Product Features

- High power factor: PF > 0.9
- Low Harmonic Distortion: THD < 10%
- Efficiency: 82%
- Flicker-free parameters: Pst LM < 0.2, SVM < 0.006
- No load/Standby power < 0.5W
- Anti-surge voltage: differential mode1kV (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-XAS series products

- **Low standby power consumption:** Low standby power consumption (<0.5W), compliant with energy efficiency regulations (CE-Erp)
- **High-frequency exemption level:** Supports high-frequency dimming above 4000 Hz, compliant with IEEE 1789 exemption standards
- **High dimming accuracy:** Smooth dimming without flicker from analogue signals, dimming range 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, 150-500mA (Set via DIP switches)
- Constant current output, 1CH dimmable LED driver
- Compatible with 4 kinds of dimming signals: 0-10V, 1-10V, 10V PWM, RX
- Dimming range: 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

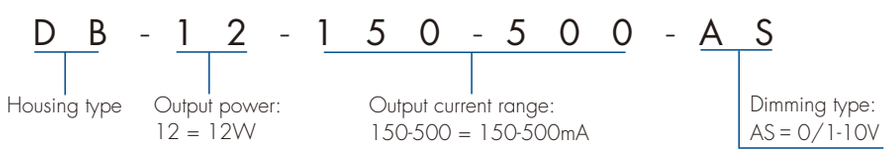
Product Applications

- 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-12-150-500-AS	220-240V	53V Max.	150-500mA	12W Max.	>0.9	82%	ENEC, TUV, CB, CE, RoHS, UKCA, ERP
DB-12-150-500-2AS	220-240V	53V Max.	150-500mA	12W Max.	>0.9	82%	ENEC, TUV, CB, CE, RoHS, UKCA, ERP

Model Naming Rule



Technical Parameters

Output parameter			
Item	Value	Unit	Note
Output Current Range:	150-500	mA	-
Output Voltage Range:	9-42	VDC	Max. 53VDC
Output Power Range:	1.35-12.15	W	Max. 12W
Dimming Range	1~100	%	-
Ripple	50	mA	-
Current Accuracy	±5	%	-
Flicker-free	Pst LM<0.2, SVM<0.006	-	Measure using constant-current LED chips.

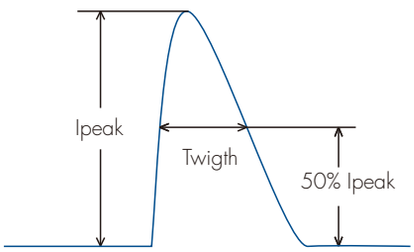
Input parameters			
Item	Value	Unit	Note
Input Voltage Range	220~240	VAC	-
Rated Input Voltage Range	220~240	VAC	-
Maximum Input Voltage Range	198~264	VAC	-
Frequency Range	50/60	Hz	-
Efficiency(Typ)	82	%	230VAC
Input Current	0.08 Max.	A	-
Power Factor	>0.9	-	Full load, refer to the "Char.Curve Figure 3"
THD	<10	%	Full load, refer to the "Char.Curve Figure 4"
Inrush Current	6.25	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
Woking 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	22.6	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	-	-
Certications	ENEC, TUV, CB, CE, RoHS, UKCA, ERP	-	-

CertiAcation Standards: EN61347-1, EN61347-2, EN61547, EN55015, EN61000-3-2, EN61000-3-3

Inrush current & MCB						
Item	Value				Unit	Note
Inrush current	6.25				A	-
Twigth	0.162				ms	-
MCB type	B10	B16	C10	C16	pcs	-
	45	73	45	91		



- 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 betwwen circuits				
Insulation	Input	Output	Case	0/1-10V
Input	-	SELV	SELV	Basic
Output	SELV	-	SELV	SELV
Case	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≥110%~140%, the indicator light flashes slowly, hiccup protection, automatic recovery after load reduction.

Over Temperature: When the PCB temperature >100°C, the indicator light flashes slowly, output power is reduced, and automatically resumes after the fault condition is eliminated.

Short Circuit: During short-circuit protection, the indicator flashes rapidly, output voltage shuts off, and automatically resumes within 5s; If short-circuit protection lasts over 15s, the indicator light remains flashing rapidly without restoring output voltage. A restart is required to resume output voltage.

Dimming interface

0/1-10V dimming: Dimming range 0-10V or 1-10V, dimming connector current consumption < 0.25mA, dimming curve refer to the "Char. curve Figure 6-7".
Dimming range: 1-100%

Test note:

If not specified, the above parameters are the result of testing at ambient temperature of 25°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

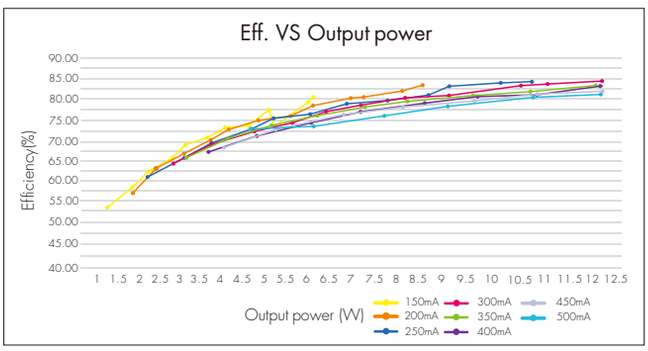


Figure 3

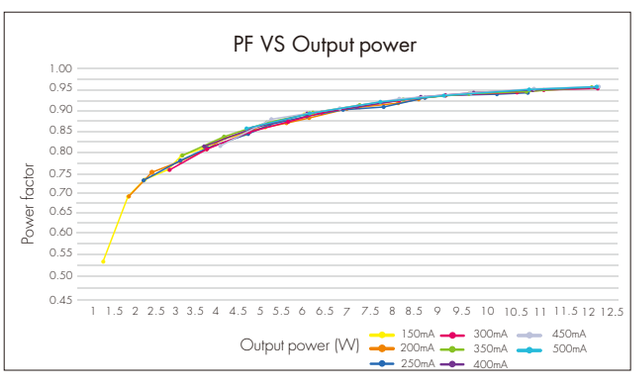


Figure 4

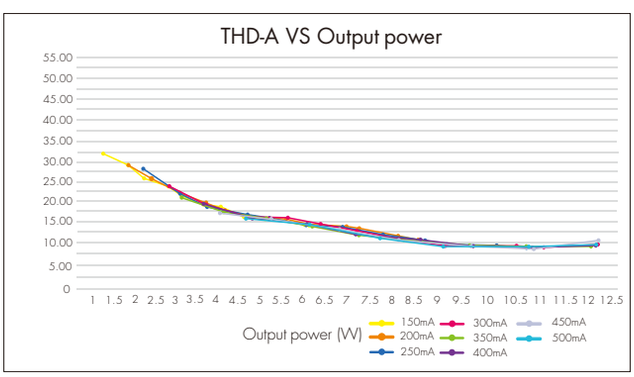
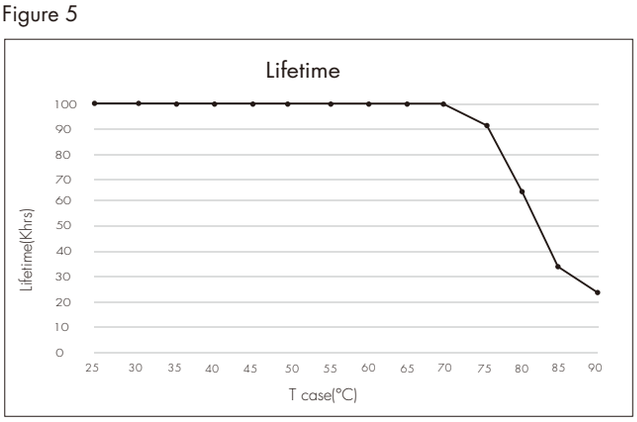


Figure 5



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

Figure 6

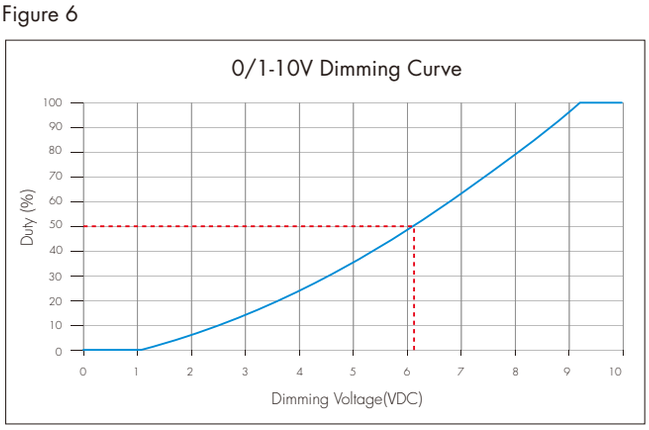
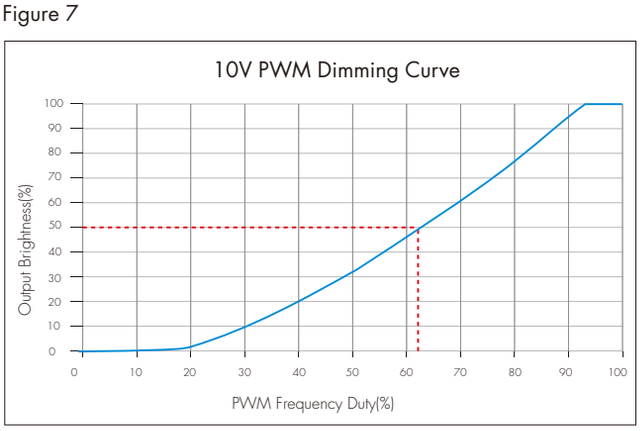


Figure 7



LED Current Setting

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

1 2 3	■□□	■■□	■□■	□■■	■■■	■□□	■■□	□□□
output current	150mA	200mA	250mA	300mA	350mA	400mA	450mA	500mA
output voltage	9-42V	9-42V	9-42V	9-40V	9-34V	9-30V	9-27V	9-24V
output power	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	4.5-12W

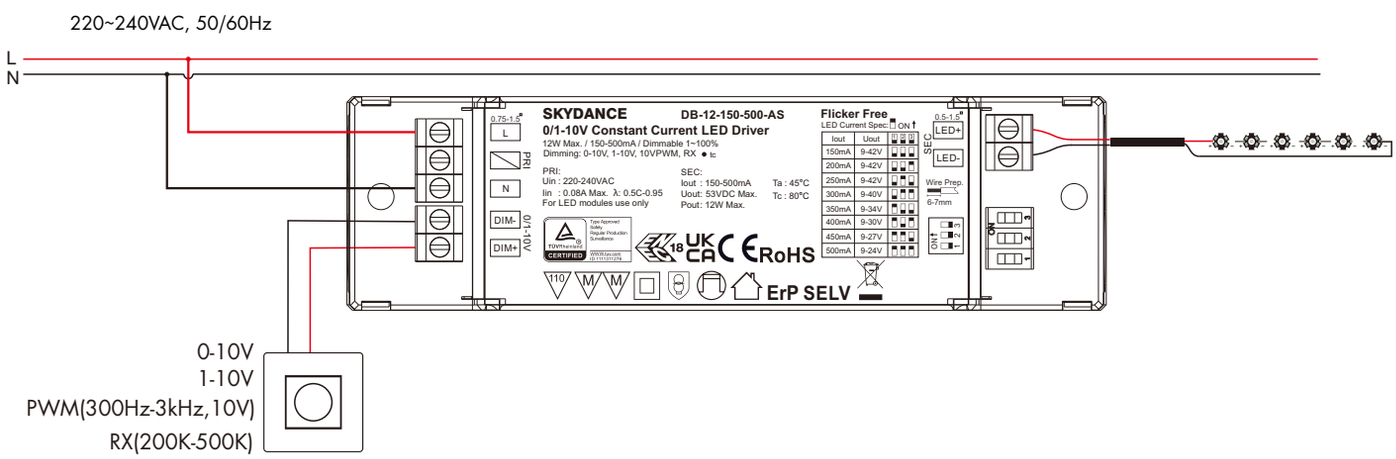
Note: 1. Before adjusting the current via the DIP switches, disconnect the power supply. Failure to do so may damage the lighting fixture.
2. Output current accuracy ±5%.

Wiring Diagram

- Wiring Instructions

Input/Output Wiring	Port Definition	Wire Diameter and Stripping Length
Input Wiring(PRI)	AC-L, AC-N 0/1-10V signal input	Wire Diameter: 0.75-1.5㎟(18-16AWG) Stripping Length: 6-7mm 
Output Wiring(SEC)	LED+,LED-	Wire Diameter: 0.5-1.5㎟(20-16AWG) Stripping Length: 6-7mm 

- Dimming Wiring



1. 0/1-10V input can be connected to a wall switch 0/1-10V knob dimmer, or to the 0/1-10V signal output connector of a 0/1-10V dimming system.
2. Compatible with 0-10V, 1-10V, 10V PWM, RX(4 in 1)signal input.
3. 0/1-10V dimming connector current consumption < 0.25mA, For consistent dimming,
it is recommended to connect no more than 50 LED dimming drivers when the output signal current of the connected 0/1-10V dimmer is 20mA.
When the output signal current of 0/1-10V dimmer is 50mA, it is recommended that the number of LED dimming driver connections should not exceed 100.
The maximum wiring length from the dimmer to the LED dimming driver should not exceed 50m (copper wire with a cross-section of 0.75 mm² is used for wiring).

Installation Precautions

1. Hot plug-in

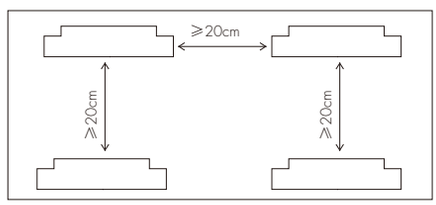
- Hot plug-in is not supported due to residual output voltage of > 0 V.
- If a load is connected, the device needs has to be restarted.
- The restart can be achieved by reset or dimming interface (0/1-10V).

2. Wiring guidenlines

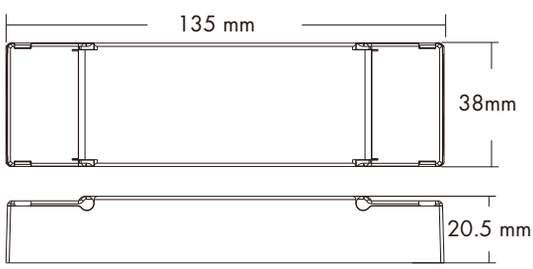
- This product must be installed and adjusted by a qualified professional.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection.
- PC covers, housings and plug light kits for power supplies assembled within the fixture are required to meet UL94-V0 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 x the product by yourself; If you have any questions, please contact us in time.

3. Installation environment

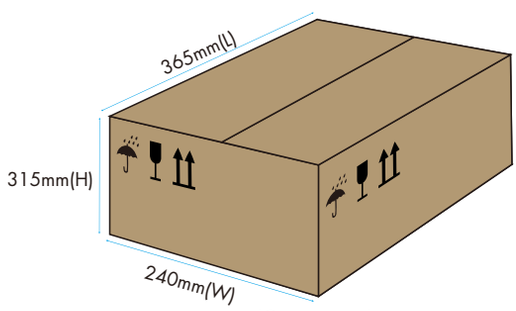
- This product is non-waterproof. When installed outdoors, please ensure it is mounted in a water proof enclosure.
- This product should be installed in a dry, acid-free, oil-free environment.
- Please use the product within the operating temperature range of -20°C~45°C to ensure stable performance.
- LED driver should keep a certain distance from the heating stuff(such as the luminaries 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



(Product size)



(Carton size)

Model	Product size (mm)	White box size(mm)	N.W(pcs)	Carton size(mm)	Qty/carton	N.W/carton	G.W/carton
DB-12-150-500-AS	135*38*20.5(L*W*H)	156*52*28(L*W*H)	87g(±5g)	365*240*315(L*W*H)	100pcs	8.7kg (±0.5kg)	11.6kg (±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!