BAPI-Com, Two-wire Multifunction Sensor

Temperature Sensors

BAPI ®

Rev. 11/02/10

Features & Options

- Power and Communication on Just Two Wires
- Available with Temperature Sensing, Temperature Setpoint, Occupant Override, Optional Display and Optional %RH Sensing
- Thermistor, Voltage, Resistance or Dry Contact Outputs
- Up to 500 Foot Wire Runs — Perfect for Existing Wires
- Multiple Sensor Options on Existing Twin Wires

   Many existing buildings have two wire sensors but do not have the other sensor features that customers expect in today's sophisticated systems. The BAPI-Com system uses those existing two wires and offers the owner a full function temperature sensor with temperature setpoint, occupant override, an optional easy-to-read display and optional %RH sensing.

   This retrofit sensor can update old systems to a new look without pulling new wire or disrupting the occupants while saving on labor.

   The sensors are powered and communicate over two wires to a Communication Output Module for use by a BAS system. The outputs are configurable as a thermistor, voltage, resistance or dry contact override output. The sensor is powered by the Communication Output Module which itself is supplied by any 24VDC/VAC source.

BAPI-Com Pushbutton and Slider Setpoint Units with White and Gray Logo Plates (each BAPI-Com includes a BAPI-Stat 4 Room Sensor & Communication Output Module)

Specifications

ROOM SENSOR

Power: 18VDC, from the Comm. Output Module

Wiring: 2 wires, Up to 500ft (new or existing)

   AWG gauge 22-14AWG
   Twist per foot .... 5 per ft preferred
   Shielding.............. Preferred (not required)
   Wire spec typical .. Belden 9841

Sensor: Thermistor, Accuracy ±0.36ºF, (±0.2ºC)

Pole Rate:............... 400 ms

Options:
   Setpoint .... Slide or Pushbutton
   Display.................. LCD
   Override................ Pushbutton
   Test & Balance...... Available with Display
   Humidity................ 2% Accuracy, Capacitive

Ambient:.............. 32°F to 122°F (0° to 50 °C)
                      0-95%RH, non-condensing
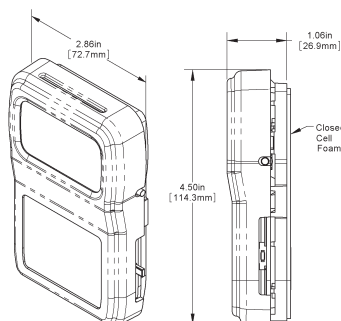
COMMUNICATION OUTPUT MODULE

Power in: 24VDC/AC, 30mA

Terminations:
   Comm. & PWR ... 2 wires to the sensor
   Power in............. 2 wires, 12-28 AWG
   Output................ 2 wires per output, 12-28 AWG
   Override Input..... 2 wires, 16-30 AWG

Outputs:............... Three Maximum
   Volts................... 0-5 or 0-10VDC,10kΩ min
   Resistance.......... 20K span
   Thermistor .... 10K-2 or 10K-3

Input (DI): Ext. Override Dry Contact,
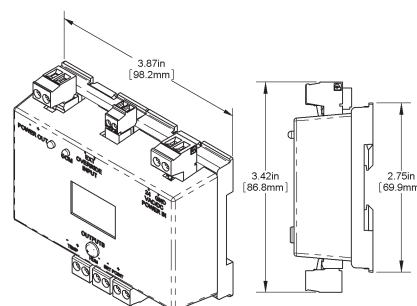   Closed = Occupied

Mounting: .... 3 EZ mount methods
   35mm DIN Rail .. Quick tab release
   2.75" Snaptrack .. 4" length
   Screw Mount....... Four tabs w/0.125" holes

Material:................ ABS Plastic, UL94V-0, RoHS

Rev. 11/02/10

Ordering Information — BAPI-Com Room Temperature Sensor Unit

BA/BS4MCOM	BAPI-Stat 4 Enclosure Sensor with Pushbuttons for Setpoint & Override & the Communication Output Module. (Must use display -F or -C)	
BA/BS4SCOM	BAPI-Stat 4 Enclosure Sensor with Slide Setpoint & the Communication Output Module. (Override button on the side if needed)	

Display Option   (Required Selection Field, Select Only One)

-F	Display Configurable in the field (default is in DEGF), (Optional Legend selection below)
-C	Display Configurable in the field (default is in DEGC), (Optional Legend selection below)
-X	No Display Option (Must use a Slide for the Setpoint), (Required Legend selection below)

Humidity Sensing   (Skip if not required)

-2	2% Humidity Sensor

Temperature Output Range   (Also used for the voltage output module range)   (Required)

-#

Temperature Output	Designator	Temperature Output	Designator
50 to 90˚F or 10 to 32˚C	C	65 to 80˚F or 18 to 27˚C	F
55 to 85˚F or 13 to 30˚C	D	70 to 74˚F or 21 to 23˚C	L
60 to 80˚F or 15 to 27˚C	E	See Application Notes, pg I3 for more ranges	

Setpoint Configuration   (Skip if no display is required)

-#

Setpoint Display	Designator	Setpoint Display	Designator
-2 to +2	P	65 to 80˚F or 18 to 27˚C	F
-3 to +3	A	70 to 74˚F or 21 to 23˚C	L
-5 to +5	B	0 to 100% RH	M
50 to 90˚F or 10 to 32˚C	C	35 to 70% RH	N
55 to 85˚F or 13 to 30˚C	D	0 to 100˚F or -18 to 38˚C	GG
60 to 80˚F or 15 to 27˚C	E	See Application Notes, pg I3 for more ranges	

Legend Designator on the Sensor Cover   (Required for all slide type sensors)

-L0	No Legend
-L6	COOL/WARM

Logo Plate Color   (Required)

-WMW	Warm White Logo Plate Color
-GRY	Gray Logo Plate Color

Special Factory Configurations — List in Alpha order as needed (-ES-SDO)   (Skip if not required)

-ES	External Temperature Sensor (Requires separately purchased 10K-2 sensor), (Not available with humidity)
-SDO	Setpoint Display Only

Setpoint Output Value Range   (Skip if not required)

-#

Desired Range	Designator	Desired Range	Designator
0 to 20KΩ	80	10K to 30KΩ	84
4.75K to 24.75KΩ	81	0 to 5V*	00
6.19K to 26.19KΩ	82	0 to 10V*	10
7.87K to 27.87KΩ	83	See Application Notes, pg I2 for more ranges	

Override Output — Momentary for 3-5 seconds   (Required)

-J	Dry Contact Override on dedicated terminals (Not Available for Humidity Units)
-M	Override in Parallel (*II*) with RH signal
-N	Override in Parallel (*II*) with Sensor
-P	Override in Parallel (*II*) with Setpoint
-Z	No Override

Room Humidity Output Value   (Skip if humidity is not required)

-M00	Humidity Output 0-5V = 0-100%RH (Common ground only)
-M10	Humidity Output 0-10V = 0-100%RH (Common ground only)

Room Temperature Output Value   (Skip if not required)

-102	Thermistor Temperature Output, 10K-2, 10KΩ @ 25˚C
-103	Thermistor Temperature Output, 10K-3, 10KΩ @ 25˚C
-10311	Thermistor Temp. Output, 10K-3 w/ 11KΩ shunt, 5238Ω @ 25˚C
-00	0 to 5V over the Temperature Output Range (Common ground only)
-10	0 to 10V over the Temperature Output Range (Common ground only)

Connection Configuration   (Required)

-CG	Common ground for resistive and voltage outputs
-DF	Differential ground for resistive outputs

EXAMPLE

BA/BS4SCOM	-F		-C	-P	-L6	-WMW		-82	-N		-103	-DF	

BA/BS4SCOM-F-C-P-L6-WMW-82-N-103-DF - BS4 sensor, w/slide setpoint & override, Outputs for sensor, setpoint and override

Your Part Number:

*Common Ground Only

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