BNET-2310M

Multifunction BACnet/IP I/O module

Features

- Read/Write 4AI, 2AO, 4BI, 4BO via BACnet/IP
- Act as BACnet/IP Server
- Support Web-based configuration
- Support to Import/Export configuration file
- High reliability in harsh environments
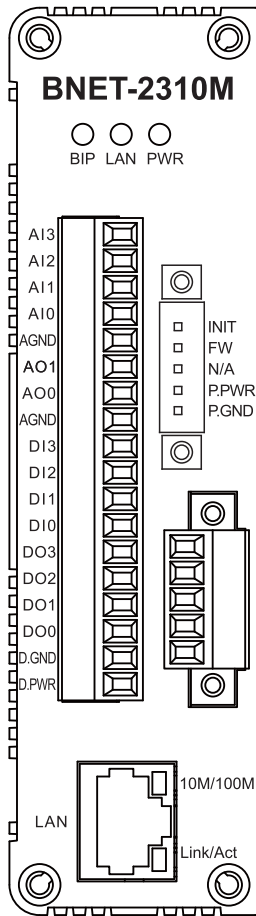- DIN-Rail mountable

Introduction

BACnet (Building Automation and Control Network) is a communication protocol specifically designed for building automation and control systems. It was established by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) in 1995 and has been adopted by the International Organization for Standardization (ISO) as a standard (ISO 16484-5). BACnet aims to enable interoperability between devices from different manufacturers, particularly those involved in Building Management Systems (BMS), such as HVAC, lighting control, security systems, fire alarms, and more. BACnet supports various transmission media, including IP networks, RS-485, ARCNET, and MS/TP (Master-Slave/Token Passing), making it adaptable to different installation environments. Its ability to integrate and manage multiple devices in automation systems has made it one of the most widely used communication protocols in modern smart buildings.

The BNET-2310M is a multifunctional BACnet/IP IO module, featuring 4 AI channels, 2 AO channels, 4 DI channels, and 4 DO channels. The module contains multiple BACnet objects, including Device, AI, AO, BI, and BO, and supports various BIBBS (such as DS-RP-B, DS-RPM-B, DS-WP-B, DS-WPM, DS-COV-B, etc.). The module has a built-in web server, allowing users to easily and securely configure the module remotely via a web interface.

Wire Connections

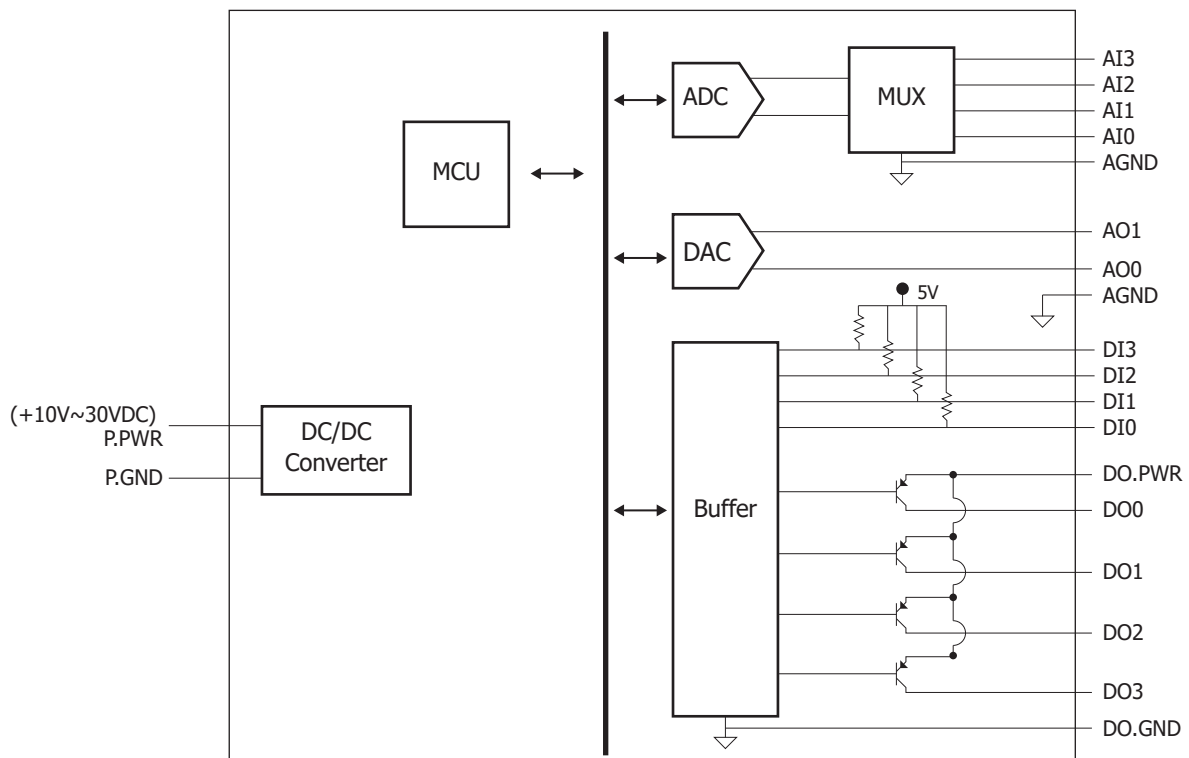| Analog Type | Analog Input | |
	Analog Output	
Digital Input	ON state	
	OFF state	
Digital Output	ON State	
	OFF State	

Pin Assignments

BNET-2310M

BIP   LAN   PWR

AI3
AI2
AI1
AI0
AGND
AO1
AO0
AGND
DI3
DI2
DI1
DI0
DO3
DO2
DO1
DO0
D.GND
D.PWR

INIT
FW
N/A
P.PWR
P.GND

LAN
10M/100M
Link/Act

Power Input & Special functionality	
Pin	Description
INIT	For restoring default account, password, or IP address. Please refer to the user manual
FW	For updating the firmware. Please refer to the user manual
N/A	Don't care
P.PWR	DC Power 10V ~ 30V input
P.GND	DC Power GND

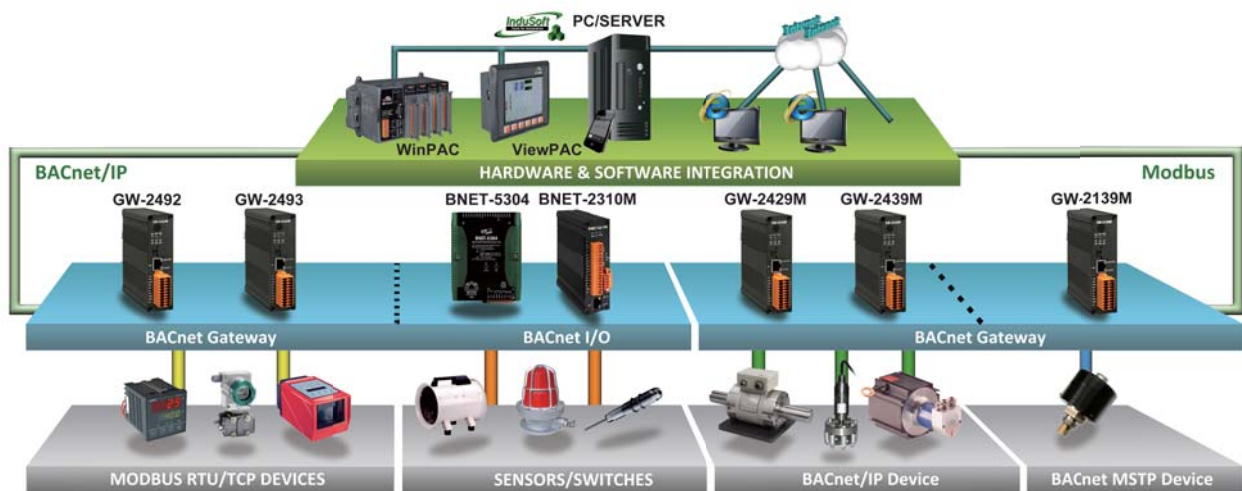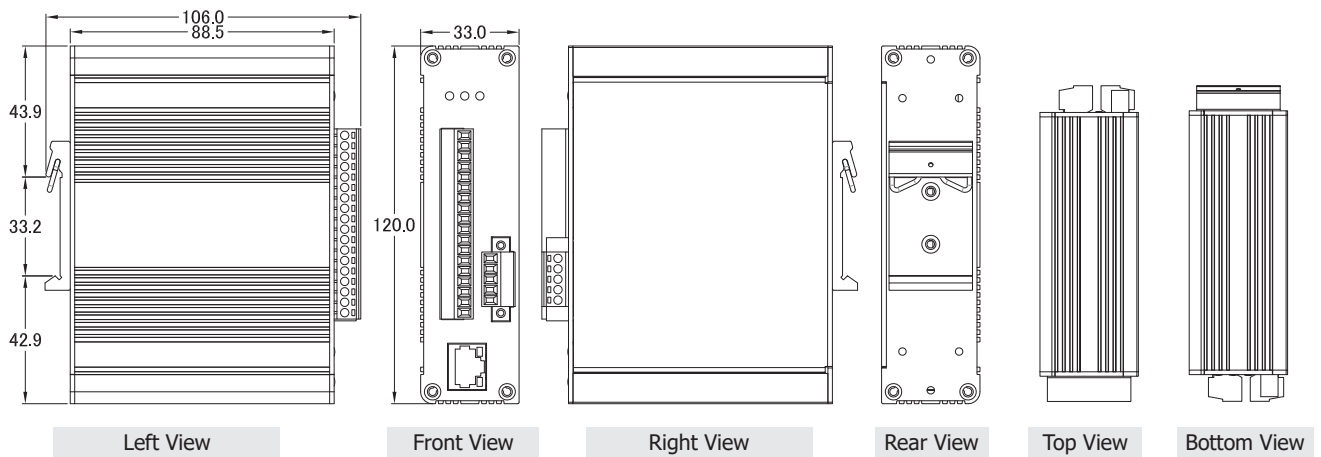| Digital and Analog IO pins	
Pin	Description
AI3	Analog Input 3 +
AI2	Analog Input 2 +
AI1	Analog Input 1 +
AI0	Analog Input 0 +
AGND	Analog Input GND
AO1	Analog Output 1 +
AO0	Analog Output 0 +
AGND	Analog Output GND
DI3	Digital Input 3
DI2	Digital Input 2
DI1	Digital Input 1
DI0	Digital Input 0
DO3	Digital Output 3
DO2	Digital Output 2
DO1	Digital Output 1
DO0	Digital Output 0
D.GND	Power GND for IO
D.PWR	DC 10V~30V for IO

Internal I/O Structure

MCU

ADC — MUX — AI3, AI2, AI1, AI0, AGND

DAC — AO1, AO0, AGND

5V

DI3
DI2
DI1
DI0

Buffer

DO.PWR
DO0
DO1
DO2
DO3
DO.GND

(+10V~30VDC)
P.PWR
P.GND

DC/DC Converter

■ Specifications

System	
Ethernet	10/100 Base-TX
Security	ID and Password
Built-in Watchdog	Yes
LED Indicator	Power, Ethernet and BIP status
Protocol	
BACnet	BACnet/IP Server
BACnet Objects	1 Device, 4 AI, 2 AO, 4 BI, 4 BO
BIBB	DS-RP-B, DS-RPM-B, DS-WP-B, DS-WPM-B, DS-COV-B, DM-DDB-B, DM-DOB-B, DM-DCC-B, DM-TS-B, DM-UTC-B, DM-RD-B
Analog Input	
Channel	4 Single-Ended
Range	±1 V , ±2.5 V, ±5 V, ±10 V,
Resolution	16-bit
Sampling Rate	10Hz
Accuracy	±0.1%
Over Voltage Protection	120 VDC
Individual Channel Configuration	Yes
Analog Output	
Channel	2
Type	Voltage
Range	0 V ~ +5 V, ±5 V, 0 V ~ +10 V, ±10 V
Resolution	12-bit
Accuracy	±0.1%
Voltage Output Capability	20 mA @DC10V
Current Load Resistance	500 Ω
Individual Channel Configuration	Yes
Digital Input	
Channel	4
Type	Dry Contact
Sink/Source	Source(PNP)
On Voltage Level	Close to GND
Off Voltage Level	Open
Overvoltage Protection	60 VDC
Individual Channel Configuration	Yes
Digital Output	
Channel	4
Type	Source(PNP)
Load Voltage	+10 VDC ~ 40 VDC
Max. Load Current	650 mA/channel
Overvoltage Protection	47 VDC
Overload Protection	Yes
Short-circuit Protection	Yes
Environmental	
Dimensions (W x L x D)	33mm x120mm x 106mm
Operating Temp.	-25 ~ +75 °C
Storage Temp.	-30 ~ +85 °C
Humidity	10 ~ 90% RH, Non-condensing
Power Input Range	+10 VDC ~ +30VDC
Power Consumption	3.6W (0.15A @ 24VDC)

📁 Applications

📁 Dimensions (Units: mm)

| Left View | Front View | Right View | Rear View | Top View | Bottom View |

📁 Ordering Information

BNET-2310M CR	Multifunction BACnet/IP I/O module with 4-ch AI, 2-ch AO, 4-ch DI, and 4-ch DO (RoHS)