



Features & Options

- Slows/Buffers Temperature Changes in Coolers & Freezers (Caused by Opening and Closing of Cooler/Freezer Door)
- Fluid-Filled to Mimic Core Temperatures
- Easy Wall Mount or Wire Shelf Hanger
- Decreases False High Limit Alarms
- Available in Stainless Steel or Aluminum
- Different Sizes for Different Applications

The BAPI Thermobuffer Temperature Sensor is used to simulate more closely the refrigerator contents rather than the refrigerator air temperature. The fluid-filled chamber allows for slower reaction to abrupt temperature changes, yet still maintains long-term accuracy if the change remains permanent. It eliminates the temperature spikes due to frequent refrigerator or freezer door opening and decreases false alarms.

The Thermobuffer comes in three buffer sizes 1", 2" and 4" and is designed to save valuable shelf space by mounting to the wall or by hanger in a refrigerator or freezer. The buffer chamber is machined in 304 Stainless Steel or aluminum and accommodates a variety of temperature sensors or transmitters to interface with all BAS systems.

For more sensor and transmitter specification details, go to the Sensors Section

* All Passive Thermistors 10K Ω and smaller are CE compliant.



Refrigerator (1" Hanging Bracket)
BA/#-TB-M304-1-HB

Chest Freezer (BAPI-Box 2 with 2" Probe)
BA/#-TB-M304-2-BB2

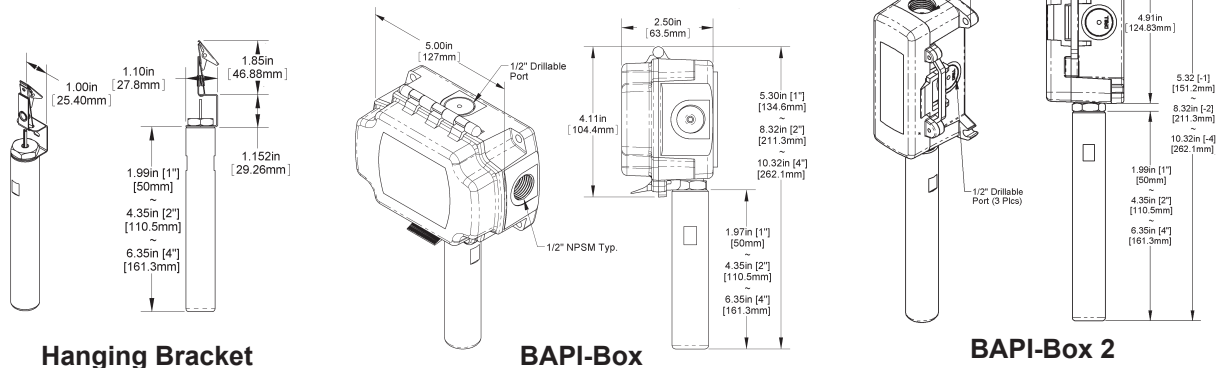
Walk-in Freezer (BAPI-Box w/ 4" Cylinder)
BA/#-TB-M304-4-BB

Specifications

- Sensor:** Thermistor, RTD or Transmitter
Probe: Stainless steel
Wire: 22 awg stranded, 2 or 3 wires
Insulation: Etched Teflon, PVC or FEP Plenum Rated
Enclosure Rating:
 BB..... BAPI-Box, NEMA 4, IP66
 BB2..... BAPI-Box 2, NEMA 4, IP66
 HB..... Open Hanging Bracket
Enclosure Material:
 BB & BB2... Polycarbonate, UV rated, UL94 V-0
 HB..... SS bracket w/steel clip
Buffer Chamber Construction:
 M304..... Bar stock 304 Stainless Steel
 MAL Bar stock Aluminum

- Chamber Fluid:** Customer supplied
 Glycol mix..... Food grade required
 1" Chamber..... ~7 ml of fluid
 2" Chamber..... ~24 ml of fluid
 4" Chamber..... ~32 ml of fluid
Environmental Operating Range:
 Temp. Sensor..... -40° to 185°F (-40° to 85°C)
 Temp. Transmitter.. -4° to 158°F (-20° to 70°C)
 Humidity 0-100%RH, Condensing
Agency: *CE (<10kΩ thermistor's), UL94V-0, RoHS

Note: Unit requires food grade glycol antifreeze for proper operation.





Rev. 02/28/11

Ordering Grids without List Prices are available on our website at www.bapihvac.com

Ordering Information				Thermobuffer Temperature Sensor	List Price	Your Order															
BA/																					
Sensor Type				Must select one	Use the designator number (shown to the left in bold) to indicate the sensor or transmitter																
#		<p>THERMISTORS</p> <p>1.8K 1.8K Ω @ 25 °C</p> <p>2.2K 2.2K Ω @ 25 °C</p> <p>3K 3K Ω @ 25 °C</p> <p>3.25K 3.25K Ω @ 25 °C (T30 type)</p> <p>3.3K 3.3K Ω @ 25 °C</p> <p>10K-2 10K Ω @ 25 °C</p> <p>10K-3 10K Ω @ 25 °C</p> <p>10K-3[11K] 5,238 Ω @ 25 °C</p> <p>20K 20K Ω @ 25 °C</p> <p>47K 47K Ω @ 25 °C</p> <p>50K 50K Ω @ 25 °C</p> <p>100K 100K Ω @ 25 °C</p>	<p>RTDs</p> <p>100 100 Ω Platinum @ 0 °C, .385 Ω/°C temp. coeff.</p> <p>100[3W] 3 Wire 100 Ω Plat. @ 0 °C, .385 Ω/°C temp. coeff.</p> <p>1K[375] 1K Ω Platinum @ 0 °C, 3.75 Ω/°C temp. coeff.</p> <p>1K[Ni] 1K Ω Nickel @ 21°C, 5 Ω/°C temp. coeff.</p> <p>1K 1K Ω Platinum @ 0 °C, 3.85 Ω/°C temp. coeff.</p> <p>2K 2K Ω Silicon @ 20 °C, 8 Ω/°C temp. coeff.</p>	<p>SEMICONDUCTORS</p> <p>334 LM334 Semiconductor</p> <p>592 AD592 Semiconductor, 273 μA @ 0 °C</p> <p>592-10K AD592 Semicond. w/ 10 kΩ shunt resistor, 2.73 V @ 0 °C</p>	<p>Thermistors</p> <p>\$18 Each</p> <p>RTD's</p> <p>\$25 Each or \$35 for 1K[Ni]</p> <p>Semi-conductors</p> <p>\$25 Each</p>																
		<p>TEMPERATURE TRANSMITTERS <i>Must include a "range" figure. Requires an enclosure.</i></p> <p>T100[range] 100 Platinum RTD, 100 Ω @ 0 °C with 4 to 20 mA Output</p> <p>T100M[range] 100 Platinum RTD, 100 Ω @ 0 °C with MATCHED 4 to 20 mA Output*</p> <p>T1K[range] 1K Platinum RTD, 1,000 Ω @ 0 °C with 4 to 20 mA Output</p> <p>T1KM[range] 1K Platinum RTD, 1,000 Ω @ 0 °C with MATCHED 4 to 20 mA Output*</p> <p>T10K[range] 10K Thermistor, 10,000 Ω @ 25 °C with 4 to 20 mA Output**</p> <p>T10K5[range] 10K Thermistor, 10,000 Ω @ 25 °C with 0-5 VDC Output**</p> <p>T10K10[range] 10K Thermistor, 10,000 Ω @ 25 °C with 0-10 VDC Output**</p>		<p>Temperature Transmitters</p> <p>\$125 for T100, T1K & T10K</p>																	
		<p>TEMPERATURE TRANSMITTER RANGES</p> <p>Custom temperature transmitter ranges are available. Common ranges are listed below</p> <table style="width: 100%; border: none;"> <tr> <td style="padding: 2px;">30 TO 81F</td> <td style="padding: 2px;">-1 TO 27C</td> <td style="padding: 2px;">32 TO 212F</td> <td style="padding: 2px;">0 TO 100C</td> </tr> <tr> <td style="padding: 2px;">0 TO 100F</td> <td style="padding: 2px;">-18 TO 38C</td> <td style="padding: 2px;">40 TO 240F</td> <td style="padding: 2px;">4 TO 116C</td> </tr> <tr> <td style="padding: 2px;">20 TO 120F</td> <td style="padding: 2px;">-7 TO 49C</td> <td style="padding: 2px;">50 TO 250F</td> <td style="padding: 2px;">10 TO 121C</td> </tr> <tr> <td style="padding: 2px;">32 TO 134F</td> <td style="padding: 2px;">0 TO 57C</td> <td></td> <td></td> </tr> </table>	30 TO 81F	-1 TO 27C	32 TO 212F	0 TO 100C	0 TO 100F	-18 TO 38C	40 TO 240F	4 TO 116C	20 TO 120F	-7 TO 49C	50 TO 250F	10 TO 121C	32 TO 134F	0 TO 57C				<p>\$280 for T100M & T1KM</p>	
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Thermobuffer Probe				Required selection																	
	-TB	Probe Fitting made of 304 Stainless Steel			\$24	\$ _____															
				Buffer & Probe Length	Must Select One																
		-M304-1	1 Inch Sensor and 304 Stainless Steel Cylinder Buffer (Overall buffer length 1.9")		\$56	\$ _____															
		-M304-2	2 Inch Sensor and 304 Stainless Steel Cylinder Buffer (Overall buffer length 4.33")		\$168	\$ _____															
		-M304-4	4 Inch Sensor and 304 Stainless Steel Cylinder Buffer (Overall buffer length 6.3")		\$168	\$ _____															
		-MAL-2	2 Inch Sensor and Aluminum Cylinder Buffer (Overall buffer length 4.33")		\$108	\$ _____															
		-MAL-4	4 Inch Sensor and Aluminum Cylinder Buffer (Overall buffer length 6.3")		\$108	\$ _____															
				Enclosure Style	Must Select One	BB or BB2 Required for Temp. Transmitters															
		-HB	Hanging or Screw Mounted Bracket, (30" FEP jacketed cable standard) (Must order transmitter box separately if used)		\$7	\$ _____															
		-BB	BAPI-Box Enclosure - IP66 rated, UV-resistant polycarbonate		\$12	\$ _____															
		-BB2	BAPI-Box 2 Enclosure - IP66 rated, UV-resistant polycarbonate		\$12	\$ _____															
		-NB	No Box (1/2" Threaded Buffer with probe only), (30" FEP jacketed cable standard) (Must order transmitter box separately if used)		\$0	\$ _____															
				Custom Lead Length	18" Etched Teflon Leads Standard																
		-5	5 feet of FEP Jacketed Cable		\$5	\$ _____															
		-10	10 feet of FEP Jacketed Cable		\$10	\$ _____															
		-25	25 feet of FEP Jacketed Cable		\$25	\$ _____															
				Options	BB or BB2 enclosure is required																
		-TB	Test & Balance Switch (BB or BB2 required, includes a Terminal Strip Connection, not available with Temp. Transmitter)		\$7.50	\$ _____															
		-TS	Terminal Strip Connection (BB or BB2 required for units with a Thermistor, RTD or Semiconductor)***			\$ _____															
EXAMPLE																					
BA/	10K-2	-TB	-M304-2	-BB																	
Part Number: BA/10K-2-TB-M304-2-BB					Total =	\$ _____															
Your Part Number:																					

Call BAPI if you have questions about the above ordering grid or the configuration of the product you are ordering.
 *MATCHED Transmitter use Class A RTD's & are matched at 25%, 50% & 75% of calibrated scale limited to within -25°C to 150°C.
 **Range is limited to -40 to 185°F (-40 to 85°C)
 ***TS option is not available with the 100[3W] RTD sensor, the 592-10K Semiconductor sensor or the T10K transmitters.