



## Product Features

- High power factor: PF > 0.9
- Low Harmonic Distortion: THD < 10%
- Efficiency: 82%
- Flicker-free parameters: Pst LM < 0.07, SVM < 0.01
- No load/Standby power < 0.5W
- Anti-surge voltage: differential mode 1kV (L-N)
- Designed for CE-Erp compliance
- Over-heat / Over-load / Short circuit protection
- Suitable for Class II, III fixtures



Flicker-Free  
IEEE 1789



## Advantages of the DB-12-XX-XX-DA series products

- Compatibility with intelligent and traditional dimming: DALI protocol, two-way communication; controlled by AC push switch, ready for use upon installation
- Centralized lighting management: All devices are uniformly managed by the central control unit in the DALI system
- High-frequency exemption level: Supports high-frequency dimming above 4000 Hz, compliant with IEEE 1789 exemption standards
- Deep dimming no flicker: The dimming range is 0.1 - 100%
- Ultra-low energy consumption: Features an active PFC design with PF > 0.9
- Safety protection: Class II insulation design and multiple protection functions

## Product Description

- 12W, 100-450mA (Set via DIP switches)
- Constant current output, 1CH dimmable LED driver
- 2 in 1 Dimming interface: DALI or AC Push switch
- Compliant with DALI standard protocol: IEC 62386-101/102/207
- Dimming range: 0.1-100%
- 5 years warranty

## Housing Features

- Housing material: Polycarbonate, white color
- Input wiring: Screw terminal
- Output wiring: Screw terminal
- Ingress protection: IP20, for indoor use

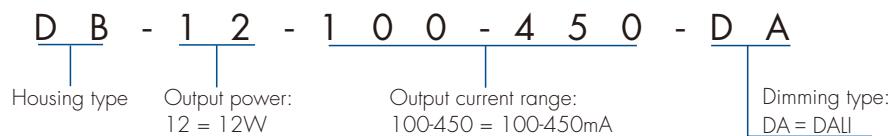
## Product Applications

- Downlights and spotlights for indoor lighting
- Panel lights for office/commercial lighting

## Model List

Model	Input voltage ~	Output voltage ---	Output Current	Output power	Power factor	Efficiency	Certification
DB-12-100-450-DA	220-240V	53V Max.	100-450mA	12W Max.	>0.9	82%	DALI-2, ENEC, TUV, CB, CE, RoHS, UKCA, ERP
DB-12-350-700-DA	220-240V	34V Max.	350-700mA	12W Max.	>0.9	82%	DALI-2, ENEC, TUV, CB, CE, RoHS, UKCA, ERP

## Model Naming Rule



## Technical Parameters

Output parameter			
Item	Value	Unit	Note
Output Current Range	100-450	mA	-
Output Voltage Range	9-42	VDC	Max. 53VDC
Output Power Range	0.9-12.15	W	Max. 12W
Dimming Range	0.1~100	%	-
Ripple	50	mA	-
Current Accuracy	±5	%	-
Flicker-free	Pst LM<0.07, SVM<0.01	-	Measure using constant-current LED chips.

Input parameters			
Item	Value	Unit	Note
Input Voltage Range	220~240	VAC	-
Rated Input Voltage Range	220~240	VAC	-
Maximum Input Voltage Range	198~264	VAC	-
Frequency Range	50/60	Hz	-
Efficiency(Typ)	82	%	230VAC
Input Current	0.08 Max.	A	-
Power Factor	>0.9	-	Full load, refer to the "Char.Curve Figure 3"
THD	<10	%	Full load, refer to the "Char.Curve Figure 4"
Inrush Current	6.91	A	Cold start at 230VAC
Anti Surge	1	KV	diff. mode: L-N Acc. to IEC61000-4-5.1.2/50us, 8/20us
Leakage Current	0.4	mA	-
No Load/Standby Power	<0.5	W	-

Operation Environment			
Item	Value	Unit	Note
Working Temperature	-20~45	°C	-
T-case Max	80	°C	-
Working Humidity	20~90	%	non-condensing
Storage Humidity	10~95	%	-
Storage Temperature	-40~80	°C	-
Temperature Coefficient	±0.03	%/°C	0.50%
Noise	21.7	dB	-
Vibration Resistance	10~500	Hz	Hz, 2G, 6min/cycle, X,Y,Z axes/2min
IP Rating	IP20	-	-
Lifetime	50000	Hrs	@Tc 80°C, refer to the "Char.Curve Figure 5"

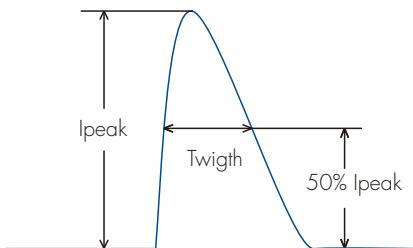
Safety & EMC			
Item	Value	Unit	Note
Withstand Voltage	3750	VAC	I/P-O/P
Insulation Resistance	>5.5/500/25/70	GΩ/VDC/°C/%RH	I/P-O/P
EMC Emission	EN55015, EN61000-3-2/-3	-	-
EMC Immunity	EN61000-4-2.3.4.5.6.11, EN61547	-	-
Certifications	DALI-2,ENEC, TUV, CB, CE, RoHS, UKCA, ERP	-	-

### Certification Standards:

EN61347-1, EN61347-2, EN61547, EN55015, EN61000-3-2, EN61000-3-3, IEC62386-101, IEC62386-102, IEC62386-207

Inrush current & MCB

Item	Value				Unit	Note
Inrush current	6.91				A	-
Twighth	0.148				ms	-
MCB type	B10	B16	C10	C16	pcs	-
	33	52	33	52		



- The calculation is based on the parameters of the ABB S200 series of miniature circuit breakers.
- For miniature circuit breakers of different brands and models, the number of power supplies that can be connected varies.
- When the installation environment temperature of the MCB exceeds 30°C, or parallel connection installed, the number of connectable power supplies will also decrease, need recalculation.
- Type B MCB are suitable for household lighting, Type C MCB are suitable for commercial lighting.

Insulation between circuits

Insulation	Input	Output	Case	DALI	PUSH
Input	-	SELV	SELV	Basic	-
Output	SELV	-	SELV	SELV	SELV
Case	SELV	SELV	SELV	SELV	SELV

**Basic insulation:** The minimum insulation required for the normal operation of the equipment, used to isolate energized parts from accessible parts (e.g., shells, parts that may be touched by the human body) and to prevent direct contact with electric shocks.

**Double insulation:** It is composed of basic insulation and additional insulation, forming two independent layers of insulation protection, even if one layer fails, the other layer can still prevent electric shock.

Protection function

Over Load: When the load  $\geq 110\% \sim 140\%$ , hiccup protection, automatic recovery after load reduction.

Over Temperature: Current decrease when PCB temp  $> 100^\circ\text{C}$ , recovers automatically after fault condition is removed.

Short Circuit: Shut down the output voltage, recovers automatically after fault condition is removed.

Dimming interface

DALI dimming: Voltage range 9.5-22.5V, typical 16V, interface current consumption 1.62mA.

Push DIM dimming: Voltage range 220~240VAC 50/60Hz.

Dimming range: 0.1-100%.

Test note:

If not specified, the above parameters are the result of testing at ambient temperature of  $25^\circ\text{C}$ , humidity of 50%, full load conditions.

The startup time is measured during a cold start. Frequent powering on and off may lead to an increase in the startup time.

The ripple current and standby power consumption are measured under full load conditions.

Identifier explanation:

 : A standalone power supply unit that can be installed independently of the lighting fixture.

 : Safety-isolated and short-circuit-resistant control device.

**SELV** : Safety extra-low voltage. Output voltage must not exceed 50V (AC) and 120V (DC).

## Characteristic Curve

Figure 1

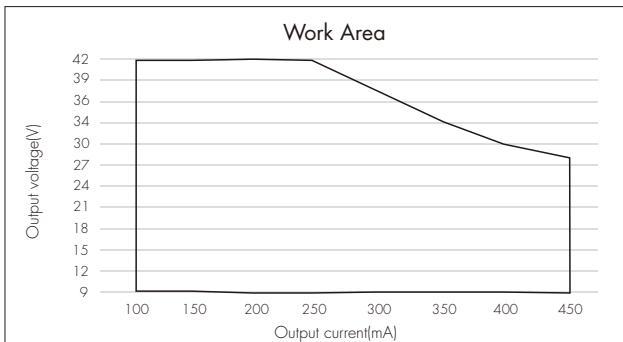


Figure 2

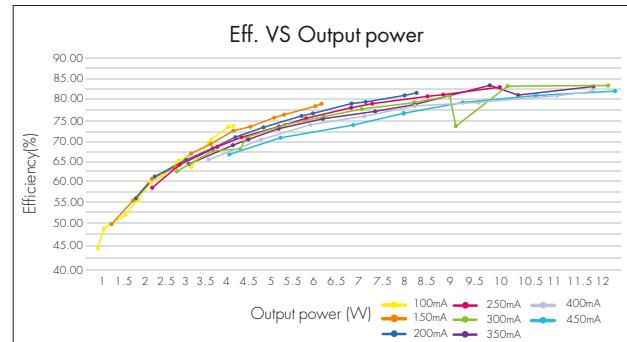


Figure 3

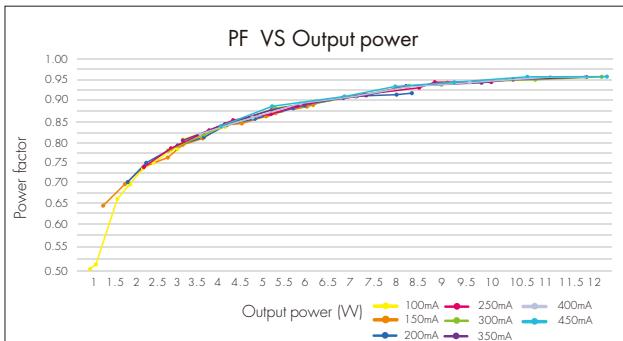


Figure 4

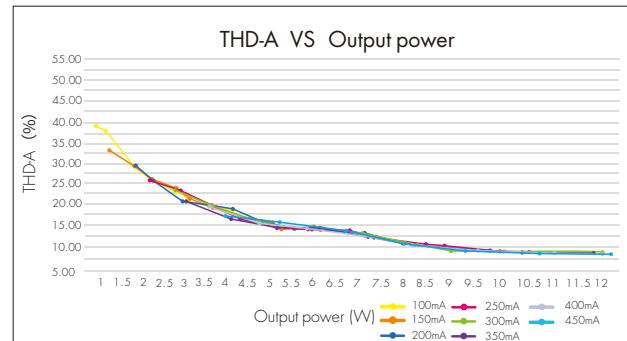


Figure 5

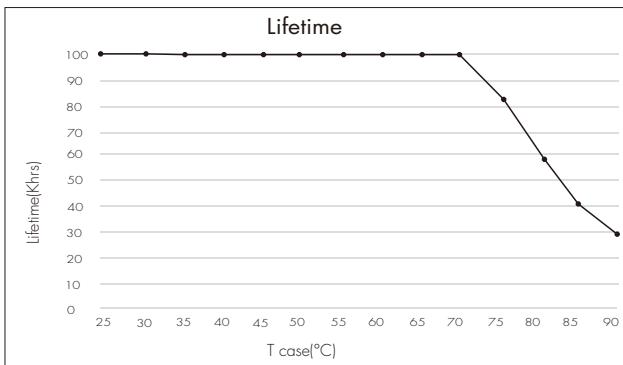
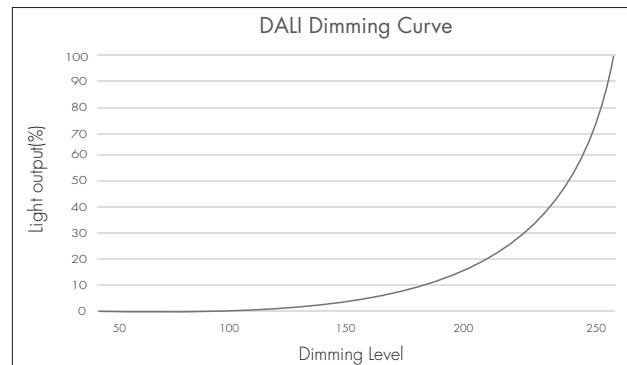


Figure 6



The relationship of the  $T_c$  temperature also depends on the lighting fixture setting.

The default is a logarithmic dimming curve, if you need a linear dimming curve, you can change it through the DALI configuration tool.

## LED Current Setting

Set the output current value via the 3-digit DIP switch



1 2 3	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
output current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	450mA
output voltage	9-42V	9-42V	9-42V	9-42V	9-40V	9-34V	9-30V	9-27V
output power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W	3.15-11.9W	3.6-12W	4.05-12.15W

Note: 1. Before adjusting the current via the DIP switches, disconnect the power supply. Failure to do so may damage the lighting fixture.  
2. Output current accuracy  $\pm 5\%$ .

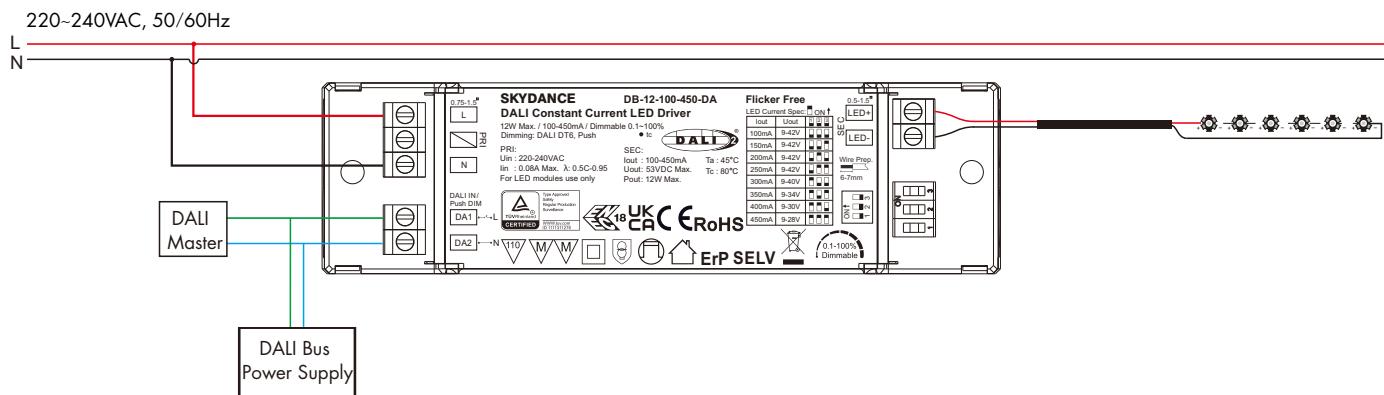
## Wiring Diagram

### • Wiring Instructions

Input/Output Wiring	Port Definition	Wire Diameter and Stripping Length
Input Wiring(PRI)	AC-L, AC-N DALI signal input/ AC Push switch input	Wire Diameter: 0.75-1.5 <sup>2</sup> (18-16AWG) Stripping Length: 6-7mm
Output Wiring(SEC)	LED+, LED-	Wire Diameter: 0.5-1.5 <sup>2</sup> (20-16AWG) Stripping Length: 6-7mm

Note: DALI dimming and AC push switch dimming cannot be used at the same time, otherwise, the dimming device will be damaged.

### • DALI dimming



#### Remarks:

1. Standard DALI control line voltage range: 9.5V to 22.5V.
2. The two DALI control lines polarity-reversible.
3. Max. 64 DALI LED drivers per DALI control line.
4. The maximum distance length of the DALI control line is 300m at  $2 \times 1.5\text{mm}^2$ . (Or the pressure drop cannot exceed 2V)

#### DALI dimming parameter setting:

The configuration parameters of the LED driver can be set during installation through the DALI master controller or DALI application controller.

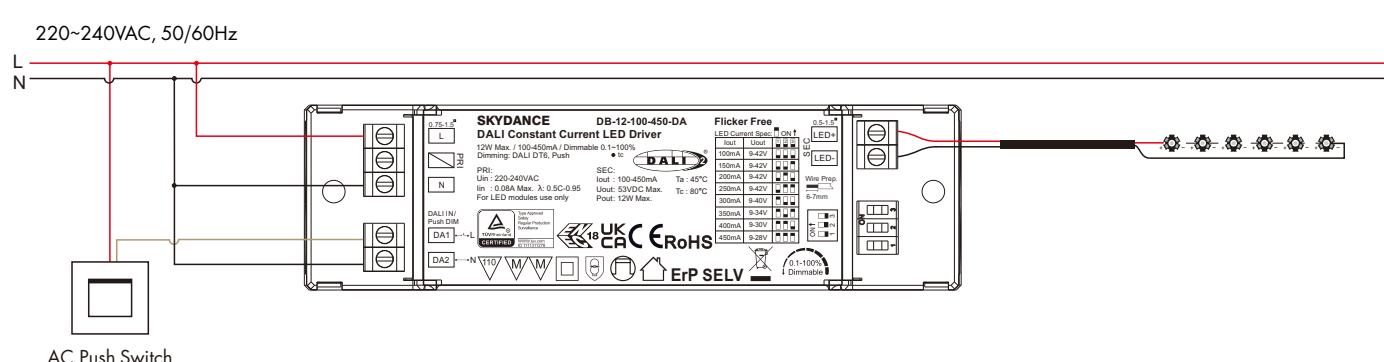
Please refer to the DALI configuration tool user manual, for example:

Maximum dimming level, default minimum 0.1%, dimming range:  $0.1\% \leq \text{Min} \leq 100\%$ ,

Maximum dimming level, default maximum 100%, dimming range:  $0.1\% \leq \text{Max} \leq 100\%$ .

16 group addresses and 64 unicast addresses.

### • AC Push dimming



#### AC push switch dimming:

**Short press:** Turn on/off the light.

**Long press(1-6s):** Press and hold to step-less dimming, with every other long press, the light level goes to the opposite direction.

**Dimming memory:** Light returns to the previous dimming level when switched off and on again, even at power failure.

**Synchronization:** The push switch connector can be connected to the self-reset panel switch or the self-reset button to dim the light.

If more than one dimmable power supply are connected to the same push switch, do a long press for more than 10s, then the system is synchronized and all lights in the group dim up to 100%.

## Installation Precautions

### 1. Hot plug-in

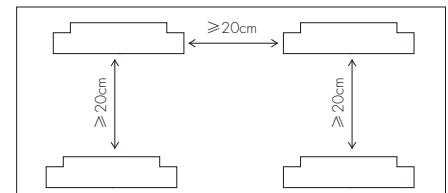
- Hot plug-in is not supported due to residual output voltage of > 0 V.
- If a load is connected, the device needs to be restarted.
- The restart can be achieved by reset or dimming interface (DALI, Push DIM).

### 2. Wiring guidelines

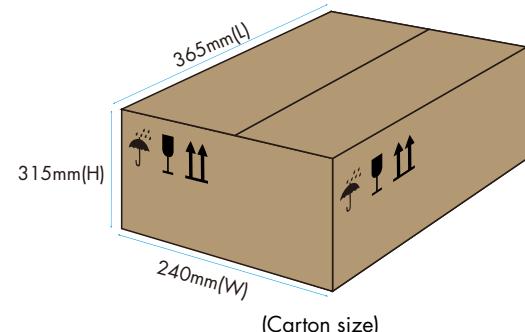
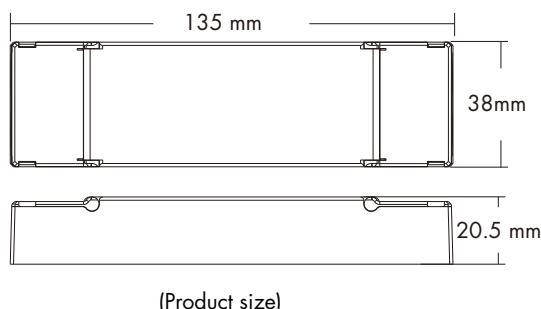
- This product must be installed and adjusted by a qualified professional.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection.
- PC covers, housings and plug light kits for power supplies assembled within the fixture are required to meet UL94-V0 and above fire ratings.
- The power supply is used as part of the luminaire system in conjunction with the end device (luminaire), and since the EMC performance is affected by the LEDs and the alignment. The end device manufacturer needs to re-verify the EMC of the complete unit.
- If a fault occurs, please do not attempt to repair the product by yourself; If you have any questions, please contact us in time.

### 3. Installation environment

- This product is non-waterproof. When installed outdoors, please ensure it is mounted in a water proof enclosure.
- This product should be installed in a dry, acid-free, oil-free environment.
- Please use the product within the operating temperature range of -20°C~45°C to ensure stable performance.
- LED driver should keep a certain distance from the heating stuff(such as the luminaires radiator). The installation interval between the product and the product is recommended to be 20cm, so as not to affect the service life due to poor heat dissipation(show in Figure).



## Product Size and Packaging Information



Model	Product size (mm)	White box size(mm)	N.W(pcs)	Carton size(mm)	Qty/carton	N.W/carton	G.W/carton
DB-12-100-450-DA	135*38*20.5(L*W*H)	156*52*28(L*W*H)	86g(±5g)	365*240*315(L*W*H)	100pcs	8.6kg (±0.5kg)	11.56kg (±0.5kg)

## Version Log

Version	Update time	Update Content
1.0.0	2026.01.04	Original version

All information in this manual has been carefully reviewed. We reserve the right of final interpretation in the event of any typographical errors or misunderstanding of the content. If there is any improvement of the product, the relevant content will be revised to the new version of the manual simultaneously. Thanks for your support!