

## Humidity & Combination Temp/Humidity Sensors

Rev. 10/06/11

### Features & Options

- Etched Teflon Leadwires & Double Encapsulated Sensors
- Four Enclosure Styles
- Humidity Only or Temp./Humidity Combination
- Replaceable Filter
- 2% and 3% RH Accuracies
- Wide Selection of Temp. Sensing Elements



Humidity control is an important aspect of any climate control system. Therefore, humidity sensors must be both accurate and dependable. BAPI's humidity sensors are prescreened for accuracy, eliminating field calibration. The Outside Air Units are also extremely dependable, featuring four of the most watertight enclosures available today.

The Weather Tight (**EU**) enclosure is made from a flame-retardant polymer with an IP66 rating. The cast aluminum Weatherproof (**WP**) enclosure carries a NEMA 3R, while the BAPI-Box (**BB**) and BAPI-Box 2 (**BB2**) are made of UV-resistant polycarbonate and carry an IP66 rating.

All Outside Air Units have etched Teflon leadwires and are built to withstand high humidity and condensation and perform under real world conditions. This is especially important in an Outside Air Unit which can be exposed to rain, snow and large temperature swings.

**For detailed specs on the individual Sensors & Transmitters, turn to the "Sensors" section.**

\* All Passive Thermistors 10K  $\Omega$  and smaller are CE compliant.

**Replacement Filter** - The 100 micron sintered stainless steel filter protects the sensor from contamination while allowing airflow. See "Accessories" for more info.



### Specifications

**Power:**

- 10 to 35 VDC (0-5 VDC or 4-20 mA Outputs)
- 15 to 35 VDC (0-10 VDC Output)
- 12 to 24 VAC (0-5 VDC Outputs)
- 15 to 24 VAC (0-10 VDC Output)

**Power Consumption:**

- 22 mA max. DC (0-5 VDC or 4-20 mA Outputs)
- 6 mA max. DC (0- 0 VDC Output)
- 0.53 VA max. AC (0-5 VDC Output)
- 0.14 VA max. AC (0-10 VDC Output)

**Sensor:**

- Humidity: Impedence 2% or 3% RH
- Temp: Thermistor, RTD, Semiconductor or Temperature Transmitter

**Enclosure Rating:**

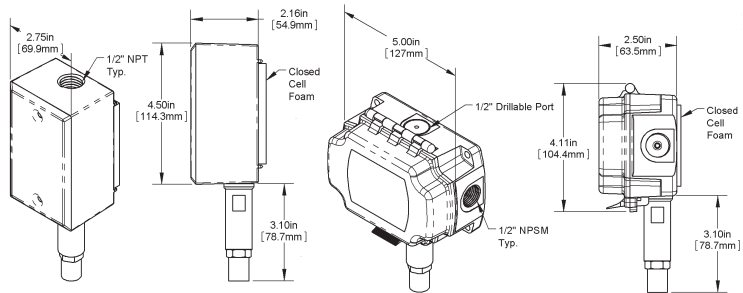
- WP Model: NEMA 3R
- EU Model: IP66, NEMA 4
- BB & BB2: IP66, NEMA 4

**Encl. Material:**

- WP Model: Cast Aluminum
- EU Model: ABS Plastic, UL 94, V-0
- BB & BB2: UV-resistant Polycarbonate, UL 94, V-0

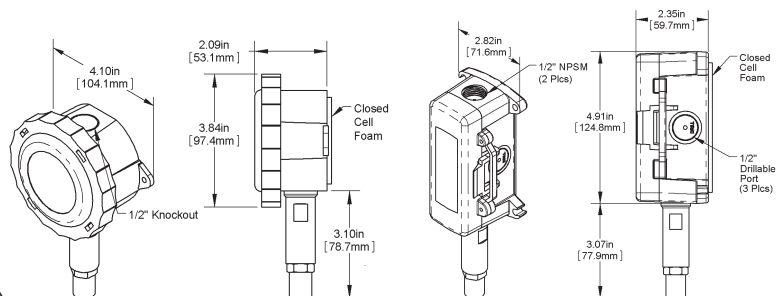
**Environmental Operation Range:**

- Temp: -22°F to 158 °F (-30 °C to 70 °C)
- Humidity: 0% to 100% RH



**Weatherproof (WP)**

**BAPI-Box (BB)**



**Weather Tight (EU)**

**BAPI-Box 2 (BB2)**



Rev. 10/06/11

Ordering Grids without List Prices are available on our website at [www.bapihvac.com](http://www.bapihvac.com)

Ordering Information Outside Air Units - Humidity or Combination Temp. & Humidity			List Price	Your Order															
BA/	Optional Sensor Type Use the designator number (shown to the left in bold) to indicate the sensor																		
##-	<p><b>THERMISTORS</b></p> <p>1.8K 1.8K Ω @ 25 °C            3K 3K Ω @ 25 °C            3.25K 3.25K Ω @ 25 °C (T30 type)            3.3K 3.3K Ω @ 25 °C            10K-2 10K Ω @ 25 °C            10K-3 10K Ω @ 25 °C            10K-3[11K] 5,238 Ω @ 25 °C            20K 20K Ω @ 25 °C            50K 50K Ω @ 25 °C            100K 100K Ω @ 25 °C</p> <p><b>RTDs</b></p> <p>100 100 Ω Platinum @ 0 °C, .385 Ω/°C temp. coeff.            100[3W] 3 Wire 100 Ω Plat. @ 0 °C, .385 Ω/°C temp. coeff.            1K[375] 1K Ω Platinum @ 0 °C, 3.75 Ω/°C temp. coeff.            1K[Ni] 1K Ω Nickel @ 21°C, 5 Ω/°C temp. coeff.            1K 1K Ω Platinum @ 0 °C, 3.85 Ω/°C temp. coeff.            2K 2K Ω Silicon @ 20 °C, 8 Ω/°C temp. coeff.</p> <p><b>SEMICONDUCTORS</b></p> <p>334 LM334 Semiconductor            592 AD592 Semiconductor, 273 μA @ 0 °C            592-10K AD592 Semicond. w/ 10 kΩ shunt resistor, 2.73 V @ 0 °C</p> <p><b>TEMPERATURE TRANSMITTERS Must include a "range" figure</b></p> <p>T100[range] 100 Platinum RTD, 100 Ω @ 0 °C with 4 to 20 mA Output*            T100M[range] 100 Platinum RTD, 100 Ω @ 0 °C with MATCHED 4 to 20 mA Output*            T1K[range] 1K Platinum RTD, 1,000 Ω @ 0 °C with 4 to 20 mA Output*            T1KM[range] 1K Platinum RTD, 1,000 Ω @ 0 °C with MATCHED 4 to 20 mA Output*            T10K[range] 10K Thermistor, 10,000 Ω @ 25 °C with 4 to 20 mA Output*            T10K5[range] 10K Thermistor, 10,000 Ω @ 25 °C with 0 to 5 VDC Output*            T10K10[range] 10K Thermistor, 10,000 Ω @ 25 °C with 0 to 10 VDC Output*</p> <p><b>TEMPERATURE TRANSMITTER RANGES</b></p> <p>Custom temperature transmitter ranges are available. Common ranges are listed below</p> <table border="0"> <tr> <td>40 TO 90F</td> <td>4 TO 32C</td> <td>-30 TO 130F</td> <td>-34 TO 54C</td> </tr> <tr> <td>0 TO 100F</td> <td>-18 TO 38C</td> <td>32 TO 212F</td> <td>0 TO 100C</td> </tr> <tr> <td>20 TO 120F</td> <td>-7 TO 48C</td> <td>30 TO 234F</td> <td>-1 TO 112C</td> </tr> <tr> <td>32 TO 134F</td> <td>0 TO 57C</td> <td></td> <td></td> </tr> </table>	40 TO 90F	4 TO 32C	-30 TO 130F	-34 TO 54C	0 TO 100F	-18 TO 38C	32 TO 212F	0 TO 100C	20 TO 120F	-7 TO 48C	30 TO 234F	-1 TO 112C	32 TO 134F	0 TO 57C			<p><b>Thermistors</b> \$18 Each</p> <p><b>RTD's</b> \$25 Each or \$35 for 1K[Ni]</p> <p><b>Semi-conductors</b> \$25 Each</p> <p><b>Temperature Transmitters</b> \$125 for T100, T1K or T10K</p> <p><b>\$280 for T100M &amp; T1KM</b></p>	
40 TO 90F	4 TO 32C	-30 TO 130F	-34 TO 54C																
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	<b>Humidity Transmitter (required selection)</b>																		
	H200	±2% Humidity Transmitter with Interchangeable Output of 0 to 5 V or 4 to 20 mA	\$260	\$ _____															
	H210	±2% Humidity Transmitter with 0 to 10 V Output	\$260	\$ _____															
	H212	±2% Humidity Transmitter with 2 to 10 V Output	\$260	\$ _____															
	H300	±3% Humidity Transmitter with Interchangeable Output of 0 to 5 V or 4 to 20 mA	\$240	\$ _____															
	H310	±3% Humidity Transmitter with 0 to 10 V Output	\$240	\$ _____															
	H312	±3% Humidity Transmitter with 2 to 10 V Output	\$240	\$ _____															
	<b>Enclosure (required selection)</b>																		
	-O-BB	BAPI-Box Enclosure - IP66 rated, UV-resistant polycarbonate	\$12	\$ _____															
	-O-BB2	BAPI-Box 2 Enclosure - IP66 rated, UV-resistant polycarbonate*	\$12	\$ _____															
	-O-EU	Weather Tight Enclosure - IP66 rated UV-resistant enclosure*	\$12	\$ _____															
	-O-EUD	Weather Tight Enclosure - IP66 rated UV-resistant enclosure (Probe is attached to the base of the enclosure, similar to a duct sensor)*	\$12	\$ _____															
	-O-WP	Weatherproof Enclosure - NEMA 3R rated metal enclosure**	\$12	\$ _____															
EXAMPLE																			
BA/	10K-2-	H200 -O-EU																	
Example Part Number: BA/10K-2-H200-O-EU			Total =	\$ _____															
<b>Your Part Number:</b>																			

Units with a T100, T1K or T10K transmitter and a humidity transmitter require a doublegang D-WP enclosure or BAPI-Box enclosure.

\*Note: The T100, T1K and T10K transmitters are not available with the O-EU, O-EUD or BB2 enclosure.

\*\*Doublegang WP enclosure required if RTD or Thermistor transmitters are ordered.

Call BAPI if you have questions about the above ordering grid or the configuration of the product you are ordering.

### Doublegang Weatherproof Enclosure

Units with a T100, T1K or T10K Transmitter and a Humidity Transmitter require a doublegang Weatherproof (WP) enclosure or BAPI-Box (BB) enclosure and are not available in the Weathertight (EU) or the BAPI-Box 2 (BB2) enclosures. Units with a T10K transmitter and 4-20 mA or 0-5V output do not require a doublegang O-WP enclosure.



**Doublegang Weatherproof Enclosure**