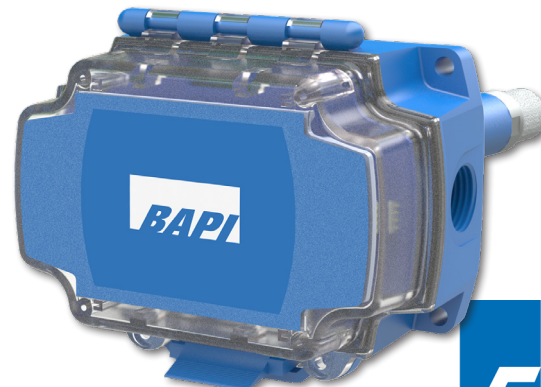




## Features & Options

- User adjustable settings
- Onboard memory
- Transmits to a digital Gateway or a wireless-to-analog Receiver

BAPI's Duct Wireless Sensor measures environmental values and transmits the data via Bluetooth Low Energy to a receiver or gateway. This unit features a rugged IP66-rated BAPI-Box enclosure.



Wireless Duct Temperature and Humidity Sensor



## Specifications

**Battery Power:** Two included 3.6V 14505, 14500 or equivalent lithium batteries  
(Note: Standard AA batteries are not compatible)

**Wire Power:** 9 to 30 VDC or 24 VAC, halfwave rectified

**Sensor Accuracy:**

Temp:  $\pm 1.0^{\circ}\text{F}$  ( $0.55^{\circ}\text{C}$ ) from 32 to 158 $^{\circ}\text{F}$  (0 to 70 $^{\circ}\text{C}$ )

Humidity:  $\pm 2\% \text{RH}$  @ 77 $^{\circ}\text{F}$  (25 $^{\circ}\text{C}$ ), 20 to 80%RH

**Temperature Range:** -4 to 221 $^{\circ}\text{F}$  (-20 to 105 $^{\circ}\text{C}$ )

**Transmission Distance:** Varies by application\*

**Environmental Operation Range:**

Temp: -4 to 149 $^{\circ}\text{F}$  (-20 to 65 $^{\circ}\text{C}$ )

Humidity: 10 to 90%RH, non-condensing

**Enclosure Rating, Material & Material Rating:**

IP66, UV-Resistant Polycarbonate, UL94 V-0

**Frequency:** 2.4 GHz (Bluetooth Low Energy)

**Receiver Sensitivity:** -97 dBm

**User Adjustable Settings:**

Delta T (Temp): 0.1 $^{\circ}\text{F}/\text{C}$  to 5.0 $^{\circ}\text{F}/\text{C}$

Delta T (Humidity): 0.1%RH to 5.0%RH

Transmit Interval: 30 sec to 12 hour\*\*\*

Sample Interval: 30 sec to 5 min\*\*\*

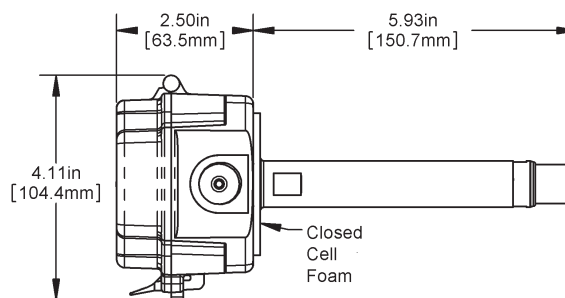
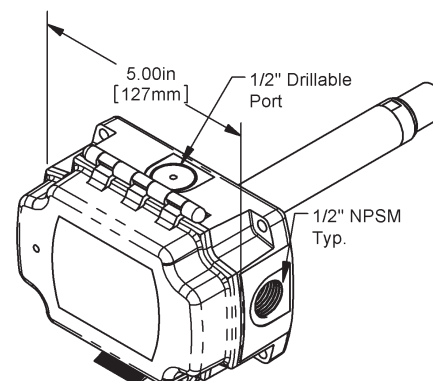
Temp Offset:  $\pm 0.1^{\circ}\text{F}/\text{C}$  to  $\pm 5.0^{\circ}\text{F}/\text{C}$

Humidity Offset:  $\pm 0.1\% \text{RH}$  to  $\pm 3.0\% \text{RH}$

**Onboard Memory:**

Sensor retains up to 16,000 readings should the communication become interrupted. If using a Gateway, the data is re-transmitted once communication is re-established.

**Agency:** RoHS / FCC: T4FSM220809 / IC: 9067A-SM220809



BAPI-Box Units Calculated Battery Life**		
Transmit Interval	Sample Rate	Estimated Life (years)
30 sec	30 sec	1.04
1 min	1 min	1.95
3 min	1 min	3.46
5 min	5 min	4.63
10 min	5 min	7.02

\*In-building range is dependent on obstructions such as furniture and walls and the density of those materials. In wide open spaces, the distance may be greater; in dense spaces, the distance may be less.

\*\*Actual battery life is dependent on the sensor's adjustable settings and environmental conditions.

\*\*\*The available transmit intervals and sample intervals are different depending on whether the system is using a gateway or a receiver.





### Ordering Information

#### BATTERY POWER UNIT

##### BA/WTH-BLE-D-BB-BAT

Wireless Duct Temperature & Humidity Sensor, Battery Power

##### BA/LI14505

3.6V Lithium Battery

#### WIRE POWER UNIT

##### BA/WTH-BLE-D-BB-PWR

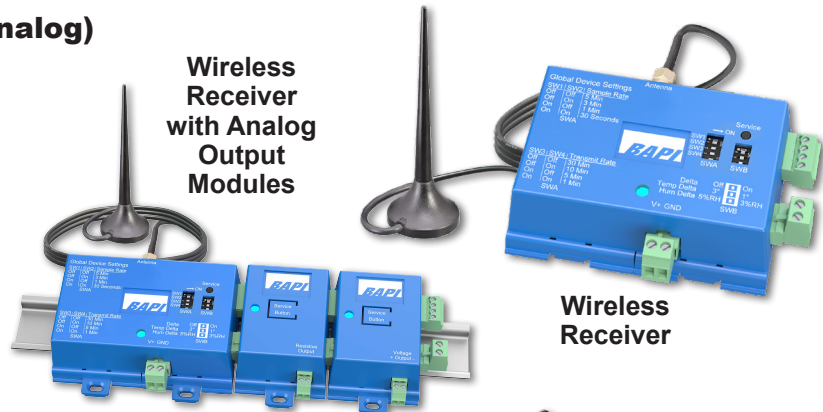
Wireless Duct Temperature & Humidity Sensor, Wire Power



### Wireless Receiver and Gateway

#### RECEIVER (Wireless-to-Analog)

The Wireless Receiver from BAPI receives the data from one or more wireless sensors. The data is then transferred to the Analog Output Modules and converted to an analog voltage or resistance. The receiver supports up to 32 sensors and up to 127 different Analog Output Modules.



Wireless Receiver with Analog Output Modules

Wireless Receiver

#### GATEWAY

The Wireless Gateway from BAPI receives the data from one or more wireless sensors. The Gateway then provides the data to the cloud via MQTT. The Gateway also sends a confirmation signal to each sensor upon a successful reception of data. If the sensor doesn't receive this confirmation, it will retry its transmission to the Gateway. The Gateway supports up to 32 sensors.



Wireless Gateway

