WattStopper®

Tech Bulletin

Native BACnet communication:
LMBC-300 Network Bridge and programmable BACnet objects

Topic: Digital Lighting Management and BACnet   **Issue:** # TB175.3   **Date:** August 20, 2012

System integrators can quickly and easily incorporate new or existing Digital Lighting Management (DLM) systems into BACnet MS/TP networks by incorporating a Network Bridge into each DLM local network. The bridge adds BACnet communication to the local network. It may be used with LMRC-100 Series Room Controllers for projects that do not require current monitoring or dimming capability, or with LMRC-2xx Series Room Controllers for projects requiring current monitoring or dimming.

LMBC-300 Network Bridge

The LMBC-300 Network Bridge module connects to a DLM local network using an LMRJ cable. The Network Bridge automatically inventories the local network and presents readable and writable device parameters as standard BACnet objects (see object list below).

The LMBC-300 is a standard MS/TP master device. The MS/TP MAC address is automatically configured through arbitration with other devices on the network, however this is a writable parameter. The factory default baud rate is 38,400. The factory default device ID is the last six digits of the LMBC-300's serial number. The device instance, description property and location properties are also writable.

BACnet Object List (firmware release v6.01)

Object Instance	Object Alias	Object Function
BO1 - BO64	Loads 1-64, state	Relay state, internally linked to the Analog Output objects by the trip point parameter. Relay is ON above trip point and OFF below trip point. Default trip point is 50% for LMRC-100 Series room controllers and 1% for LMRC-200 and -300 Series room controllers.
AO1 - AO64	Loads 1-64, level	Dimming level, internally linked to the Binary Output objects by the trip point parameter. Range = 0 to100%.
AV501 - 548	Electrical current	Read total current flowing through the room controller in amps, for room controller 1 to 48.
AV401 - 448	Input voltage	Per room controller, written by the user, default is 0.
AV1 - AV48	Wattage	Calculated based on the input voltage and measured current for room controller 1 to 48.
BI101 - BI4808	Button state	Read button state for 1 to 8 buttons per switch for 1 to 48 switches.
BI1-BI48	Detection state	Occupancy sensor detection state. Active = occupied.
AV101 -AV148	Occupancy sensor 1-48, time delay	For occupancy sensor 1 to 48 in seconds, 0 to 30 minutes.
AV201 - AV248	Occupancy sensor 1-48, PIR sensitivity	Per PIR (passive infrared) sensor, 0 to 100% in percent, 10% resolution.
AV301 - AV348	Occupancy sensor 1-48, ultrasonic sensitivity	Per ultrasonic sensor, 0 to 100% in percent, 10% resolution.

A Group brand | Ľlegrand®

WattStopper • 2800 De La Cruz Blvd • Santa Clara CA 95050 • 800.879.8585 • www.wattstopper.com

BACnet Object List, continued (firmware release v6.01)

Object Instance	Object Alias	Object Function
AI4001-AI4048	Daylight sensor 1-48, light level	Interior footcandle level as read by LMLS-400 daylight sensor 1 to 48.
AI5001-AI5048	Daylight sensor 1-48, light level	Interior footcandle level as read by LMLS-500 daylight sensor 1 to 48.
AV4101-AV4148	Daylight sensor 1-48, ramp up rate	For LMLS-400 daylight sensor 1 to 48, ramp up rate. Default is 20% per second, writable in the range of 1% to 100 % per second.
AV4201-AV4248	Daylight sensor 1-48, day setpoint	For LMLS-400 daylight sensor 1 to 48, day setpoint. Default is 50 footcandles, writable in the range of 1 to 255 footcandles.
AV4301-AV4348	Daylight sensor 1-48, night setpoint	For LMLS-400 daylight sensor 1 to 48, night setpoint. Default is 10 footcandles, writable in the range of 2 to 255 footcandles.
AV4401-AV4448	Daylight sensor 1-48, off time delay	For LMLS-400 daylight sensor 1 to 48, off time delay. Default is 20 seconds, writable in the range of 3 to 30 seconds.
AV4501-AV4548	Daylight sensor 1-48, on setpoint	For LMLS-400 daylight sensor 1 to 48, on setpoint. Default is 7.5 foot-candles, writable in the range of 1 to 3000 footcandles.
AV4601-AV4648	Daylight sensor 1-48, off setpoint	For LMLS-400 daylight sensor 1 to 48, off setpoint. Default is 11 foot-candles, writable in the range of 1.5 to 6000 footcandles.
AV5101-AV5148	Daylight sensor 1-48, zone 1 setpoint	For LMLS-500 daylight sensor 1 to 48, target setpoint for zone 1. Writable in the range of 1 to 200 footcandles.
AV5201-AV5248	Daylight sensor 1-48, zone 2 setpoint	For LMLS-500 daylight sensor 1 to 48, target setpoint for zone 2. Writable in the range of 1 to 200 footcandles.
AV5301-AV5348	Daylight sensor 1-48, zone 3 setpoint	For LMLS-500 daylight sensor 1 to 48, target setpoint for zone 2. Writable in the range of 1 to 200 footcandles.
AV601-AV664	Loads 1-64, demand response cap level	Maximum dimming level for load during a demand response (shed) event. 100 = disabled.
MV4001-MV4048	Daylight sensor 1-48, operating mode	For LMLS-400 daylight sensor 1-48, operation mode: 1 = ON/OFF, 2 = bi-level, 3 = tri-level, 4 = dimming.
MV4101-MV4148	Daylight sensor 1-48, setpoint multiplier	For LMLS-400, off setpoint multiplier: 1=1.25x, 2=1.50x, 3=1.75x, 4=2x.
BV1	Schedule state	Normal hours/after hours selection. Active = after hours.
BV2	Switch lock control	Lock or unlock enabled switches. Active = lock.
BV3	Room occupancy status	Read occupancy status (occupied or unoccupied). Active = occupied.
BV4	Force all loads ON	Active = all loads ON at priority 1. Inactive = relinquish at 1 and ON at priority 8.
BV5	Force all loads OFF	Actuve = all loads OFF at priority 2. Inactive = relinquish.
BV101-148	Switch lock status	Read switch status (locked or unlocked). Active = locked.
MV1	Scene control	Write scene selection. Range = 1 to 16.
MV2	Demand response (shed) control	Activate room level DR mode: 1 = no shed, 2 = shed mode, permit switch override, 3 = shed mode, prohibit switch override.
AI1 - AI48	Exterior photocell	Daylight level as read by LMIO-301 photocell input module 1 to 48.
AV901	MS/TP MAC address	Default is 255 for automatic, writable in the range of 0 to127.
AV902	MS/TP network speed	Baud rate: 9600, 19200, 38400, 57600, 78600, 115200.
AV903	Input room size	Allows user to write area in square feet from 0 to 65,534, default is 0.
AV904	Room lighting watts	Read total lighting wattage for room.
AV905	Room watts/sq.ft.	Read total room lighting W/ft^2.
AV906	Room plug load watts	Read total plug load wattage for room.

Ⅼlegrand

A Group brand