DALI Digital Lighting Controller

DLC-02 series

User's Manual



DALI Controller

Indoor LED Household Building Automation

Features

- DALI-2 multi-master controller
- 2 independent DALI Bus channels with built in DALI power supply (up to 250mA per bus)
- Connect up to 2×64 DALI control gears and 2×12 input devices
- Max 16 scenes and groups setting per channel
- OLED display, LED indicators and buttons for local operation
- Built in with 250V/5A(×4) relay
- Easy installation and configuration via DLC-02 software
- Effect setting with timer events and input devices
- Up to 255 timer events
- Support 8 sequences schedule up to 16 steps per sequence
- Support DALI-2 devices with Part 207/209/301/302/303/304
- Support DT8 colour control(Tunable white,RGBW,xy-coordinate)
- Built in with Modbus TCP/IP protocol
- 5 years warranty

Applications

- Office lighting
- Smart home lighting
- Luxury villas lighting
- LED indoor lighting
- Human centric lighting control
- RGBW lighting control
- Building automation system

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

DLC-02 is a multi-master controller to obtain the regulation of the DALI-2 system from DALI input devices and control gears to make a DALI lighting system. Devices in the DALI bus can be scan, configure and setting through the DLC-02 software. DLC-02 supports up to 128 DALI participants via two independent DALI Bus. The DALI Bus power supply comes directly within DLC-02, so no additional DALI power supply is required.This device comes in 4 built-in relays, providing switching possibilities for home applications and non-dimmable lighting.In addition,DLC-02 is also integrated with several features. The Effect function allows users to customize a series of events and function of input devices. Thanks to an embedded battery, time is memorized even AC is lost. The clock of DLC-02 can be synchronized in real-time; therefore, the regular events and actions can be scheduled by the Timer function accordingly. In addition, the built-in Modbus TCP/IP protocol is very flexible to adapt with other manufacturers' control software.

Model Encoding

DLC - 02

- 02 → Number of output Channels
- DLC → Series name

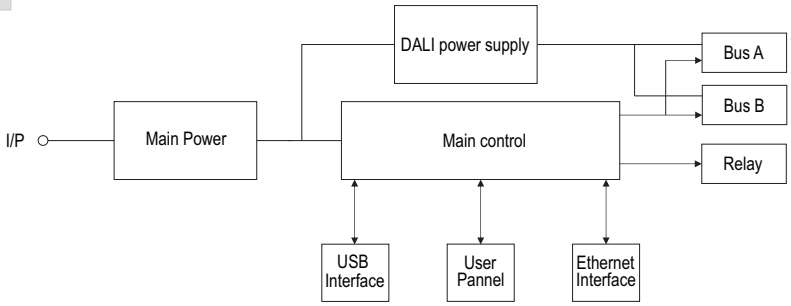
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SPECIFICATION

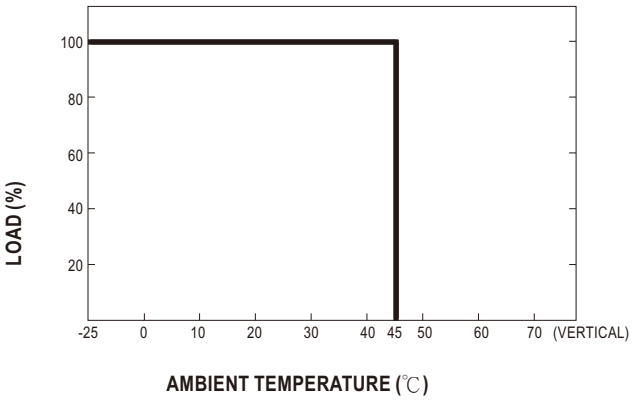
MODEL		DLC-02
OUTPUT	BUS VOLTAGE	Built-in DALI bus power supply; Voltage range : 2x16V
	GUARANTEED SUPPLY CURRENT	2x240mA
	MAXIMUM SUPPLY CURRENT	2x250mA
	RATED POWER	7.68W
	SETUP,RISE TIME	250ms,50ms/115VAC,230VAC
INPUT	VOLTAGE RANGE	100~305VAC, 140~430VDC,(class Ⅱ)
	FREQUENCY RANGE	47~63Hz
	AC CURRENT(Typ.)	0.5A/115VAC 0.25A/230VAC
	INRUSH CURRENT(Typ.)	COLD START 45A/230VAC
PROTECTION	SHORT CIRCUIT	Short circuit delay 0.7S shutdown,Restart period 5S, Retry time 0.7S
FUNCTION	USB INTERFACE	1 USB slave connector , type-B
	DISPLAY	OLED display for easy operation
	INDICATOR	2*LED indicators for BUS voltage; 4*LED indicators for relay ;1*LED indicators for power on.
	GENERIC SETTING	Three buttons(MOVE, SET,ESC) on the front panel to set and view settings
	Ethernet	Control via Modbus TCP/IP protocol (RJ-45)
	Relay	10A/125VAC ,5A/250VAC
ENVIRONMENT	WORKING TEMP.	-25 ~ +45℃
	WORKING HUMIDITY	5 ~ 93% RH non-condensing; comply with climatic EN50090-2-2
	STORAGE TEMP., HUMIDITY	-25 ~ +70℃, 10 ~ 95% RH non-condensing
	VIBRATION	5 ~ 150Hz, 2G 12min./1cycle, each along X, Y, Z axes according to EN50090-2-2
SAFETY & EMC	SAFETY STANDARDS	Compliance to BS EN/EN61347-1, BS EN/EN61347-2-11
	DALI STANDARDS	Compliance to BS EN/EN62368-101,BS EN/EN62386-103
	EMC EMISSION	Compliance to BS EN/EN55015,Harmonic current class A
	EMC IMMUNITY	Compliance to BS EN/EN61547
OTHERS	MTBF	618.9K hrs min. Telcordia SR-332 (Bellcore) ; 190.1K hrs min. MIL-HDBK-217F (25℃)
	DIMENSION	144*90*58.3mm (L*W*H)
	PACKING	0.43Kg; 30pcs/13.9Kg/ 1.30CUFT
	DIN RAIL MOUNTING	35 mm rail ; 8 units wide
	ENCLOSURE MATERIAL	ABS-V0
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input and 25℃ of ambient temperature. 2. Maximum allowable DALI driver is 64 control gears per channel. 3. The maximum allowable input device depends on the connected DALI drivers and the current requirement of input device. For example , if 64 control gears is connected, the maximum driver current available in the DALI bus is 250mA-(2mA×64)=122mA. If the specific power consumption of an input device is 10mA then the maximum of input device should be 12 pcs. 4. The devices may be operated only up to 2000m(6500ft). ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx	

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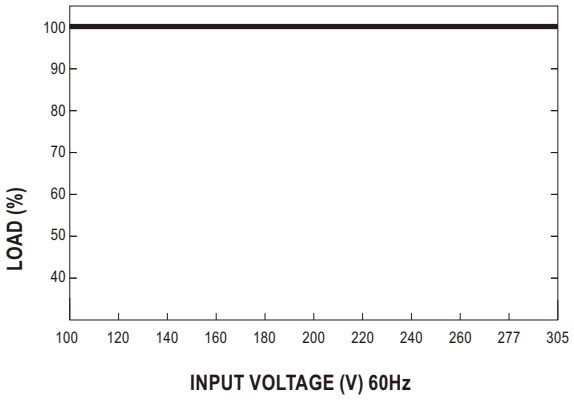
Block Diagram



Derating Curve

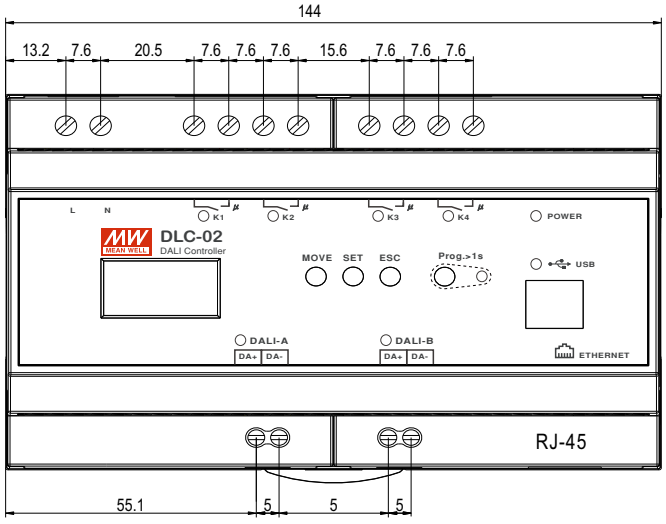


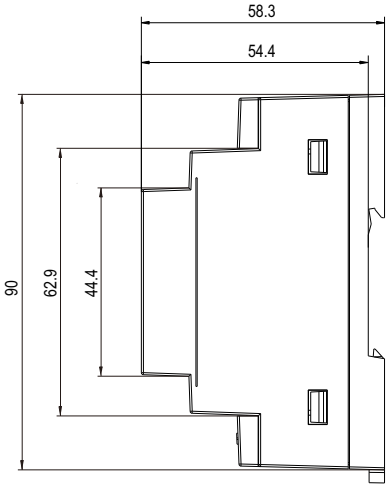
Static Characteristics

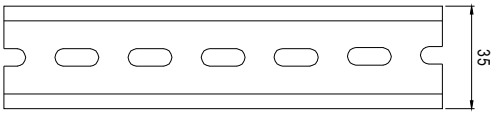


Mechanical Specification

Case No.DLC-02 Unit:mm Tolerance:±1





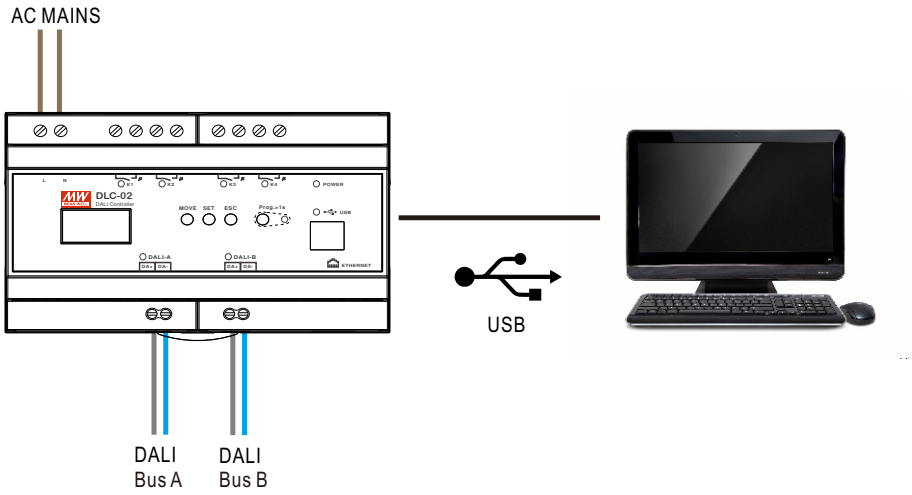


ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

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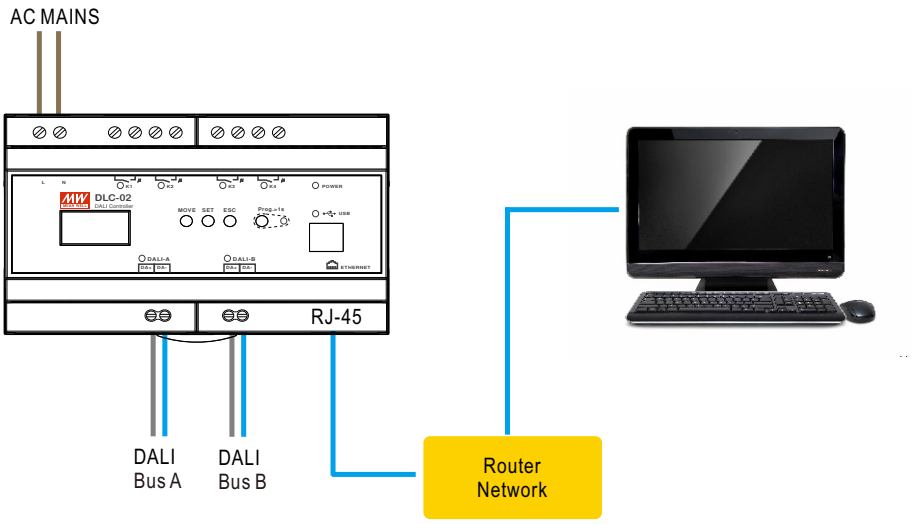
■ Program Setting

◎ Comission through DLC-02 software

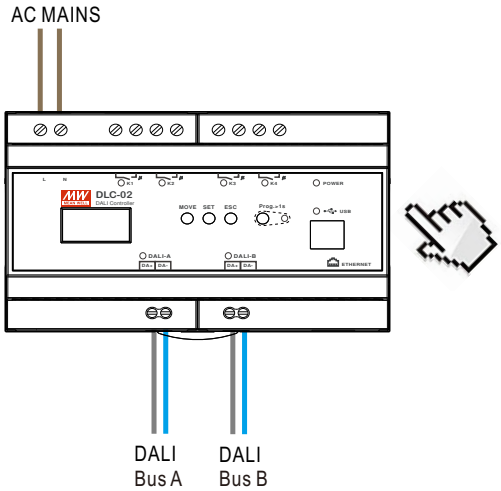


DLC-02 Setting software provide by MEANWELL

◎ Controlling DALI devices via Modbus TCP/IP protocol

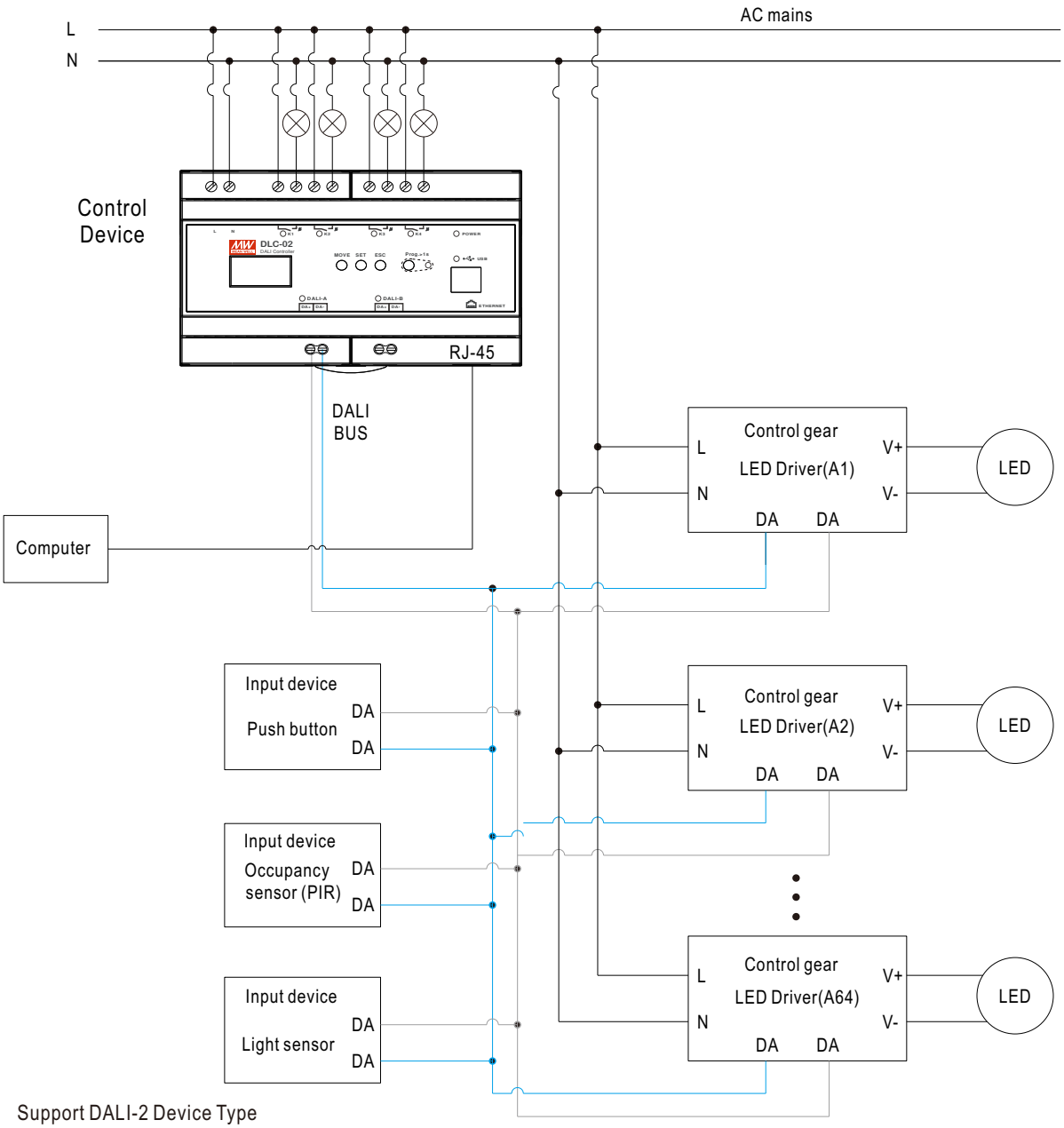


◎ Local setting



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■ Installation Diagram



Support DALI-2 Device Type

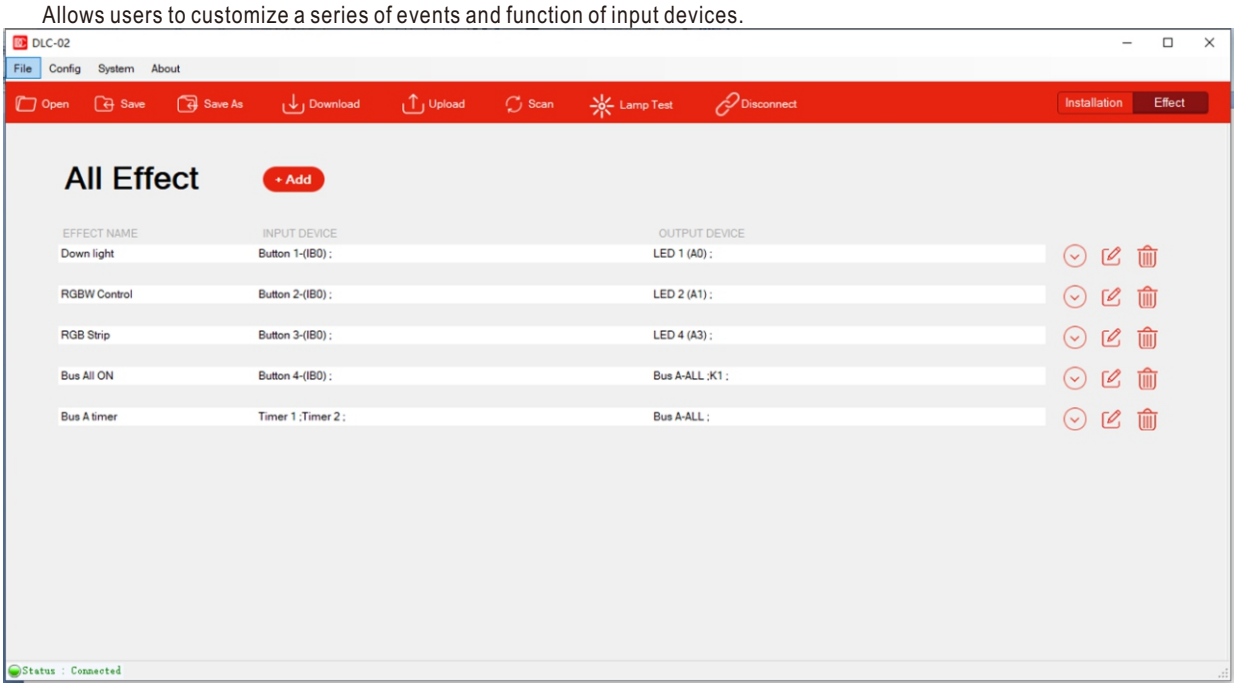
Part	Type of control gear	Device type number
207	**LED lamp** control gear	Device Type 6 (DT6)
209	**Colour** control gear (Tc tunable white, RGBW, xy-coordinate)	Device Type 8 (DT8)

Part	Type of input device
301	Push-button input
302	Slider input
303	Occupancy sensor
304	Light sensor

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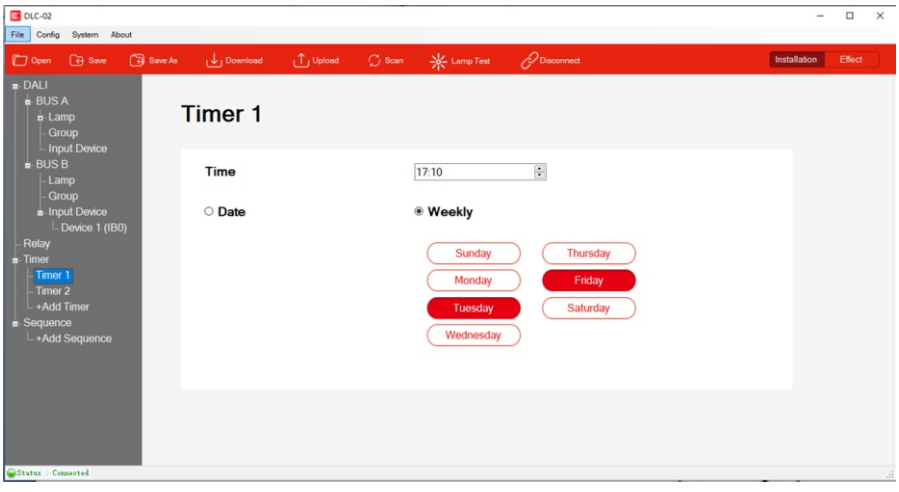
Effect

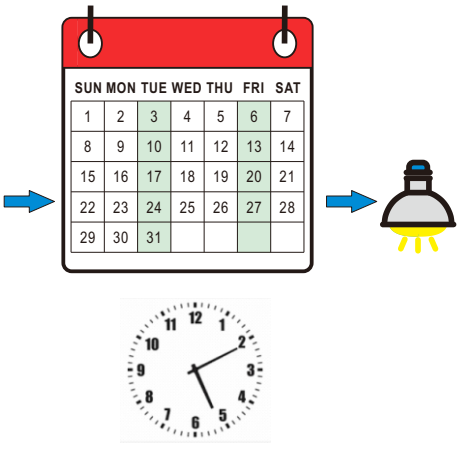
Allows users to customize a series of events and function of input devices.



Timer

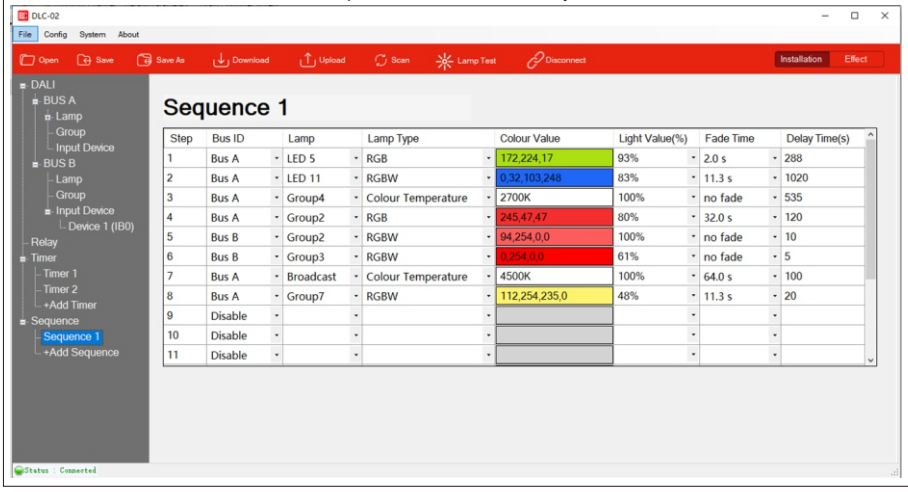
Regular events and actions can be scheduled by the Timer function.

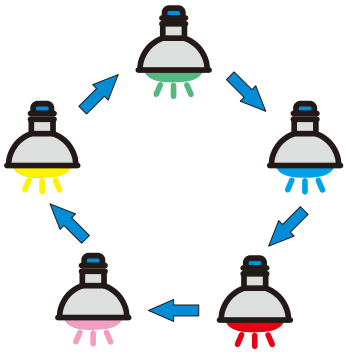




Sequence

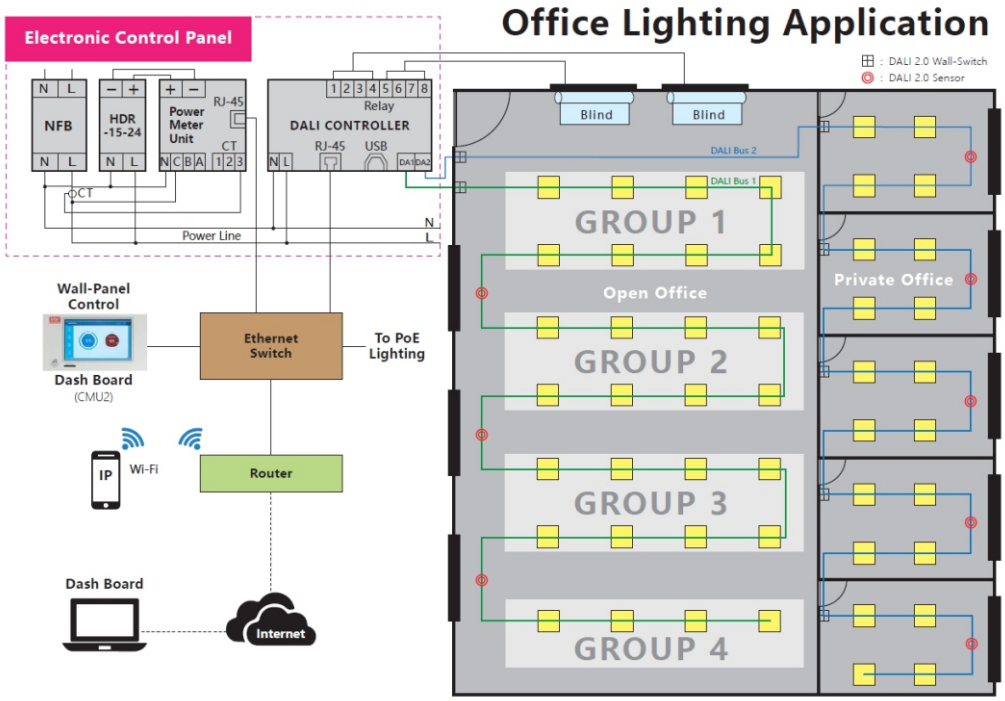
Allows users to customize a sequence schedule with cycles or not.

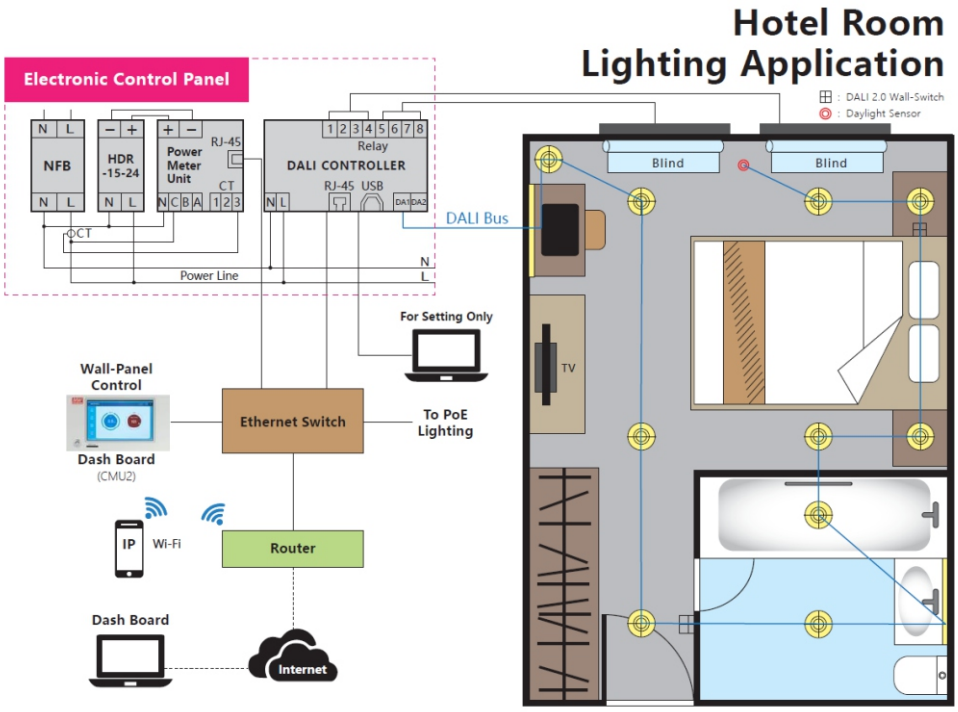




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■ Digital Light Application





■ Recommended Screwdriver, Wire and Torque Setting

1.Screwdriver(Width*Thick):Slotted screwdriver 2.5*0.4~3.5*0.6
2.Wire:1~2.5mm^2 solid core or 1~2.5mm^2 finely stranded
3.Torque:0.8Nm

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

■ Configuration and Commissioning

The DLC-02 software can be downloaded via
http://www.meanwell.com/productCatalog.aspx

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