LED EMERGENCY POWER PACK

www.df-led.com

Model: DF-DALI-2W



RoHS COMPLIANT

LED Emergency Driver Parameters:

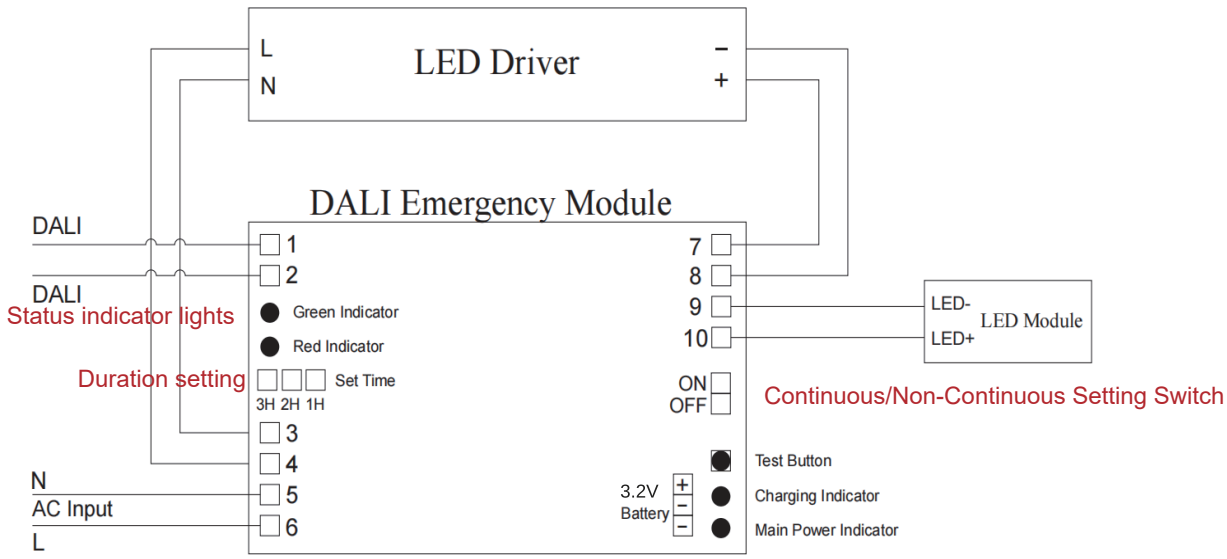
Input voltage	AC90-280V
PF range	0.43-0.52
Light source voltage	12-60V
Emergency power	2W
External driver	Support
Battery Specifcations	LiFePO4 3.2V 4400mAh
Charging current	0.25A
Persistent mode	Continuous/ Non-Continuous Mode Selection
Continuous inspection time	1 Hour, 2 Hour, 3 Hour Selection
Emergency Switching	Less than 0.5 seconds
Protocol instructions	Supports IEC62386-102/102/202 Protocol Commands
Control method	Supports DALI System Control
Control Interface	DALI, ACIN, Drive IN/OUT, Light Source, Battery
Interface protection	DALI Interface High Voltage Protection Above 260V
Status indicator	Main Power Status, Charging Status, and Emergency Power System Status Indicator
Fault detection	Battery Open/Short Circuit; Load Open/Short Circuit
Functional testing	Yes, Press TEST Button to Start Emergency Test
Mode switching	Supports autonomous switching among 7 modes: normal mode, emergency mode, extended emergency mode, rest mode, inhibition mode, function test in progress, and duration test in progress

System functions:

Enables product switching, lighting scenes, grouping, addressing, and status monitoring; the system status indicator lights represent the following meanings:

No.	Controller status	Indicator light status
1	Normal charging	Green light always on
2	Duration detection	Green light flashing slowly
3	Functional testing	Green light flashing
4	LED load open circuit/short circuit	Red light always on
5	Battery open circuit/short circuit	Red light flashing slowly
6	Insuficient battery capacity	Red light flashing

Wiring Diagram:



(Note: If used for networking, the DALI bus can have a maximum of 64 connected devices.)

In normal mode:

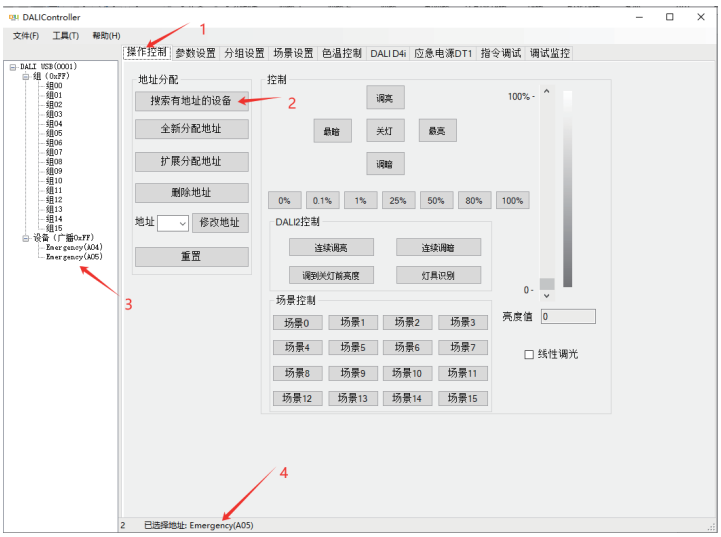
1. Connect as shown in the diagram above. When powered on, the main power indicator and status indicator will light up green. When fully charged, the charging indicator green light will illuminate. This green light will not illuminate when charging is not full.
2. Disconnect the mains power. The light source will then illuminate. The main power indicator and status indicator will turn off.
3. In non-emergency situations, if the battery fails (open/short circuit), the status indicator red light will flash slowly.
4. In emergency situations, if the output load fails (short/open circuit), the status indicator red light will remain on. If the battery capacity is insufficient, the status indicator red light will flash rapidly.

Extended Emergency Use:

1.Connect the DALI 1/2 port on the emergency device to the DALI 1/2 (or +/-) port on the DALI controller. For a single connection, polarity is not critical; however, when networking multiple emergency devices, please ensure that DALI cables with the same port are connected in parallel and then connected to the DALI+/- port.

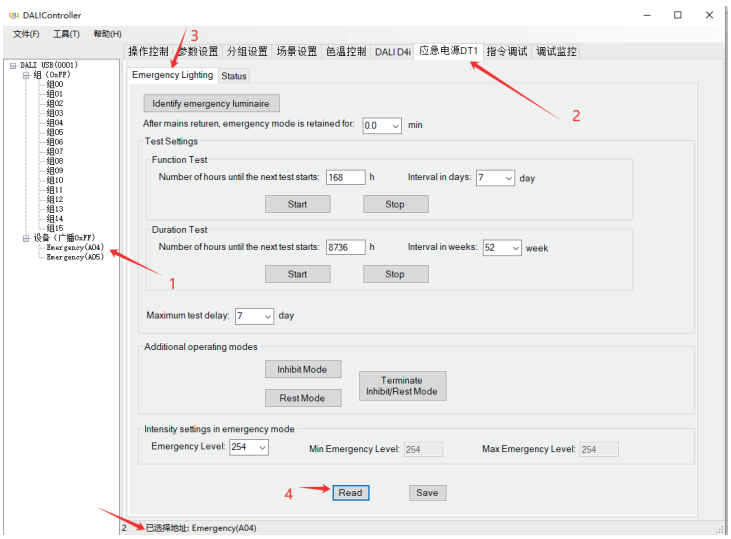
2. After both the emergency device and the controller are powered on, the green indicator light on the emergency device will illuminate. The USB square port data cable on the DALI controller needs to be plugged into the computer's USB port; at this time, the indicator light on the controller will also illuminate.

3. Install the host computer software on your computer and open the software icon. The control page appears as follows:



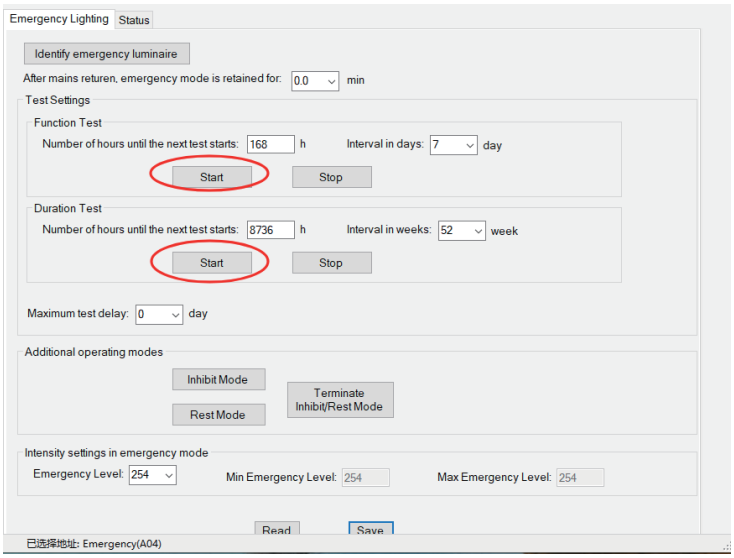
Clicking 1 or 2 will display devices with addresses. Clicking any one of them will show the address of the selected device in the bottom status bar.

If it is a new or unassigned device, it will be displayed as A00 or hidden.

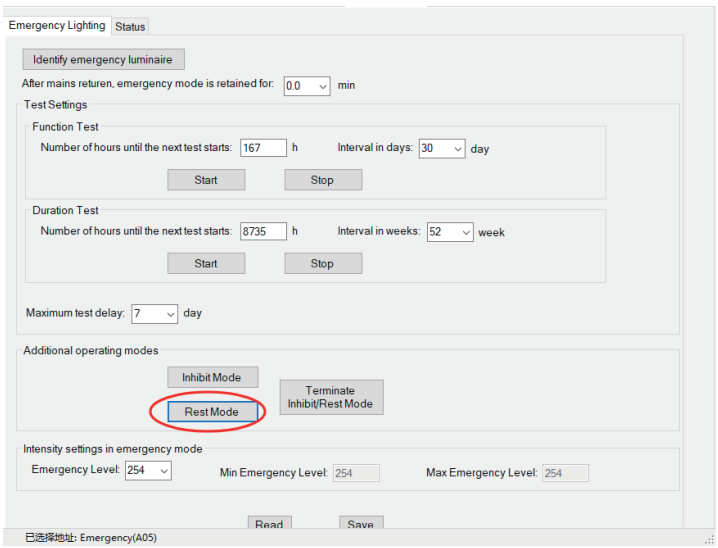


On this page, you can find some related options for setting function checks and continuous checks, such as duration, the interval between the next continuous checks, and stopping sleep mode (turning off lights during continuous checks or in an emergency).

For example, if you need to perform a function test or a duration test, you can simply click the START button after setting it up.



If you need to stop the lighting midway, you can click the RestMode button;



This interface is the configuration interface for the emergency lighting module in the DALI system. It is used to set the test and operation modes,time intervals, and intensity parameters in emergency mode. The core functional modules and parameter meanings are as follows:

1. Emergency Mode Retention Duration :

Function: The duration of emergency mode after mains power is restored.

Parameter: "After mains return, emergency mode is retained for: 0.0 min" indicates that the emergency mode will exit immediately after mains power is restored (retention time is 0 minutes).

Example: If set to 0.5 min, it means that the lights will be on for 0.5 minutes, or 30 seconds, in an emergency and then exit.

2. Test Settings

Used to configure the functional test and duration test of emergency lighting to ensure the reliability of the emergency system.

(1) Function Test

Test trigger: Number of hours until the next test starts (24 h);
Test cycle: Interval in days(Interval in days: 7 days);
Operation buttons:Start(start test), Stop (stop test).
During the function test, the lights are on, the green status indicator light will flash quickly for about 3-4 seconds and then turn off, and the lights will turn off at the same time.
(2) Duration Test
Test trigger: Number of hours until the next test starts: 8736 h, approximately 364 days, or 1 year;
Test cycle: Interval in weeks: 52 weeks, or 1 year;
Operation buttons: Start (start test), Stop (stop test).
(3) Maximum test delay
Parameter: 0 day indicates that the test delay time is 0 days, that is, the test starts immediately after the test trigger condition is met.
During continuous testing, the green indicator light will flash slowly until the continuous testing ends;

3. Additional operating modes

Used to temporarily adjust the working status of emergency lighting:
Inhibit Mode: Forces the emergency lighting output to be turned off, often used to avoid accidental touch during maintenance or testing.
Terminate Inhibit/Rest Mode: Exits the inhibit or rest state and restores the normal operation of emergency lighting;
Rest Mode: Enters a low-power rest state to reduce standby power consumption.

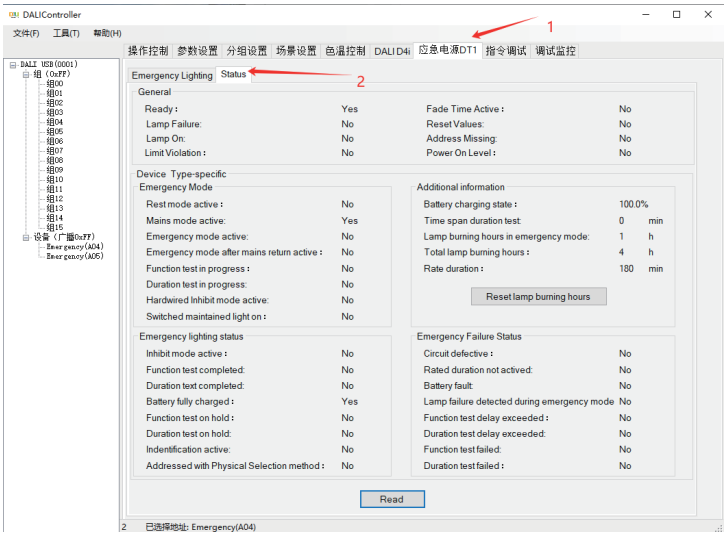
4. Intensity settings emergency mode

Define the brightness level of emergency lighting to ensure lighting effectiveness in emergencies:
Emergency Level: 254 (value range is usually 0-255, representing brightness level);
Min Emergency Level: 254;
Max Emergency Level: 254;
Operation buttons: Read (read current parameters), Save (save configuration).
This option is for dimming, which is not currently supported by this product.

5. Address selection :

The bottom of the interface displays "Selected Address: Emergency (A04)," indicating that the current configuration is for emergency lighting device A04.
Scenario and Application Logic
This interface is the configuration tool for the emergency lighting module in the DALI system. By setting the test cycle, operation mode, and intensity parameters, it enables automated testing and status management of emergency lighting, ensuring lighting reliability in emergency situations.
For example:
Testing: Verifying the response speed and battery life of emergency lighting through "Functional Test" and "Duration Test";
Status Management: Flexibly controlling the output status of emergency lighting through "Suppression/Sleep Mode";

6. On this page, you can switch to the status bar to check the status of DALI emergency devices at each address, including lights, batteries, mains power, etc.



This is the Emergency Lighting status monitoring interface in the DAL1 system, used to view the real-time operating status, fault information, and key parameters of emergency lighting equipment (such as emergency power supply A04).

The following are the parameter meanings for each sub-module:

1. General Status

Displays the basic operating status of the emergency lighting, determining whether the system is ready and whether there are any faults:

Ready: Ready (Yes/No) -- Is the system in normal working condition?

Lamp Failure: Lamp Failure (No) -- Is the lamp faulty? (Displays No if there is no fault.)

Lamp On: Lamp On (No) -- Is the lamp on? (Displays No if it is not on.)

Limit Violation: Limit Violation (No) -- Has the preset limit been exceeded?
(Displays No if there is no violation.)

FadeTime Active: FadeTime Active (No) -- Is the fade time function enabled?
(Displays No if it is not enabled.)

Reset Values: Reset Values (No) -- Is the system in a reset state? (Displays No if it is not reset.)

Address Missing: Address Missing (No) -- Is the device address missing?
(Displays No if no address is missing.)

Power On Level: Power-On Brightness (No) -- Is the brightness active upon power-on?
(Displays No if not active.)

2. Device Type-Specific Status:

Displays detailed statuses in emergency mode, indicating whether different operating modes are active:

Restmode active: Rest mode active (No) -- Is rest mode active? (Displays No if not active.)

Main mode active: Main power mode active (Yes) -- Is main power mode active?
(Displays Yes if active.)

Emergency mode active: Emergency mode activated (No) -- Whether emergency mode is active (displays No if not active).

Emergency mode after mains return active: Emergency mode activated after mains power return (No) -- Whether emergency mode is active after mains power return (displays No if not active).

Function test in progress: Functional test in progress (No) -- Whether functional testing is in progress (displays No if not in progress).

Duration test in progress: Duration test in progress (No) -- Whether the duration test is in progress (Displays No if not in progress).

Hardwired Inhibit mode active: Hardwired Inhibit mode active (No) -- Whether the hardwired inhibit mode is active (Displays No if not active).

Switched maintained light on: Switched maintained light on (No) -- Whether the switched maintained light is on (Displays No if not on).

3. Emergency Lighting Status:

Displays the test and fault status in emergency mode, determining whether the test is complete and whether a fault has been triggered:

Inhibit mode active: Inhibit mode active (No) -- Whether the inhibit mode is active (
Displays No if not active).

Function test completed: Function test completed (No) -- Whether the function test is completed (Displays No if not completed).

Duration test completed: Duration test completed (No) -- Whether the duration test is completed (Displays No if not completed).

Battery fully charged: Battery fully charged (No) -- Is the battery fully charged? (
Displays No if not fully charged).

Function test on hold: Function test paused (No) -- Is the function test paused? (
Displays No if not paused).

Duration test on hold: Duration test paused (Yes) -- Is the duration test paused? (
Displays Yes if paused).

Identification active: Identification active (No) -- Is the identification function active? (
Displays No if not active).

Addressed with Physical Selection method: Addressed with physical selection method (No) -- Is the physical selection method used for addressing? (Displays No if not used).

4. Additional Information:

Displays key battery and test parameters to assist maintenance judgment:

Battery charging state: Battery charging state (75.0%) - Current battery charging percentage.

Time span duration test: Test interval (0 min) -- The duration of the test (unit: minutes).
Lamp burning hours in emergency mode: Cumulative lamp burning time in emergency mode (0 h) -- The duration the lamp has been burning in emergency mode (unit: hours).
Total lamp burning hours: Total cumulative lamp burning time (0 h) -- The total duration the lamp has been burning (unit: hours).
Rate duration: Rate duration (60 mins) -- The duration of a specific operation/test (unit: minutes).
Reset lamp burning hours: Reset cumulative lamp burning time (button) -- Clicking this resets both "Cumulative lamp burning time in emergency mode" and "Total cumulative lamp burning time" to 0.

5. Emergency Failure Status

Displays the types of faults in emergency mode, allowing for quick identification of the cause of the fault:
Circuit defective: Circuit fault (No) -- Whether a circuit fault has occurred (Displays "No" if there is no fault).
Rated duration not Activated: Rated duration not activated (No) -- Whether the rated duration is not activated (Displays No if not activated)
Battery fault: Battery fault (No) -- Whether the battery is faulty (Displays No if no fault is detected)
Lamp failure detected during emergency mode: Lamp fault detected in emergency mode (No) -- Whether a lamp fault is detected in emergency mode (Displays No if not detected)
Function test delay exceeded: Function test delay timeout (No) -- Whether the function test delay timed out (Displays No if not timed out).
Duration test delay exceeded: Duration test delay timeout (No) -- Whether the duration test delay timed out (Displays No if not timed out).
Function test failed: Function test failed (No) -- Whether the function test failed (Displays No if not failed)
Duration test failed: Duration test failed (No) -- Whether the duration test failed (Displays No if not failed).

6. Operation Buttons

Read: Read (Blue Button) -- Click to refresh the interface and read the latest status data of the device.
This interface helps maintenance personnel quickly assess the health of the emergency lighting system through status visualization and fault alerts: A normal status (e.g., Ready: Yes, Lamp Failure: No) indicates stable system operation; a fault status (e.g., Lamp Failure: Yes, Battery fault: Yes) requires immediate investigation; and a test status (e.g., Function test in progress: Yes) allows tracking of test progress.

Developed by: Zhu Zhigang **Approved by: Luo Yong** **Customer Confirmation:**