# Honeywell

# HT series
## RH & Temperature Sensor

## 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: | ±2%RH(20℃, 20~80%RH) |
| | ±3%RH(20℃, 20~80%RH) |
| Long Term Stability: | ±1%RH; typical at 50% RH |
| | in five years |

### Temperature

| | |
|---|---|
| Temp Sensor: | NTC10/20k, Pt100 , Pt1000 |
| Measurement Range: | 0~50℃, 0~100℃, -50~50℃ |
| | Range selected by Jumper |
| | (0~50℃ as default ) |
| Signal Output: | 4~20mA , 0~10VDC or Mod-bus |
| | NTC10/20k, Pt100, Pt1000 |
| Accuracy: | ±0.3℃ at 25℃ |
| | for NTC sensor |
| | ±0.2℃ at 25℃ |
| | for Pt100, Pt1000 sensor |
| | ±0.2℃ (0~50℃) |
| | With transmitter |
| Long Term Stability: | ±0.25℃ per year |

**Power Supply:** 24 VAC/VDC ±10%

**Current Output Load:** 500 Ohm Max

**Working temperature:**

| | |
|---|---|
| Room type | -30℃ ~ +70℃ |
| Duct type | -50℃ ~ +70℃ |
| | 5% ~ 95% RH without condensation |

**Certification:** CE    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 |

## 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

APEN0H-008TW01B1105

# Model Selection

## Combined Humidity and Temperature sensor or transmitter

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

## Temperature sensor or transmitter

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

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

# Appearance and Dimension (Dimension in mm)

### Wall mount Sensor / Transmitter

23.8
55
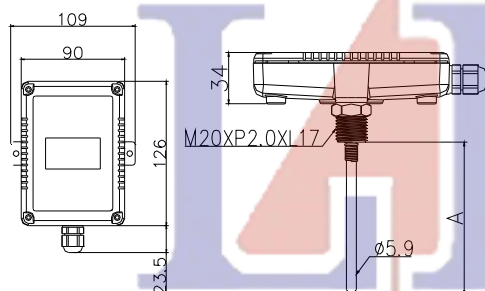118.5
65
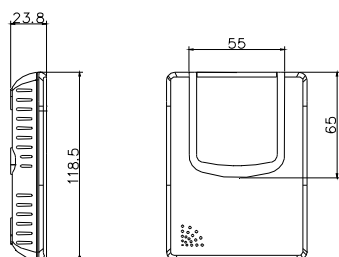
### IP67 Industrial Temp. Transmitter/Sensor

82
M20XP2.0XL17
Ø5.9
3.3
91.5
A
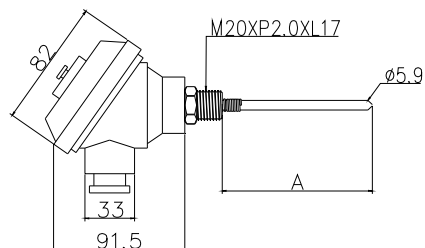
| PIPE SIZE | A(mm) |
|-----------|-------|
| 4" | 101.6 |
| 6" | 152.4 |
| 8" | 203.2 |

### Duct mount Sensor / Transmitter

332
298
Ø15
109
90
126
23.5

M20XP2.0XL17
61.5
Ø5.9
2.3
66.5
A
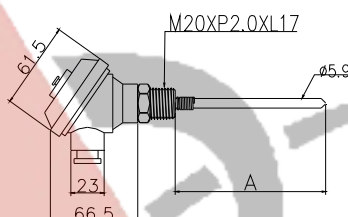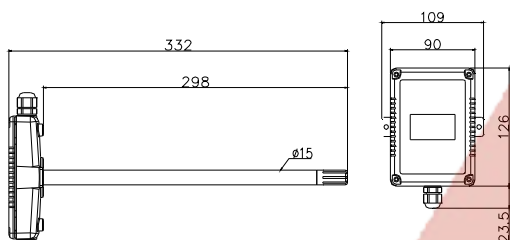
### Immersion mount Sensor / Transmitter

109
90
126
23.5
34
M20XP2.0XL17
Ø5.9
A

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

### Remote Sensor / Transmitter

23.5
126
3000
60
109
90
34
Ø15
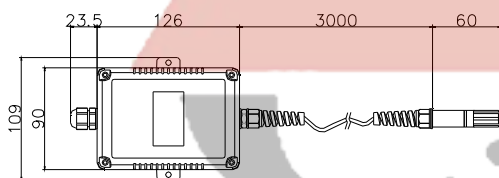
### Outside Air Sensor / Transmitter

23.5
126
60
109
90
34
Ø15
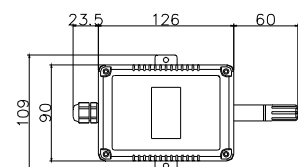
### Duct Average Sensor / Transmitter

23.5
126
6500
109
90
34

APEN0H-008TW01B1105

# Wiring

Connecting to AC24V

Connecting to DC24V



NTC 20K or
PT 100 sensor

NTC 20K or
PT 100 sensor
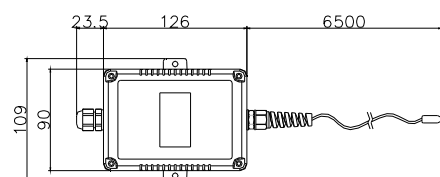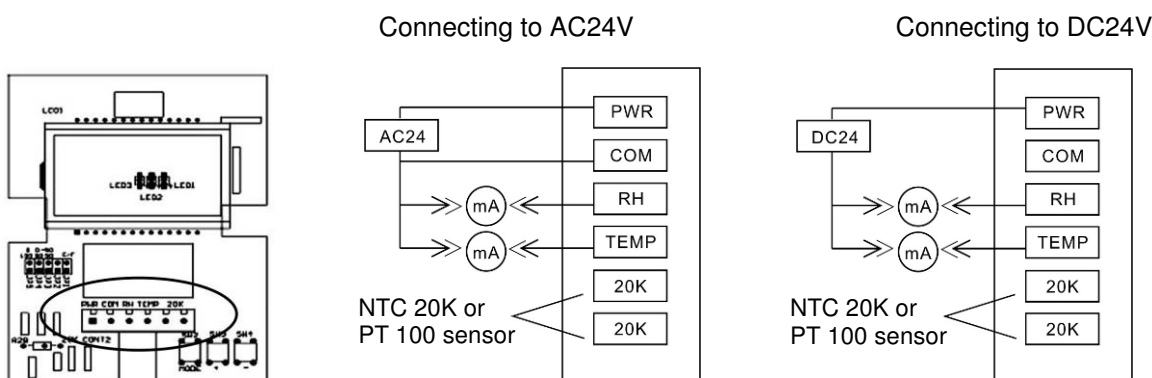
# Temperature Range Selection
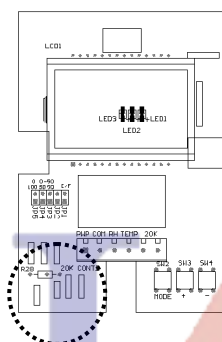


**Jumper setting**

1.  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℃ | 0 | 1 | 0 |
| 0~100℃ | 0 | 0 | 1 |
| -50~50℃ | 1 | 0 | 0 |

2.  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.

3.  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.

## Honeywell