DALI Constant Current Driver (DT6 Dimming)

Instruction Manual



MQLRT6-25.10

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

Document Version：C

◇◆ Overview

DALI Constant Current Driver(DT6 Dimming) (Model: MQLRT6-25.10 hereinafter referred to as "the product" or "the device") is a **DT6 dimming, voltage 6-58V, current 250-700mA, maximum output power 25W**DALI-2 drive.

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

Key Functions:

1.1-channel output for switching and dimming of LED luminaires

2.Conforms to DALI-2 certification standards, DALI DT6 devices

3.Comfortable dimming effect, dimming depth as low as 0.01%, smooth depth dimming

4.Current selection via NFC configuration tool (250-700mA)

5.Current settings down to 0.1mA , current accuracy down to 1% (full load)

6.High power factor and efficiency

7.DALI address/group/scene can be set via NFC configuration tool.

8.Fault feedback mechanism, short circuit, overload, overheat protection.

9.Class II power supply, fully isolated moulded case

10.IP20 rating for indoor LED lighting applications

Adaptation lamps and lanterns instructions:

1.Check the luminaire nameplate rated power

2.Check the lamps and lanterns nameplate rated voltage

3.Check the nameplate rated current of the luminaire

4.Control the following table, within the range can be adapted to use, and then through the NFC configuration tool to adjust the corresponding current

Note: Some lamps and lanterns nameplate parameters need to be calculated, the formula P = UI.

Current (mA)	250	300	350	400	450	500	550	600	650	700
Voltage (V)	6-58	6-58	6-58	6-58	6-56	6-50	6-46	6-41	6-38	6-35

◇◆ Appearance

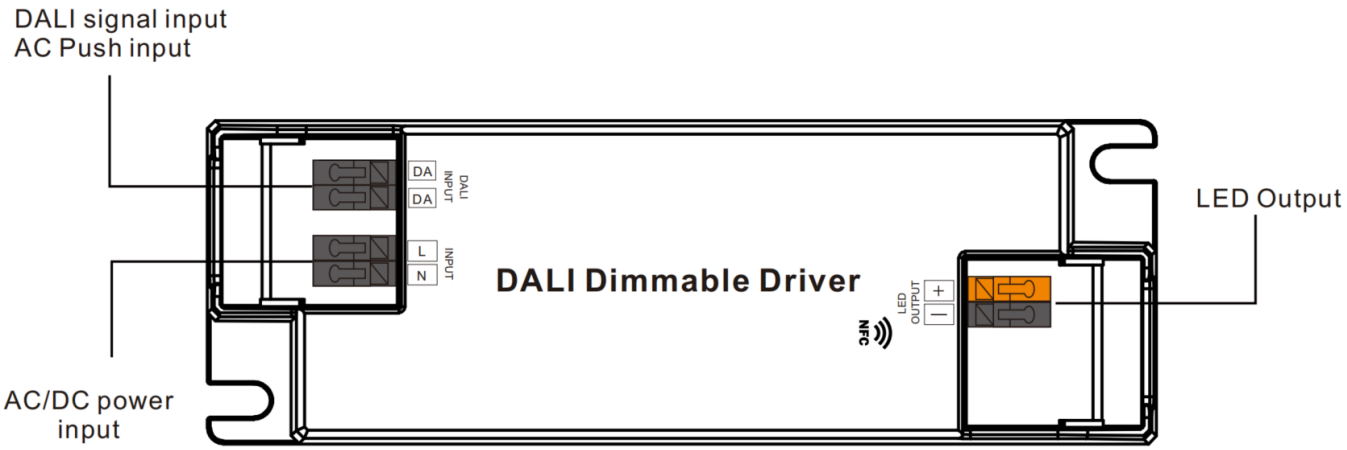


Figure 1

◇◆ Technical Data

Output	LED Channel	1
	DC Voltage	6-54V
	Current	250-700mA via NFC tool; Min.current gear lower to 0.1mA, default 500mA
	Current Accuracy	+3%(±1%@Certain full load) @ full load
	Rated Power	Max.25W
Input	Voltage Range	220-240VAC/220-240VDC
	Absolute Voltage Range	196-264VAC/196-264VDC
	Frequency Range	0/50/60Hz
	Power Factor(Typ.)	> 0.97 @ 230VAC full load
	Total HarmonicDistortion	THD ≤9% (@full load / 230VAC)
	Efficiency (Typ.)	> 85% @ 230VAC full load
	AC Current (Typ.)	0.2A @ 230VAC
	Standby Power Consumption	<0.5W
	No-load Power Consumption	<0.5W
	Inrush Current (Typ.)	Max. 5.64A at 230VAC; 72μs duration
	Anti Surge	L-N:2KV
Control	Dimming Interface	DALI Device Type 6 (DALI consumption < 2mA)/ AC Push
	Dimming Range	0.01%-100%@ Max current
	Dimming Method	Amplitude/CCR dimming
	Dimming Curve	Linear/ Logarithmic (default)
Protection	Short Circuit	Yes, remove the fault conditions and re-power the device.
	Over Current	Yes, remove the fault conditions and re-power the device.

	Over Temperature	Yes, remove the fault conditions and re-power the device.
Environment	Working Temp.	-25℃ ~ +45℃
	Max. Case Temp.	Tc=85℃
	Working Humidity	10% ~ 95% RH non-condensing
	Storage Temp. & Humidity	-40℃ ~ +80℃, 10% ~ 95% RH non-condensing
Safety & EMC	Safety Standards	EN61347-1, EN61347-2-13
	Withstand Voltage	I/P-O/P: 3.75KVAC
	EMC Emission	EN55015, EN61000-3-2, EN61000-3-3
	EMC Immunity	EN61547, EN61000-4-2,3,4,5,6,8,11
Others	MTBF	191350H, MIL-HDBK-217F @ 230VAC full load and 25℃ ambient temperature

◇◆ Specifications

Dimensions (W X H X D)	**120×41×28mm（See Figure 2 ）**
Net weight	165g±5%/PCS
Housing material	Nylon, PC
Installation	Flat surface placement, screw fixing
IP degree (compliant with EN 60529)	IP20
Approved	RoHS、CE、CCC

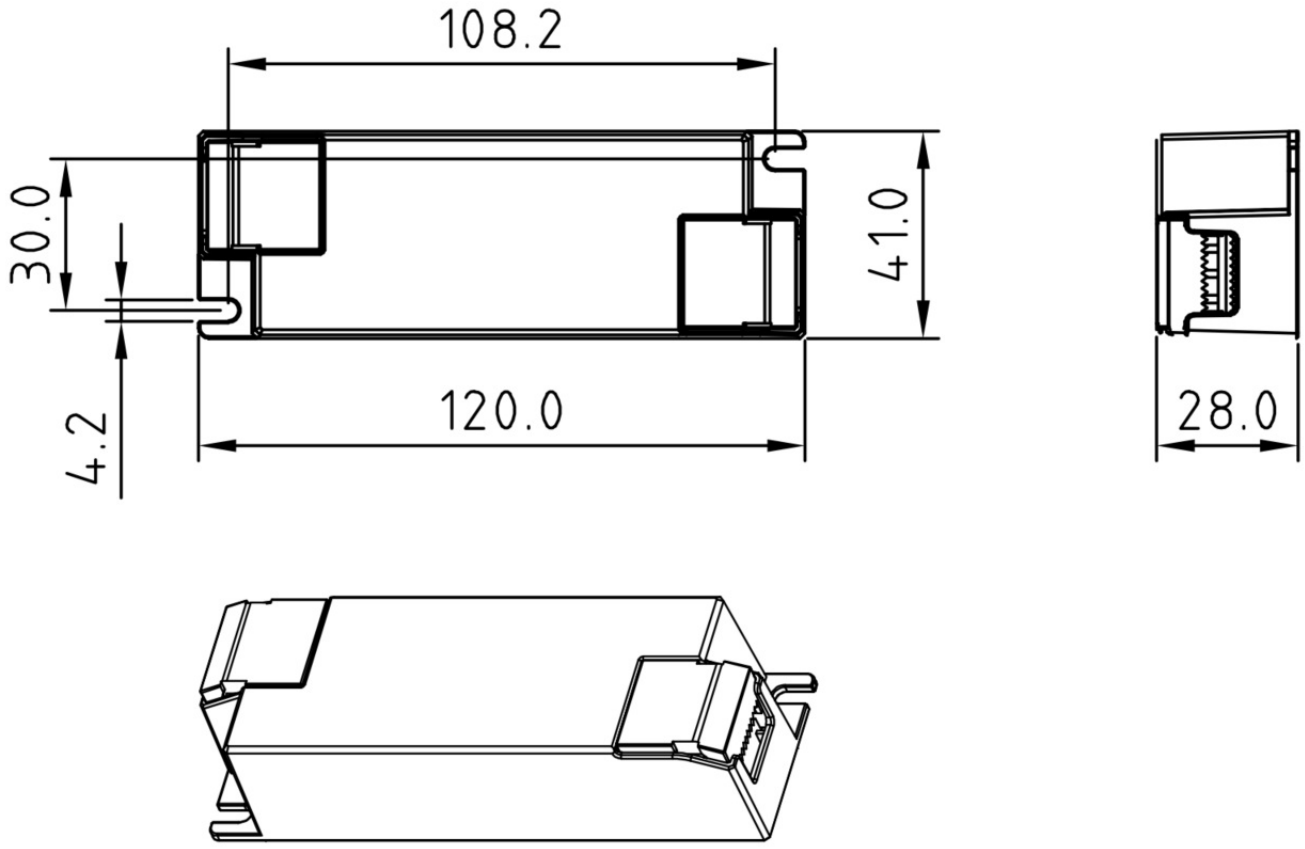


Figure 2

◇◆ 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 commissioning of this equipment must be carried out in accordance with the instructions. The electric construction shall comply with local laws and safety regulations.
- The device can be placed on a flat surface or mounted with screws. 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.
- 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

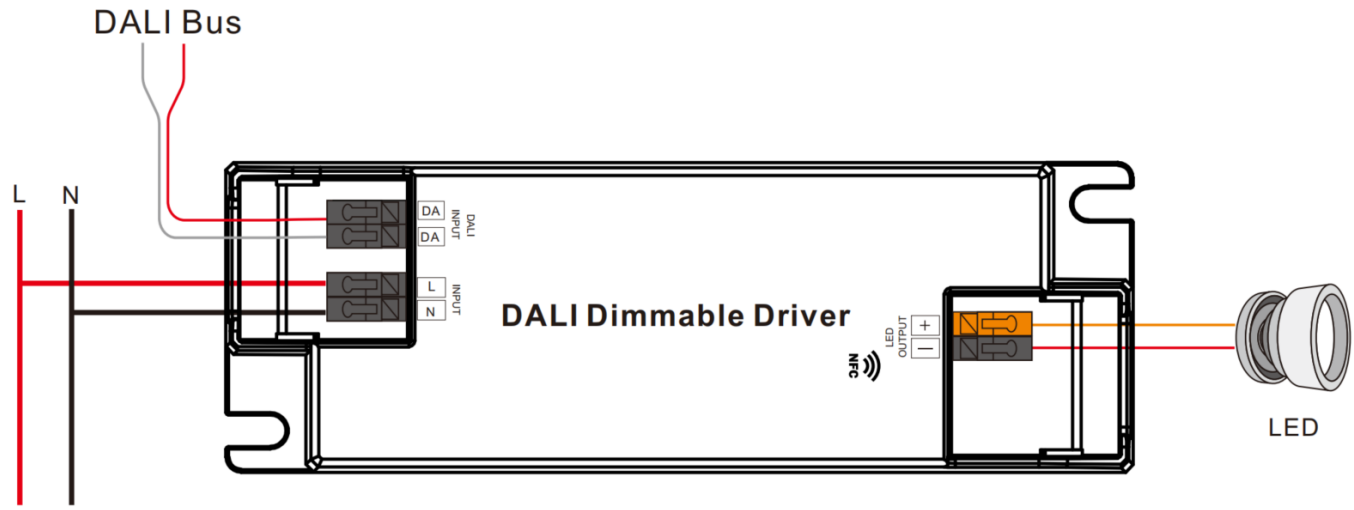
shock.

- Physical connection cables: special cables for electricians.
- For DALI 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.
- Overrange is not allowed.
- Please use the device in accordance with the technical specifications.

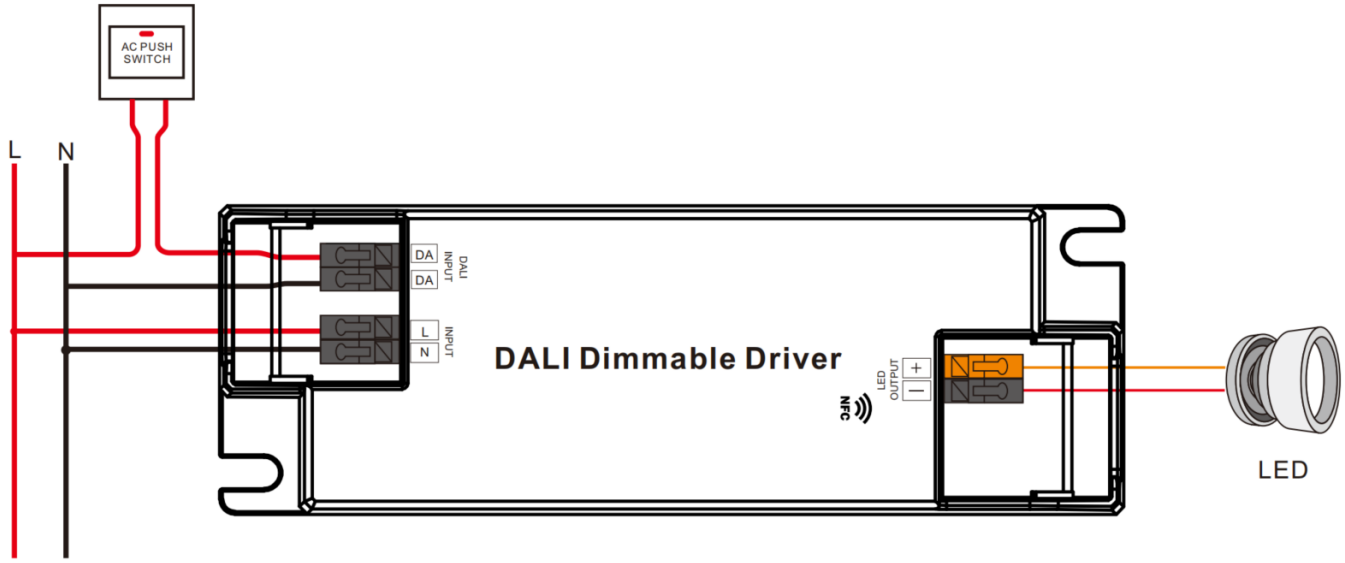
◇◆ Wiring

1.With DALI BUS

1)With single color LED luminarie



2.With PUSH dimmer



AC Push Function

1) Click the button to switch ON/OFF

2) Press and hold down the button to increase or decrease light intensity to desired level and release it, then repeat the operation to adjust light intensity to opposite direction. The dimming range is from 1% to 100%.

◇◆ Installation

1.This product needs to be installed and commissioned by qualified personnel.
2.This product is not waterproof, please do not expose this product to humid environment.
3.Please make sure that the output voltage of the LED power supply meets the voltage range of this product.
4.Please make sure that the wire diameter is sufficient for the load connection of the LED fixture, and ensure that the wiring is secure.
5.Please disconnect the mains power supply from the circuit breaker before operating the wiring.
6.Ensure all wiring is correct before energising for commissioning to avoid damage to the luminaire due to incorrect wiring.
7.If a fault occurs, do not repair it privately, if in doubt contact the supplier.

◇◆ Disassembly

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

◇◆ Operation

1. Use with controllers

For use with Buspro-DALI Controller or KNX-DALI Controller.
The DALI controller automatically assigns a DALI address code, one DALI address code can control the output of one device, please refer to the instruction manual of the DALI controller for details.

2. Use with NFC configuration tool.

Note
1) Please make sure the wiring is correct according to the wiring diagram.
2) It is recommended to set the parameters without powering on the DALI device.
3) Please make sure your mobile phone has NFC function and enable it.
For details, please refer to the commissioning instruction board

◇◆ Packing List

- DALI Constant Current Driver(DT6 Dimming) *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	August 8, 2024

◇◆ Troubleshooting

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