

BACnet Protocol Implementation Conformance Statement – Annex A

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Vendor Name: TECHNOLOGIES BACMOVE INC.

Product Name: DALION BACnet DALI Lighting Controller

Product Model Number: DALION-4

Application Software Version: 1.10.0

Firmware Revision: 1.10.0

BACnet Protocol Revision: 10

Product Description:

The DALION controller allows bidirectional communication between DALI devices (Digital Addressable Lighting Interface) and BACnet systems. It integrates many functionalities to ease the installation of DALI systems with BACnet networks. The DALION-4 gateway is equipped with four independent DALI channels. DALION can control up to 256 DALI devices. This is 64 devices with 16 groups and 16 scenes per channel. The BACnet/IP protocol uses the Ethernet interface to communicate. DALI's channels, groups, lamps, and scenes are accessible through BACnet standard objects such as Analog Output, Analog Input, Multi-State Output, etc. The DALION commissioning and configurations are performed via an integrated and responsive web interface.

BACnet Standardized Device Profile (Annex L):

N/A

List all BACnet Interoperability Building Blocks Supported (Annex K):

- Data Sharing-ReadProperty-B (DS-RP-B)
- Data Sharing-ReadPropertyMultiple-B (DS-RPM-B)
- Data Sharing-WriteProperty-B (DS-WP-B)
- Data Sharing-COV-B (DS-COV-B)
- Alarm and Event-Alarm Summary-B (AE-ASUM-B)
- Alarm and Event-Information-B (AE-INFO-B)
- Device Management-Dynamic Device Binding-B (DM-DDB-B)
- Device Management-DeviceCommunicationControl-B (DM-DCC-B)
- Device Management-ReinitializeDevice-B (DM-RD-B)

Segmentation Capability:

N/A

Standard Object Types Supported:

Device

Objects cannot be dynamically created or deleted using the CreateObject and DeleteObject services

Analog Output

Control of Lamp, Group, and Channel

List of proprietary properties and for each its property identifier, datatype, and meaning

<i>Name</i>	<i>Identifier</i>	<i>Datatype</i>	<i>Description</i>
Power_On_Level	512	REAL	W Only available for Lamp objects, it represents the DALI variable "POWER ON LEVEL" of the DALI lamp. A value of NaN represents the DALI "MASK"

				value.
System_Failure_Level	513	REAL	W	Only available for Lamp objects, it represents the DALI variable "SYSTEM FAILURE LEVEL" of the DALI lamp. A value of NaN represents the DALI "MASK" value.
Fade_Time	514	REAL	W	Only available for Lamp objects, it represents the DALI variable "FADE TIME" in seconds for the DALI lamp.
Ramp_Rate	515	REAL	W	Only available for Lamp objects, it represents the DALI variable "FADE RATE" in percent per second for the DALI lamp.
Min_Level	516	REAL	W	Only available for Lamp objects, it represents the DALI variable "MIN LEVEL" of the DALI lamp.
Groups	517	BIT STRING		Only available for Lamp objects, it represents the DALI variables "GROUP_0_8" and "GROUP_9_15" concatenated in a 16-bit.
Dim_Mode	520	Enumerated	W	Indicates if fading (0) or ramping (1) is used when controlling the light intensity with the Present_Value.
Colour_Temp	567	REAL	W	For DALI Type 8 (DT8) lamps, whose colour control is colour temperature Tc, the current colour in Kelvin (K) can be modified. The objects for lamps, groups and channels can modify the colour temperature of lamps.
Command	900	Unsigned	W	Allows to execute commands on the lamps.
Colour_Type	8000	Enumerated	W	The current or requested colour control type.
Colour_XYC_X	8010	REAL	W	For DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate, the x-coordinate of the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.
Colour_XYC_Y	8011	REAL	W	For DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate, the y-coordinate of the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.
Colour_TC_TC	8020	REAL	W	For DALI Type 8 (DT8) lamps, whose colour control is colour

				<i>temperature Tc, the current colour temperature can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P0	8030	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P1	8031	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P2	8032	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P3	8033	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P4	8034	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_PN_P5	8035	REAL	W	<i>For DALI Type 8 (DT8) lamps, whose colour control is primary N, the current colour can be modified. The objects for lamps, groups and channels can modify the colour of lamps.</i>
Colour_RGBWAF_RED	8040	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current red colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>
Colour_RGBWAF_GREEN	8041	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current green colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>

<i>Colour_RGBWAF_BLUE</i>	8042	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current blue colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>
<i>Colour_RGBWAF_WHITE</i>	8043	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current white colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>
<i>Colour_RGBWAF_AMBER</i>	8044	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current amber colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>
<i>Colour_RGBWAF_FREECOLOUR</i>	8045	REAL	W	<i>For the lamps DALI Type 8 (DT8), whose colour control is RGBWAF, the current freecolour colour can be modified. The objects for lamps, groups and channels can modify lamp colour.</i>

Analog Input**Feedback of Lamp, Group, and Channel**

List of proprietary properties and for each its property identifier, datatype, and meaning

<i>Name</i>	<i>Identifier</i>	<i>Datatype</i>		<i>Description</i>
<i>Channel_Battery_Failure</i>	532	BIT STRING	R	<i>Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a battery failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a battery failure is reported by a lamp, its associated bit is set.</i>
<i>Channel_Function_Test_Failure</i>	533	BIT STRING	R	<i>Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a function test failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a function test failure is reported by a</i>

<i>Channel_Duration_Test_Failure</i>	534	<i>BIT STRING</i>	R	<i>lamp, its associated bit is set. Only available for channel objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a duration test failure. Each 64 lamps of the channel are one bit of the 64-bit BIT STRING. When a duration test failure is reported by a lamp, its associated bit is set.</i>
<i>Emergency_Battery_Failure</i>	1000	<i>BOOLEAN</i>	R	<i>Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a battery failure. When a battery failure is reported by the lamp, the value is true.</i>
<i>Emergency_Function_Test_Failure</i>	1001	<i>BOOLEAN</i>	R	<i>Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a function test failure. When a function test failure is reported by the lamp, the value is true.</i>
<i>Emergency_Duration_Test_Failure</i>	1002	<i>BOOLEAN</i>	R	<i>Only available for lamp objects, this property indicates whether a “Self-contained emergency lighting (device type 1)” is reporting a duration test failure. When a duration test failure is reported by the lamp, the value is true.</i>
<i>Colour_Type</i>	8000	<i>Enumerated</i>	R	<i>The current or requested colour control type.</i>
<i>Colour_XYC_X</i>	8010	<i>REAL</i>	R	<i>The current x-coordinate value of DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate.</i>
<i>Colour_XYC_Y</i>	8011	<i>REAL</i>	R	<i>The current y-coordinate value of DALI Type 8 (DT8) lamps, whose colour control is xy-Coordinate.</i>
<i>Colour_TC_TC</i>	8020	<i>REAL</i>	R	<i>The current colour temperature of DALI Type 8 (DT8) lamps, whose colour control is colour temperature Tc.</i>
<i>Colour_PN_P0</i>	8030	<i>REAL</i>	R	<i>The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.</i>
<i>Colour_PN_P1</i>	8031	<i>REAL</i>	R	<i>The current primary N value of DALI Type 8 (DT8) lamps,</i>

				<i>whose colour control is primary N.</i>
Colour_PN_P2	8032	REAL	R	<i>The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.</i>
Colour_PN_P3	8033	REAL	R	<i>The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.</i>
Colour_PN_P4	8034	REAL	R	<i>The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.</i>
Colour_PN_P5	8035	REAL	R	<i>The current primary N value of DALI Type 8 (DT8) lamps, whose colour control is primary N.</i>
Colour_RGBWAF_RED	8040	REAL	R	<i>The current red value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.</i>
Colour_RGBWAF_GREEN	8041	REAL	R	<i>The current green value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.</i>
Colour_RGBWAF_BLUE	8042	REAL	R	<i>The current blue value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.</i>
Colour_RGBWAF_WHITE	8043	REAL	R	<i>The current white value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.</i>
Colour_RGBWAF_AMBER	8044	REAL	R	<i>The current amber value of DALI Type 8 (DT8) lamps, whose colour control is RGBWAF.</i>
Colour_RGBWAF_FREECOLOUR	8045	REAL	R	<i>The current freecolour of DALI type 8 (DT8) lamps, whose colour control is RGBWAF.</i>

Analog Input**Light Sensor***Only non-proprietary properties.***Binary Input****Occupancy Sensors***Only non-proprietary properties.***Multi-State Output****Scene Control of Group and Channel***Only non-proprietary properties.***Multi-State Input**

Scene Feedback of Group and Channel

Only non-proprietary properties.

Notification Class

Only non-proprietary properties.

Schedule

Only non-proprietary properties.

File

Only non-proprietary properties.

Data Link Layer Options:

- BACnet IP, (Annex J)
- BACnet IP, (Annex J), Foreign Device

Device Address Binding:

Is static device binding supported? Yes No

Networking Options:

N/A

Network Security Options:

- Non-secure Device - is capable of operating without BACnet Network Security

Character Sets Supported:

- ANSI X3.4

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

The DALION controller allows bidirectional communication between DALI devices (Digital Addressable Lighting Interface, IEC 62386) and BACnet systems.