

999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W

ITEM NO. 41522

Features

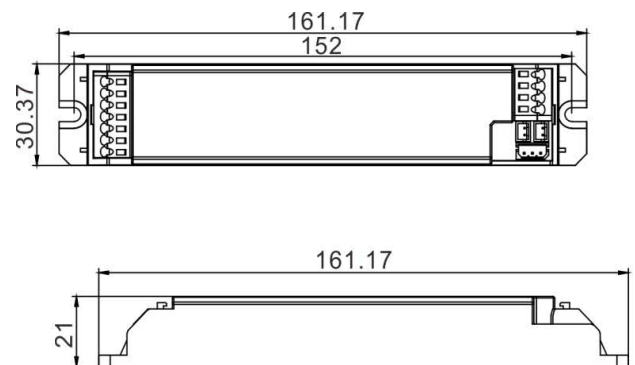
- Self-contained emergency lighting LED driver with DALI-2 interface and automatic test function
- For LED module with a forward voltage of 10-90Vdc
- Plug-in Lithium Iron Phosphate battery
- Integrated DALI bus power supply
- Automatic shutdown of output if LED load is out of range
- Constant power output, output current self-adjustable
- 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W is SELV output voltage

Functions

- DALI-2 automatic testing function
- Maintained/Non-maintained operation
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery



Dimension



Carton Size	Weight per pc.	Batteries
370*310*130	272.1g	26650 2 cells

Technical Specification

Rated supply voltage	220 - 240 VAC
AC voltage range	144-187VAC
Mains frequency	50/60Hz
Power factor	≥0.5
Starting time	1s
Output overvoltage protection	110V
U-OUT (including open-/short-circuit and double load)	120V
Ambient temperature ta	5-55°C
Max. Casing temperature tc	75°C
IP rating	IP20
In-rush current	3.5A
In-rush current duration	4ms
Mains surge capability (between L – N)	1KV

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Battery Discharge & Charge Specification

Maximum withstand voltage	2KV+4U
Withstand time	60s

Specific technical data

Item Code	Typical output emergency power	Mains input current, min	Mains input current, max	Input power in mains operation, min	Input power in mains operation, max
999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W	3.5W	12mA	27mA	0.8W	3.8W

Item Code	LED module forward voltage range Min-Max	LED module forward current range Min-Max	LED module forward power range Min-Max
999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W	10-90Vdc	30-300mA	2.6-3.5W

Note:

1. All specifications are typical at 25°C unless otherwise stated.
2. All specifications are typical on the 230VAC unless otherwise stated.

Testing

DALI Control:

A DALI command from a suitable control unit can be used to initiate function and duration tests at individually selected times. Status flags are set for report back and data logging of results.

When a DALI bus has not been connected or when a DALI bus is connected but the DALI default DELAY and INTERVAL times have not been re-set by sending appropriate DALI commands, then the 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W will conduct self-tests in accordance with the default times set within the EEPROM.

These default times are factory preset, in accordance with the DALI standard EN 62386-202, to conduct an automatic function test every 7 days and a duration test every 52 weeks. Since the DELAY time is factory pre-set to Zero, all units are tested at the same time. Test times can be changed with a command over the DALI bus.

The DELAY and INTERVAL time values must be re-set when the emergency system test times are to be scheduled by a DALI control and monitoring system.

Note that once the default values have been set to Zero, tests will only be conducted following a command from the control system. If the DALI bus is disconnected the 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W does not revert to self-testing mode.

Addressing:

For single handed addressing using this method it is necessary to send a broadcast ident command every 3 to 9 seconds. During this command the LEDs will be switched off and the indication LED will flash the 6 bit binary address preceded by a 3 second start indication period.

Rest Mode / Inhibit Mode:

Emergency operation is automatically started when the mains supply is switched off.

If the Rest Mode is activated, the discharging of the battery will be minimized by switching off the LED output.

If the Inhibit Mode has been activated before the mains supply is switched off, Rest Mode will be automatically switched on if the mains supply is switched off within 15 minutes. REST Mode and Inhibit Mode can be initiated by the DALI controller. The REST command has to be sent after the mains supply has been disconnected and whilst the 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W is in emergency operation. The inhibit command has to be sent while the 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W is supplied by mains. After a mains reset the 999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W exits the Rest Mode. Rest Mode and Inhibit Mode can both be disabled by sending the RE-LIGHT/RESET inhibit command.

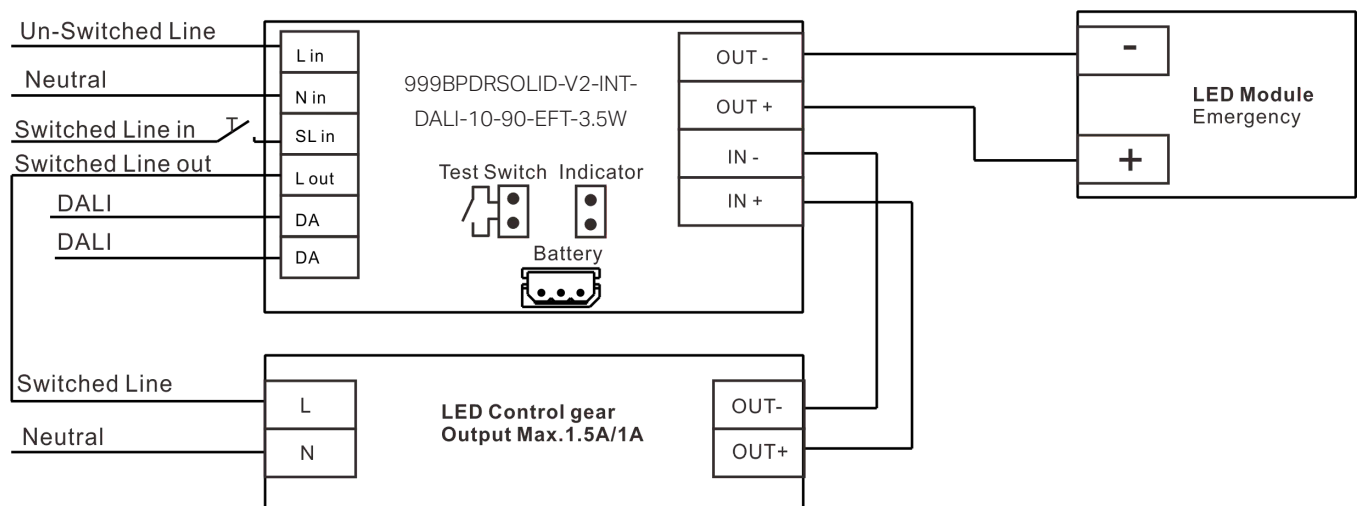
999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W

Indicator LED System status is locally by a bi-color indicator LED.

LED Indication	Status	Description	NOTICE If an error is detected, the indicator LED switches to RED. Once the error has been corrected, disconnect and reconnect the battery with the mains power switched OFF. When the mains power is switched ON again, the indicator LED will immediately switch back to GREEN. If the battery voltage is below 2.8V, starting a function test may trigger a battery error (the red indicator flashes 0.5 seconds ON, 0.5 seconds OFF). To clear this error, disconnect and reconnect the battery, or charge the battery for at least 3 minutes, then start the function test. Once the test has finished, the error will be cleared. To avoid this issue, we recommend starting the function test only after the battery has been charged for at least 10 minutes.
Permanent Green	Standby ,System OK	Mains Operation, battery is charged	
Fast flashing Green (0.25s on 0.25s off)	Function test underway	Function test underway	
Slow flashing Green (1s on 1s off)	Duration test underway	Duration test underway	
Permanent Red	Lamp failure	Open Circuit or Short circuit or LED failure	
Fast flashing Red (0.25s on 0.25s off)	Battery capacity failure	Battery failed duration test	
Slow flashing Red (1s on 1s off)	Battery fault	Incorrect battery voltage or Short circuit or Open Circuit	
Green and Red off	Battery Operation	Emergency mode: Mains disconnected or Mains failure	
Slow flashing Red (1s on 3s off)	Battery temperature error	When power on and battery temperature is above 60 (±2)°C or below 0 (±2)°C	

Wiring Diagram

The maximum no-load voltage of the drive is 120V (999BPDRSOLID-V2-INT-DALI-10-90-EFT-3.5W)



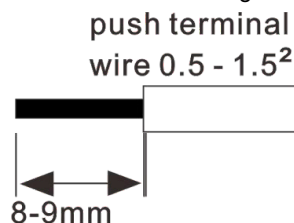
With the following cases, the indicator will be off

1. Mains power off, the light goes into emergency mode
2. Battery is disconnect when mains power on
3. Battery be connected again after disconnected when mains power on (Attention: In that case, please re-set the AC mains power)
4. The applicable Led driver should be isolated ,and max. voltage can not over 120V, max current can not over 1.5A/1A.
5. When the SLin is connected, the LED light is under maintenance, When SLin is disconnected, the LED lights are in a state of no maintenance.

Wiring Diagram

Requirements for wiring wires:

1. Wire diameter range: 0.5-1.5 square meters;



Battery Data

Battery Selection

Emergency power	Batteries	Battery fully charged time	Charge Current	Battery discharge voltage Min-Typ-Max	Battery discharge current Min-Max	Battery output power Min-Max	Emergency Duration
3.5W	6.4V 3000mAh LiFePO4	24h	210mA±10%	5-6.4-7.3V	500-620mA	3.2-3.9W	3h

Note:

Automatically charge when the voltage of a single battery drops below 3.4V. When the voltage of a single battery exceeds 3.6 V, the charger turns off (0mA).

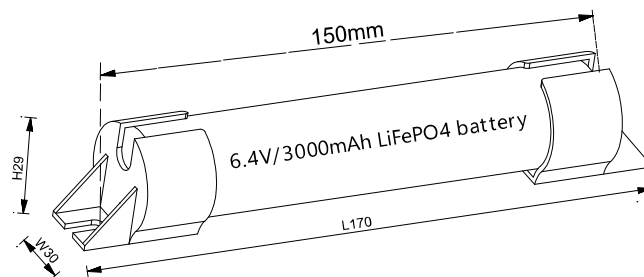
If the battery temperature is above 60 (±2°C) or below 0 (+2°C), the battery will stop charging.

The emergency lighting LED driver will recharge the battery normally after running the test of 61347-2-7 CL22.3 (abnormal operating conditions).

When the voltage of a single battery is below min 2.0 V, the battery will not enter an emergency state.

The minimum charging environment temperature of the battery is 5°C , to ensure that the battery can be charged.

Battery Size



Battery Mechanical Outline

Item Code	L	W	H	Center hole distance
26650 2 cells	170	30	29	145.5

Battery Selection

Capacity	3.0 Ah
International designation	IFpR 26/65
Battery voltage/cell	6.4V
Cell type	26650
Case temperature range to ensure	
4 years design life	+5°C to +55°C
5 years design life	+5°C to +45°C
6 years design life	+5°C to +35°C
Max. short term battery case temperature (shorter than 1 month over the battery lifetime)	70°C
Max. number discharge cycles	50 cycles total
Max. storage time	6 months

Notice: Storage condition

- Batteries should be stored within the specified temperature range in low humidity conditions. Optimal storage conditions are:
 - Temperature: -20°C to +40°C
 - Humidity: 45% - 85%
- Avoid atmosphere with corrosive gas
- It is recommended to disconnect the battery before storage or delivery
- Battery should be charged every three months in order to keep it's initial performance

Standard

This product meets the following standards:

- EN IEC61347-2-7
- EN 61000-3-2
- EN 61547
- EN 55015
- EN IEC61347-1
- EN 61000-3-3
- EN IEC61347-2-13
- ROHS 2.0
- DALI standard EN 62386-202

Product accessory description: Status indication bi-colour LED

- Two-colour status display LED
- Green:system OK, Red:fault
- Plug connection
- Opening size: 6*6mm
- Line length: 12cm/23cm/50cm/1m/2m



Product accessory description: Test switch

- For connection to the emergency lighting unit
- For checking the device function
- Plug connection
- Dielectric strength: 500V AC for 60 seconds
- Opening size: 7.5*7.5mm
- Line length: 12cm/23cm/50cm/1m/2m



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Service Life

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10% for the emergency converter as rated power.

Average failure rate of 0.2% per 1000 operating hours.

Important

It is recommended that the unit is installed by a competent person ensuring the installation complies with the necessary standards.

The company accept no responsibility for incorrect installation, incorrect operation or improper maintenance.

After installation of the fitting, the battery must be charged for 24 hours for duration test.