Wireless Overview

- **8 Year Battery Life**
- **Temperature Only or Temperature/Humidity Combination**
- **100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater**
- **Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller**

The BAPI Wireless Temperature or Temperature/Humidity Combination system incorporates a 418 MHz transmitter along with a Receiver and one or more Analog Output Modules to send zone temperature, humidity or other system variables to the DDC controller.

The wireless transmitter has an in-building range of 100 feet*, extendable to the 1,000 feet with a Repeater. The transmitter uses two high-capacity 3.6 volt lithium batteries and has an estimated battery life of 8 years with a transmit rate of approximately once every 10 seconds.

---

### Room Transmitters - pages 2-3
- Temperature Only Transmitter
- Temp./Humidity Combination Transmitter
- Setpoint and Override Optional
- 100 Foot In-Building Range, Extendable to 1,000 feet with Repeater*

### Probe Transmitters - pgs 4-9
- Temp. Only or Temp/ Humidity Combination
- 100 Foot In-Building Range, Extendable to 1,000 feet with Repeater*
- Duct, Immersion, Remote Probe or Outside Air Sensors

### Thermobuffer - pg 10-11
- Special Sensor for Walk-in Coolers and Freezers

### Universal Transmitter- p 12
- Monitor an analog or digital signal and transmit that value to the receiver.

### Receivers & Repeaters - p. 13-15
- 418 & 900 MHz Receivers
- 418 to 900 MHz Repeater

### Analog Output Modules - pgs 16-20
- Resistance Output Module (ROM)
- Voltage Output Module (VOM)
- Current Output Module (COM)
- Setpoint Output Module (SOM)
- Relay Output Momentary (RYOM)
- Relay Output Latching (RYOL)

Converting the data from the Receiver into a Resistance, Voltage or Current.

### Antennas & Field Verifiers - pgs 21-22
- Validates RF operation with a simple site visit
- Identifies radio positions before installation
- Battery operated for easy survey mobility
- Loaner verifiers available

---

*Actual in-building transmission distances will vary depending upon building construction and other factors.*
Temperature Transmitter

Features & Options

- 8 Year Battery Life (with two 3.6 volt lithium batteries, full AA size)
- Optional Setpoint and Occupant Override
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller

The BAPI Wireless Transmitter measures the room temperature and transmits the data through 418MHz RF to a receiver. The transmitter is mounted in a BAPI-Stat 2 style enclosure and has an in-building range of 100 feet*. It is available with optional Setpoint and Override.

The unit has an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

PART NUMBER: BA/BS2-WT - Wireless Temperature Transmitter
PART NUMBER: BA/BS2-WT-O - Wireless Temperature Transmitter with Occupant Override
PART NUMBER: BA/BS2-WT-S - Wireless Temperature Transmitter with Setpoint Adjustment
PART NUMBER: BA/BS2-WT-SO - Wireless Temperature Transmitter with Setpoint & Override
PART NUMBER: BA/LI3620 - Lithium Battery 3.6V

Associated Products

- 418 or 900 MHz Receivers
  Receives the RF signal from one or more transmitters or repeaters and outputs the values to up to 127 Analog Output Modules.
- Analog Output Modules:
  Converts the signal from the Receiver into a Resistance, Voltage or Current for sending to the controller.
- Repeater
  Extends the range of the Transmitter up to 1,000 feet.

Specifications for the Wireless Temperature Transmitters

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate

Inputs: Built in thermistor
Accuracy: ±0.36°F (±0.2°C)
Transmitted Range: -40°F to 185°F (-40°C to 85°C)

Environmental Operation Range:
  Temp: 32°F to 140°F (0°C to 60°C)
  Humidity: 5% to 95% RH non-condensing

Material: ABS Plastic
Material Rating: UL94 V-0
Radio Frequency: 418 MHz
Transmitter Interval: ~10 seconds
Antenna: Built inside the enclosure
FCC Approval: FCC ID# T4F061213RSO

*Actual in-building transmission distances will vary depending upon building construction and other factors.
**Features & Options**

- 8 Year Battery Life (with two 3.6 volt lithium batteries, full AA size)
- Optional Temperature Setpoint and Occupant Override
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller

The BAPI Wireless Transmitter measures the room temperature and Humidity and transmits the data through 418MHz RF to a receiver. The transmitter is mounted in a BAPI-Stat 2 style enclosure and has an in-building range of 100 feet*. It is available with optional Temperature Setpoint and Occupant Override.

The unit has an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal for the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

**PART #: BA/BS2-WTH** - Wireless Temp. and Humidity Transmitter
**PART #: BA/BS2-WTH-O** - Wireless Temp. and Humidity Transmitter with Override
**PART #: BA/BS2-WTH-S** - Wireless Temp. and Humidity Transmitter with Temp. Setpoint Adjustment
**PART #: BA/BS2-WTH-SO** - Wireless Temp and Humidity Transmitter w/ Temp. Setpoint & Override
**PART #: BA/LI3620** - Lithium Battery 3.6V

See end of Section H for list pricing.

**Associated Products**

- **418 or 900 MHz Receivers**
  Receives the RF signal from one or more transmitters or repeaters and outputs the values to up to 127 Analog Output Modules.

- **Analog Output Modules:**
  Converts the signal from the Receiver into a Resistance, Voltage or Current for sending to the controller.

- **Repeater**
  Extends the range of the Transmitter up to 1,000 feet.

**Specifications for the Wireless Temperature & Humidity Transmitters**

**Supply Power:** Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate

**Sensing Elements:**
- Temp. - Semiconductor Band Gap, Proportional to Absolute Temperature, ±0.54°F (±0.3°C)
- Humidity - Capacitive Polymer, ±1.8% RH Accuracy

**Transmitted Range:** -40°F to 185°F (-40°C to 85°C) • 0-100% RH

**Environmental Operation Range:**
- Temp: 32°F to 140°F (0°C to 60°C)
- Humidity: 5% to 95% RH non-condensing

**Material & Rating:** ABS Plastic, UL94 V-0

**Radio Frequency:** 418 MHz

**Transmitter Interval:** ~10 seconds

**Antenna:** Built inside the enclosure

**FCC Approval:** FCC ID# T4F061213RSO

*Actual in-building transmission distances will vary depending upon building construction and other factors.

Building Automation Products, Inc., 750 North Royal Avenue, Gays Mills, WI 54631 USA
Tel: +1-608-735-4800 • Fax: +1-608-735-4804 • E-mail:sales@bapihvac.com • Web:www.bapihvac.com
Wireless Duct Temperature Transmitter

Features & Options

- 8 Year Battery Life (with two 3.6 volt lithium batteries, full AA size)
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller
- Probe Lengths: 4”, 8”, 12” and 18”
- Watertight BAPI-Box Enclosure and Stainless Steel Probes
- Etched Teflon Leadwires & Double Encapsulated Sensors
- 2 Year Warranty

BAPI Wireless Duct Temperature Transmitters feature closed cell foam to seal the probe insertion hole and to absorb vibration. Mounting feet allow for easy installation directly to the wall of the duct. The Duct Units come with etched teflon leadwires, double encapsulated sensors and a watertight BAPI-Box enclosure to withstand high humidity and condensation and perform under real world conditions. The units are available with probe lengths from 4” to 18” to accommodate most duct shapes and sizes. Custom probe lengths are also available.

The Wireless Duct Temperature Transmitter measures the duct temperature and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

PART NUMBER: BA/WT-D-4” - Wireless Duct Temperature Transmitter, 4” Probe Length
PART NUMBER: BA/WT-D-8” - Wireless Duct Temperature Transmitter, 8” Probe Length
PART NUMBER: BA/WT-D-12” - Wireless Duct Temperature Transmitter, 12” Probe Length
PART NUMBER: BA/WT-D-18” - Wireless Duct Temperature Transmitter, 18” Probe Length
PART NUMBER: BA/WT-D-XX* - Wireless Duct Temperature Transmitter, Custom Probe Length
PART NUMBER: BA/LI3620 - Lithium Battery 3.6V

See end of Section H for list pricing.

*Custom Lengths of 1/4” Diameter Stainless Steel Probe are Available. Call BAPI for more information.

Specifications

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate
Inputs: Built in thermistor
Accuracy: ±0.36°F (±0.2°C)
Transmitted Range: -40°F to 185°F (-40°C to 85°C)
Environmental Operation Range:
  Temp: -40°F to 185°F (-40°C to 85°C)
  Humidity: 0% to 100% RH, non-condensing
Enclosure Rating: IP66
Enclosure Material: UV-Resistant Polycarbonate
Material Rating: UL94 V-0
Radio Frequency: 418 MHz
Transmitter Interval: ~10 seconds
Antenna: Built inside the enclosure
FCC Approval: FCC ID# T4F060811TEMP

*Actual in-building transmission distances will vary depending upon building construction and other factors.
Features & Options

- 8 Year Battery Life
  (with two 3.6 volt lithium batteries, full AA size)
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Temperature and Humidity signals can be converted to Voltage, Current or Resistive Outputs for the Controller
- Watertight BAPI-Box Enclosure
- Closed Cell Foam Padding
- 2 Year Warranty

BAPI Wireless Duct Temp. and Humidity Transmitters feature closed cell foam to seal the probe insertion hole and to absorb vibration. Mounting feet allow for easy installation directly to the wall of the duct. The wireless Duct Units come with a watertight BAPI-Box enclosure to withstand high humidity and condensation and perform under real world conditions.

The Wireless Duct unit measures the duct temperature and humidity and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

PART #: BA/WTH-D - Wireless Duct Temp. & Humidity Transmitter, 5" Probe Length
PART #: BA/LI3620 - Lithium Battery 3.6V

See end of Section H for list pricing.

Specifications

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate
Sensing Elements:
  Temp. - Semiconductor Band Gap, Proportional to Absolute Temperature, ±0.54°F (±0.3°C)
  Humidity - Capacitive Polymer, ±1.8% RH Accuracy
Transmitted Range: -40°F to 185°F (-40°C to 85°C)
Environmental Operation Range:
  Temp: -40°F to 185°F (-40°C to 85°C)
  Humidity: 0% to 100% RH, non-condensing
Enclosure Rating: IP66
Enclosure Material:
  UV-Resistant Polycarbonate
Material Rating: UL94 V-0
Radio Frequency: 418 MHz
Transmitter Interval: ~10 seconds
Antenna: Built inside the enclosure
FCC Approval: FCC ID# T4F060811RH

*Actual in-building transmission distances will vary depending upon building construction and other factors.
**Wireless Sensors**

**Features & Options**

- 8 Year Battery Life (with two 3.6V lithium batteries, full AA size)
- 100 In-Building Foot Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller
- Probe Lengths: 2", 4" and 8" (fit standard BAPI Thermowells)
- Watertight BAPI-Box Enclosure and Stainless Steel Probes
- Etched Teflon Leadwires & Double Encapsulated Sensors
- 2 Year Warranty

BAPI Wireless Immersion Units are available in 2", 4" and 8" probe lengths. The sensor is potted inside a 1/4" stainless steel probe with thermally conductive epoxy. The Immersion Units come with etched teflon leadwires, double encapsulated sensors and a BAPI-Box enclosure to withstand high humidity and condensation and perform under real world conditions.

The Wireless Immersion Temperature Transmitter measures the temperature and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

**BAPI Thermowells**

Immersion Unit Probes are designed to be inserted into a Thermowell. BAPI Thermowells are available in machined stainless steel or brass, or welded stainless steel, in lengths to match our Immersion Unit Probe Lengths. For more info, see page A60.

**Specifications**

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate

Inputs: Built in thermistor

Accuracy: ±0.36°F (±0.2°C)

Transmitted Range: -40°F to 185°F (-40°C to 85°C)

Environmental Operation Range:
- Temp: -40°F to 185°F (-40°C to 85°C)
- Humidity: 0% to 100% RH, non-condensing

Enclosure Rating: IP66

Enclosure Material: UV-Resistant Polycarbonate

Material Rating: UL94 V-0

Radio Frequency: 418 MHz

Transmitter Interval: ~10 seconds

Antenna: Built inside the enclosure

FCC Approval: FCC ID# T4F060811TEMP

*Custom Lengths of 1/4" Diameter Stainless Steel Probe are Available. Call BAPI for more information.

PART NUMBER: BA/WT-I-2" - Wireless Immersion Temperature Transmitter, 2" Probe Length

PART NUMBER: BA/WT-I-4" - Wireless Immersion Temperature Transmitter, 4" Probe Length

PART NUMBER: BA/WT-I-8" - Wireless Immersion Temperature Transmitter, 8" Probe Length

PART NUMBER: BA/LI3620 - Lithium Battery 3.6V

See end of Section H for list pricing.

*Actual in-building transmission distances will vary depending upon building construction and other factors.
Wireless Remote Probe Transmitter

Features & Options

- 8 Year Battery Life (with two 3.6V lithium batteries, full AA size)
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to a Voltage, Current or Resistance
- Plenum Rated Cable or FEP Jacketed Cable
- Double Encapsulated Probe Sensor
- 2 Year Warranty

BAPI Wireless Remote Probes feature a 1.75” long stainless steel probe with either Plenum-Rated Cable or FEP-Jacketed Cable and a water-tight BAPI-Box Enclosure. Standard lead lengths are 18”, 5’, 10’, 15’, 20’, and 25’. Remote Probes are commonly used in refrigerated case or strap-on applications. They are ideal for hard-to-access areas or for applications where the usual Immersion or Duct Sensors do not fit well. Additional cable options, lead lengths and probe styles are available upon request.

The Wireless Remote Probe Transmitter measures the temperature and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

BA/WT-RPP-5’ ....................... Remote Probe, Plenum Rated Cable - 5’ Leads
BA/WT-RPP-10’ ..................... Remote Probe, Plenum Rated Cable - 10’ Leads
BA/WT-RPP-15’ ..................... Remote Probe, Plenum Rated Cable - 15’ Leads
BA/WT-RPP-20’ ..................... Remote Probe, Plenum Rated Cable - 20’ Leads
BA/WT-RPP-25’ ..................... Remote Probe, Plenum Rated Cable - 25’ Leads
BA/WT-RPFEP-5’ .................... Remote Probe with FEP Jacketed Cable - 5’ Leads
BA/WT-RPFEP-10’ ................... Remote Probe with FEP Jacketed Cable - 10’ Leads
BA/WT-RPFEP-15’ ................... Remote Probe with FEP Jacketed Cable - 15’ Leads
BA/WT-RPFEP-20’ ................... Remote Probe with FEP Jacketed Cable - 20’ Leads
BA/WT-RPFEP-25’ ................... Remote Probe with FEP Jacketed Cable - 25’ Leads
BA/LI3620 ............................ Lithium Battery, 3.6 Volt (for Wireless Transmitters)

See end of Section H for list pricing.

Specifications

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate
Inputs: Built in thermistor
Accuracy: ±0.36°F (±0.2°C)
Transmitted Range: -40°F to 185°F (-40°C to 85°C)
Environmental Operation Range:
  Temp: -40°F to 185°F (-40°C to 85°C)
  Humidity: 0% to 100% RH, non-condensing
Enclosure Rating: IP66
Enclosure Material: UV-Resistant Polycarbonate
Material Rating: UL94 V-0
Radio Frequency: 418 MHz
Transmitter Interval: ~10 seconds
Antenna: Built inside the enclosure
FCC Approval: FCC ID# T4F060811TEMP

*Actual in-building transmission distances will vary depending upon building construction and other factors.
Outside Air Temperature Transmitter

Features & Options

- 8 Year Battery Life (with two 3.6 volt lithium batteries, full AA size)
- 100 Foot In Building Range, Extendable to 1,000 Feet with Repeater*
- Transmitted signals can be converted to Voltage, Current or Resistive Outputs for the Controller
- Watertight BAPI-Box Enclosure
- Quick Response Sensor
- Light-Colored Sensor Guard
- Etched Teflon Leadwires
- 2 Year Warranty

BAPI Wireless Outside Air Temperature Transmitters are designed to be mounted outdoors. The UV-resistant plastic shield keeps the sensor out of the sunlight and allows for excellent air circulation. The Outside Air Units come with a watertight BAPI-Box enclosure which is made of UV-resistant polycarbonate and carries an IP66 rating.

The Outside Air unit measures the temperature and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

PART NUMBER: BA/WT-O-BB - Wireless Outside Air Temperature Transmitter
PART NUMBER: BA/LI3620 - Lithium Battery 3.6V

See end of Section H for list pricing.

Specifications

Supply Power:  Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate
Inputs:  Built in thermistor
Accuracy:  ±0.36°F (±0.2°C)
Transmitted Range:  -40°F to 185°F (-40°C to 85°C)
Enclosure Rating:  IP66
Enclosure Material:  
- UV-Resistant Polycarbonate
Material Rating:  UL94 V-0
Environmental Operation Range:  
- Temp: -40°F to 185°F (-40°C to 85°C)
- Humidity: 0 to 100% RH
Radio Frequency:  418 MHz
Transmitter Interval:  ~10 seconds
Antenna:  Built inside the enclosure
FCC Approval:  FCC ID# T4F060811TEMP

*Actual in-building transmission distances will vary depending upon building construction and other factors.
**Features & Options**

- 8 Year Battery Life (with two 3.6 volt lithium batteries, full AA size)
- 100 Foot In-Building Range, Extendable to 1,000 Feet with Repeater*
- Temperature and Humidity signals can be converted to Voltage, Current or Resistive Outputs for the Controller
- Watertight BAPI-Box Enclosure
- Quick Response Sensor
- 2% RH Accuracy
- 2 Year Warranty

BAPI Wireless Outside Air Temperature and Humidity Transmitters are designed to be mounted outdoors. The UV-resistant plastic shield keeps the sensor out of the sunlight and allows for excellent air circulation. The Outside Air Units come with a watertight BAPI-Box enclosure which is made of UV-resistant polycarbonate and carries an IP66 rating.

The Wireless Outside Air Temperature and Humidity Transmitter measures the temperature and humidity and transmits the data through 418MHz RF to a receiver. It has an in-building range of 100 feet* and an estimated battery life of 8 years using two high-capacity 3.6V lithium batteries with a transmit rate of about once every 10 seconds. Each transmitter has a unique address with built in error detection. Each variable sent by the transmitter is picked up by the receiver and converted by a BAPI Analog Output Module to a voltage, current or resistance signal which is sent to the controller. The unit can be set up to trigger an alarm on the controller when the batteries need replacing.

**PART NUMBER:** BA/WTH-O-BB - Wireless Outside Air Temperature and Humidity Transmitter  
**PART NUMBER:** BA/LI3620 - Lithium Battery 3.6V

*See end of Section H for list pricing.*

**Specifications**

Supply Power: Two 3.6V Lithium batteries, 8 year battery life at 10 second transmit rate

**Sensing Elements:**
- Temp. - Semiconductor Band Gap, Proportional to Absolute Temperature, ±0.54°F (±0.3°C)
- Humidity - Capacitive Polymer, ±1.8% RH Accuracy

**Transmitted Range:** -40°F to 185°F (-40°C to 85°C)

Enclosure Rating: IP66

Enclosure Material: UV-Resistant Polycarbonate

Material Rating: UL94 V-0

**Environmental Operation Range:**
- Temp: -22°F to 158°F (-30°C to 70°C)
- Humidity: 0 to 100% RH

Radio Frequency: 418 MHz

Transmitter Interval: ~10 seconds

Antenna: Built inside the enclosure

**FCC Approval:** FCC ID# T4F060811RH

*Actual in-building transmission distances will vary depending upon building construction and other factors.*
Thermobuffer Freezer Transmitter

Wireless Sensors

Rev. 12/20/10

Features & Options

- Reduces Temperature “Spikes” Caused By Opening the Cooler or Freezer Door
- Wirelessly Transmits the Temperature
- 100 Foot In-Building Range, Extendable to 1,000 Feet with a Repeater*
- Receiver & Output Modules Convert the Wireless Data to Voltage, Current or Thermistor Resistive
- Buffer Chamber is 304 Stainless or Aluminum
- 8 Year Battery Life
- 2 Year Warranty

The BAPI Wireless Thermobuffer wirelessly transmits the temperature of walk-in freezers or coolers to a receiver within 100 feet*. The Thermobuffer slows the temperature reaction of a freezer door opening to prevent false alarms or short cycling the compressor.

The Thermobuffer features a watertight BAPI-Box enclosure and is designed to be mounted to the wall of the cooler or freezer saving valuable shelf space. It is available with a two-inch or four-inch stainless steel buffer chamber (optional aluminum) which is sealed with customer provided oil, or a 50/50 glycol solution to approximate the temperature reaction of the refrigerated contents in the freezer or cooler.

Associated Products

- **418 or 900 MHz Receiver**
  Receives the RF signal from the transmitter or repeater and outputs the values to up to 127 different Analog Output Modules.

- **Repeater**:
  Extends the range of the Transmitter up to 1,000 feet.

- **Analog Output Modules**: Converts the signal from the Receiver into a Resistance, Voltage or Current for the DDC controller.

Wireless Operation

The Wireless Thermobuffer measures the temperature through the buffer chamber and transmits the temperature approximately once every 10 seconds to a receiver which in-turn sends the signal to an analog output module. These output modules come in all the standard BAS analog inputs including Voltage, Current or Thermistor Resistance.
Thermobuffer Freezer Transmitter

Ordering Information

PART NUMBERS:

BA/WT-TB-M304-2-BB
Wireless Thermobuffer, 304 Stainless Steel Chamber, 2 inch probe, BAPI-Box Enclosure

BA/WT-TB-M304-4-BB
Wireless Thermobuffer, 304 Stainless Steel Chamber, 4 inch probe, BAPI-Box Enclosure

BA/WT-TB-MAL-2-BB
Wireless Thermobuffer, Machined Aluminum Chamber, 2 inch probe, BAPI-Box Enclosure

BA/WT-TB-MAL-4-BB
Wireless Thermobuffer, Machined Aluminum Chamber, 4 inch probe, BAPI-Box Enclosure

BA/LI3620
Replacement Battery, Lithium 3.6V

See end of Section H for list pricing.

Specifications

Supply Power: Two 3.6V Lithium batteries,
Battery Life: 8 years at 10 second transmit rate
Battery capacity: 2.25 AH
Sensor: Built in thermistor
Accuracy: ±0.36°F (±0.2 °C)
Temperature Range: -40°F to 185°F
(-40°C to 85°C)
Radio Frequency: 418 MHz (US),
433 MHz (international)
Transmit Power: 1.5mW
Transmit Time: 20ms
Modulation: Amplitude Modulation (AM)
A/D Resolution: 12 Bit
Transmitter Interval: ~10 seconds
Antenna: Built inside the enclosure
Error checking: CRC 16, Cyclic Redundancy
Check 16 bit
Agency: FCC ID#T4F060811TEMP
Weight: 2 lb (0.9kg)

Enclosure Material: UV-Resistant Polycarbonate
Material Rating: UL94 V-0
Probe: 2 or 4 inch, ¼” 304 Stainless Steel
Buffer chamber: 2 or 4” 304 Stainless Steel
(Optional machined aluminum)
Warranty: 2 Years

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

*Actual in-building transmission distances will vary depending upon building construction and other factors.

Building Automation Products, Inc., 750 North Royal Avenue, Gays Mills, WI 54631 USA
Tel: +1-608-735-4800 • Fax: +1-608-735-4804 • E-mail:sales@bapihvac.com • Web:www.bapihvac.com
Wireless Universal Input Transmitter

Features & Options

- Battery Powered (Eight Year Battery Life)
- Analog Input (0-5VDC, 0-10VDC & 4-20mA), Digital Input (dry contact) and Thermistor Temperature Input Models
- 100’ In-Building Range, Extendable to 1,000’ with a Repeater*

The Wireless Universal Input Transmitters take a hard-wired signal and transmit that signal wirelessly to a 418 MHz receiver. The Analog Input version receives a 0-5VDC, 0-10VDC or 4-20mA signal, the Digital Input version receives any dry contact on/off status, while the Thermistor Temperature Input version takes a 10K-2 thermistor sensor input.

All models transmit their data every 10-17 seconds at 418 MHz to a BAPI 418 MHz Receiver. An Output Module connected to the Receiver converts the data back to its original form for the BAS controller. The transmitters are battery powered and only require wiring from the remote input sensor.

Ordering Information

<table>
<thead>
<tr>
<th>Wireless Universal Input Transmitter</th>
<th>Associated Wireless Products to Complete the System</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA/WAI-10 0-10VDC Analog Input Transmitter</td>
<td>BA/RCV418-EZ &amp; BA/VOM-10-AO-EZ 418 MHz Receiver (p. H13) &amp; 0-10V Voltage Output Module (p. H17)</td>
</tr>
<tr>
<td>BA/WAI-420 4-20mA Analog Input Transmitter</td>
<td>BA/RCV418-EZ &amp; BA/COM-AO-EZ 418 MHz Receiver (p. H13) &amp; 4-20 mA Current Output Module (p. H18)</td>
</tr>
<tr>
<td>BA/WTS Thermistor Sensor Transmitter</td>
<td>BA/RCV418-EZ &amp; ROM, VOM or COM Temp. Output Module 418 MHz Receiver (p. H13) &amp; An ROM, COM or VOM Output Module</td>
</tr>
</tbody>
</table>

See end of Section H for list pricing.

Specifications

Supply Power: ...........3.6 Lithium, 2-AA Batteries (included)
Battery life: ............8 years @ 10 sec. intervals
Analog Input: ...........2-terminals
BA/WAI-05.............0-5VDC, Imp. > 30KΩ
BA/WAI-10.............0-10VDC, Imp. > 50KΩ
BA/WAI-420.............4-20mA, Imp. = 100Ω
Digital Input: ..........2-terminals
BA/WDI..................Dry contact, >20 seconds
Thermistor Input:......2-terminals
BA/WTS...............10K-2 Thermistor (sold seperately)
Mounting: ..............Four corner feet
Radio Frequency: .......418 MHz @ 1mW
Transmitter Interval: ~10-17 sec.
Transmission Range: Up to 100 feet direct*
(Up to 1,000 feet with a repeater*)

*Actual in-building transmission distances will vary depending upon building construction and other factors.
Caution: BAPI wireless products are designed for non-critical HVAC monitoring. These products are not intended as safety devices or any heavy equipment control applications.

Building Automation Products, Inc., 750 North Royal Avenue, Gays Mills, WI 54631 USA
Tel: +1-608-735-4800 • Fax: +1-608-735-4804 • E-mail:sales@bapihvac.com • Web:www.bapihvac.com
Features & Options

- 100 Foot Range
- Extendable Antenna for Optimum Reception
- Surface, Snaptrack or Din Rail Mounting
- Can Accommodate Up To 127 Analog Output Modules

The BAPI 418 MHz unit receives the RF signal from one or more wireless temperature or humidity transmitters which have a range of 100 feet. The receiver then outputs the values to any Analog Output Module through a four-wire bus. The Analog Output Module converts the signal to an analog voltage, current or resistance for the controller. The receiver can accommodate up to 127 different Analog Output Modules. It is surface, snaptrack or din rail mountable with a 79" extendable antenna for optimum reception.

PART NUMBERS:
- BA/RCV418-EZ - 418 MHz Receiver
- Replacement Antennas pg. H34

See end of Section H for list pricing.

Associated Products

- Wireless Temperature or Temp./Humidity Transmitter
  Measures the room temperature and/or humidity and transmits the data through 418MHz RF to a receiver. The 1 mW transmitter is mounted in a BAPI-Stat 2 style enclosure and has an open-air range of 100 feet.

- Analog Output Modules:
  Converts the signal from the Receiver into a Resistance, Voltage or Current for sending to the controller.

- Repeater
  Extends the range of the Transmitter up to 1,000 feet.

Specifications for the 418 MHz Receiver

Supply Power: 9 to 30 VDC or 17 to 31 VAC
Power Consumption: 20 mA max. DC, .5 VA max AC
Inputs: 418MHz
Bus Cable Distance:
  4,000 ft with shielded, twisted pair cable
  (Belden 9841, Belden 8132 or equivalent)
Maximum Output Modules per Receiver: 127
Environmental Operation Range:
  Temp: 32°F to 140°F (0°C to 60°C)
  Humidity: 5% to 95% RH non-condensing
Material: ABS Plastic
Material Rating: UL94, V-0
900 MHz Receiver

Wireless Sensors

Features & Options

- 1,000 Foot Range with a Repeater
- Optional 79” Extendable Antenna for Optimum Reception
- Surface, Snaptrack or Din Rail Mounting
- Can Accommodate Up To 127 Analog Output Modules

The BAPI 900 MHz unit receives a repeated or re-transmitted RF signal from one or more wireless temperature or humidity transmitters. The transmitter signal (418 MHz) is received by a BAPI Repeater and then re-transmitted at 900 MHz up to 1,000 feet to the 900 MHz Receiver.

The 900 MHz Receiver then outputs the values to any Analog Output Module through a four-wire bus. The output module converts the signal to an analog voltage, current or resistance for the controller. The 900 MHz Receiver can accommodate up to 127 different output modules. The receiver is surface, snaptrack or din rail mountable with an attached antenna or a 79” extendable antenna.

PART #s: BA/RCV900-EZ - 900 MHz Receiver with Attached Antenna
BA/RCV900-EA-EZ - 900 MHz Receiver with Extendable Antenna

Replacement Antennas pg. H34

See end of Section H for list pricing.

Associated Products

- Wireless Temperature or Temp/Humidity Transmitter:
  Measures the room temperature and/or humidity and transmits the data through 418MHz RF to a receiver.

- Analog Output Modules: Converts the signal from the Receiver into a Resistance, Voltage or Current for the DDC controller.

- Repeater: Extends the range of the Transmitter up to 1,000 feet.

Specifications for the 900 MHz Receiver

Supply Power: 9 to 15 VDC
Power Consumption: 80 mA max. DC
Bus Cable Distance:
4,000 ft with shielded, twisted pair cable (Belden 9841, Belden 8132 or equivalent)
Inputs: 900MHz

Maximum Output Modules per Receiver: 127
Environmental Operation Range:
  Temp: 32°F to 140°F (0°C to 60°C)
  Humidity: 5% to 95% RH non-condensing
Material: ABS Plastic
Material Rating: UL94, V-0
Features & Options

- Extends Transmitter Range to 1,000 Feet

The BAPI Repeater receives the 418 MHz RF signal from one or more wireless temperature or humidity transmitters which have a range of 100 feet. The Repeater re-transmits the signal at 900 MHz to a distance of 1,000 feet to a BAPI 900 MHz Receiver.

The 900 MHz Receiver then outputs the values to any Analog Output Module through a four-wire bus. The Analog Output Module converts the signal to an analog voltage, current or resistance for the controller. The 900 MHz Receiver can accommodate up to 127 different Analog Output Modules. The Repeater is surface, snaptrack or din rail mountable with an attached 900 MHZ antenna and a 79” 418 MHz extendable antenna.

PART #S: BA/RPT49-EZ - 418 to 900 MHz Repeater
BA/RPT49-EA-EZ - 418 to 900 MHz Repeater with Extendable Antenna Replacement

Associated Products

- **Wireless Temperature or Temp/Humidity Transmitter:** Measures the room temperature and/or humidity and transmits the data through 418MHz RF to a receiver.

- **900 MHz Receiver:** Receives the re-transmitted signal from the Repeater and outputs the values to up to an Analog Output Modules.

- **Analog Output Modules:** Converts the signal from the Receiver into a Resistance, Voltage or Current for sending to the controller.

Specifications for the Wireless Repeater

Supply Power: 9 to 15 VDC

Power Consumption: 150 mA max. DC

Inputs: 418MHz

Output: 900MHz at 100mW

Environmental Operation Range:

- Temp: 32°F to 140°F (0°C to 60°C)
- Humidity: 5% to 95% RH non-condensing

Material: ABS Plastic

Material Rating: UL94, V-0
Resistance Output Module (ROM)

Overview

The Resistance Output Module (ROM) converts the temperature data from the Wireless Receiver into a Resistance for the DDC controller. The unit is factory calibrated to output a 10K-2, 10K-3 or 10K-3(11K) thermistor curve.

The ROM receives data from a BAPI 418 or 900 MHz Receiver through a four-wire bus. Up to 127 different Output Modules can be connected to a single receiver to send multiple variables to the controller. The ROM is easily trained to a single transmitter temperature or humidity variable with a pushbutton and LED. The ROM is surface, 2.75" snaptrack or 35mm din rail mountable.

PART NUMBERS:
- BA/ROM-102-EZ 10K-2 thermistor curve
- BA/ROM-103-EZ 10K-3 thermistor curve
- BA/ROM-10311-EZ 10K-3(11K) thermistor curve
- BA/ROM-20-EZ 20K thermistor curve

See end of Section H for list pricing.

Pluggable Terminal Blocks

AOMs plug into each other and the receiver as shown above. However, the AOMs may also be mounted remotely using the optional Pluggable Terminal Block Connectors which are available as a 4-connector kit.

PART NUMBER:
- BA/AOM-CONN - Pluggable Terminal Block Kit for AOMs (includes 4 terminal block connectors, see image at right)

Specifications for Resistance Output Modules

<table>
<thead>
<tr>
<th>Temperature Output Ranges at ~0.5°F Resolution:</th>
<th>Material: ABS Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>10K-2 Unit: 35°F to 120°F (1°C to 50°C)</td>
<td>Material Rating: UL94, V-0</td>
</tr>
<tr>
<td>10K-3 Unit: 32°F to 120°F (0°C to 50°C)</td>
<td></td>
</tr>
<tr>
<td>10K-3(11K) Unit: 32°F to 120°F (0°C to 50°C)</td>
<td></td>
</tr>
<tr>
<td>20K Unit: 53°F to 120°F (12°C to 50°C)</td>
<td></td>
</tr>
</tbody>
</table>

Supply Power: 9 to 30 VDC or 17 to 31 VAC, half wave

Power Consumption: 3 mA max. DC, .1 VA max AC

Analog Input Bias Voltage: 5 VDC max

Lost Comm. Timeout: 15 min. (Fast Flash)

Reverts to High Resistance >35KΩ (Low Temp.)

Bus Cable Distance: 4,000 ft with shielded, twisted pair cable (Belden 9841, Belden 8132 or equivalent)

Output Resolution: ~40Ω

Environmental Operation Range:
- Temp: 32°F to 140°F (0°C to 60°C)
- Humidity: 5% to 95% RH non-condensing
Overview

The Voltage Output Module (VOM) converts the temperature or humidity data from the Wireless Receiver into a linear 0-5 volt or 0-10 volt signal for the DDC controller.

The VOM receives the temperature or humidity data from a BAPI 418 or 900 MHz Receiver through a four-wire bus. Up to 127 different Output Modules can be connected to a single receiver to send multiple variables to the controller.

The VOM is easily trained to a single transmitter variable with a pushbutton and LED. The VOM is surface, 2.75” snaptrack or 35mm din rail mountable.

Specifications

Supply Power: (half wave)
0-5Vdc models: 9-30 VDC or 17-31 VAC
0-10Vdc models: 15-30 VDC, 17-35 VAC

Output Voltage Range: 0-5 Volts or 0-10 Volts (factory calibrated)

Output Current: 1 mA max

Power Consumption: 3 mA max. DC, 1 VA max. AC

Lost Comm. Timeout: 15 min. (Fast Flash)
Temp. & Full Scale revert to 0 volts
%RH reverts to high scale (5V or 10V)

Bus Cable Distance: 4,000 ft with shielded, twisted pair cable (Belden 9841, Belden 8132 or equivalent)

Output Resolution: 10 bit, 1024 counts

Environmental Operation Range:
Temp: 32°F to 140°F (0°C to 60°C)
Humidity: 5% to 95% RH non-condensing

Material: ABS Plastic
Material Rating: UL94, V-0

Accessory Terminals: BA/AOM-CONN (See page 18)

Voltage Output Module

Note: Custom Ranges are available. Call BAPI for details.

BA/VOM-05-C-EZ:
0-5V Output, 50 to 90°F Temp. Range

BA/VOM-05-D-EZ:
0-5V Output, 55 to 85°F Temp. Range

BA/VOM-05-E-EZ:
0-5V Output, 60 to 80°F Temp. Range

BA/VOM-05-F-EZ:
0-5V Output, 65 to 80°F Temp. Range

BA/VOM-05-G-EZ:
0-5V Output, 45 to 96°F Temp. Range

BA/VOM-05-H-EZ:
0-5V Output, -20 to 120°F Temp. Range

BA/VOM-05-KK-EZ:
0-5V Output, 32 to 185°F Temp. Range

BA/VOM-05-MM-EZ:
0-5V Output, -40 to 140°F Temp. Range

BA/VOM-10-C-EZ:
0-10V Output, 50-90°F Temp. Range

BA/VOM-10-D-EZ:
0-10V Output, 55-85°F Temp. Range

BA/VOM-10-E-EZ:
0-10V Output, 60-80°F Temp. Range

BA/VOM-10-F-EZ:
0-10V Output, 65-80°F Temp. Range

BA/VOM-10-G-EZ:
0-10V Output, 45-96°F Temp. Range

BA/VOM-10-H-EZ:
0-10V Output, -20 to 120°F Temp. Range

BA/VOM-10-KK-EZ:
0-10V Output, 32 to 185°F Temp. Range

BA/VOM-10-MM-EZ:
0-10V Output, -40 to 140°F Temp. Range

BA/VOM-05-M-EZ:
0-5V Output, 0-100% RH

BA/VOM-05-N-EZ:
0-5V Output, 35-70% RH

BA/VOM-10-M-EZ:
0-10V Output, 0-100% RH

BA/VOM-10-N-EZ:
0-10V Output, 35-70% RH

See end of Section H for list pricing.
Wireless Sensors

Current Output Module (COM)

Features & Options

The Current Output Module (COM) converts the temperature or humidity data from the Wireless Receiver into a linear 4-20 mA signal for the DDC controller.

The COM is loop powered and receives data from a BAPI 418 or 900 MHz Receiver through a four-wire bus. Up to 127 different Output Modules can be connected to a single receiver to send multiple network variables to the controller. The COM is easily trained to a single transmitter variable with a pushbutton and LED. The COM is surface, 2.75” snaptrack or 35mm din rail mountable.

°F PART NUMBERS:
- BA/COM-C-EZ: 4-20 mA Output, 50-90°F Temp. Range
- BA/COM-D-EZ: 4-20 mA Output, 55-85°F Temp. Range
- BA/COM-E-EZ: 4-20 mA Output, 60-80°F Temp. Range
- BA/COM-F-EZ: 4-20 mA Output, 65-80°F Temp. Range
- BA/COM-G-EZ: 4-20 mA Output, 45-95°F Temp. Range
- BA/COM-H-EZ: 4-20 mA Output, -20 to 120°F Temp. Range
- BA/COM-KK-EZ: 4-20 mA Output, 32 to 185°F Temp. Range
- BA/COM-MM-EZ: 4-20 mA Output, -40 to 140°F Temp. Range

°C PART NUMBERS:
- BA/COM-C-C-EZ: 4-20 mA Output, 10 to 32°C Temp. Range
- BA/COM-D-C-EZ: 4-20 mA Output, 13 to 30°C Temp. Range
- BA/COM-E-C-EZ: 4-20 mA Output, 15 to 27°C Temp. Range
- BA/COM-F-C-EZ: 4-20 mA Output, 18 to 27°C Temp. Range
- BA/COM-G-C-EZ: 4-20 mA Output, 7 to 35°C Temp. Range
- BA/COM-H-C-EZ: 4-20 mA Output, -29 to 49°C Temp. Range
- BA/COM-KK-C-EZ: 4-20 mA Output, 0 to 85°C Temp. Range
- BA/COM-MM-C-EZ: 4-20 mA Output, -40 to 60°C Temp. Range

%RH PART NUMBERS:
- BA/COM-M-EZ: 4-20 mA Output, 0-100% RH
- BA/COM-N-EZ: 4-20 mA Output, 35-70% RH

FULL SCALE PART NUMBERS:
- BA/COM-AO-EZ: 4-20 mA Output Full Scale

ACCESSORY TERMINALS:
- BA/AOM-CONN: Pluggable Terminal Block Kit for AOMs

Specifications for Current Output Modules

- Material: ABS Plastic
- Material Rating: UL94, V-0

Output Current Range: 4-20 mA (factory calibrated)

Power Consumption: (half wave)
- Loop Powered, 20 mA max
- Loop Voltage Range 9-36 VDC

Lost Comm. Timeout: 15 min. (Fast Flash)
- Temp. & Full Scale revert to 4 mA, %RH reverts to 20 mA

Bus Cable Distance:
- 4,000 ft with shielded, twisted pair cable
  (Belden 9841, Belden 8132 or equivalent)

Output Resolution: 12 bit, 4096 counts

Environmental Operation Range:
- Temp: 32°F to 140°F (0°C to 60°C)
- Humidity: 5% to 95% RH non-condensing
Setpoint Output Module (SOM) - SOM
(includes the Setpoint Output terminal block connector only)

Overview
The Setpoint Output Module (SOM) converts the Setpoint data from the Wireless Receiver into a Resistance or Voltage for the DDC controller.

The SOM receives the setpoint data from a BAPI 418 or 900 MHz Receiver through a four-wire bus. Up to 127 different Setpoint Output Modules or Analog Output Modules can be connected to a single receiver to send multiple variables to the controller.

The Setpoint Output Module is easily trained to a single transmitter setpoint with a pushbutton and LED. The SOM is surface, 2.75” snaptrack or 35mm din rail mountable.

VOLTAGE OUTPUT PART #S:
BA/SOM-00-EZ: 0 to 5 Volts Output
BA/SOM-01-EZ: 1 to 5 Volts Output
BA/SOM-02-EZ: 3.7 to .85 Volts Output
BA/SOM-03-EZ: 5 to 0 Volts Output
BA/SOM-04-EZ: 4.2 to 1.2 Volts Output
BA/SOM-05-EZ: 2.75 to 3.34 Volts Output
BA/SOM-06-EZ: 2.88 to 3.17 Volts Output
BA/SOM-10-EZ: 0 to 10 Volts Output
BA/SOM-11-EZ: 2 to 10 Volts Output

RESISTANCE OUTPUT PART #S:
BA/SOM-50-EZ: 0 to 5k Ohms Output
BA/SOM-51-EZ: 7.87k to 2.87k Ohms Output
BA/SOM-60-EZ: 0 to 10k Ohms Output
BA/SOM-61-EZ: 15k to 5k Ohms Output
BA/SOM-62-EZ: 9,577 to 1,422 Ohms
BA/SOM-63-EZ: 1k to 11k Ohms Output
BA/SOM-80-EZ: 0 to 20k Ohms Output
BA/SOM-81-EZ: 4.75k to 24.75k Ohms Output
BA/SOM-82-EZ: 6.19k to 26.19k Ohms Output
BA/SOM-83-EZ: 7.87k to 27.87k Ohms Output
BA/SOM-84-EZ: 10k to 30k Ohms Output
BA/SOM-85-EZ: 24.75k to 4.75k Ohms Output
BA/SOM-91-EZ: 25k to 75k Ohms Output
BA/SOM-102-C-EZ: 10K-2 Thermistor, 50 to 90°F

ACCESSORY TERMINALS:
BA/AOM-CONN: Pluggable Terminal Block Kit (See page H20)

See end of Section H for list pricing.

Specifications
Supply Power: (half wave) Resistance models: 9-30 VDC or 17-31 VAC
0-5VDC models: 9-30 VDC or 17-31 VAC
0-10VDC models: 15-30 VDC, 17-35 VAC

Output Current: 1 mA

Analog Input Bias Voltage: 5 VDC max (Resistance Output Models only)

Power Consumption: 3 mA max. DC, .1 VA max AC

Lost Comm. Timeout: 15 min. (Fast Flash) Reverts to its last command

Bus Cable Distance: 4,000 ft with shielded, twisted pair cable (Belden 9841, Belden 8132 or equivalent)

Output Resolution:
Resistance Output: ~40 ohms Voltage Output: 10 bit

Environmental Operation Range:
Temp: 32°F to 140°F (0°C to 60°C)
Humidity: 5% to 95% RH non-condensing

Material & Rating: ABS Plastic, UL94, V-0

418 MHz Receiver with two Analog Output Modules
**Features & Options**

The Relay Output Modules convert the data from the Wireless Receiver into a floating solid state switch closure for the DDC controller. The RYOM is a momentary Relay and is trained to the occupant override button on the side of the BAPI Wireless Room Transmitter. The RYOL is a latching relay and is trained to the BAPI Wireless Digital Input Transmitter.

Both Relay Modules receive data from a BAPI 418 or 900 MHz Receiver through a four-wire bus. Up to 127 different Modules can be connected to a single receiver to send multiple variables to the controller. The Relay Modules are easily trained to a single transmitter variable with a pushbutton and LED. The RYOM is surface, 2.75” snaptrack or 35mm din rail mountable.

**PART NUMBERS:**
- BA/RYOM-NO-EZ — Relay Output Momentary, Normally Open Output
- BA/RYOM-NC-EZ — Relay Output Momentary, Normally Closed Output
- BA/RYOL-NO-EZ — Relay Output Latching, Normally Open Default
- BA/RYOL-NC-EZ — Relay Output Latching, Normally Closed Default

*See end of Section H for list pricing.*

**Specifications for Relay Output Modules**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relay Output:</strong></td>
<td>40V (DC or AC peak), 150 mA max.</td>
</tr>
<tr>
<td></td>
<td>Off state leakage current 1 uA max.</td>
</tr>
<tr>
<td></td>
<td>On state resistance 15Ω max.</td>
</tr>
<tr>
<td><strong>Operation:</strong></td>
<td></td>
</tr>
<tr>
<td>BA/RYOM:</td>
<td>5 second momentary actuation</td>
</tr>
<tr>
<td>BA/RYOL:</td>
<td>Latching actuation</td>
</tr>
<tr>
<td><strong>Supply Power:</strong></td>
<td>9 to 30 VDC or 17 to 31 VAC</td>
</tr>
<tr>
<td><strong>Power Consumption:</strong></td>
<td>15 mA max. (relay on)</td>
</tr>
<tr>
<td><strong>Lost Comm. Timeout:</strong></td>
<td>15 minutes (Fast Flash) Reverts to normal condition, N.O. or N.C.</td>
</tr>
<tr>
<td><strong>Bus Cable Distance:</strong></td>
<td>4,000 ft with shielded, twisted pair cable (Belden 9841, Belden 8132 or equivalent)</td>
</tr>
<tr>
<td><strong>Environmental Operation Range:</strong></td>
<td></td>
</tr>
<tr>
<td>Temp:</td>
<td>32°F to 140°F (0°C to 60°C)</td>
</tr>
<tr>
<td>Humidity:</td>
<td>5% to 95% RH non-condensing</td>
</tr>
</tbody>
</table>

**Material & Material Rating:**

ABS Plastic, UL94, V-0

**Pluggable Terminal Blocks**

AOMs plug into each other and the receiver as shown above. However, the AOMs may also be mounted remotely using the optional Pluggable Terminal Block Connectors which are available as a 4-connector kit.

**PART NUMBER:**
- BA/AOM-CONN — Pluggable Terminal Block Kit for AOMs (includes 4 terminal block connectors, see image at right)
Features & Options

- Rugged Injection Molded
- Compact and Unobtrusive
- Omni-directional Pattern
- Very Low VSWR
- RP-SMA Connectors

BAPI provides a broad line of wireless antennas for use with our receivers and repeaters.

The dipole antennas have 79 inch cords for flexibility in mounting. The receiver or repeater may be mounted low for accessibility while the antenna is mounted high for better reception. The long cord length allows the receiver to be mounted in a metal panel but allows the antenna to be outside of the panel for proper reception. An adhesive pad allows the antenna to be mounted on flat nonconductive surfaces such as drywall, windows or ceiling tiles.

The 900 MHz half wave flexible whip is a compact antenna for tight areas.

Ordering Information

PART NUMBERS:
- BA/ANT418 ............... Dipole, 79 inch cord, 418 MHz
- BA/ANT900 ............... Flexible Whip, 900MHz
- BA/ANT900-EA .......... Dipole, 79 inch cord, 900 MHz

Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>418 MHz Dipole</th>
<th>900 MHz Dipole</th>
<th>900 MHz Whip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Frequency</td>
<td>418 MHz</td>
<td>916 MHz</td>
<td>925 MHz</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>20 MHz</td>
<td>136 MHz</td>
<td>70 MHz</td>
</tr>
<tr>
<td>Wavelength</td>
<td>½ Wave</td>
<td>½ Wave</td>
<td>½ Wave</td>
</tr>
<tr>
<td>VSWR</td>
<td>≤1.5 typ at center</td>
<td>≤1.5 typ at center</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Impedance</td>
<td>50 Ω</td>
<td>50 Ω</td>
<td>50 Ω</td>
</tr>
<tr>
<td>Connector</td>
<td>RP-SMA</td>
<td>RP-SMA</td>
<td>RP-SMA</td>
</tr>
<tr>
<td>Cable</td>
<td>79” RG-174 coax</td>
<td>79” RG-174 coax</td>
<td>None</td>
</tr>
</tbody>
</table>
Wireless Field Verifiers

Features & Options

- Validates RF operation with a simple site visit
- Identifies radio positions before installation
- Battery operated for easy survey mobility
- Loaner verifiers available
- Automatic battery power management
- LED and beeper indication of performance

The 418 MHz Field Verifier is designed to measure how far the BAPI Wireless Transmitter signal will go in a specific installation. The verifier is equipped with an LED bar graph indicating signal strength and sounder from a single BAPI 418MHz transmitter or from all the BAPI 418MHz transmitters on the job.

The 900 MHz Field Verifier is designed to verify how far the BAPI Repeater will go in a specific installation. Each verifier is equipped with an LED and sounder indicating packet reception from the other verifier. Units are used in pairs with one unit set-up as the transmitter and the other unit set-up as the receiver.

Ordering Information

BA/FV-KIT - Combined Field Verifier Kit (BA/FV418K & BA/FV900K)
BA/FV-KIT-LOAN - Loaner Combined Field Verifier Kit (BA/FV418K & BA/FV900K)*
BA/FV418K - Field Verifier Kit, 418 MHz, (1 transmitter & 1 verifier included)
BA/FV900K - Field Verifier Kit, 900 MHz, (2 transmitter/verifiers per kit)
BA/FV418 - Field Verifier 418 MHz, (1 verifier only)
BA/FV900 - Field Verifier 900 MHz, (1 verifier only)

*Note: You will receive 100% credit less shipping and handling charges if unit is returned in working order within 30 Days from product ship date

See end of Section H for list pricing.

Specifications

Battery Power: BA/FV418, (2) 3.6 volt Lithium BA/FV900, 9VDC
Auto Off: BA/FV418, 17 minutes BA/FV900, 1 hour
Storage/Operating: 32° to 158°F (0 to 70°C)
Frequency/RF-Power/Transmission time
BA/FV418K: 418MHz/ 1mW / ~every 10S
BA/FV900K: 900MHz/100mW / ~ every 1S
Receiver Sensitivity: 418MHz - 112dBm 900MHz - 110dBm
Typical open air range: 418MHz - 100 feet 900MHz - 1,000 feet
Sound Indication: 50db@5ft beeper (Off selectable)
BA/FV418 Indication: 10 element LED, ~6db per element
BA/FV900 Indication: 2 LED’s, 1-transmit and 1-recieve
Antenna: Detachable whip (must be installed to operate)
Weight: 0.5 lb (.23kg) per unit

Indoor Range Est. “Rules of Thumb”
Xmtr = Transmitter  Rptr = Repeater
A) Xmtr, 0-50ft
   Will work in open office instances.
B) Xmtr, 0-100ft
   May work but verify.
C) Xmtr, >100 ft
   Needs a repeater.
D) Rptr, 0-300ft
   Will work in most instances.
E) Rptr, 0-800ft
   May work but verify.
F) Rptr, >1,000ft
   Needs another repeater.