Date: June 21, 2017
Vendor Name: Blue Ridge Technologies International
Product Name: Essentials
Product Model Number: ZCxx, RPxx, RPxx08, CMxx-T-D, CMxx-T (xx – non BACnet related feature set)
Application Software Version: 2.3.3   **Firmware Revision:** 2.3.3   **BACnet Protocol Revision:** 1.13

Product Description:

The Essentials Controller Board is a general-purpose lighting controller used across the Blue Ridge Technologies product line. This product supports native BACnet connecting directly to the MS/TP LAN. All standard MS/TP baud rates are supported. All B-ASC required objects are supported. The quantities of each object available are dependent upon factory configuration since this Essentials Controller Board can be provided in products with differing lighting zone and channel capacities.

BACnet Standardized Device Profile (Annex L):

☐ **BACnet Operator Workstation (B-OWS)**
☐ **BACnet Advanced Operator Workstation (B-AWS)**
☐ **BACnet Operator Display (B-OD)**
☐ **BACnet Building Controller (B-BC)**
☐ **BACnet Advanced Application Controller (B-AAC)**
☒ **BACnet Application Specific Controller (B-ASC)**
☐ **BACnet Smart Sensor (B-SS)**
☐ **BACnet Smart Actuator (B-SA)**

List all BACnet Interoperability Building Blocks Supported (Annex K): DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B, DM-DCC-B, DM-TS-B, DM-UTC-B

Segmentation Capability:

☐ Able to transmit segmented messages   Window Size _____
☐ Able to receive segmented messages   Window Size _____

Standard Object Types Supported:

Objects are not creatable nor deletable using the CreateObject or the DeleteObject services.

Object/Property Support Matrix

The following table summarizes the Object Types/Properties supported:

Property	Object Type			
	Device	Binary Value	Analog Value	Multi State Value
Object_Identifier	X	X	X	X
Object_Name	X	X	X	X
Object_Type	X	X	X	X
System_Status	X			
Verdor_Name	X			
Vendor_Identifier	X			
Model_Name	X			
Firmware_Revision	X			
Application_Software_Version	X			
Protocol_Version	X			
Protocol_Revision	X			
Protocol_Services_Supported	X			
Object_Types_Supported	X			
Object_List	X			
Description	X			
Max_APDU_Length_Accepted	X			
Segmentation_Supported	X			
Local_Time	X			
Local_Date	X			
UTC_Offset	X			
Daylight_Savings_Status	X			
APDU_Timeout	X			
Number_Of_APDU_Retries	X			
Max_Master	X			
Max_Info_Frames	X			
Device_Address_Binding	X			
Database_Revision	X			
Present_Value		X	X	X
Status_Flags		X	X	X
Event_State		X	X	X
Out_Of_Service		X	X	X
Number_Of_States				X
State_Text				X
Priority_Array		X*	X*	X*
Relinquish_Default		X*	X*	X*
Units			X	
Out_Of_Service		X	X	X

* For commandable values only.

Device Object Summary

The following table summarizes the Device Object supported (nnnn – device name, aaa – device instance):

Instance ID	Object Name
132aaa	nnnn_DEVICE_OBJECT_132aaa

Binary Value Instance Summary

The following table summarizes the Binary Value Objects supported (ss – slot, xx - instance, zz – zone and cc - channel):

Instance ID	Object Name	Description	Present Value Access Type
100ssxx	DIGITAL_INPUT_100ssxx	Indicates the status of a binary input, either on or off.	R
110ssxx	LOAD_STATUS_110ssxx	Indicates whether a given load relay is open or closed. On indicates the relay is closed. Off indicates the relay is open.	R
120ssxx	LINE_VOLTAGE_INPUT_120ssxx	Indicates the status of a line voltage input, either on or off.	R
200zzcc	CHANNEL_STATUS_200zzcc	Indicates the status of a Channel, either lights on or lights off.	R
300zz00	RUN_COMMAND_300zz00	Controls mode of operation. On is when occupants are expected present. Off when occupants are expected not present.	C
321zzcc	EMERGENCY_OVERRIDE_321zzcc	Used to command the Channel to Emergency Override mode. Value of 0 indicates no override. Value of 1 indicates override. Override takes precedence over all sequential logic except manual lock.	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable, C = Commandable. Commandable values support priority arrays and relinquish defaults.

Analog Value Instance Summary

The following table summarizes the Analog Value Objects supported (ss - slot, xx - instance, zz = zone and cc - channel):

Instance ID	Object Name	Description	Units	Present Value Access Type
100ssxx	ANALOG_INPUT_100ssxx	Indicates the status value of an analog input.		R
201zzcc	CHANNEL_LEVEL_201zzcc	Indicates the lighting output level for a channel.	Percent	
210zzcc	OCC_TIMER_OCC_MODE_210zzcc	Timer value used to count down time during occupied mode as occupancy timer times out.	Minutes	C
211zzcc	OCC_TIMER_UNOCC_MODE_211zzcc	Timer value used to count down time during unoccupied mode as occupancy timer times out.	Minutes	C
212zzcc	TIMER_UNOCC_212zzcc	Timer value in minutes used to count down time when override is initiated by the space occupant during Unoccupied Mode.	Minutes	C
213zzcc	TIMER_OCC_213zzcc	Timer value in minutes used to count down time when override is initiated by the space occupant during Occupied Mode.	Minutes	C
220zzcc	DAY_HARVEST_SETPT_220zzcc	Daylight harvesting setpoint.	Foot Candles	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable, C = Commandable. Commandable values support priority arrays and relinquish defaults.

Demand Response Level

The following table summarizes the Demand Response Levels supported (zz - zone and cc - channel):

Instance ID	Object Name	Description	Date_List Access Type
320zzcc	DEMAND_RESPONSE_LEVEL_320zzcc	Demand Response Level	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable, C = Commandable. Commandable values support priority arrays and relinquish defaults.

Occupied/Unoccupied Mode Source Instance Summary

The following table summarizes the Occupied/Unoccupied Mode Sources supported (zz - zone and cc - channel):

Instance ID	Object Name	Description	Date_List Access Type
330zzcc	OCCUNOCC_MODE_SOURCE_330zzcc	Occupied/Unoccupied mode	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable, C = Commandable. Commandable values support priority arrays and relinquish defaults.

Virtual Station Instance Summary

The following table summarizes the Virtual Stations supported (ttt – station address and b - button):

Instance ID	Object Name	Description	Date_List Access Type
340tttb	VS_ON_OFF_340tttb	Virtual Station On/Off	C
341tttb	VS_BUTTON_INDICATOR_341tttb	Virtual Station Indicator LED	R
342tttb	VS_LEVEL_EST_342tttb	Virtual Station Level Set	C

NOTE: For Present Value Access Types, R = Read-only, W = Writeable, C = Commandable. Commandable values support priority arrays and relinquish defaults.

Data Link Layer Options:

☐ BACnet IP, (Annex J)
☐ BACnet IP, (Annex J), Foreign Device
☐ ISO 8802-3, Ethernet (Clause 7)
☐ ATA 878.1, 2.5 Mb. ARCNET (Clause 8)
☐ ATA 878.1, EIA-485 ARCNET (Clause 8), baud rate(s) _____
X MS/TP master (Clause 9), baud rate(s): 9600, 19200, 38400, 57600, 76800, 115200
☐ MS/TP slave (Clause 9), baud rate(s): _____
☐ Point-To-Point, EIA 232 (Clause 10), baud rate(s):_____
☐ Point-To-Point, modem, (Clause 10), baud rate(s): _____
☐ LonTalk, (Clause 11), medium: _____
☐ BACnet/ZigBee (ANNEX O)
☐ Other: _____

Device Address Binding:

Is static device binding supported? (This is currently necessary for two-way communication with MS/TP slaves and certain other devices.) ☐ Yes   X No

Networking Options:

☐ Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
☐ Annex H, BACnet Tunneling Router over IP
☐ BACnet/IP Broadcast Management Device (BBMD)
      Does the BBMD support registrations by Foreign Devices?   ☐ Yes ☐ No
      Does the BBMD support network address translation?   ☐ Yes ☐ No

Network Security Options:

X Non-secure Device - is capable of operating without BACnet Network Security
☐ Secure Device - is capable of using BACnet Network Security (NS-SD BIBB)
    ☐ Multiple Application-Specific Keys:
    ☐ Supports encryption (NS-ED BIBB)
    ☐ Key Server (NS-KS BIBB)

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

X ISO 10646 (UTF-8)	☐ IBM™/Microsoft™ DBCS	☐ ISO 8859-1
☐ ISO 10646 (UCS-2)	☐ ISO 10646 (UCS-4)	☐ JIS X 0208

If this product is a communication gateway, describe the types of non-BACnet equipment/networks(s) that the gateway supports:

_____
_____
_____