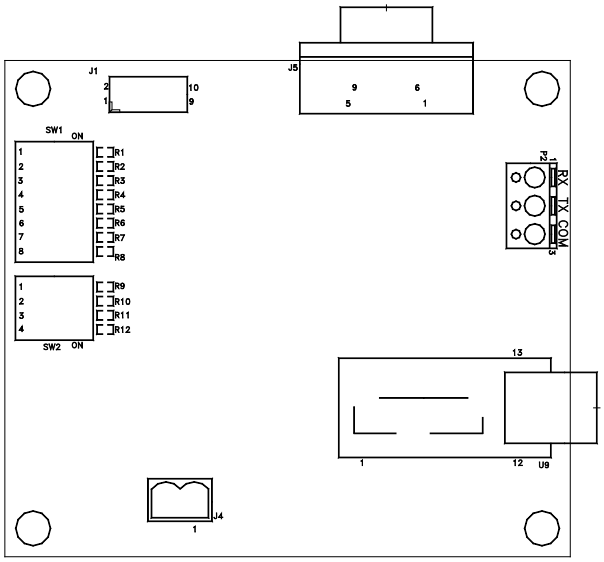
BACnet Communication Option Manual

Single Phase

Series E, EM & IE

Emergency Lighting Central Inverter



Myers Emergency Power Systems
44 South Commerce Way, Bethlehem, PA 18017
1-800-526-5088 • (610) 868-3500 • Fax: (610) 868-8686
Service: (610) 868-5400
www.myerseps.com

Table of Contents

SECTION 1

BACnet Communication Option Board

The BACnet Communication Option Board for the single phase Series E, EM & IE Emergency Lighting Central Inverter has two internal connections, the RS232 communication bus and the input power. There are two external connections, a RS485 output connector and a USB connection that is the computer interface. For detailed operation on the protocol and commands for the computer interface see manual 114063 RS-232 Communications. There are also two dip jumpers that setup the baud rate and address. See Figure 1 for locations of the connections.

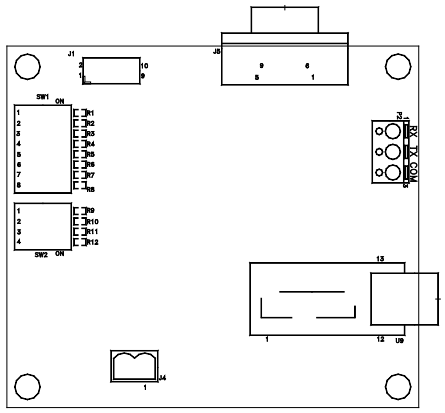


Figure 1 – Outline of BACnet Communication Board.

SECTION 2

Description of Operation

EBI acts as a simple B-ASC server device. It supports a total of 112 Analog Input (AI), 67 Binary Input (BI) and 3 File (FI) objects. EBI is a full MS/TP master device. The MS/TP MAC address is configurable via seven DIP switches, or optionally using a soft-configured MAC address. EBI supports baud rates of 9600, 19200, 38400, 57600 and 115200. The device requires external network biasing and termination resistors when it is used as an end-of-line device. The MS/TP transceiver is optically isolated and the isolated ground is provided along with + and - EIA-485 terminations.

You may configure the Device Object_Name and Object_Identifier and Max_Master by writing to the appropriate Device object properties.

The built-in objects have a mostly fixed configuration of Object_Names, engineering units and state text. AI objects have only required properties. BI objects include fixed Inactive_Text and Active_Text property values, as well as all required properties. Objects BI52 through BI67 correspond to input and output contact statuses. The Object_Name property for these 16 objects are writable.

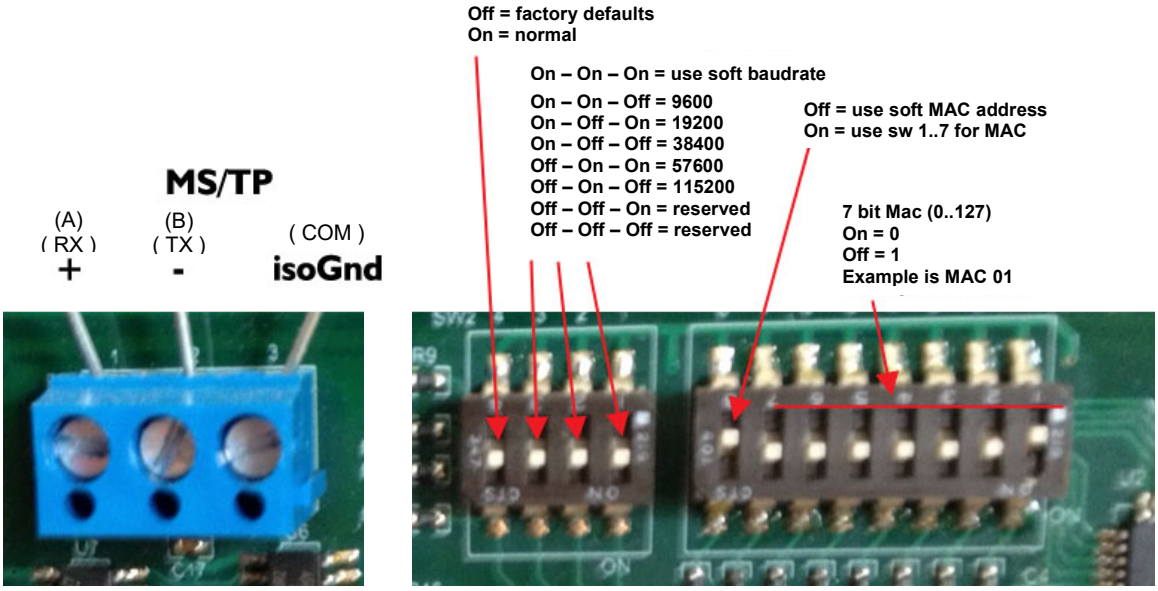
File objects include a writable Archive property. Files are used to access one of three dynamic logs of Alarms, Tests and Events.

SECTION 3

Settings

There are two objects, AV1 and AV2 that will allow the software to change the Baudrate and MAC address respectively. If SW2 is in the ON-ON-ON-ON position upon reset or power on the baud rate can be changed by writing to AV-1; Present_Value through BACnet. The AV1 is not in effect when the right three switches are in any other position than ON. If SW1, switch 8 is in the OFF position upon reset or power on the MAC address can be changed by writing to AV-2; Present_Value through BACnet. The AV2 is not in effect when switch 8 is in the ON position.

Termination, Baudrate and MAC Address:



Factory Defaults:

device.Object_Name	EBI
device.Object_Identifier	Device 560000
device.Max_Master	127
device.MACaddress	01
device.Baudrate	38400
device.Description	
device.Database_Revision	1
BI52.Object_Name	Input Contact Status 1
…	
BI58.Object_Name	Input Contact Status 8
BI59.Object_Name	Output Contact Status 1
…	
BI67.Object_Name	Output Contact Status 8

SECTION 4

Object Summary

objectID	object name	notes
AI1	INPUT VOLTAGE	VAC
AI4	OUTPUT VOLTAGE	VAC
AI7	OUTPUT CURRENT	A AC
AI10	BATTERY VOLTAGE	V
AI11	AMBIENT TEMPERATURE	°C
AI12	OUTPUT VA (TOTAL)	VA
AI13	OUTPUT VA	VA
AI16	SYSTEM DAYS	days (0..65535)
AI17	UPS RUN TIME	min (0..65535)
AI25	BATTERY CURRENT	A DC
BI1	SYSTEM READY STATUS	1=ready
BI2	AC LINE PRESENT STATUS	1=present
BI3	BATTERY CHARGING STATUS	1=charging
BI4	BATTERY POWER STATUS	1=battery power
BI19	Overload	0=normal 1=alarm
BI24	Input not Present	0=normal 1=alarm
BI26	Battery Low	0=normal 1=alarm
BI28	High Ambient Temperature	0=normal 1=alarm
BI30	Over Temperature	0=normal 1=alarm
BI33	Overload Shutdown	0=normal 1=alarm
BI39	Input Voltage Low	0=normal 1=alarm
BI40	Input Voltage High	0=normal 1=alarm
BI43	Battery Charger	0=normal 1=alarm
BI44	Inverter Failure	0=normal 1=alarm
BI45	Near Low Battery	0=normal 1=alarm
BI46	Load Reduction	0=normal 1=alarm
BI48	Runtime Failure	0=normal 1=alarm
FI1	AlarmLog	
FI2	EventLog	
FI3	TestLog	

SECTION 5

Protocol Implementation

Vendor Name:	**Myers Power Products**, **Inc.**
Product Name:	**EBI**
Product Model Number:	**PCB404303P00**
Applications Software Version:	**v2.00**
Firmware Revision:	**v1.02**
BACnet Protocol Revision:	**12**

BACnet Standardized Device Profile (Annex L)

EBI is capable of supporting the B-ASC profile and lower.

BACnet Interoperability Building Blocks Supported (Annex K)

DM-DDB-B, DM-DCC-B, DM-DOB-B,DM-TS-B, DM-RD-B, DS-RP-B, DS-WP-B

Segmentation Capability

EBI does not support segmentation.

Standard Object Types Supported

No object types may be dynamically created or deleted.
EBI supports the following object types:
Analog Input, Binary Input, Device and File.
Optional Properties Supported:

Device	OBJECT_NAME	writable	32 chars
	OBJECT_IDENTIFIER	writable	
	DESCRIPTION	writable	64 chars
Binary Input	INACTIVE_TEXT	read-only	
	ACTIVE_TEXT	read-only	
BI52..BI67	OBJECT_NAME	writable	32 chars
File	ARCHIVE	writable	

Data Link Layer Options

MS/TP master (Clause 9): 9600, 19200, 38400, 57600, and 115200 baud

Device Address Binding

Static binding is not supported.

Networking Options

EBI does not provide router or Annex H tunneling or BBMD functionality.

Character Sets Supported

UTF-8