

# OPTILITE 2xDALI

## Installation and Operations Manual

29 October, 2025

Output Board for two DALI2 buses

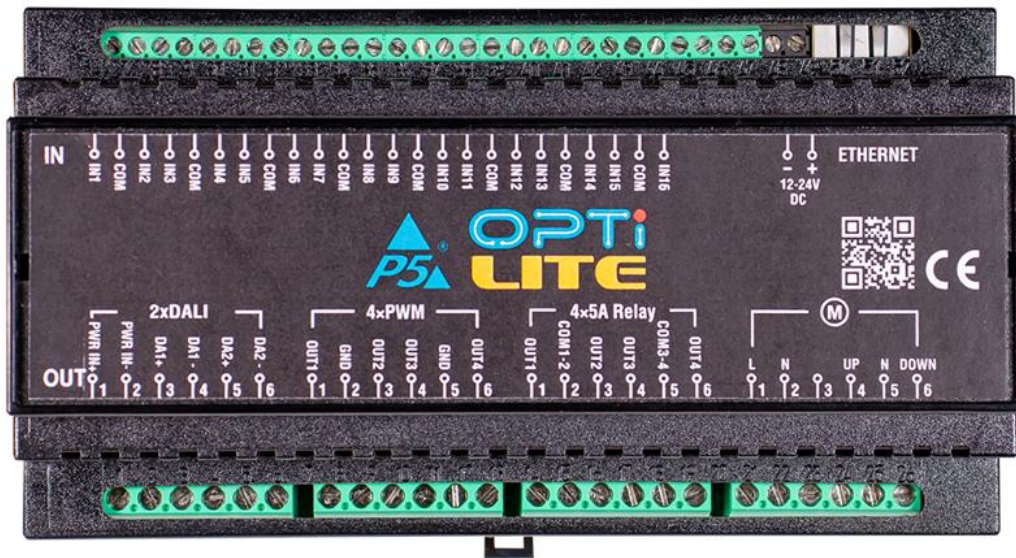


Figure 1. The OPTILITE with a 2xDALI output board

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# INSTALLATION

## WARNING!

This equipment shall be installed in a closed cabinet with no access to live parts. Only the top enclosure of the equipment (where the label is affixed) is allowed to be accessed by the operator.

Since the module is connected to mains/line voltage, it must be installed by a qualified electrician in accordance with local electrical codes.

Turn off power (main circuit breaker) before installation.

## Introduction

The OPTILITE is a modular, customizable, mix-and-match device that allows integrators to configure it according to the specific needs of each project.

The OPTILITE consists of a Mainboard with 16 inputs and four slots for installing output boards. It can be configured with a single output board or expanded with up to four boards, either of the same type or a combination of different types.

Available output boards include:

- 2 x Relays NO/NC 16A
- 4 x Relays NO 5A
- 2 x Bistable Relays 16A
- 1 x Window shading
- 4 x single color or 1 x RGB(W) low voltage LED dimmer
- 4 x 0-10V output (4ch)
- Fan Coil Controller (requires two OPTILITE slots)
- 2 x DALI2

This document focuses on the installation of the 2×DALI output board, which supports two DALI-2 buses.

## OPTILITE 2xDALI Output Board

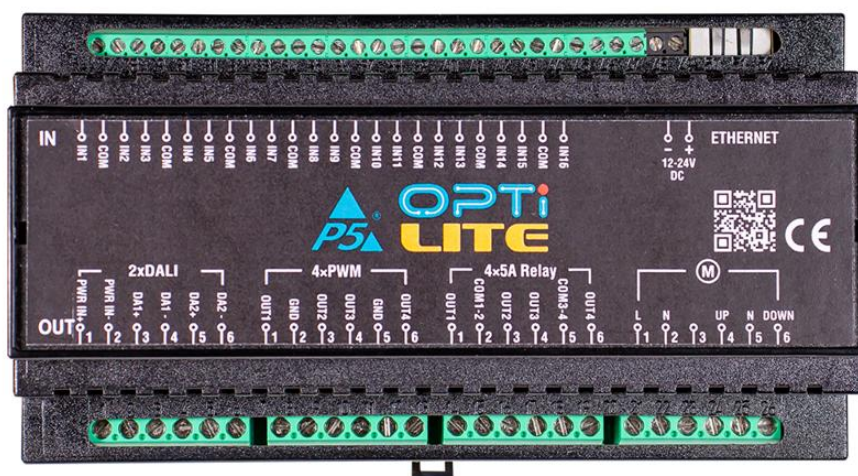
The OPTILITE 2xDALI output board enables DALI communication between the OPTILITE main unit and DALI devices through two independent DALI-2 buses. It occupies one of the four available OPTILITE slots and expands the system’s lighting control capabilities with full DALI-2 functionality.

### Key Features:

- Two DALI-2 Buses supporting up to 64 DALI devices per Bus
- Simple web-based configuration and control, including scanning, addressing, group and scene management
- Support for DT6 and DT8 (RGBW, Tunable White, and XY coordinate) device types
- Control of DALI-2 sensors and input devices
- Integrated DALI bus power supply
- Bus short-circuit protection
- Error condition reporting and status monitoring
- TCP communication protocol (API) using simple ASCII commands
- Drivers/software modules/profiles available for third-party control systems
- Firmware upgrade via LAN connection
- Mix-and-match flexibility with other OPTILITE functions and output boards

## Terminal connections

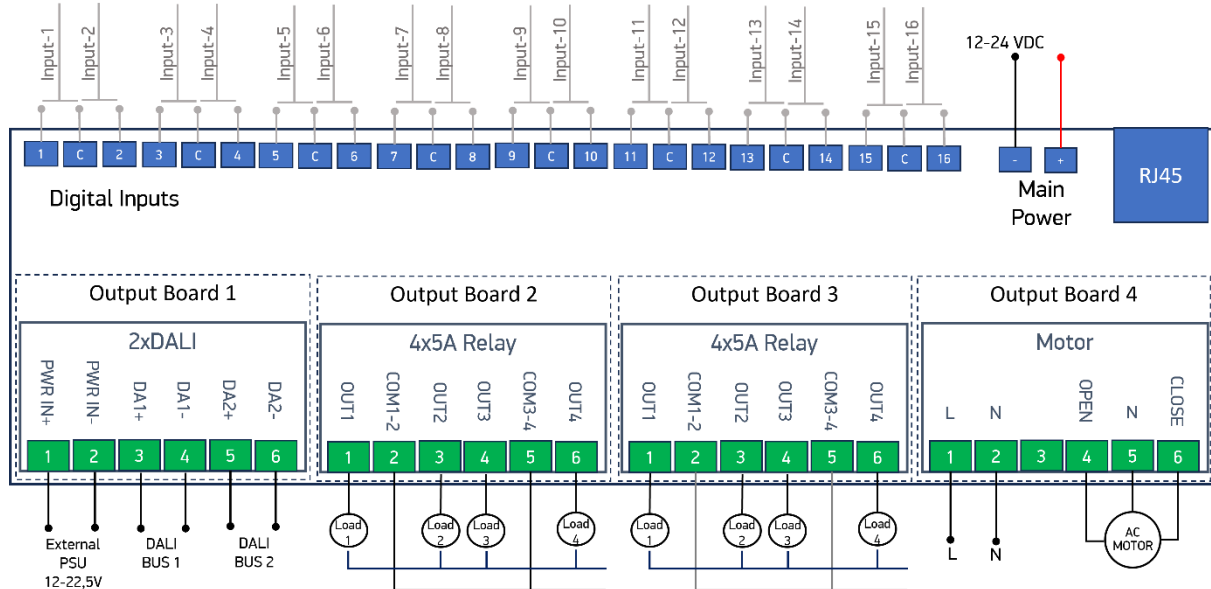
Each module has a wiring diagram on the front to assist installers during setup. See Figure 2.



**Figure 2. The Wiring Connections of the OPTILITE**

## Wiring diagram

### Wiring diagram



**Figure 3. Sample wiring diagram of an OPTILITE**

All COM terminals of the inputs are connected together internally. Inputs 1–16 are used to connect to momentary switches, FN-Touchpads, or contact sensors.

The 2×DALI output board requires a separate standard external power supply of 12–22.5 V DC, connected to the PWR IN+ and PWR IN– terminals.

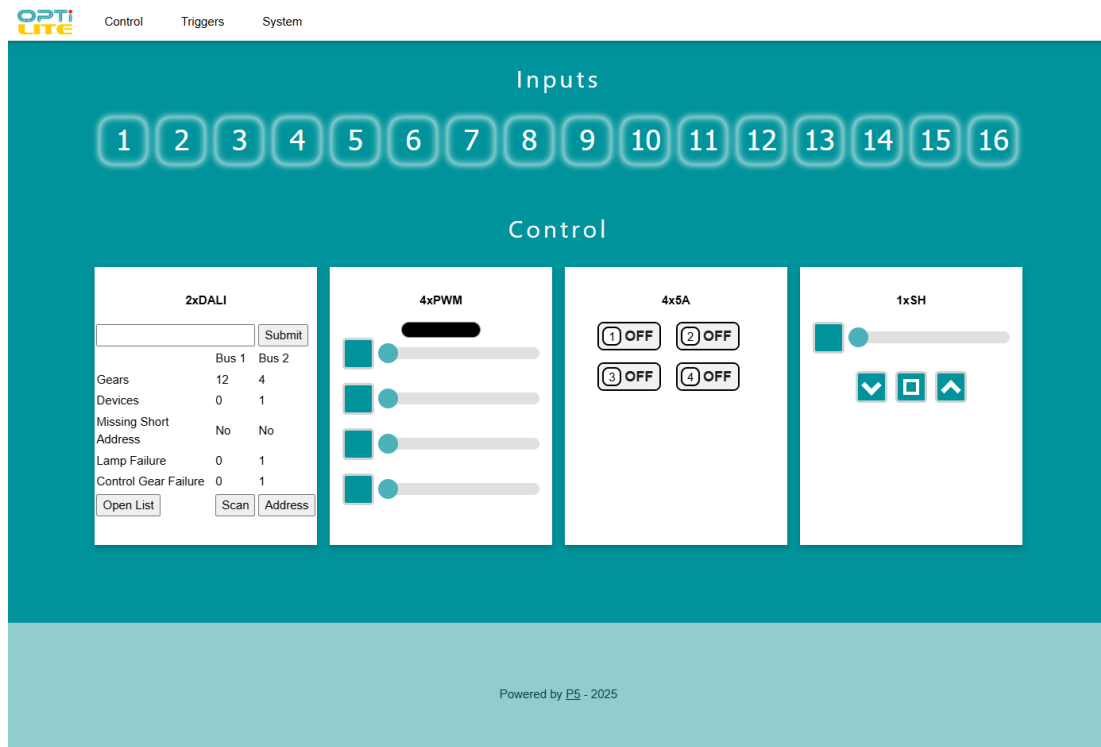
Devices on Bus 1 connect to the DA1+ and DA1– terminals, while devices on Bus 2 connect to the DA2+ and DA2– terminals.

### Recommended wire types

- **Ethernet cable:** Twisted pair, CAT5 or better.
- **Inputs:** A pair of low voltage cables. The inputs use low voltage signals. All wires used and their routing must comply with local electrical codes.
- **Outputs:** According to the connected load (current and voltage ratings).
- **DALI Bus Wiring:** A 2-core twisted pair cable is recommended to enhance noise immunity and ensure reliable signal transmission, especially in large installations.

# DALI Configuration and Operation Pages

## Control Page

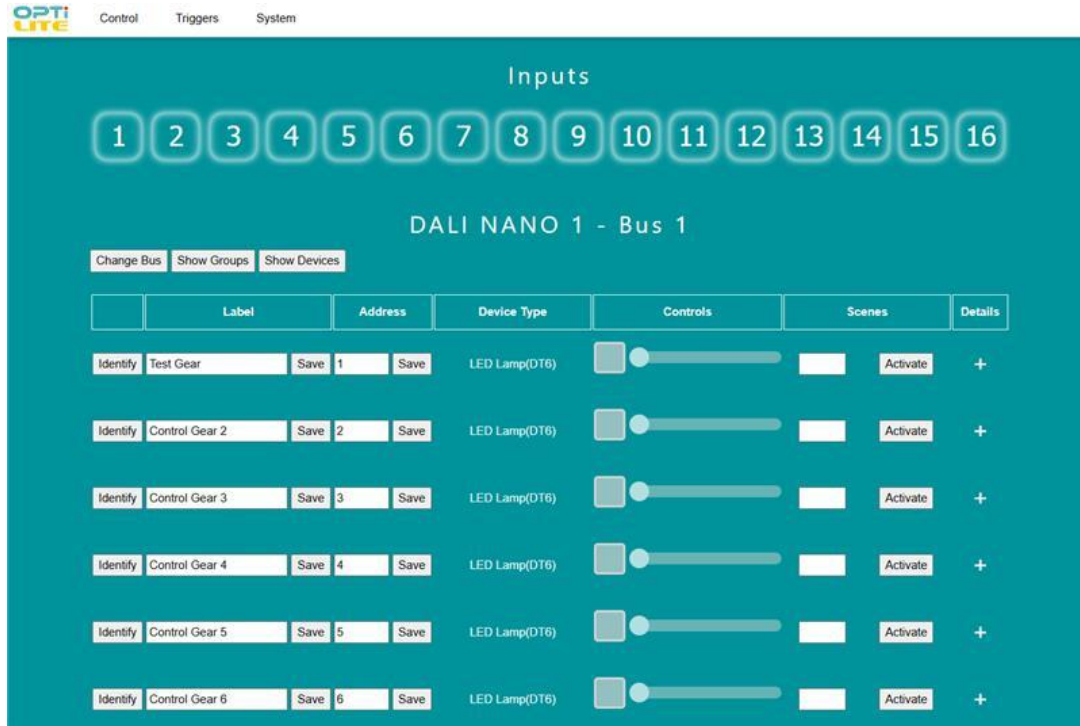


**Figure 4. The Control Page of the OPTILITE**

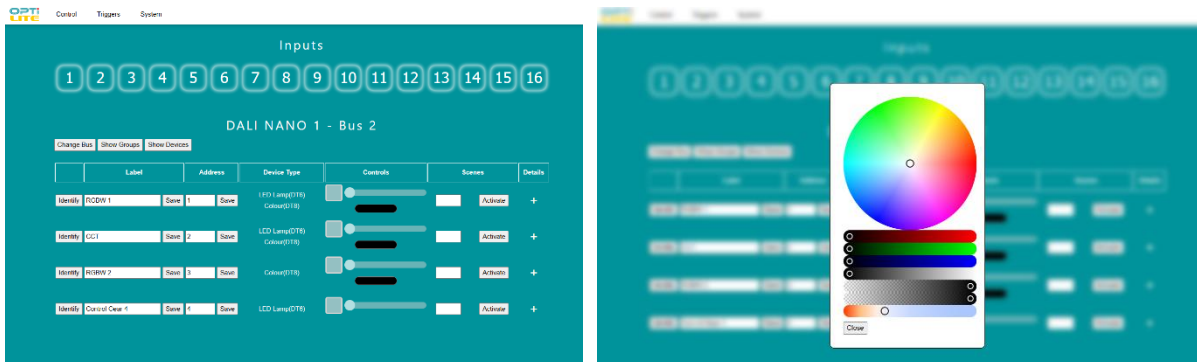
The Control Page provides an overview of the DALI Buses and allows the integrator to scan and address the DALI gears:

- Send custom commands to the DALI Buses
- View the number of control gears/devices found on each DALI Bus
- Identify missing short addresses on each Bus
- Monitor lamp and control gear failures
- Use quick buttons to start the scanning and addressing process
- Open the DALI List Page showing connected control gears/devices

## DALI List Page



**Figure 4. List of Control Gears/Devices on Bus 1**



**Figure 5. List of Control Gears/Devices on Bus 2 – Color wheel for DT8 control**

The DALI List Page provides detailed information and control options for each DALI device:

- Lists all control gears on the selected Bus
- Switch between Bus 1 and Bus 2
- Display Groups or Control Devices view
- Identify devices by activating light blinking with the “Identify” button

- Edit labels and addresses
- Display Device Type
- Controls light levels and RGB (for DT8 devices)
- Activate scenes to recall stored light levels

## Details

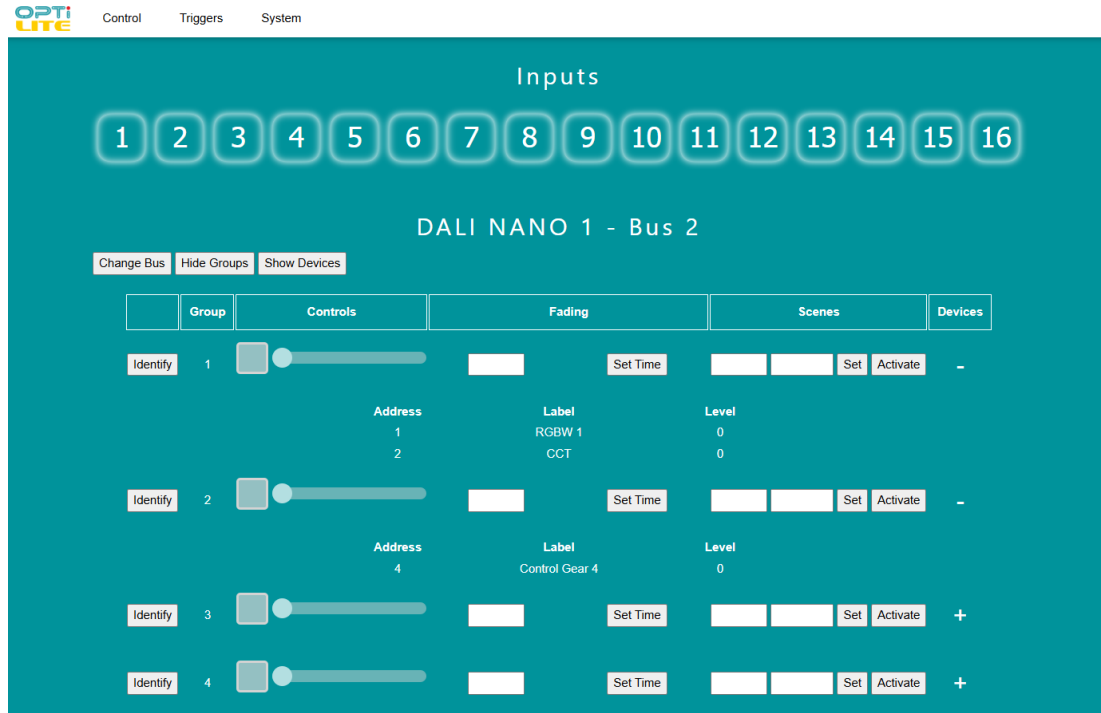


**Figure 6. The Details page**

The Details page allows configuration of:

- Fade time
- Power On level
- Group assignment for control gears
- Preset scene levels

# Groups



**Figure 7. The Control page**

The Control Page:

- Displays the control gears in the selected group
- Any control action affects all gears within the group

## Triggers Page

The Triggers Page allows the combination of triggers based on DALI inputs or outputs with other OPTILITE functions.

OPTILITE Control Triggers System

### Inputs

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

### Trigger settings

Save triggers Delete stored triggers

Input	Condition	Target	Task	Channel	Levels	Ramprate
Choose...	Choose...	Choose...	Choose...			Add

#	Input event	Target output board	Task	Target channel	Level	Ramp rate		Remove all
✓ 1	Channel 1 Close	1 - 2xDALI	Toggle	Test Gear			Edit	Remove
✓ 2	Channel 2 Release	1 - 2xDALI	Ramp to level RGB	Control Gear 1	R: 126 G: 29 B: 241	0 s	Edit	Remove
✓ 3	DALI Input Device nano: 1 bus: 2 address: 1 instance: 1 - Movement	2 - 4xPWM	ON	2			Edit	Remove

**Figure 8. The Triggers Page**

You can:

- Add and edit triggers to control DALI gears
- Activate triggers using OPTILITE inputs or DALI Input Devices

## Operation via TCP

For seamless integration with most home and commercial control systems, the OPTILITE can be operated via a raw TCP protocol using simple ASCII-based commands.

The TCP Communication Protocol Description is available upon request.

Basically, any third-party controller that can implement the OPTILITE's simple communication protocol can control the module. The following controllers are the most widely used:

- Control4
- Savant
- Crestron
- Extron
- AMX

Software modules/plugin-ins for controllers are either available or P5 will provide full assistance in creating them.

Besides these special-purpose controllers, there have been many applications for embedded industrial PC boards, PCs and smartphones running Linux, Windows, Mac OS.

# TECHNICAL SPECIFICATIONS

## OPTILITE 2xDALI-2 output board

Supported Device Types	
Device Types	DT6 and DT8 (RGBW, Temperature Color, XY coordinates) DALI-2 sensors, pushbuttons and other input devices
Connectors: 2.5mm <sup>2</sup> screw terminals	
PWR IN+, PWR IN-	Standard DC power supply 12-22,5 V DC (15-16 V DC is recommended), 1A, input power for DALI output board
DA1+, DA1-	DALI-2 bus 1 (up to 64 DALI devices)
DA2+, DA2-	DALI-2 bus 2 (up to 64 DALI devices)

## OPTILITE module

Power Requirements		
OPTILITE main power	12 – 24 V DC	
Input parameters		
Contact closure inputs	16 inputs	
Maximum resistance	< 10Ω	
Output boards		
Number of output boards	Up to 4	
Types of output boards	2xDALI-2, 2x16A, 2x16A.BI, 4x5A, 1xSH, 4xPWM, 4x0-10V, 1xFCC-TS (requires two slots), 1xFCC-NTC (requires two slots)	
One phase per output board		
Connectors		
Input Terminals	1.5mm <sup>2</sup> screw terminals	
Output Terminals	2.5mm <sup>2</sup> screw terminals	
LAN (100Mb/s)	RJ45 Ethernet Connector	
Environmental		
Operating Temperature	0 °C – 40 °C (32 °F – 104 °F)	
Storage Temperature	-20 °C – 60 °C (-4 °F – 140 °F)	
Humidity	Up to 93% (Non condensing)	
Physical		
Dimensions (H x W x D)	157 mm x 86 mm x 57 mm (9 DIN unit width)	
Weight	max 0.4 kg	
Installation	Standard DIN Rail Mount	
Approvals	Package Content	Warranty
CE	OPTILITE	2 years

## REFERENCES

FNIP Search Utility: [FNIP Manager](#) (Registration needed on [www.p5.hu](http://www.p5.hu))

OPTILITE Installation and Operations Manual

OPTILITE TCP Communication Protocol Description

(Please email us at [support@p5.hu](mailto:support@p5.hu) to request the Communication Protocol Description)

## CONTACT DETAILS

[support@p5.hu](mailto:support@p5.hu)

<http://p5.hu/index.php/support/contact-technical-support>