Version Number (HEX): ?<Address>SV!
 Command: ?< A0B1C2D3E4F5>SV! Reply: #<A0B1C2D3E4F5>ABCD!

Protocol to write text: ?<Address>WT:TEXT!
Where TEXT may be up to 64 characters long.
 Command: ?<A0B1C2D3E4F5>WT:LIVING RM WEST! Reply: #<A0B1C2D3E4F5>WT:LIVING RM WEST!

Protocol to read text: ?<Address>RT!,
 Command: ?<A0B1C2D3E4F5>RT! Reply: #<A0B1C2D3E4F5>RT:LIVING RM WEST!

Protocol to write temperature offset: ?<Address>WO:(OFFSET)!
Where OFFSET = from -10.0°C to 10.0°C in 0.1°C steps.
 Command: ?< A0B1C2D3E4F5>WO:-10.0! Reply: #< A0B1C2D3E4F5>WO:-10.0!

Protocol to read temperature offset: ?<Address>RO!,
 Command: ?< A0B1C2D3E4F5>RO! Reply: #< A0B1C2D3E4F5>RO:-10.0!

Sensor Technical Spec.
INPUT/OUTPUT DESCRIPTION (use CAt6 Sheiled Cable)
1 +12V Input Voltage referenced to the COM terminal (Brown)
2 BUS(-) Input/Output RS-485 data bus (-) terminal (Blue/white)
3 BUS(+) Input/Output RS-485 data bus (+) terminal (Blue)
4 GND Input Power supply and data bus ground terminal (Brown/white)

PARAMETERS MINIMUM TYPICAL MAXIMUM
Temperature Measurement Range
Accuracy from -10 °C to +85 °C is 0.5 °C
Accuracy from -40 °C to +100 °C is 2.0 °C
0.1 degree resolution for both Fahrenheit and Celsius readings.
Watchdog reset enabled. 4.5V reset threshold.
Assign able temperature offset to each device from -10.0C to +10.0C.

SUGGESTED INSTALLATION INSTRUCTIONS
1. Locate an appropriate site to install the sensor drill a 19mm diameter hole. For HVAC control, it is not recommended to install an Sensor where it may be exposed to temperature extremes such as in direct sunlight or near an air duct.
2. Use Cat 6 Sheiled cable.
3. Connect the cable shield, if any, to earth ground or alternately to the power supply common terminal.
9.Up to 128 individual Sensors units may be "daisy-chained" by connecting the +12V, BUS(-), BUS(+) and GND terminals in parallel from