BIOM Series

BACnet MS/TP Input/Output Field Modules

Features

- Native BACnet MS/TP firmware
- Supporting communication on a RS-485 BACnet MS/TP network
- Field selectable communication baud rate of 9600, 19200, 38400 or 76,800 bps
- Removable screw-type connectors for power connection
- LED indicators for power status, communication status and CPU working status
- Derived network addressing (DNA) for simple integration into a standard network architecture
- Easy-to-mount housing for rack mount or direct mounting.

General

The BIOM Series input/output field modules provide remote inputs/outputs to any native BACnet MS/TP controllers. These field modules, in different configurations, provide various combinations of binary inputs, universal inputs, binary outputs and analog outputs and are capable of communicating directly on a RS-485 BACnet MS/TP network.

The BIOM Series field modules fit a diverse range of application needs where additional inputs and outputs are required or where a small number of points are remotely located and are most suitable for monitoring and control applications for HVAC, electrical and lighting equipment.

When connected on the BACnet MS/TP network, the modules function as independent BACnet MS/TP devices with inputs and outputs accessible over the entire BACnet network.

All binary outputs are volt-free dry contacts provided by relays.

A maximum of 32 devices (a mix of BIOM Series field modules and other BACnet MS/TP devices) can be connected to one RS-485 network segment within a maximum distance of 1,000 m. With a repeater, the number of devices can be extended to a total of 63 and a total distance of 2,000 m. If more than 63 devices are required in the network, a second BACnet MS/TP network trunk must be installed. The MAC address of the BIOM module is set via DIP switches in the unit from 1 to 63. The BACnet device ID address is set as per the BACnet standard through the operating software.

Mounting

The BIOM Series modules can be mounted directly inside a panel or on a surface with 2 or 4 screws or rack-mounted in DIN rail.

Ordering

To order, specify complete model number.

Specifications

Product model number	BIOM-3642	Module with 3 binary inputs, 6 universal inputs, 4 binary outputs and 2 analog outputs
Power requirements	Voltage	24 V 50/60 Hz ±15%, 25 VA
BACnet device profile	BACnet application specific controller (B-ASC)	
Technology	CPU	32-bit ARM at 48M clock
	ROM	256 kB Flash
	RAM	64 kB SRAM
	EEPROM	2 kB
Communication ports	Physical	RS-485
	Baud Rate	Field selectable 9,600, 19,200, 38,400 or 76,800 bps (Factory set 38,400 bps)
	Protocol	BACnet MS/TP
	Indicators	Red LEDs
Device addressing	MAC address set via DIP switches; BACnet device ID via software setup	
Number of devices	63 Maximum (with repeater) in one network trunk	
Binary inputs	3 binary inputs for voltage-free contacts	
Universal inputs	6 universal inputs, supporting: 0-5 VDC, 0-10 VDC, 4-20 mA or 10KΩ@25ºC thermistor, or binary input, jumper selectable	
Binary outputs	4 binary outputs: volt-free dry contacts provided by relays	
Analog outputs	2 analog outputs (0-10 VDC), 10 mA maximum, ±0.5 V accuracy, with current limiting device	
Ambient/storage temperature limits	0 to 55 ^{o}C / -30 to 50 ^{o}C, 10 to 90% RH non-condensing	
Wiring class	Class II for 24 VAC power supply	
Connectors	Removable screw-type terminal connectors	
Power wire	Wire size 1 mm^2 or 18 AWG solid copper recommended	
Communication wire	Balanced 100 to 120 Ω nominal impedance twisted shielded pair (TSP) cable	
Input/Output wire	Twisted shielded pair (TSP) cable	
Agency approval	CE Mark compliant to EMC and Low Voltage Directives and BTL certification pending	
Shipping weights	0.25 kg	
Dimensions	110 x 155 x 20 mm (W x L x D)	

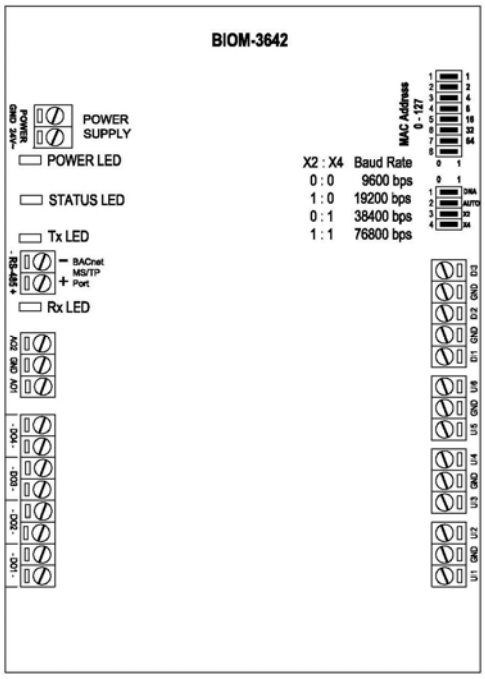
The performance specifications above are nominal and subject to tolerances and application variables of generally acceptable industry standards. The manufacturer shall not be liable for damages resulting from misapplication or misuse of its products.

Tables of Jumper Numbers and Jumper Settings of Universal Inputs

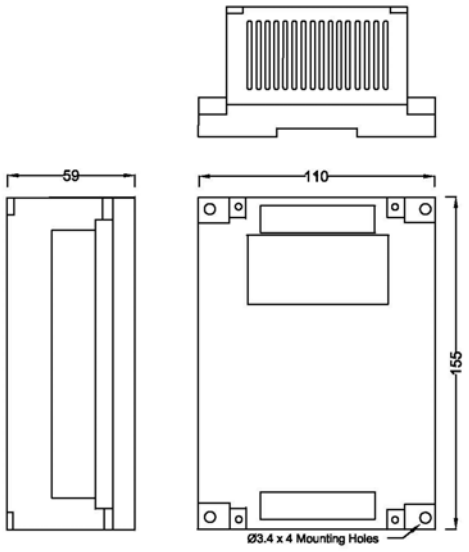
Jumper Number	J7	J8	J30	J24	J23	J25
Universal Input Number	UI1	UI2	UI3	UI4	UI5	UI6

Input Type	Pin Numbers of Universal Input Jumper Settings			
	1 & 2	2 & 3	3 & 4	4 & 5
Analog	4-20 mA	10 KΩ Thermistor	0-5 VDC	0-10 VDC
Others		Binary Input		

Termination and Wiring Diagram



Dimensions in mm



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