

## HT series RH & Temperature Sensor

### PRODUCT DATA



### Application

HT series Humidity and Temperature Transmitters are designed for use with building automation, energy management, and computer / monitoring systems.

These sensors can be used for HVAC system, hospitals, greenhouse, food storage, and incubators.

### Features

- 4~20mA, 0~10VDC or Mod-bus output for both humidity and temperature
- Option for resistance temperature sensor
- LCD display option for both humidity / temperature
- Various mounted types selectable
- Spring-loaded probe for immersion sensor
- Temperature range is selectable in one model
- High reliability & accuracy
- Wide sensing range
- Rapid response

### Specifications

#### Relative Humidity

Sensor Element: Capacitive Polymer with CMOS processes  
 Measurement Range: 0~100%RH  
 Signal Output: 4~20mA ,0~10VDC or Mod-bus  
 Accuracy:  $\pm 2\%$ RH(20°C, 20~80%RH)  
 $\pm 3\%$ RH(20°C, 20~80%RH)  
 Long Term Stability:  $\pm 1\%$ RH; typical at 50% RH in five years

#### Temperature

Temp Sensor: NTC10/20k, Pt100 , Pt1000  
 Measurement Range: 0~50°C, 0~100°C, -50~50°C  
 Range selected by Jumper (0~50°C as default )  
 Signal Output: 4~20mA , 0~10VDC or Mod-bus  
 NTC10/20k, Pt100, Pt1000  
 Accuracy:  $\pm 0.3^\circ\text{C}$  at 25°C for NTC sensor  
 $\pm 0.2^\circ\text{C}$  at 25°C for Pt100, Pt1000 sensor  
 $\pm 0.2^\circ\text{C}$  (0~50°C) With transmitter  
 Long Term Stability:  $\pm 0.25^\circ\text{C}$  per year

**Power Supply:** 24 VAC/VDC  $\pm 10\%$

**Current Output Load:** 500 Ohm Max

#### Working temperature:

Room type -30°C ~ +70°C  
 Duct type -50°C ~ +70°C  
 5% ~ 95% RH without condensation

#### Certification:



Report No. HA110097

#### Housing Material:

Plastic (ABS)  
 Flame retarded acc. to UL94-V1

#### Protection Standard

Room type IP30  
 Duct, OSA or Immersion IP65  
 Calibration: Factory calibrated

## Model Selection

### Combined Humidity and Temperature sensor or transmitter

<b>HT3</b>	3% RH transmitter	<b>Base model</b>
<b>HT2</b>	2% RH transmitter	
<b>HD3</b>	3% RH transmitter w/LCD	
<b>HD2</b>	2% RH transmitter w/LCD	
<b>C</b>	4~20mA output	<b>Humidity output</b>
<b>V</b>	0~10V output	
<b>M</b>	RS485 with Modbus (RH+Temp. model only)	
<b>2</b>	Wall mount	<b>Housing</b>
<b>3</b>	Duct mount 12" probe	
<b>7</b>	Remote Sensor	
<b>8</b>	Outside Air	
<b>0</b>	No temp. output	<b>Temp. range</b>
<b>1</b>	w/temp. Xmitter 0~50C (0~100 by dip sw.)	
<b>K</b>	w/NTC 20k sensor	
<b>L</b>	w/NTC 10k sensor	
<b>P</b>	w/Pt 100 sensor	
<b>Q</b>	w/Pt 1000 sensor	

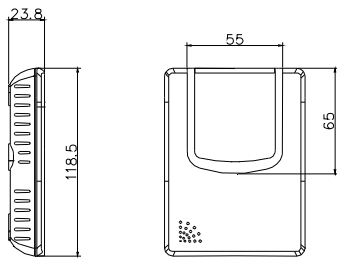
### Temperature sensor or transmitter

<b>T7</b>	Temp. sensor/transmitter	<b>Base model</b>
<b>TD</b>	Temp. transmitter w/LCD(only for Transmitter)	
<b>2</b>	Space mount	<b>Housing</b>
<b>3</b>	Duct mount 12" probe	
<b>4</b>	Immersion mount, with 4" spring load probe	
<b>6</b>	Immersion mount, with 6" spring load probe	
<b>7</b>	Remote Sensor	
<b>8</b>	Outside Air	
<b>9</b>	Duct 20' Ave (only for Pt100 or 4~20mA)	
<b>C1</b>	w/temp. Xmitter, 4~20mA, 0~50C	<b>Output &amp; range</b>
<b>V1</b>	w/temp. Xmitter, 0~10V, 0~50C	
<b>M</b>	RS485 with Modbus	
<b>K</b>	w/NTC 20k sensor	
<b>L</b>	w/NTC 10k sensor	
<b>P</b>	w/Pt 100 sensor	
<b>Q</b>	w/Pt 1000 sensor	

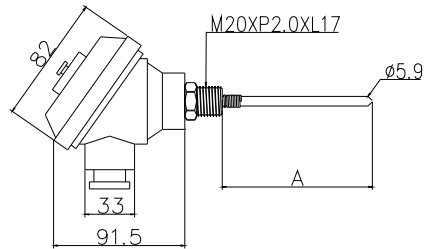
<b>TI</b>	Industrial Temp. Transmitter, IP67	<b>Base model</b>
<b>4</b>	Immersion mount, with 4" spring load probe	<b>Probe Length</b>
<b>6</b>	Immersion mount, with 6" spring load probe	
<b>8</b>	Immersion mount, with 8" spring load probe	
<b>C1</b>	Pt100 w/temp. Xmitter, 4~20mA, 0~50C	<b>Output &amp; range</b>
<b>C2</b>	Pt100 w/temp. Xmitter, 4~20mA, 0~100C	
<b>C3</b>	Pt100 w/temp. Xmitter, 4~20mA, -50~50C	
<b>K</b>	w/NTC 20k sensor	
<b>L</b>	w/NTC10k sensor	
<b>P</b>	w/Pt 100 sensor	
<b>Q</b>	w/Pt 1000 sensor	

# Appearance and Dimension (Dimension in mm)

## Wall mount Sensor / Transmitter

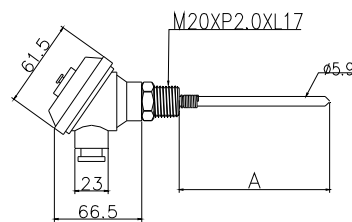
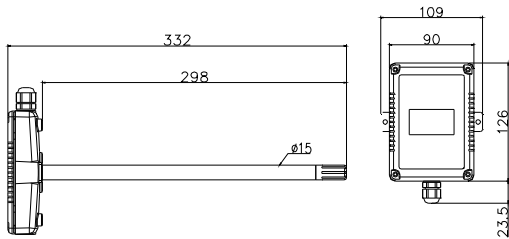


## IP67 Industrial Temp. Transmitter/Sensor

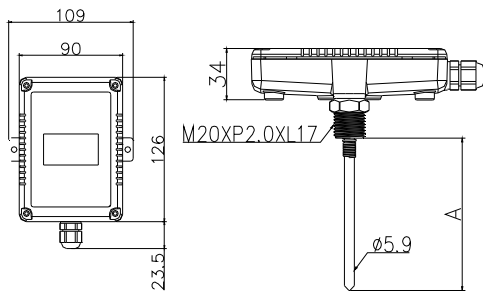


PIPE SIZE	A(mm)
4"	101.6
6"	152.4
8"	203.2

## Duct mount Sensor / Transmitter

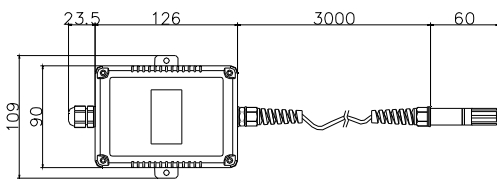


## Immersion mount Sensor / Transmitter

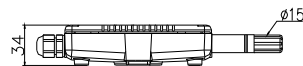
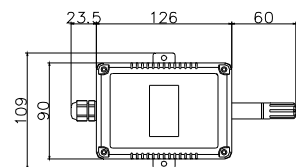


PIPE SIZE	A(mm)
4"	101.6
6"	152.4

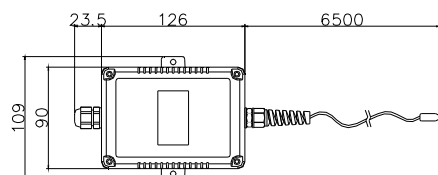
## Remote Sensor / Transmitter



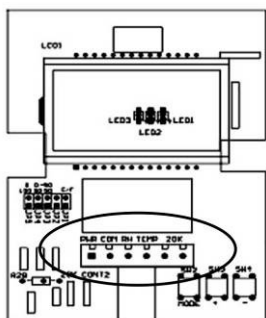
## Outside Air Sensor / Transmitter



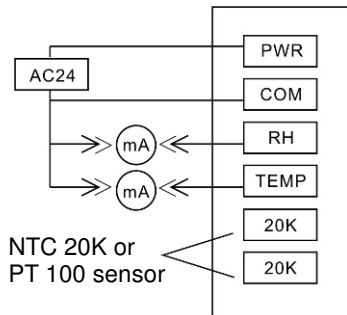
## Duct Average Sensor / Transmitter



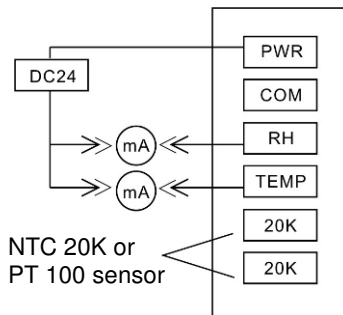
## Wiring



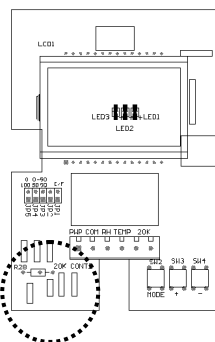
Connecting to AC24V



Connecting to DC24V



## Temperature Range Selection



### Jumper setting

- By selecting JP1 to "0" position, the display shows Celsius mode; by selecting JP1 to "1" position, the display shows Fahrenheit mode.

Temperature range	JP3	JP4	JP5
0~50°C	0	1	0
0~100°C	0	0	1
-50~50°C	1	0	0

- By selecting JP2 to "1" position, the unit will commence the mode adjustment. After completion of mode adjustment, the unit will enact the mode setting.
- JP3, JP4, and JP5 are used to select temperature range.

### INSTALLATION GUIDE FOR DUCT MOUNT SENSOR OR TRANSMITTER:

- Drilling a mounting hole with diameter 13mm on the duct near measuring point. Insert the probe pipe into duct.
- Unscrew & open the front cover of the product.
- Use enclosed screws to install the wiring box on the duct.
- Lead wire from DDC or PLC panel through opening by using a properly sized screw driver to connect each wire to the terminals of the transducer module according to field wiring diagram.
- Put front cover back and tighten front cover by screw.
- Use a properly sized screw driver to connect the lead wires to the terminals.

### INSTALLATION GUIDE FOR WALL MOUNT SENSOR OR TRANSMITTER:

- Remove the front cover and place the back panel to the desired location.
- Attaching the enclosed screws to the back panel.
- Place the front cover to the back panel.
- Keep the sensor or transmitter away direct sun light, heat source and cold source.
- The recommended location of wall mount sensor or transmitter is 1.5M above the ground.