BACNET
COMMUNICATION
OPTION MANUAL

175W - 750W SINGLE PHASE

Series LV

EMERGENCY LIGHTING CENTRAL INVERTER
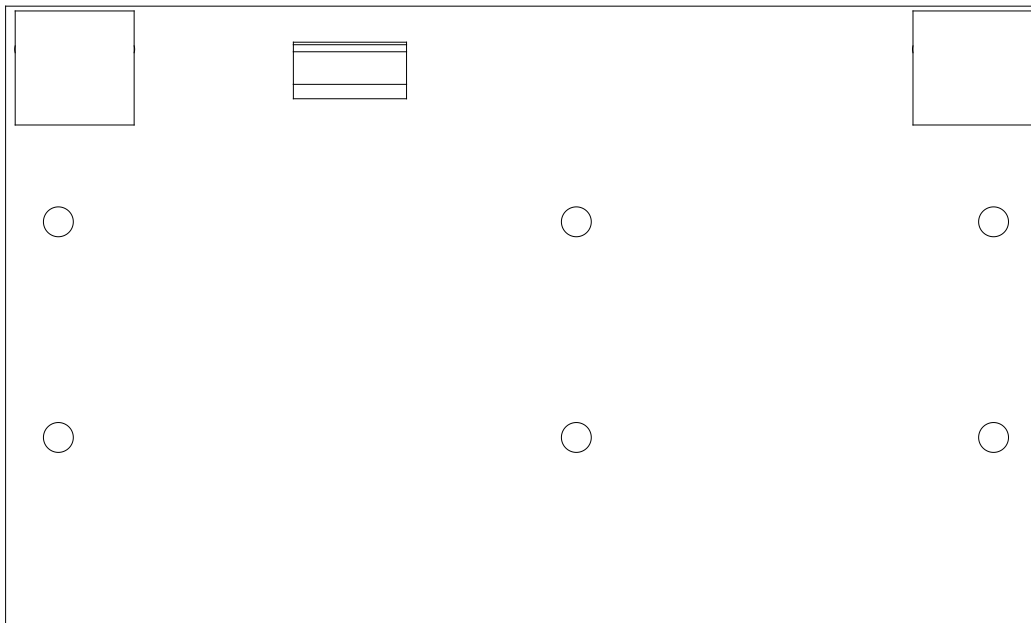
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SECTION 1

BACnet Communication Option Board

      The BACnet Communication Option Board for the Series LV Emergency Lighting Central Inverter has two internal connections, the RS485 communication bus, one external connection, a RS485 output connector, and dip jumpers that setup the baud rate and address. See Figure 1 for locations of the connections.
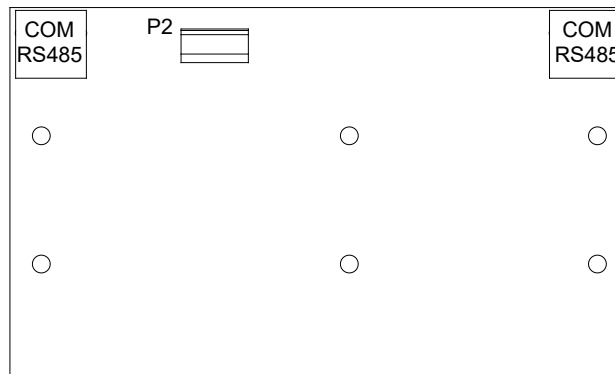

Figure 1 – Outline of BACnet Communication Board.

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:
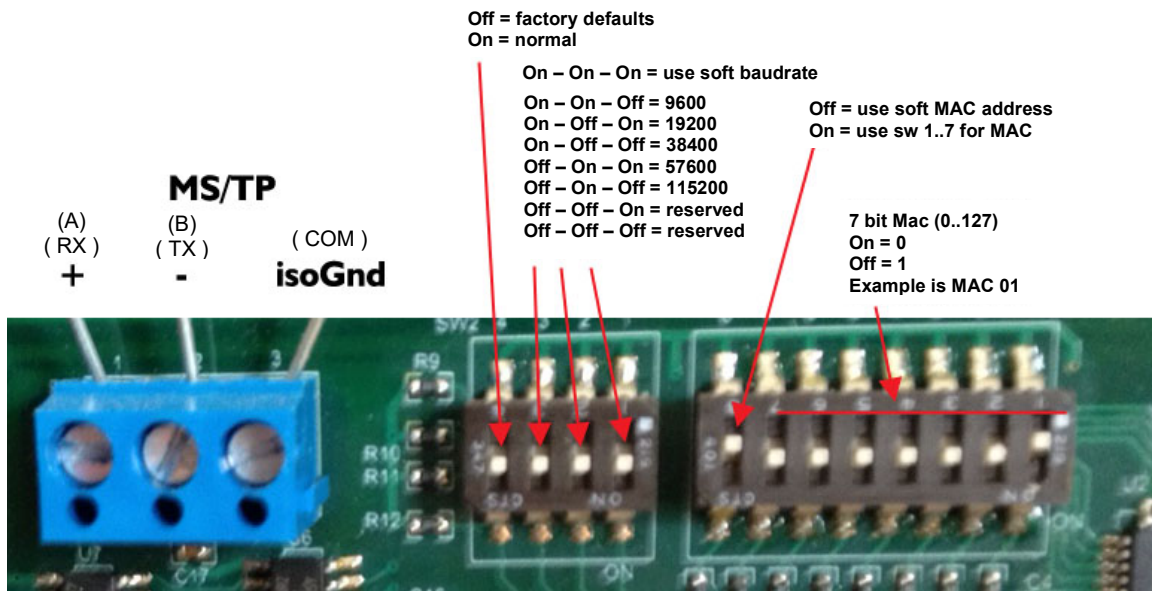
Factory Defaults:

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 PHASE 1	VAC
AI4	OUTPUT VOLTAGE PHASE 1	VAC
AI7	OUTPUT CURRENT PHASE 1	A AC
AI10	BATTERY VOLTAGE	V
AI11	AMBIENT TEMPERATURE	°C
AI16	SYSTEM DAYS	days (0..65535)
AI17	UPS RUN TIME	min (0..65535)
AI18	INPUT CURRENT PHASE 1	A AC
AI21	INPUT FREQUENCY	Hz
AI23	BATTERY TEMPERATURE	°C
AI24	HEATSINK TEMPERATURE	°C
AI25	BATTERY CURRENT	A DC
AI27	UPS EVENTS	no units (0..65536)
BI3	BATTERY CHARGING STATUS	1=charging
BI4	BATTERY POWER STATUS	1=battery power
BI6	NORMALLY OFF ACTIVE	1=Normally Off Active
BI7	ON UTILITY	1=Utility Powering Load
BI8	SHUTDOWN	1=Shutdown Mode Active
BI9	STANDBY	1=Unit is in Standby
BI10	BATTERY CHARGING BULK	1=Bulk Charging Mode
BI11	BATTERY CHARGING ABSORPTION	1=Absorption Charging Mode
BI12	BATTERY CHARGING FLOAT	1=Float Charging Mode
BI13	MONTHLY TEST	1=Monthly Test Active
BI14	YEARLY TEST	1=Yearly Test Active
BI15	MANUAL TEST	1=Manual Test Active
BI16	LOAD REDUCTION CALIBRATION	1=Load Reduction Calibration Active
BI19	Short Circuit	0=normal 1=alarm
BI20	Overcurrent	0=normal 1=alarm
BI21	Low Voltage Disconnect	0=normal 1=alarm
BI22	Heatsink Over Temp	0=normal 1=alarm
BI23	Input Fuse Failed	0=normal 1=alarm
BI24	Input not Present	0=normal 1=alarm
BI25	Input fuse Failed	0=normal 1=alarm
BI26	Battery Low	0=normal 1=alarm
BI27	RTC Error	0=normal 1=alarm
BI28	High Ambient Temperature	0=normal 1=alarm
BI29	Low Ambient Temperature	0=normal 1=alarm
BI30	High Battery Temperature	0=normal 1=alarm

Object Summary (con't)

objectID	object name	notes
BI31	Low Battery Temperature	0=normal 1=alarm
BI32	Overload	0=normal 1=alarm
BI34	Battery Not Connected	0=normal 1=alarm
BI35	Battery Probe Not Connected	0=normal 1=alarm
BI36	PLL Error	0=normal 1=alarm
BI37	Input Frequency Low	0=normal 1=alarm
BI38	Input Frequency High	0=normal 1=alarm
BI39	Input Voltage Low	0=normal 1=alarm
BI40	Input Voltage High	0=normal 1=alarm
BI41	Output Voltage Low	0=normal 1=alarm
BI42	Output Voltage High	0=normal 1=alarm
BI43	Battery Charger	0=normal 1=alarm
BI46	Load Reduction	0=normal 1=alarm
BI49	Summary Contact	0=normal 1=alarm
BI50	Year Test failed	0=normal 1=alarm
BI51	Month Test Failed	0=normal 1=alarm
BI52*	Input Contact Status 1	0=normal 1=active
BI53*	Input Contact Status 2	0=normal 1=active
BI54*	Input Contact Status 3	0=normal 1=active
BI55*	Input Contact Status 4	0=normal 1=active
BI56*	Input Contact Status 5	0=normal 1=active
BI57*	Input Contact Status 6	0=normal 1=active
BI58*	Input Contact Status 7	0=normal 1=active
BI59*	Input Contact Status 8	0=normal 1=active
BI60*	Output Contact Status 1	0=normal 1=active
BI61*	Output Contact Status 2	0=normal 1=active
BI62*	Output Contact Status 3	0=normal 1=active
BI63*	Output Contact Status 4	0=normal 1=active
BI64*	Output Contact Status 5	0=normal 1=active
BI65*	Output Contact Status 6	0=normal 1=active
BI66*	Output Contact Status 7	0=normal 1=active
BI67*	Output Contact Status 8	0=normal 1=active
FI1	AlarmLog	
FI3	TestLog	

* Object_Name is writable for these objects.

SECTION 5

Protocol Implementation

Vendor Name: **Myers Power Products**, **Inc.**
Product Name: **EBI**
Product Model Number: **PCB404303P00**
Applications Software Version: **v2.00**
Firmware Revision: **v1.07**
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