



### Features & Options

- RS485 Communication Protocol
- Designed for Operating Rooms and Clean Rooms
- Humidity Only or Combination Temp./Humidity Outputs
- Adjustable Temperature and Humidity Setpoints and Override
- Membrane Pushbuttons for Wipedown Cleaning
- Remote Mounted Duct Temperature and Humidity Sensors
- 2% RH Accuracy

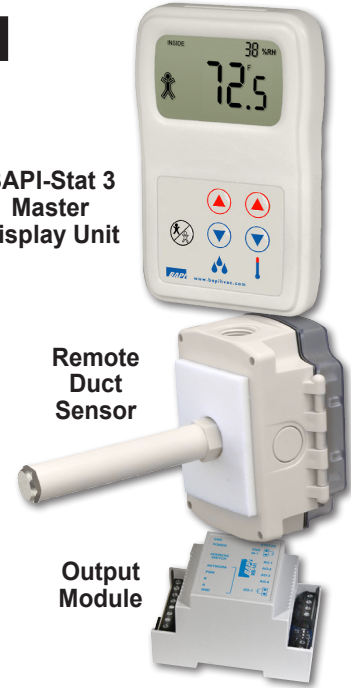
The BAPI-Stat 3MB Remote Sensor System is designed for operating rooms, clean rooms and isolation rooms. It includes a master display unit and up to 16 remote duct temperature and humidity sensors. Depending on the options selected, the unit can display room duct temp., room duct humidity, temp. setpoint, humidity setpoint and occupied status. The unit can allow local users to set the occupancy state, temp. and humidity setpoint.

The unit includes a number of field adjustments including °F or °C display, temperature offset, %RH offset or setpoint lockout (which disables the setpoint pushbuttons). The display can also be set to show a large temperature and small RH, a large RH and a small temperature, or to alternate between these two settings every 5 seconds.

**BAPI-Stat 3 Master Display Unit**

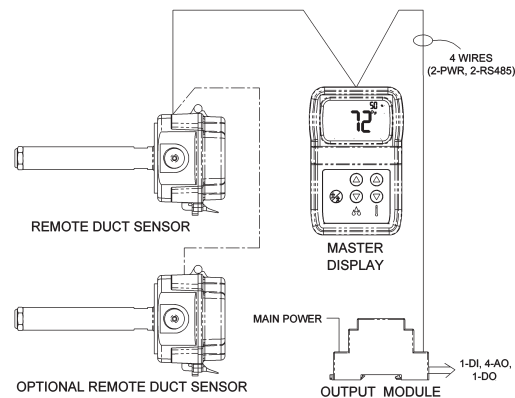
**Remote Duct Sensor**

**Output Module**



### BAPI-Stat 3MB System Overview

The remote sensors (up to 16) send the data to the master display unit. The master unit averages all the remote sensor data (of like kind), displays the average and sends the data (along with the setpoint and override info) to the output module. The output module produces analog voltage signals (AOs) of the remote sensor data and setpoint values as well as a signal for the occupied status (DO). The master unit will display the room's "Occupied" or "Unoccupied" status if it receives a signal (DI) from the BAS system.



### Specifications for the Master Display Unit

**Power:** 12 VDC ±10% (From Output Module)

**Power Consumption:** 6 mA max. DC

**Sensing Elements If Ordered:**

- Humidity    Capacitive Polymer, ±2% RH Accuracy, 10% to 90% @25°C
- Temp        Semicond. Band Gap, ±0.3°C @25°C
- Temp Only   10K-2 Thermistor, ±0.36°F (±0.2°C)

**Sensor Communication:**

- Protocol    RTU-Modbus
- Electrical   RS485
- Addressing   DIP Switch

**Diagnostic Indication:** Dual-color LED (Grn/Red)

**Display:**

- Main        LCD Multi-segment
- 3.5 Digit, 0.8" Tall
- Minor       2.5 Digit, 0.25" Tall
- Other        Occupancy Status (BAPI-Man Icon)

**Face Controls:** (5 Wipedown Buttons)

- Setpoint    4 Buttons for Temp and/or Humidity
- Override    1 Button for Override Request

**Menu Configurable:**

- Major Display    Temp, RH%, Setpoint, Fixed or Rotating
- Minor Display    Temp, RH%, Setpoint, Fixed or Rotating
- Setpoint         Absolute or Relative, Opt. Setpoint Lockout
- Offset            ±10% or 10°F/°C in .1 Increments

**Sensor Wiring:** 2 TSP, 16 to 22 AWG\*

- 4 Terminals    2-Power, 2-RS485 (A & B)

**Mounting:** Dry Wall or Back Box (screws included)

**Dimensions:** 5.5 x 3.5 x 1.06" (140 x 89 x 27mm)

**Enclosure Material:** ABS Plastic - UL94, V-0

**Environmental Operation Range:**

- Temperature    32 to 122°F (0 to 50 °C)
- Humidity        5 to 95% RH Non-condensing

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





* Ordering Information		BAPI-Stat 3MB Remote Sensor System - Temperature, Humidity, Setpoints or Combination						
BA/BS3MBM	BAPI-Stat 3MB Room Display & Control w/ Remote Sensor Connection and 5 Buttons (4 setpoint and 1 override).							
<b>Display Mode (required)</b> - °F or °C display can be changed in the field								
-F	Temperature factory displayed in °F.							
-C	Temperature factory displayed in °C.							
<b>Built in Sensor (optional)</b>								
2	Humidity and Temperature sensor built into the master display							
<b>Channel 1 Output Module (*optional)</b> - select range from Table D & R								
-10 D R	Temperature Sensor value							
<b>Channel 2 Output Module (*optional)</b> - select range from Table D (M or N only) & R								
-20 D R	Relative Humidity							
<b>Channel 3 Output Module (*optional)</b> - select range from Table D & R								
-30 D R	Temperature Setpoint							
<b>Channel 4 Output Module (*optional)</b> - select range from table D (M or N only) & Table R								
-40 D R	RH Setpoint							
<b>Override Button Configuration (required)</b>								
-J	^ Dry Contact Override located at the output module							
-Z	^^ No Override. The Modbus output module override contact disabled.							
<b>Logo Plate Color (required)</b>								
-WMW	Warm White							
-GRY	Gray							
<b>Remote Modbus Sensor Selection (*optional) (select only one)</b>								
-1D	One Remote Duct RH & Temp Sensor							
-2D	Two Remote Duct RH & Temp Sensors							
-3D	Three Remote Duct RH & Temp Sensors							
-4D	Four Remote Duct RH & Temp Sensors							
-1S	One Remote Space RH & Temp Sensor (No display)							
-2S	Two Remote Space RH & Temp Sensors (No display)							
-3S	Three Remote Space RH & Temp Sensors (No display)							
<b>Table D Output &amp; Display Range</b>								
	°F	°C	%RH					
A	-3 to +3	-3 to +3						
B	-5 to +5	-5 to +5						
C	50 to 90 °F	10 to 32 °C						
D	55 to 85 °F	13 to 30 °C						
E	60 to 80 °F	15 to 27 °C						
F	65 to 80 °F	18 to 27 °C						
G	45 to 96 °F	7 to 35 °C						
J	68 to 78 °F	20 to 26 °C						
K	65 to 95 °F	18 to 35 °C						
L	70 to 74 °F	21 to 23 °C						
M			0 to 100 % RH					
N			35 to 70 % RH					
P	-2 to +2	-2 to +2						
X	40 to 80 °F	4 to 27 °C						
Future	0 to 2000 PPM, CO2							
Future	0 to 2000 PPM, VOC							
Future	Call BAPI for other available ranges							
<b>Table R = Output Range Designator</b>								
Designator	Output Range	Span						
00	0 to 5 V	5 Volts						
01	1 to 5 V	4 Volts						
03	5 to 0 V	5 Volts						
10	0 to 10 V	10 Volts						
11	2 to 10 V	8 Volts						
<b>Example</b>								
BA/BS3MBM	-F	-10C10	-20M10	-30C10	-40M10	-J	-WMW	-2D
<b>Example Part Number:</b>								

**Notes:** This sensor always has 5 buttons.  
 \* This sensor requires at least one channel selected. All active outputs are located at the Output Module.  
 ^ N.O. independent solid state contact. Not intended to switch a load. (.2A max @24V AC/DC)  
 ^^ Override button is deactivated.  
 Call BAPI if you have questions about the above ordering grid or the configuration of the product you are ordering.

## Specifications for Output Modules and Remote Duct Sensors

### Output Module

**System Power:** 18 to 28VAC or 15 to 40VDC at 0.5 A max. (18VA)  
**Power Out:** 12VDC ±10% (To power remote module devices)  
**Module Point I/O:** 1-DI, 4-AO, 1-DO  
 1-Digital Input (DI) Terminal to GND = Occupied (BAPI-Man "On")  
 4-Analog Output (AO) 0 to 5, 1 to 5, 0 to 10 or 2 to 10VDC, Output >10KΩ  
 1-Digital Output (DO) Opto-isolated SSR 0.2 A max @ 24V DC/AC

### Sensor Communication:

Protocol RTU-Modbus  
 Communication RS485  
 Addressing DIP switch, up to 16 sensors per system

**Diagnostic Indication:** 2 LED's (Grn/Red) for Operation & Comm.

**Module Wiring:** 14 terms, 16 to 22 AWG, grounds are common

2- Power in 18 to 28VAC or 15 to 40VDC  
 4- Com./Pwr. Out 2 Twisted, Shielded Pair  
 2- DI Occupied Status Input  
 4- AO Analog Voltage Output  
 2- DO Override Request Output

**Enclosure Material:** Polycarbonate, UL94, V-0

**Mounting:** DIN rail or Screw in

**Dimensions:** 3.7 x 2.3 x 2.1" (95 x 58 x 53mm)

### Environmental Operation Range:

Temperature 32 to 122 °F (0 to 50 °C)  
 Humidity 5 to 95% RH Non-condensing

**Agency:** RoHS

### Remote Temp & RH Duct Sensor

**Power:** 12 VDC ±10% at 6mA max. DC  
 (From Output Module)

### Duct Unit Sensing Elements:

Temp Semicond. Band Gap, ±0.3°C@25°C  
 Humidity Capacitance Polymer, ±2%RH Accuracy, 10% to 90%@25°C

### Remote Sensor Communication:

Protocol RTU-Modbus  
 Electrical RS485  
 Addressing DIP switch, up to 16 sensors per system

**Diagnostic:** Tri-color LED

**Sensor Wiring:** 2 TSP, 16 to 22 AWG  
 4 terminals 2-Power, 2-RS485 (A & B)

### Enclosure Material:

UV-resistant Polycarbonate, UL94, V-0

**Enclosure Rating:** IP66, NEMA 4

**Dimensions:** 5 x 4.1 x 2.5" (127 x 104 x 64mm) with 6" Probe

### Environmental Operation Range:

Temp 32 to 122 °F (0 to 50 °C)  
 Humidity 5 to 122% RH Non-condensing

