



FLEXIBLE AVERAGING

Multipoint BACnet™ MS/TP | Modbus RTU

The BN Series Flexible Averaging networked temperature sensors are a cost effective, single point native BACnet™ or Modbus sensing solution designed to reduce the need for additional input modules or building management controllers when a limited number of input points are available. The BN series offers both BACnet™ and Modbus protocols in one device, providing great flexibility with various systems. The BTL Certification provides confidence that these sensors may be used in any new or retrofit installation using a BACnet™ MS/TP controller with third party BACnet™ devices. Each sensor features a 18 AWG Plenum rated cable that is

manufactured with 4 or 9 sensing points determined by the length of the sensing element. The averaging sensors provide a better average temperature of the air inside the duct when compared to a single point duct sensor. The flexible averaging sensors are limited to applications where operating temperatures are limited and where high humidity, chemical resistance and UV Light Air Treatment Systems aren't required. Each of the sensing elements is protected by a dual wall adhesive lined heat shrink tubing to provide a level of moisture protection to the sensing elements. The sensor length should be determined by the dimensional size of your duct. These sensors incorporate a conformally coated printed circuit board for long-term reliability. The ABS enclosure features an easy open latch for easy access to the wiring and internal dip switches for quick setup and installation. Please contact ACI for more information regarding the BN Series communicating sensors.

Applications: Supply / Return / Discharge / Mixed Duct Air Temperature Sensing, Chilled Water / Hot Water / Hydronic Heating Systems, Air / Gas Temperatures, Chillers, Boilers, Hot Water Heaters & Refrigeration Systems

The ACI BN Series BACnet™ sensors are covered by ACI's Five (5) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors & Transmitters catalog, as well as on ACI's website, www.workaci.com

PRODUCT SPECIFICATIONS

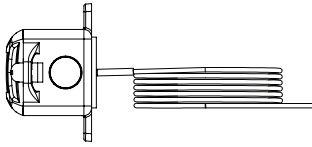
Supply Voltage:	12 to 36 VDC / 24 VAC +/- 10%, 50/60 Hz (Reverse Polarity Protected)
Current Consumption:	25 mA maximum (0.67 VA)
Temperature Measurement Range:	0 to 75°C (32 to 167°F)
Temperature Measurement Accuracy @ 77°F (25°C):	+/- 1.0°F (+/- 0.5°C)
Temperature Calibration Offset:	+/- 9°F (+/- 5°C) (Field Configurable)
Temperature Units:	°F (Factory Default), °C, °K (Field Configurable)
Resolution:	+/- 0.1° +/- 0.1%
Temperature Update Rate:	4 seconds
Communication Protocol:	BACnet™ MS/TP or Modbus RTU = Field Selectable; EIA RS-485
Sensor Addresses:	0 = Factory Default 1-127 = Field Selectable
Supported Baud Rates:	Auto Baud (Factory Default) 9600, 19200, 38400, 57600, 76800, 115200 (Field Selectable)
Parity (Modbus RTU):	None/Even/Odd = Field Selectable
Stop Bits (Modbus RTU):	1 or 2 = Field Selectable
Databits (Modbus RTU):	8
Maximum Distance:	4000 ft (1219 m)
End of Line Termination Resistance:	120 Ohms Termination Resistance (Field Selectable)
Tri-Color Status LED:	Connection Status
Connections Wire Size:	Screw Terminal Blocks 16 AWG (1.31 mm ²) to 22 AWG (0.33 mm ²)
Transmitter Operating Temperature Range:	-40 to 176°F (-40 to 80°C)
Storage Temperature Range:	0 to 75°F (32 to 167°C)
Operating Humidity Range:	10 to 95% RH, non-condensing
Sensor Jacket Material Cable Ratings:	Low Smoke PVC CL2P CMP Plenum Rated Cable
Sensor Cable Diameter:	0.170" (4.32mm) nominal
Enclosure Color Material UL Flammability Rating:	Black ABS Plastic UL94-HB
Enclosure Temperature Rating Plenum Rating:	-22 to 194°F (-30 to 90°C) Plenum Rated
Foam Pad Material Flammability Rating:	Neoprene/EPDM/SBR Polymer UL94-HBF; FMVSS-302; MIL-R-6130C
Product Dimensions (L x W x D):	See Dimensional Drawings on Back
Product Weights:	See Dimensional Drawings on Back
Agency Approvals:	BTL Certified, CE, RoHS2, WEEE, China RoHS



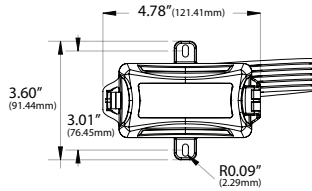


DIMENSIONAL DRAWING

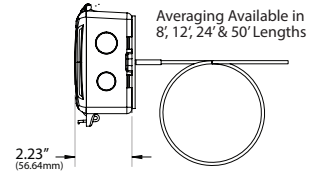
Plastic Box Enclosure [PB]



Front View



Right View



Top View

Averaging Available in 8', 12', 24' & 50' Lengths

STANDARD ORDERING

Model # Example: **BN2110-FA-50-PB -OR- 146619**

Model #	Item #	Description
BN2110-FA-8-PB	146618	BACnet™ MS/TP, Modbus RTU, Temperature, Flexible Cable Averaging, 8', Plastic Enclosure
BN2110-FA-12-PB	146616	BACnet™ MS/TP, Modbus RTU, Temperature, Flexible Cable Averaging, 12', Plastic Enclosure
BN2110-FA-24-PB	146617	BACnet™ MS/TP, Modbus RTU, Temperature Flexible Cable Averaging, 24', Plastic Enclosure
BN2110-FA-50-PB	146619	BACnet™ MS/TP, Modbus RTU, Temperature, Flexible Cable Averaging, 50', Plastic Enclosure