



# DALI Bus Power Supply

DALI Bus PSU Series

DALI PSU-5-XXX

## Features

- The max. output current is fixed: 200mA / 100mA / 50mA (optional)
- Input and output are Double isolated
- Output short circuit protection
- Low standby power consumption
- IP24 protection rating
- Operating temperature range: -40 ~ +75 °C
- AC input voltage range: 100~277Vac
- Compact form factor and thin profile (easy to fit into lamp casing, wall switch box etc.)
- 5 year Warranty



## Advantages

- It can be widely applied to many types of lighting fixture.
- Wiring diagram and installation example, see page 3.



## Model Description

Model No.: DALI PSU-5-XXX (XXX can be 200, 100, 050)

DALI PSU-5-200 (I-output: 200mA)

DALI PSU-5-100 (I-output: 100mA)

DALI PSU-5-050 (I-output: 50mA)

## DALI Bus PSU Series list

Model No.	Output current	Connection method	Protection rating	Installation method	Size
DALI PSU-1	30mA,50mA,100mA,200mA SET	Connector	IP24	Surface-mounted casing	96mm*36mm*22mm
DALI PSU-2	30mA,50mA,100mA,200mA SET	Connector	IP24	DIN rail mount	88mm*59mm*37mm
DALI PSU-3	200mA/100mA/50mA fixed	Wire	IP67	Surface-mounted casing	95mm*40mm*25mm
DALI PSU-4	200mA/100mA/50mA fixed	Connector	IP24	Surface-mounted casing	96mm*36mm*22mm
DALI PSU-5	200mA/100mA/50mA fixed	Wire	IP24	Surface-mounted casing	66mm*32mm*23mm
DALI PSU-6	200mA/100mA/50mA fixed	Wire	IP67	Nipple mount casing	95.3mm*60.4mm*26mm
DALI PSU-7	200mA/100mA/50mA fixed	Wire	IP65	Surface-mounted casing	47mm*16mm*14mm

## Electrical Specifications

All parameters NOT specially mentioned are typical and measured at 48Vdc, rated current input and 25°C of ambient temperature.

### Ordering Information

Model Number	DALI PSU-5-XXX
Full Product Name	DALI bus power supply

### Technical Data

Input Voltage	100~277Vac
Input Current	0.08A @ 100Vac
Input Frequency	50/60Hz
Min. Operational Input Voltage	85Vac
Max. Operational Input Voltage	305Vac
Inrush Current	Cold start $\leq 25A$ ( $t_{width}=50\mu s$ measured at 10% $I_{peak}$ ) at 230Vac

### Output Information

Output Voltage Range, DALI	15Vdc to 18Vdc
Open Circuit Voltage, DALI	18Vdc
Max. Output Voltage, DALI	18Vdc
Typ. Output Voltage, DALI	15Vdc
Min. Output Voltage, DALI	14Vdc
Guaranteed Output Current, DALI	50mA / 100mA / 200mA
Max. Output Current, DALI	55mA / 110mA / 210mA
Max. Output Power, DALI	5.5W
Output Voltage Ripple	5% max. @ guaranteed output current
Protections	Short circuit protection of DA+ / DA-
Output Short Circuit Protection	Output short circuit behavior has no delay, retry and restart period of shutdown mechanism, but short circuit proof. After 2 seconds of short circuit, the DALI PSU output current is adjusted to less than 50ma, and the normal output can be automatically restored after the short circuit condition is released.

### Environment & Approbation

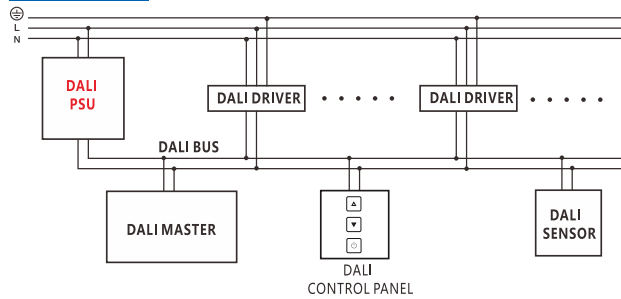
Protection Rating	IP24
Ambient Temp. Range	-40°C to +75°C
Max. Case Temperature[Tcase]	85°C for CE & ETL Safety Features
Operating Condition	Damp and dry
Safety Standards	UL8750, CSA C22.2 No.250.13-12, UL1310, EN61347-1, EN61347-2-11
EMC Emission	Compliance to FCC Part 15, CAN ICES-005, EN55015, EN61000-3-2, EN61000-3-3
EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, Surge immunity Line-Line 1KV
Isolation	Refer to table
Audible Noise	<24dB ClassA

## Isolation

Isolation	Input	Output
Input	Not applicable	Double
Output	Double	Not applicable

Double ... Represents double or reinforced insulation.

## Wiring



## Functional Description

DALI PSU-5 is developed according to EN 62386-101 Ed. 2.1, also known as DALI-2. DALI PSU-5 is a power supply, rated at 15Vdc and can provide max. 250mA output current.

When set at lower levels, it would allow other LED drivers or control devices with built in PSU (with lower than 250mA max. current setting) added to the same DALI bus UNKNOWINGLY and still maintain the DALI bus within the 250mA max. supply current limit.

With the provided 50mA current, up to 25 DALI loads can be connected.  
 With the provided 100mA current, up to 50 DALI loads can be connected.  
 With the provided 200mA current, up to 64 DALI loads can be connected, the remaining 72mA can be used to power other DALI controls without an internal power supply.

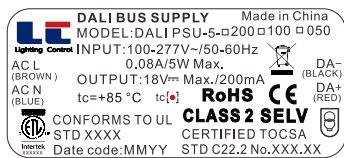
With the provided 250 mA current, up to 64 DALI loads can be connected, the remaining 122mA can be used to power other DALI controls without an internal power supply.

Standard DALI loads are specified to consume max. 2 mA. Control devices may consume more than 2 mA. If such devices are connected to the DALI PSU-5, the amount of possible connected devices will be reduced. This has to be considered during the application design.

## Installation Tips

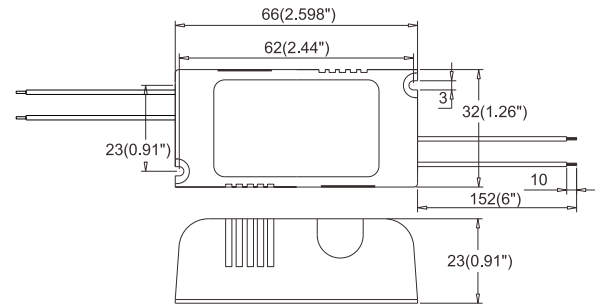
- DALI signals are not SELV. Therefore the same procedures should be applied as working with mains voltage.
- Individual DALI circuits must not exceed 50mA/100mA/200mA/250mA.
- The DALI signal wires must not drop more than 2V.

## Product Label



## Dimensions & Weight

	in.	mm
Case Length	2.598"	66
Case Width	1.26"	32
Case Height	0.91"	23
Mounting Length	2.44"	62
Mounting Width	0,91"	23
Weight	0.088lb/0.040Kg	



## Cable Specification

	Live	Neutral	DALI+	DALI-
Color:	brown	blue	purple	gray
Cable:	18AWG	18AWG	18AWG	18AWG
Length:	6"/152mm	6"/152mm	6"/152mm	6"/152mm

### Max. output cable length

Material	Cross- section	Max. output cable length	
		25 °C	75 °C
Copper	0.20 mm <sup>2</sup>	43 m	35 m
	0.50 mm <sup>2</sup>	110 m	90 m
	0.75 mm <sup>2</sup>	165 m	136 m
	1.00 mm <sup>2</sup>	220 m	183 m
	1.50 mm <sup>2</sup>	290 m	273 m
Aluminium	0.20 mm <sup>2</sup>	23 m	19 m
	0.50 mm <sup>2</sup>	62 m	52 m
	0.75 mm <sup>2</sup>	100 m	84m
	1.00 mm <sup>2</sup>	132 m	111 m
	1.50 mm <sup>2</sup>	200 m	167 m

## Shenzhen Lighting Control Technology Co.,Ltd

Block A, 107 Huiju Park, No.18 Shangliao Industrial Road,  
 Xinqiao Community, Bao'an District, Shenzhen, China

www.szlightingcontrol.com  
 +86-0755-23006274  
 info@szlightingcontrol.com  
 info@lc-all.com