

Buspro-DALI Controller

Datasheet



MDL64-BP.53



Please scan the QR code above to check the latest version of datasheet!

Before using this product, please read this datasheet carefully and keep it properly!

Document Version: C

◆◆ Overview

Buspro-DALI controller (Model: MDL64-BP.53, hereinafter referred to as "the product" or "the device") is a DALI-2 dimming control module based on HDL Buspro communication protocol. The device has single-loop control, area/group control, scene control, sequence control, and can realize intelligent control of lighting equipment and linkage control of intelligent equipment using APP.

Note: The pictures and illustrations provided in this instruction manual are for reference purposes only, and the actual product may differ.

Key Functions:

- Supports 64 DALI drivers with different functions
- Reusing pre-set parameters in the driver
- Supports dimming, color temperature and color control.
- Supports 16 zones/groups of settings, which can be controlled separately
- 16 scenes can be set in each independent area, setting a maximum of 256 scenes
- Sequence can be set to select different areas of the scene
- Support status feedback
- Support Buspro short circuit protection
- Support OTA upgrade

◆◆ Appearance

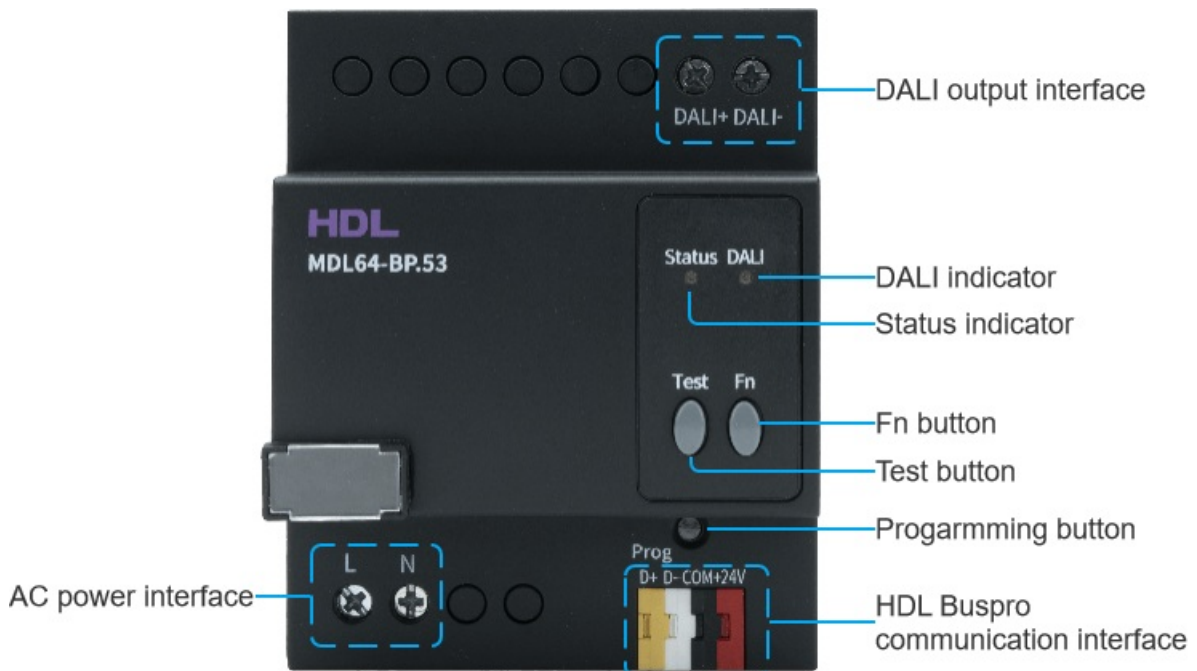


Figure 1

◆◆ Technical Data

Output	DALI Bus Voltage	17V DC
	DALI Bus Current	0.25A/17.0V DC
	DALI Bus Power Supply	Support only one
	Supported DALI Device	64
	Cable Specification	Supports 0.5-1.5mm ² , Max. Distance ≤300m (at 1.5mm ²)
Input	AC Voltage	100-240V~50/60Hz
	AC Current (Typical)	0.1A @ 230VAC
	Bus Rated Voltage	24V DC
	Bus Rated Current	15mA / 24V DC
Control	Dimming Interface	DALI
Protection	Short Circuit Protection	Yes, auto-recovery after fault elimination
	Overcurrent Protection	Yes, auto-recovery after fault elimination
	Overtemperature Protection	Yes, auto-recovery after temperature drops
Environment	Working Temperature	-5°C~45°C
	Working Humidity	≤90%RH, non-condensing
	Storage Temperature & Humidity	-20°C~60°C, ≤93%RH, non-condensed

◆◆ Specifications

Dimensions (W X H X D)	72×90×64mm (See Figure 2 & 3)
Net weight	338g
Housing material	Nylon, PC
Installation	35mm DIN rail mounted (See Figure 5 & 6)
IP degree (compliant with EN 60529)	IP20
Approved	RoHS, CE

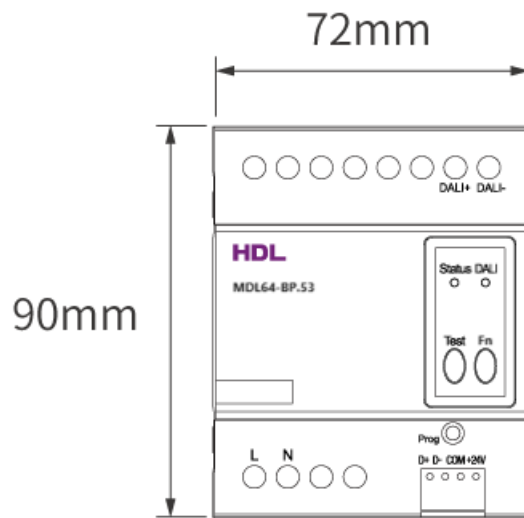


Figure 2

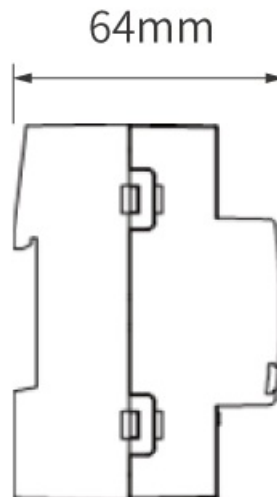


Figure 3

◆◆ Safety Precaution

Danger:

Please do not privately disassemble or replace any parts of the product. Otherwise, it may cause mechanical fault, electric shock, fire or personal injuries.

Warning:

•The installation and testing for the product must be carried out by HDL Automation Co., Ltd. (hereinafter referred to as HDL) or its appointed service agencies. The electric construction shall comply with local laws and safety regulations.

- The device should be installed with DIN rail in a distribution box. HDL will not be responsible for any consequence caused by the inexpert or faulty installation and wiring methods, which are not in accordance with the instructions contained in this datasheet.

- Please contact HDL after-sales departments or our designated service agencies for your maintenance service. Product failures caused by private disassembly are not subject to the warranty.

Caution:

- Before performing any installation or disassembly procedures on the device, it is crucial to disconnect the device from all voltage sources. This step is necessary to ensure the safety of the technician and prevent any potential damage to the device.

- Do not use corrosive liquid to wipe the device body, especially the interface, so to avoid damage to the device.

- Do not wipe the device with a damp cloth.

- Before performing any maintenance or cleaning procedures on the device, it is imperative to disconnect the device from all voltage sources. This precautionary measure is necessary in order to prevent electric leakage and the risk of electric shock.

- Buspro cable: CAT5E or HDL Buspro cable

- For Buspro connection, a hand-in-hand connection is recommended.

- After all of the cables are terminated, check for correct and good terminations.

- There are no polar requirements for DALI Buspro.

- Overrange is not allowed. Please use the device in accordance with the technical specifications.

◆◆ Wiring

Tips: For Buspro connection, a hand-in-hand connection is recommended. There are no polar requirements for DALI Buspro cable. After all of the cables are connected, check for correct and good connection.

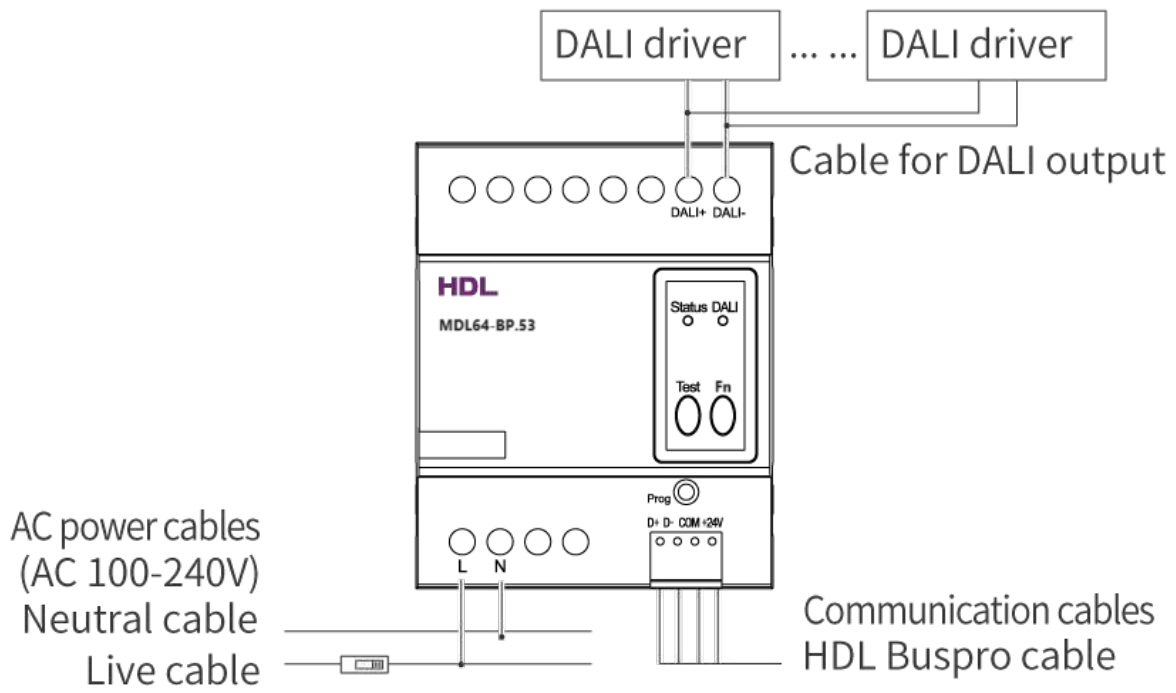


Figure 4

HDL Buspro Cable Guide

HDL Buspro	HDL Buspro Cable	CAT5 / CAT5E
DATA+	Yellow	Blue/Green
DATA-	White	Blue white/Green white
COM	Black	Brown white/Orange white
24V DC	Red	Brown/Orange

◆◆ Installation

Warning: Before performing any installation procedures on the device, it is crucial to disconnect the device from all voltage sources.

Step 1. Fix the DIN rail with screws.

Step 2. Mount the device on the DIN rail.

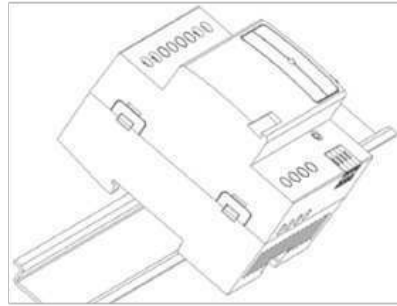


Figure 5

Step 3. Slide the device to the desired position.

Note: After all of the cables are terminated, check for correct and good terminations. Before powering on, please ensure the device is tightly on the wall.

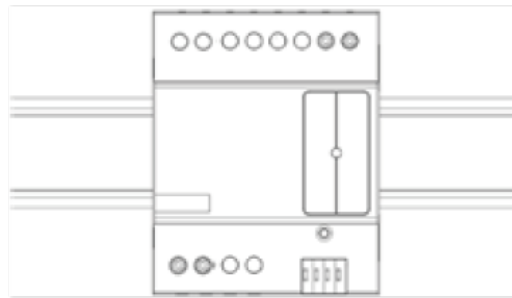


Figure 6

◆◆ Disassembly

WARNING: Before disassembling, please cut off the power supply, and operation with electricity is strictly prohibited.

◆◆ Operation

The device is configured with the following buttons and indicators.

Tips: To press the buttons, it is recommended to use the appropriate tools, such as an eject pin.

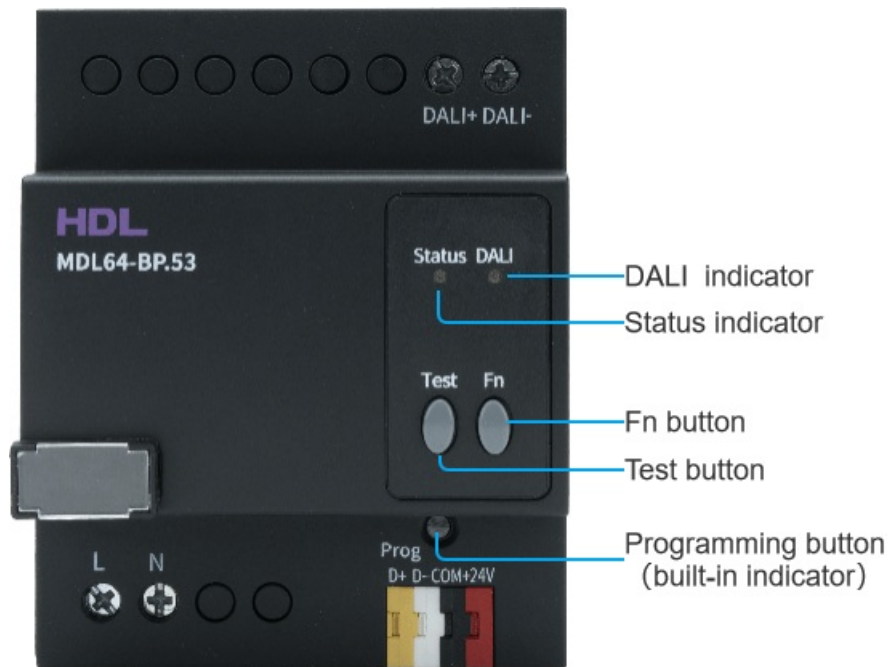


Figure 7

- Programming button / indicator

Operation	Result / Device Status
Long press programming button for 2s	The device enters programming mode, with the indicator turning red.
/	When the device runs normally, the indicator flashes green in every 2s.
/	When Buspro communication is in progress, the indicator flashes red.
/	When the device is positioning, the indicator flashes red per second.
/	During the firmware updating, the indicator flashes red quickly.

- Fn button / Status indicator

Operation	Result / Device Status
Short press Fn button	Broadcast control switch, Status indicator red on, all lights on DALI Buspro are on.
Short press Fn button again	Broadcast control switch, Status indicator red off, all lights on the DALI Buspro are off.

- Test button / Status indicator

Operation	Result / Device Status
Long press Test button for 30s	Re-assign address, with the indicator flashing green.
To start a driver test, i.e., all-lamp-flash test, short press Test button; To shut down the test, short press Test button again. Note: After launching the test, if not shut down in 10 minutes, the test will be auto-off.	During the driver test, the status indicator is blinking red at short intervals (on for 2s and then off for 2s).

- DALI indicator

Operation	Result / Device Status
/	When the device runs normally, the indicator turns green.
/	When DALI Buspro communication is in progress, the indicator flashes red.

◆◆ Packing List

- Buspro-DALI Controller*1
- Cable Terminal*1
- Label*7
- Datasheet*1

Note: After unpacking, please check if the product and the parts are complete.

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Update History:

The form below contains the information of every update. The latest version contains all the updates of all former versions.

Version	Update Information	Date
V1.0	Initial release	March 22, 2024
V1.1	Update technical parameters	Oct 25, 2025
V1.2	Update technical parameters	Nov 11, 2025

◆◆ Technical Support

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