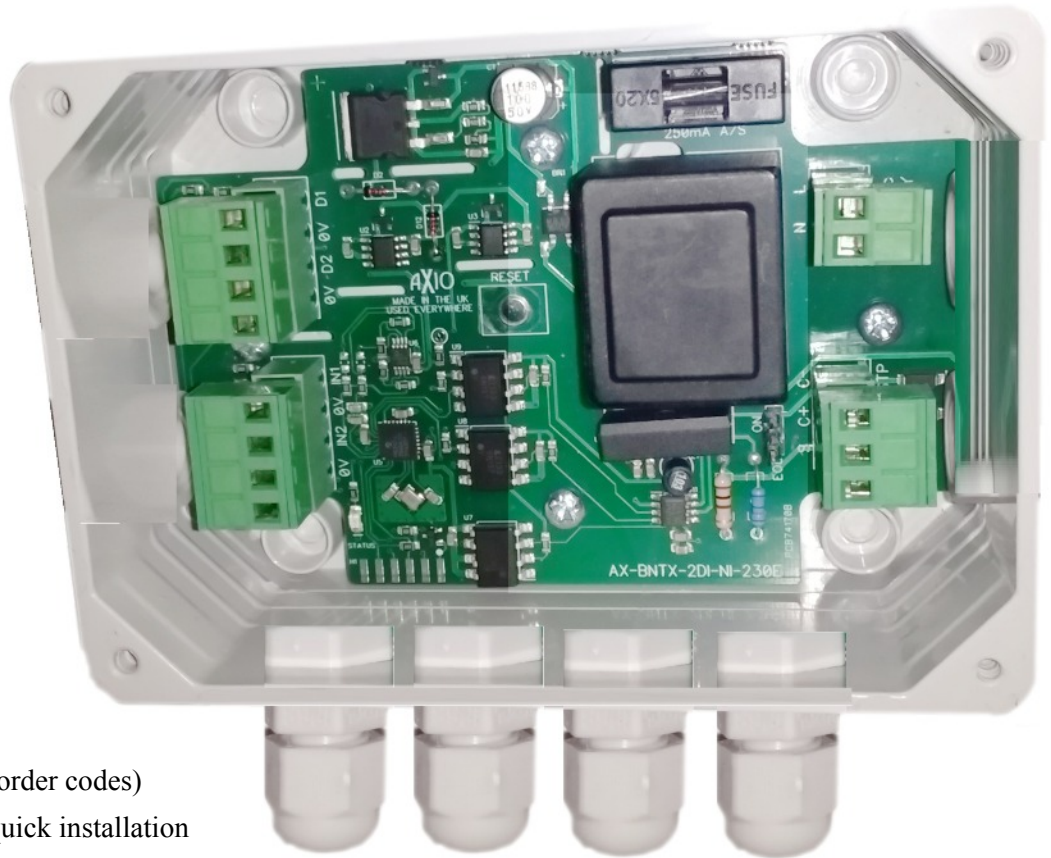# AX-BNTX-2DI-NI
Dual BACnet transmitter

AXIO

Product Overview

The Axio AX-BNTX-2DI-NI is a dual input isolated BACnet/MSTP transmitter with two NI1000-5000 sensor inputs and 2 VFC digital inputs. 230Vac or 24Vac supply versions are available. The unit is IP65 rated and features high quality rising clamp plug & socket terminals for ease of connection.

Features

- 2x NI1000-5000 sensor inputs
- 2x VFC digital inputs
- Isolated BACnet MSTP
- Built in termination resistor
- 230Vac or 24Vac supply (See order codes)
- Plug & socket connectors for quick installation
- IP65 Housing

Product Specifications

Sensor inputs	NI1000-5000 (-20 to 60˚C)
Digital inputs	Volt-free contacts
Comms outputs	Isolated RS485 BACnet MSTP
Network	BACnet MSTP / RTU 19K2, 38K4, 57K6, 76K8 and 115K2 baud rates
Supply Voltage	230Vac or 24Vac (See order codes)
Terminals	Plug & socket connectors for 0.5-2.5mm² cable
Ambient Temperature Range	0˚C to 50˚C
Dimensions	134 (175 with glands) x 94.5 x 61mm
Housing	IP65 thermo resistant ABS
Country of Origin	United Kingdom

Order Codes

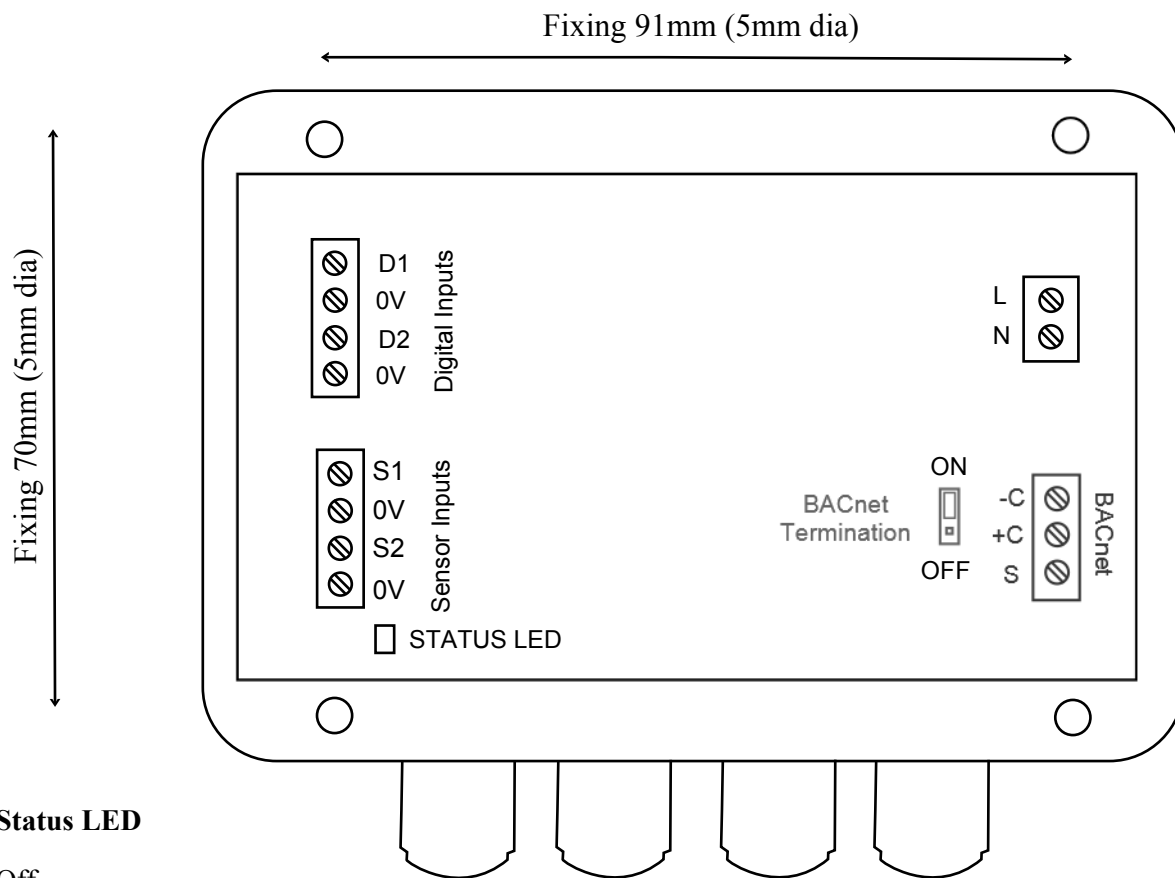|	
AX-BNTX-2DI-NI-24E	Dual BACnet Temperature Transmitter, 24Vac Supply, enclosed
AX-BNTX-2DI-NI-230E	Dual BACnet Temperature Transmitter, 230Vac Supply, enclosed

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Description and Connections

Fixing 91mm (5mm dia)

Fixing 70mm (5mm dia)

Status LED

Off

   - no power

On

   - Power OK - No comms

One pulse per second

   - Comms OK, received token

Double pulse per second

   - Comms OK, unit has been accessed

Pulse burst

   - Unit being accessed

Datasheet Contents

Every effort has been taken in the production of this data sheet to ensure accuracy. Annicom does not accept responsibility for any damage, expense, injury, loss or consequential loss resulting from any errors or omissions. Annicom has a policy of continuous improvement and reserves the right to change this specification without notice.

Installation

The AX-BNTX-2DI-NI should be installed by suitably qualified technician in conjunction with any guidelines for the equipment it is to be connected to and any local regulations. Field wiring should be installed to satisfy the requirements set out by the manufacturer of the equipment that the module is being connected to.

BACnet

Network connections

It is not recommended to connect more then 32 devices on a single network. This number is dependent on local wiring and conditions, ie cable type / lengths, interference etc.

It recommends to use twisted pair cables specifically designed for RS-485 networks to reduce any interference. All devices should be connected C+ to C+ and C- to C-. A shield terminal (S) is provided and if required all the units on the network should be connected to the same shield which should be grounded at one point. The devices should ideally be connected in a single chain with no stubs.

On board termination resistors are provided and only the devices at each end of the chain should have their resistors connected, place EOL jumper in ON position. All other devices should be set to the OFF position. It is also recommended that a fail safe voltage is applied at one point on the network, usually at the main controller or router.

PROTOCOL IMPLEMENTATION CONFORMANCE

Vendor Name: Annicom Ltd.

Vendor ID: 898

Product Name: AX-BNTX-2DI-NI

Product Description

The AX-BNTX-2DI-NI BACnet dual communicating transmitter has been specifically designed for HVAC applications and to be monitored on a BACnet MS-TP ® RTU network.

Supported BACnet Services

Data Sharing – Read Property

Data Sharing – Read Property Multiple

Data Sharing – Write Property

Data Sharing – Subscribe cov

Data Sharing – Subscribe cov property (PV only)

Supported BACnet Objects

Device

Analogue input

Analogue values

Binary input

Multi state values

Note The controller does not support segmentation requests or responses

Change of value

This unit supports COV subscriptions on all object present value properties, this includes status flag monitoring. Only analogue objects have COV increment properties. Binary and multistate objects monitor for any change in present value.

Analogue input objects / [Instance] (Default)

Temperature 1 (PV read only) [0] *

Temperature 2 (PV read only) [1] *

Analogue value objects / [Instance] (Default)

Temperature 1 offset [32] (0) *

Temperature 2 offset [33] (0) *

MSTP address [101] (0)

Maximum MSTP address [102] (64)

Device instance [103] (898000)

Binary input objects / [Instance]

Digital input 1 (PV read only) [106]

Digital input 2 (PV read only) [107]

Multistate value objects / [Instance] (Default)

Sensor type [184] (PTC - NI1000-5000)

Baud rate [197] (2 - 38K4)

Object properties

Only properties marked (W) can be written. Present value (PV) properties marked (RO) are read only.

Device object properties

Device instance 898000 (Default)(W)

Vendor name: Annicom Ltd.

Vendor Identifier: 898

Object list: As this list

Model Name: AX-BNTX-2DI-NI

Max ADPU length accepted: 480

Max masters: 64 (Default), 1 to 127. (W)

Segmentation supported: No segmentation

Description: Dual PTC temperature transmitter with 2 digital inputs.

Object Name: Default AX-BNTX-2DI-NI (W)

Object Type: Device

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Input object properties

Analogue Input instance 0

Description: Sensor 1 temperature

Name: Temperature 1

Object Type: Analogue input

Present value: From sensor (RO)

COV increment: 1.0 (W)

Units: Degrees centigrade

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Input instance 1

Description: Sensor 2 temperature

Name: Temperature 2

Object Type: Analogue input

Present value: From sensor (RO)

COV increment: 1.0 (W)

Units: Degrees centigrade

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Value object properties

Analogue Value instance 32

Description: Temperature 1 offset adjustment. This is added to Sensor 1 temperature.

Name: Temperature 1 offset

Object Type: Analogue value

Present value: As set, -10.0 to +10.0. (0.0) (W)

Units: Degrees centigrade

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Value instance 33

Description: Temperature 2 offset adjustment. This is added toe Sensor 2 temperature.

Name: Temperature 2 offset

Object Type: Analogue value

Present value: As set, -10.0 to +10.0. (0.0) (W)

Units: Degrees centigrade

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Value instance 101

Description: Address

Name. Address.

Object Type: Analogue value

Present value: As set , 0 to 127. (16) (W)

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Value instance 102

Description: Maximum address

Name. Maximum address.

Object Type: Analogue value

Present value: As set, 1 to 127. (64) (W)

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Analogue Value instance 103

Description: Device instance

Name. Device instance.

Object Type: Analogue value

Present value: 898000 (Default), 0 to 4194302. (W)

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Binary Input object properties

Binary input instance 106

Description: Digital input 1

Name: Digital input 1

Object Type: Binary input

Present value: As set, Inactive / Active.

Inactive text: Open

Active text: Closed

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Binary input instance 107

Description: Digital input 2

Name: Digital input 2.

Object Type: Binary input

Present value: As set, Inactive / Active.

Inactive text: Open

Active text: Closed

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True

Multistate Value object properties

Multi state value instance 197

Description: MSTP baud rate

Name: MSTP baud rate. (W)

Object Type: Multi state value

Number of states: 6

Present value: As set, 1 to 5. (2) (W)

State 1 text: 19200

State 2 text: 38400

State 3 text: 57600

State 4 text: 76800

State 5 text: 115200

Status flags: In Alarm / Fault / Overridden / Out of Service

Event State: On Normal / Off Normal

Out of Service: False / True