

Temperature Sensors

Rev. 11/24/10

Combination Temperature & Humidity Room Unit**Features & Options**

- LCD Readout
- 2% and 3% RH Accuracies
- °C or °F Operation
- Three Configurable Channels (optional)
- Full-range Temperature Compensation of RH Signal
- Setpoint Adjust and Occupancy Override (optional)
- User Adjustable Toggle Rate Between Temp. and Humidity Display
- Wide Selection of Temperature Sensing Elements
- Two Year Warranty

**X-Combo Unit with Setpoint & Override**

The **BAPI** “X-Combo” Room Unit features local indication of both temperature and humidity in ONE aesthetically-pleasing enclosure. Additional options include Temperature Setpoint, Humidity Setpoint and Local Override. The LCD can toggle between temperature and humidity at a user adjustable rate, with °C or °F temperature indication. In addition, the BAPI “X-Combo” saves time and money by allowing for field replacement of humidity elements without the need for ANY recalibration. The “X-Combo” is available with the full line of BAPI temperature sensors.

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

The BAPI-Guard

- Prevents Tampering, Physical Damage and Unauthorized Adjustment
- Exceptional Airflow for Proper Thermostat Operation
- Two Sizes to Fit Most Thermostats

**BAPI-Guard Mounted Over a Thermostat**

(See Accessories for more info.)

Specifications**Power:**

12 VDC 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 (Passive) - Thermistor, RTD or Semiconductor
Temperature (Channel 1) - 10K-2 Thermistor
Humidity - Impedance Type, ±2% or ±3% RH

Wiring: 2 to 4 pair of 16 to 22 AWG* (Common ground)

Mounting:

Standard 2" by 4" J-box or drywall mount - screws provided

Environmental Operation Range:

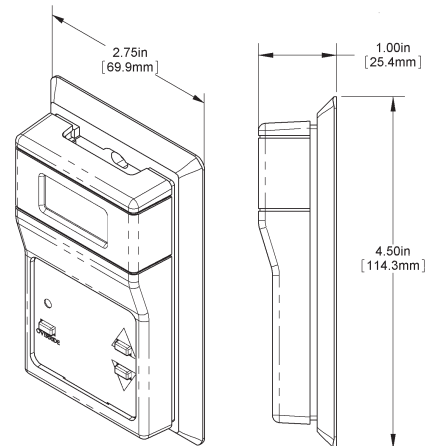
Temperature: 32 to 122 °F (0 to 50 °C)
Humidity: 0 to 95%, non-condensing

Material: ABS Plastic

Material Rating: UL 94, V-0

VC100 - AC to DC Voltage Converter

BAPI recommends using DC power on room units for a more stable reading. With its compact size and rugged design, BAPI's VC100 is the perfect AC to DC converter. For more info, see the Accessories section.



* **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.



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

Range Options		
T = Temperature Range		
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
See pg 13 for Additional Ranges		
H = Relative Humidity Range		
Designator	%RH	
M	0 to 100	
N	35% to 75%	
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	
Y	0 to 10k	

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