

Rev. 7/22/10

## Wall Plate Sensor with Room Unit for Washdown and Wipedown Locations

### Features & Options

- Stainless Steel, Watertight Wall Plate Unit
- $\pm 2\%$  and  $\pm 3\%$  RH Accuracies
- $^{\circ}\text{C}$  or  $^{\circ}\text{F}$  Operation (user selectable)
- Full Range Temperature Compensation of RH Signal
- Wide Selection of Temperature Sensing Elements
- 0 to 5 VDC or 4 to 20mA Humidity Output
- Optional Override and Setpoint Adjustment
- Two Year Warranty



**Vivarium Wall Plate Sensor  
and Room Unit Combo**

The Vivarium Combination Sensor & Display provides measurement, display and adjustment of both humidity and temperature in a single package. The watertight Wall Plate Unit is designed for washdown or wipedown areas and features a series 304 stainless steel plate, a stainless steel sintered filter with washdown/wipedown cover, a small probe containing the temperature and humidity elements and a "ruggedized" encapsulated transmitter. A  $\frac{1}{4}$ " closed cell foam pad insulates the sensors from the wall temperature.

The Room Unit is designed to be located outside of the washdown/wipedown area that is being monitored. The display toggles between temperature and humidity at a user adjustable rate, and an optional Setpoint allows adjustment of both temperature and humidity. An override pushbutton is also available. An optional Light Sensor can be added to all available models for a nominal charge. This sensor provides a resistance value indicating the presence or absence of ambient light. Call BAPI for details on the light sensor.

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

### Replacement Filter and Cap

The 100 micron sintered stainless steel filter protects the sensor from contamination while allowing airflow. The cap protects the filter during washdown cleaning.



**BA/HDOFS:** Replacement Filter    **BA/VFC:** Filter Cap

### Specifications

#### Power:

12 to 35 VDC (15 to 24 VDC recommended)  
15 to 24 VAC (Requires a separate pair of shielded wires)

**Power Consumption:** 50 mA maximum DC  
1.2 VA maximum AC

#### Sensing Elements:

Temperature - Thermistor or RTD  
Humidity - Impedance Type,  $\pm 2\%$  or  $\pm 3\%$  RH

#### Environmental Operation Range:

Temp: 32 to 122  $^{\circ}\text{F}$  (0 to 50  $^{\circ}\text{C}$ )  
Humidity: 0 to 95% RH, non-condensing

**Wiring:** 2 to 4 pair of 16 to 22 AWG\*

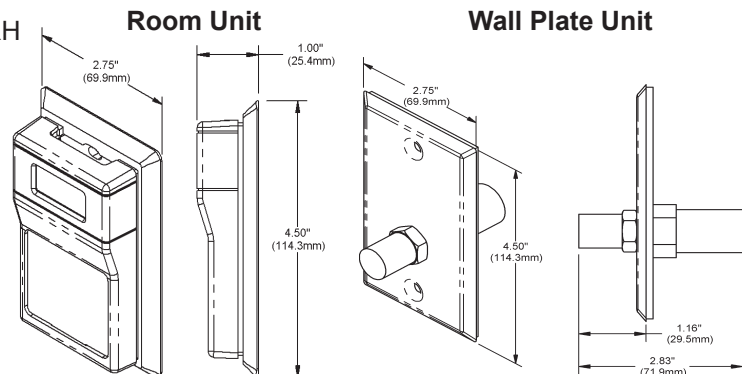
**Plate sensor to display:** <18"

\* BAPI recommends that you do not run wiring for the room units in the same conduit as line voltage wiring or with wiring used to supply highly inductive loads such as motors, generators, and coils.

**Mounting:** Standard 2" by 4" J-box  
- mounting screws provided

**Material:** Room Unit: ABS Plastic  
Wall Plate: Stainless Steel

**Enclosure Material Rating:** UL 94, V-0





# Vivarium Combo Sensor & Display

**B23**

Humidity & Combination Temp/Humidity Sensors

Rev. 7/22/10

Ordering Information		Vivarium Combo Sensor & Display											
<b>BA/XC</b>													
<b>Display Mode</b>													
<b>F</b>	Temperatures Displayed in °F												
<b>C</b>	Temperatures Displayed in °C												
<b>Accuracy</b>													
<b>2</b>	Accuracy in % for the Relative Humidity Output (i.e. ±2% RH)												
<b>3</b>	Accuracy in % for the Relative Humidity Output (i.e. ±3% RH)												
<b>Channel # 1* - T, H, R are placeholders for the range options. (See inset)</b>													
<b>-0 T</b>	Temperature Output, 4-20 mA												
<b>-1 T</b>	Temperature Output, 0-5 V												
<b>-2 T</b>	Setpoint Output, Temperature 4-20 mA												
<b>-3 T</b>	Setpoint Output, Temperature 0-5 V												
<b>-4 H</b>	Setpoint Output, %RH 4-20 mA												
<b>-5 H</b>	Setpoint Output, %RH 0-5V												
<b>Channel # 2* - T, H, R are placeholders for the range options. (See inset)</b>													
<b>-10 H</b>	%RH Output, 4-20 mA												
<b>-11 H</b>	%RH Output, 0-5 V												
<b>-12 T</b>	Setpoint Output, Temperature 4-20 mA												
<b>-13 T</b>	Setpoint Output, Temperature 0-5 V												
<b>-14 H</b>	Setpoint Output, %RH 4-20 mA												
<b>-15 H</b>	Setpoint Output, %RH 0-5 V												
<b>Channel # 3* - T, H, R are placeholders for the range options. (See inset)</b>													
<b>-20 T R</b>	Setpoint Output, Temperature Resistive w/ Override												
<b>-21 T</b>	Setpoint Output, Temperature 0-5 V w/Override												
<b>-22 H R</b>	Setpoint Output, %RH Resistive w/ Override												
<b>-24 T R</b>	Setpoint Output, Temperature Resistive w/o Override												
<b>-25 T</b>	Setpoint Output, Temperature 0-5 V w/o Override												
<b>-26 H R</b>	Setpoint Output, %RH Resistive w/o Override												
<b>-27 H</b>	Setpoint Output, %RH 0-5 V w/o Override												
<b>-28</b>	Override Only [High Ω -> Low Ω]												
<b>-29</b>	Override Only [5 V -> 0 V]												
<b>Sensor Type (if resistive sensor required)</b>													
<b>-0</b>	100 Platinum RTD, 100 Ω @ 0 °C, 0.385 Ω/°C temp. coeff.												
<b>-1375</b>	1K Platinum RTD, 1,000 Ω @ 0 °C, 3.75 Ω/°C temp. coeff.												
<b>-1NI</b>	1K Ω Nickel @ 21°C, 5 Ω/°C temp. coeff.												
<b>-1</b>	1K Platinum RTD, 1,000 Ω @ 0 °C, 3.85 Ω/°C temp. coeff.												
<b>-2</b>	2K Silicon RTD, 2,000 Ω @ 20 °C, 8 Ω/°C temp. coeff.												
<b>-18</b>	1.8K Thermistor, 1,800 Ω @ 25 °C												
<b>-22</b>	2.2K Thermistor, 2,200 Ω @ 25 °C												
<b>-3</b>	3K Thermistor, 3,000 Ω @ 25 °C												
<b>-33</b>	3.3K Thermistor, 3,300 Ω @ 25 °C												
<b>-102</b>	10K-2 Thermistor, 10,000 Ω @ 25 °C												
<b>-103</b>	10K-3 Thermistor, 10,000 Ω @ 25 °C												
<b>-10311</b>	10K-3(11K) Therm., 5,238 Ω @ 25 °C, 11kΩ shunt resistor												
<b>-20</b>	20K Thermistor, 20,000 Ω @ 25 °C												
<b>-47</b>	47K Thermistor, 47,000 Ω @ 25 °C												
<b>-50</b>	50K Thermistor, 50,000 Ω @ 25 °C												
<b>-100</b>	100K Thermistor, 100,000 Ω @ 25 °C												
<b>-334</b>	LM334 Semiconductor												
<b>-592</b>	AD592 Semiconductor, 273 μA @ 0 °C												
<b>Optional Communication Jack</b>													
<b>-C11L</b>	RJ11 (4 pin) Style Jack with Leads												
<b>-C11LT</b>	RJ11 (4 pin) Style Jack with Leads and Terminal Block												
<b>-C35L</b>	3.5 mm Phono Jack w/ Leads Attached												
<b>-C35LT</b>	3.5 mm Phono Style Jack with Leads and Terminal Block												
<b>-C22L</b>	RJ22 (4 pin) Style Jack with Leads Attached												
<b>-C22LT</b>	RJ22 (4 pin) Style Jack with Leads and Terminal Block												
<b>Optional Test &amp; Balance Switch**</b>													
<b>-TB</b>	3 Position Switch - "Low" & "High" values vary, "Normal" is live sensor value, call for details.*												
<b>Wall Plate Unit</b>													
<b>-SPV</b>	Stainless Steel Wall Plate												
<b>EXAMPLE</b>													
<b>BA/XC</b>	<b>F</b>	<b>3</b>	<b>-4</b>	<b>M</b>	<b>-10</b>	<b>M</b>	<b>-20</b>	<b>C</b>	<b>P</b>	<b>-102</b>	<b>-C11L</b>	<b>-TB</b>	<b>-SPV</b>
Example Part Number: BA/XCF3-4M-10M-20CP-102-C11L-TB-SPV													
<b>Your Part Number:</b>													

Stainless Steel Temperature Range  
Humidity Filter

**Range Options**

Designator	°F	°C
C	50 to 90	10 to 32
D	55 to 85	13 to 30
E	60 to 80	15 to 27
F	65 to 80	18 to 27
G	45 to 96	7 to 35

**H = Relative Humidity Range**

Designator	%RH
M	0 to 100

**R = Resistance Range**

Designator	Ohms
P	0 to 20k
Q	4.75k to 24.75k
R	6.19k to 26.19k
S	7.87k to 27.87k
T	10k to 30k

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

\* Channel 1, 2 or 3 are required

\*\* Test & Balance is only available with Direct Sensor Type Output