IntesisBox®

IBOX-BAC-DALI
DALI to BACnet Server gateway
Order Codes:
IBBACDAL064xxxx (64 ballasts, 1 DALI channel)
IBBACDAL128xxxx (128 ballasts, 2 DALI channels)

HOW IT WORKS

The IntesisBox **IBOX-BAC-DALI** Gateway has been specially designed to work as a translator between a DALI installation and BACnet IP and/or BACnet MSTP based control and monitoring systems.

IntesisBox acts as a master in the DALI bus, allowing both BACnet IP and BACnet MSTP client/master devices to read and write on all configured DALI signals.

BACnet MSTP devices are connected to the serial port of the gateway, while BACnet IP devices are connected to the Ethernet port. On the DALI side, the gateway simulates a DALI master device allowing other DALI masters to be present in the DALI channels.

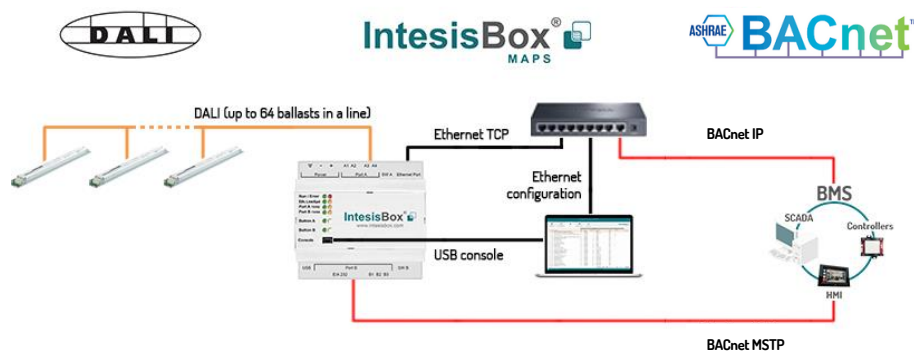Configuration project is done through IntesisBox MAPS.

FEATURES

- Handles conversion between BACnet (IP & MSTP) and DALI ballasts

- Manages BACnet IP and BACnet MSTP simultaneously*

- DALI multi-master support

- DALI line scan (ballast detection) and commissioning

- Configuration through IP or USB (Console) port

- Datalogging through external USB port

- Front cover LED indicators to provide easy to check communication status on both the Ethernet and serial ports

- Includes IntesisBox MAPS with automatic updates for both IntesisBox MAPS and Gateway's firmware

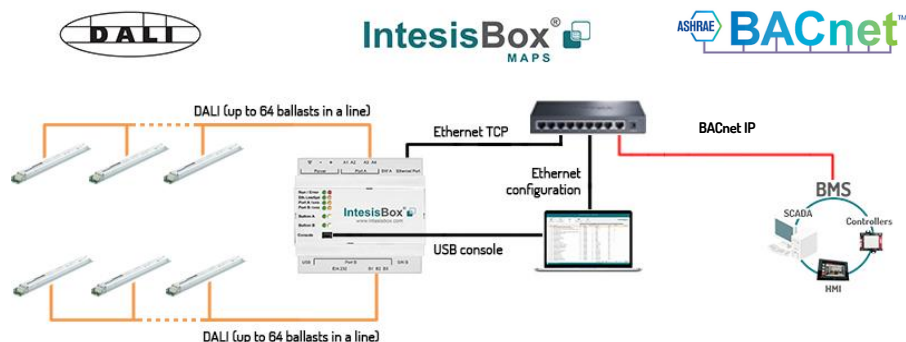* IBBACDALI128xxxx does not offer BACnet MSTP communication
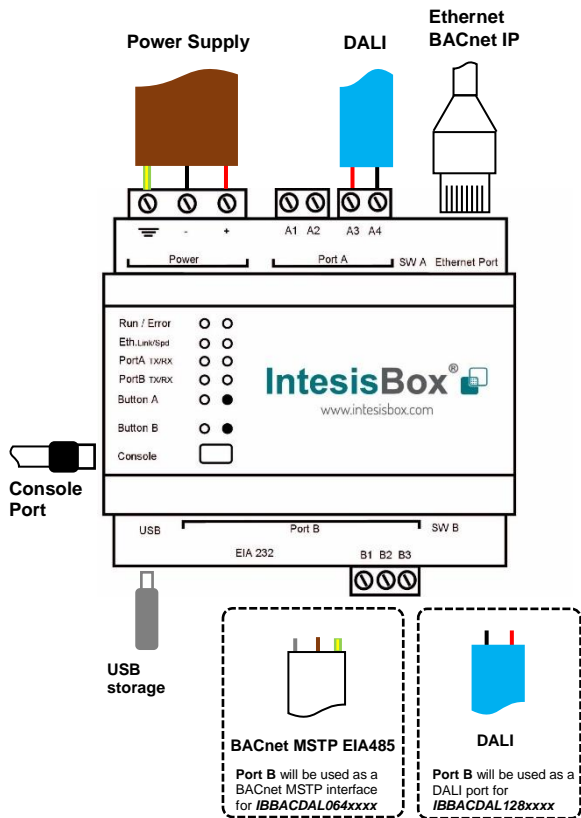
INTEGRATION EXAMPLE

VERSION SUPPORTING 1 DALI CHANNEL

VERSION SUPPORTING 2 DALI CHANNELS

IntesisBox®

email: info@intesisbox.com
web: www.intesisbox.com
phone: +34 938047134

CONNECTIONS

Power Supply **DALI** **Ethernet BACnet IP**

IntesisBox®
www.intesisbox.com

Run / Error
Eth.Link/Spd
PortA TX/RX
PortB TX/RX
Button A
Button B
Console

Console Port

USB storage

Power — ⏚ − +
Port A — A1 A2 A3 A4 SW A Ethernet Port

USB EIA 232 Port B SW B B1 B2 B3

BACnet MSTP EIA485
Port B will be used as a BACnet MSTP interface for *IBBACDAL064xxxx*

DALI
Port B will be used as a DALI port for *IBBACDAL128xxxx*

PROTOCOLS

Digital Illumination Interface Alliance

DALI is a **dedicated protocol for digital lighting control** that enables the easy installation of robust, scalable and flexible lighting networks.

The digital nature of DALI allows **two-way communication** between devices, so that a device can report a failure, or answer a query about its status or other information.

Wiring is relatively simple; DALI power and data is carried by the same pair of wires, without the need for a separate bus cable

For further information, please visit
https://www.digitalilluminationinterface.org

ASHRAE BACnet™

BACnet is the Data Communication Protocol for Building Automation and Control Networks. Developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

BACnet is an American national standard, a European standard, a national standard in more than 30 countries and an ISO global standard. The protocol is supported and maintained by ASHRAE Standing Standard Project committee 135.

For further information, please visit
www.bacnet.org

COMMUNICATION

	BACnet		DALI
	MSTP	**IP**	
Connection	EIA485 (3 wire isolated)	10BASE-T 100BASE-TX	DALI
Date rate	9.6, 19.2, 38.4, 57.6, 76.8, 115.2kbps	10 Mbps 100 Mbps	1.2 kbps
Data Types & Functions supported	**Object types** 0-AO (Analog Output) 1-AI (Analog Input) 2-AV (Analog Value) 3-BO (Binary Output) 4-BI (Binary Input) 5-BV (Binary Value) 13-MI (Multistate Input) 14-MO (Multistate Output) 15-MV (Multistate Value)	**Functions** Trend Logs Calendars Schedules	DALI Fluorescent lights (DALI type 0) Emergency lights (DALI type 1) LED modules (DALI type 6)

ELECTRICAL & MECHANICAL FEATURES

Enclosure	Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 90x88x56 mm Recommended space for installation (dxwxh): 130x100x100mm Color: Light Grey. RAL 7035
Mounting	Wall. DIN rail EN60715 TH35.
Terminal Wiring (for power supply and low-voltage signals)	Per terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: 0.5mm²… 2.5mm² 2 cores: 0.5mm²… 1.5mm² 3 cores: not permitted If cables are more than 3.05 meters long, Class 2 cable is required.
Power	1 x Plug-in screw terminal block (3 poles) Positive, Negative, Earth 24VDC
Ethernet	1 x Ethernet 10/100 Mbps RJ45 2 x Ethernet LED: port link and activity
Port A	1 x DALI port (Plug-in screw terminal block orange 2 poles) 1500VDC isolation from other ports DALI power consumption: 240mA Voltage rating: 16VDC 1 x Plug-in screw terminal block green (2 poles) Reserved for future use
Switch A (SWA)	1 x DIP-Switch for PORT A configuration: Reserved for future use
PORT B	*IBMBSDAL064xxxx* 1 x Serial EIA232 (SUB-D9 male connector) Reserved for future use 1 x Serial EIA485 Plug-in screw terminal block (3 poles) A, B, SG (Reference ground or shield) 1500VDC isolation from other ports *(except PORT B: EIA232)* *IBMBSDAL128xxxx* 1 x Serial EIA232 (SUB-D9 male connector) Reserved for future use 1 x DALI port (Plug-in screw terminal block green 2 poles) 1500VDC isolation from other ports DALI power consumption: 240mA Voltage rating: 16VDC
Switch B (SWB)	1 x DIP-Switch for serial EIA485 configuration: Position 1: **ON:** 120 Ω termination active **Off:** 120 Ω termination inactive Position 2-3: **ON:** Polarization active **Off:** Polarization inactive

Battery	Size: Coin 20mm x 3.2mm Capacity: 3V / 225mAh Type: Manganese Dioxide Lithium
Console Port	Mini Type-B USB 2.0 compliant 1500VDC isolation
USB port	Type-A USB 2.0 compliant Only for USB flash storage device *(USB pen drive)* Power consumption limited to 150mA *(HDD connection not allowed)*
Push Button	Button A: Check the user manual Button B: Check the user manual
Operation Temperature	0°C to +60°C
Operational Humidity	5 to 95%, no condensation
Protection	IP20 (IEC60529)
LED Indicators	10 x Onboard LED indicators 2 x Run (Power)/Error 2 x Ethernet Link/Speed 2 x Port A TX/RX 2 x Port B TX/RX 1 x Button A indicator 1 x Button B indicator

100 mm
100 mm (w)
130 mm

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