

## IBOX-MBS-DALI

### DALI to Modbus Slave gateway

#### Order Codes:

IBMBSDAL064xxxx (64 ballasts, 1 DALI channel)

IBMBSDAL128xxxx (128 ballasts, 2 DALI channels)

### HOW IT WORKS

The IntesisBox **IBOX-MBS-DALI** Gateway has been specially designed to work as a translator between a DALI installation and Modbus TCP and/or Modbus RTU based control and monitoring systems.

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

Modbus RTU masters are connected to the serial port of the gateway, while Modbus TCP 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.



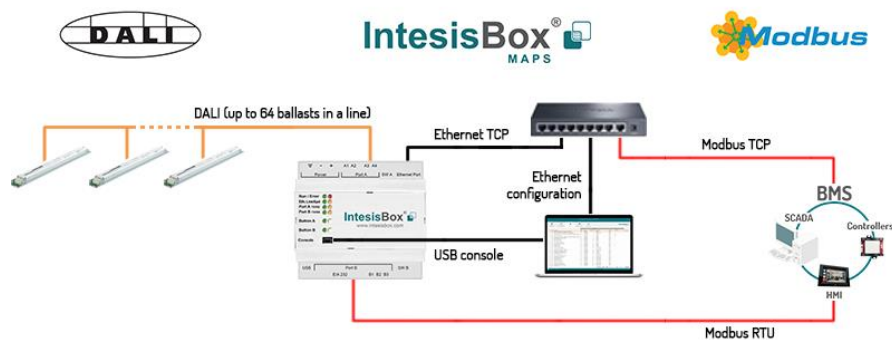
### FEATURES

- Handles conversion between Modbus (RTU & TCP) and DALI ballasts
- Manages Modbus TCP and Modbus RTU simultaneously\*
- Connects with up to 5 simultaneous Modbus TCP clients
- 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

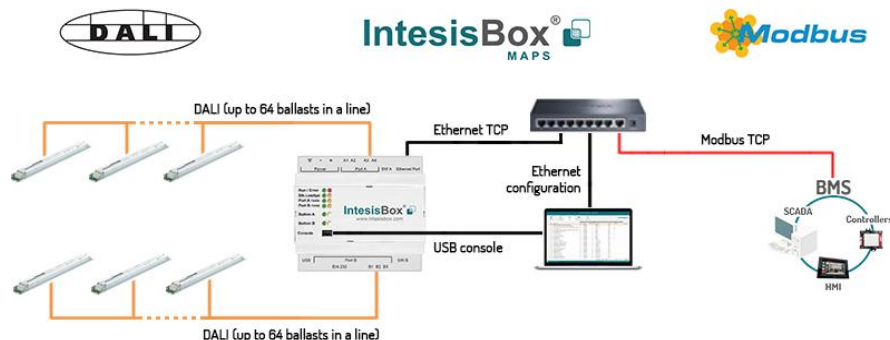
\* IBMBSDAL128xxxx does not offer Modbus RTU communication

### INTEGRATION EXAMPLE

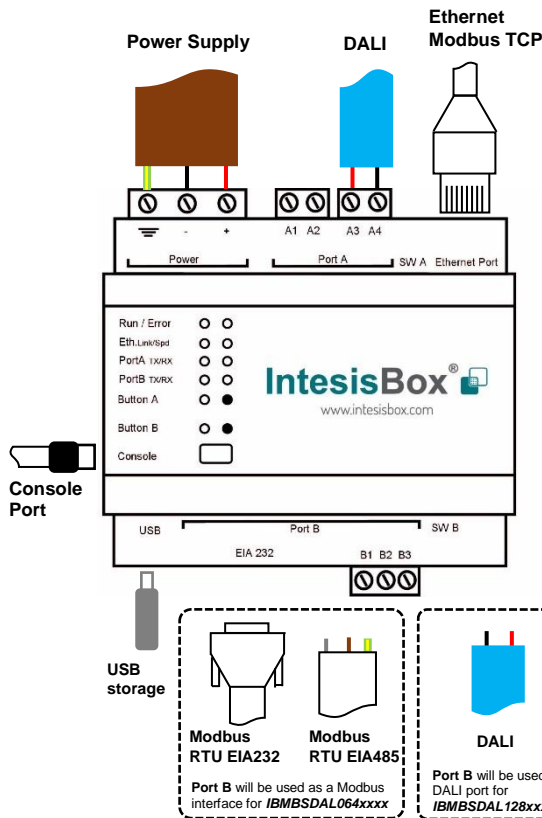
#### VERSION SUPPORTING 1 DALI CHANNEL



#### VERSION SUPPORTING 2 DALI CHANNELS



## CONNECTIONS



## PROTOCOLS



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 visit <https://www.digitalilluminationinterface.org>



Modbus Protocol is a de facto standard, truly open and the most widely used network protocol in the industrial manufacturing environment. Modbus is used in multiple applications to monitor and program devices; to communicate between intelligent devices and sensors and instruments; to monitor field devices using PCs and HMI's.

But Modbus is not only an industrial protocol. Building, infrastructure, transportation and energy applications also make use of its benefits.

For further information visit [www.modbus.org](http://www.modbus.org)

## COMMUNICATION

	Modbus		DALI
	RTU	TCP	
<b>Connection</b>	EIA485 (3 wire isolated) EIA232 (DB9 connector)	10BASE-T 100BASE-TX	DALI
<b>Date rate</b>	2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2kbps	10 Mbps 100 Mbps	1.2 kbps
<b>Data Types</b>	1-Read Digital Outputs / 2-Read Digital Inputs 3-Read Holding Registers 4-Read Analog Registers 5-Write Single Digital Output 6-Write Single Analog Register 15-Write Multiple Digital Output 16-Write Multiple Holding Registers		DALI Fluorescent lights (DALI type 0) Emergency lights (DALI type 1) LED modules (DALI type 6)
<b>Functions supported</b>			

## ELECTRICAL & MECHANICAL FEATURES

<b>Enclosure</b>	Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 90x88x56 mm Recommended space for installation (dxwxh): 130x100x100mm Color: Light Grey. RAL 7035	<b>Battery</b>	Size: Coin 20mm x 3.2mm Capacity: 3V / 225mAh Type: Manganese Dioxide Lithium
<b>Mounting</b>	Wall. DIN rail EN60715 TH35.	<b>Console Port</b>	Mini Type-B USB 2.0 compliant 1500VDC isolation
<b>Terminal Wiring (for power supply and low-voltage signals)</b>	Per terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: 0.5mm <sup>2</sup> ... 2.5mm <sup>2</sup> 2 cores: 0.5mm <sup>2</sup> ... 1.5mm <sup>2</sup> 3 cores: not permitted If cables are more than 3.05 meters long, Class 2 cable is required.	<b>USB port</b>	Type-A USB 2.0 compliant Only for USB flash storage device (USB pen drive) Power consumption limited to 150mA (HDD connection not allowed)
<b>Power</b>	1 x Plug-in screw terminal block (3 poles) Positive, Negative, Earth 24VDC	<b>Push Button</b>	Button A: Check the user manual Button B: Check the user manual
<b>Ethernet</b>	1 x Ethernet 10/100 Mbps RJ45 2 x Ethernet LED: port link and activity	<b>Operation Temperature</b>	0°C to +60°C
<b>Port A</b>	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	<b>Operational Humidity</b>	5 to 95%, no condensation
<b>Switch A (SWA)</b>	1 x DIP-Switch for PORT A configuration: Reserved for future use	<b>Protection</b>	IP20 (IEC60529)
<b>PORT B</b>	<b>IBMBSDAL064xxxx</b> 1 x Serial EIA232 (SUB-D9 male connector) Pinout from a DTE device 1500VDC isolation from other ports (except PORT B: EIA485) 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) <b>IBMBSDAL128xxxx</b> 1 x DALI port (Plug-in screw terminal block green 2 poles) 1500VDC isolation from other ports DALI power consumption: 240mA Voltage rating: 16VDC	<b>LED Indicators</b>	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
<b>Switch B (SWB)</b>	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		

100 mm (h)

