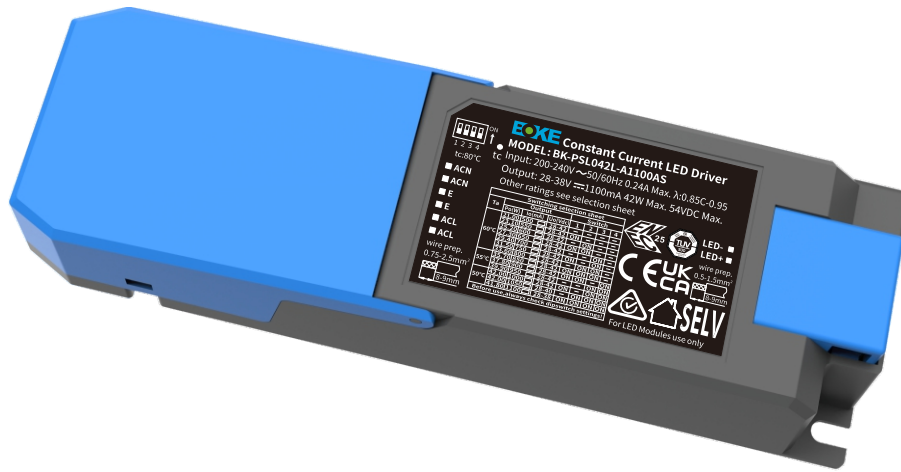


Constant current independent driver PSL(L) Series suffix S



Features

- 3/5/13-level current output can be realized by DIP-switch
- Flicker-free output, which meets the requirement of ErP standard
- Two-stage and isolation, more stable and safer
- Withstand 380VAC high voltage short-time shock
- Dual input terminal design, Support loop-in and loop-out wiring without junction box
- Screw-free and pressing type strain relief, supports thicker cables and is easier to install
- Mains surge capability up to 2KV
- High PF, high efficiency
- Compact housing design
- SELV and Class II design, suitable for use outside of the light
- Passed CE, ENEC, UKCA, RCM, CCC and other certifications
- Nominal life-time up to 100,000 h
- 5-year guarantee

Functions

- Protective features
(short-circuit, no-load protection)

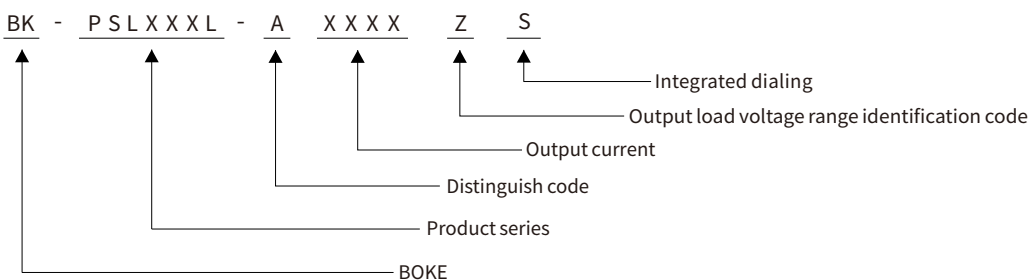
Suitable for lights

- Suitable for lights with independent drivers such as downlights, spotlights, panel lights, etc
- It is necessary to evaluate the chamber temperature of the light when it is used in the built-in

Typical applications

- LED educational lighting
- LED indoor lighting
- LED office lighting
- LED commercial lighting

Model coding rules of PSL series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-PSL012L-A0300AS	200-240VAC	12.6W MAX.	28-42VDC	0.2-0.3A	L157.5*W48*H30mm	CE,ENEC,UKCA,RCM,CCC
BK-PSL022L-A0500AS	200-240VAC	21W MAX.	28-42VDC	0.3-0.5A	L157.5*W48*H30mm	CE,ENEC,UKCA,RCM,CCC
BK-PSL042L-A1100AS	200-240VAC	42W MAX.	28-38/40/42VDC	0.5-1.1A	L157.5*W48*H30mm	CE,ENEC,UKCA,RCM,CCC

Technical data

Product model	BK-PSL012L-A0300AS	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.2-0.3A	
Rated output voltage range	28-42VDC	
Rated output power	12.6W Max	
Output current adjustment	DIP S.W(3 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	54VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.137%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.002, SVM = 0.005, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC	
Input voltage range	180-264VAC	
Input votage shock	<380V AC	
Input current	<0.07A (Rated input voltage)	
Input frequency	50/60Hz	
Input PF/Input DF	PF:0.97 ,DF:0.98 ,see the electrical values below for details	
Input THD	9% ,see the electrical values below for details	
Efficiency(max)	89% ,see the electrical values below for details	
In-rush current	9.72A peak ,236us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.7s(AC start),<0.7s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):14.2W, No load(Pno): N/A, On stand-by(Psb) : N/A , Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750V AC	
Mains surge capability	L-N:1KV (Performance criterion:A),L-N:2KV (Performance criterion:A)	
Leakage current	0.3mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	N/A	
pushDIM dimming port	N/A	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	N/A	
Dimming drive mode	N/A	
Emergency support		
Central emergency system	Not Supported	
Self-contained emergency	Not Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=80°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	N/A	
EL	N/A	
RF	N/A	

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PSL022L-A0500AS	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.3-0.5A	
Rated output voltage range	28-42VDC	
Rated output power	21W Max	
Output current adjustment	DIP S.W(5 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	54VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.215%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.001, SVM = 0.007, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC	
Input voltage range	180-264VAC	
Input votage shock	<380V AC	
Input current	<0.12A (Rated input voltage)	
Input frequency	50/60Hz	
Input PF/Input DF	PF:0.96 ,DF:0.97 ,see the electrical values below for details	
Input THD	10% ,see the electrical values below for details	
Efficiency(max)	91% ,see the electrical values below for details	
In-rush current	9.7A peak ,254us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):23.1W, No load(Pno): N/A, On stand-by(Psb) : N/A , Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750V AC	
Mains surge capability	L-N:1KV (Performance criterion:A),L-N:2KV (Performance criterion:A)	
Leakage current	0.4mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	N/A	
pushDIM dimming port	N/A	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	N/A	
Dimming drive mode	N/A	
Emergency support		
Central emergency system	Not Supported	
Self-contained emergency	Not Supported	
Environment & Life time		
Operating temperature	Ta=-20-60°C	
Case temperature	Tc=80°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	N/A	
EL	N/A	
RF	N/A	

Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

Technical data

Product model	BK-PSL042L-A1100AS	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.5-1.1A	
Rated output voltage range	28-38/40/42VDC	
Rated output power	42W Max	
Output current adjustment	DIP S.W(13 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	54VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.235%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.011, SVM = 0.008, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC	
Input voltage range	180-264VAC	
Input votage shock	<380V AC	
Input current	<0.24A (Rated input voltage)	
Input frequency	50/60Hz	
Input PF/Input DF	PF:0.98 ,DF:0.98 ,see the electrical values below for details	
Input THD	8.5% ,see the electrical values below for details	
Efficiency(max)	92.5% ,see the electrical values below for details	
In-rush current	15.1A peak ,270us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.5s(AC start) ,<0.5s(DC start) ,<0.3s(AC/DC switchover) ,<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pin):45.4W, No load(Pno): N/A, On stand-by(Psb) : N/A , Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750V AC	
Mains surge capability	L-N:1KV (Performance criterion:A),L-N:2KV (Performance criterion:A)	
Leakage current	0.4mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	N/A	
pushDIM dimming port	N/A	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	N/A	
Dimming drive mode	N/A	
Emergency support		
Central emergency system	Not Supported	
Self-contained emergency	Not Supported	
Environment & Life time		
Operating temperature	Ta=-20-50/55/60°C,see the label below for details	
Case temperature	Tc=80°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	IP20	
MTBF	500,000H,MIL-HDBK-217F(25°C)	
Life-time	Nominal life-time up to 100,000 h, see the description below for details	
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes	
Acoustic Noise	<25dB(30cm, Normal operation)	
Environmental protection	RoHS	
Certifications and standards		
Certification	CE, ENEC, UKCA, RCM, CCC	
Safety	EN61347-1, EN61347-2-13, EN62384	
EMC	EN55015, EN61000-3-2 , EN61000-3-3, EN61000-4-2,3,4,5,6,8,11, EN61547	
DALI-2	N/A	
EL	N/A	
RF	N/A	

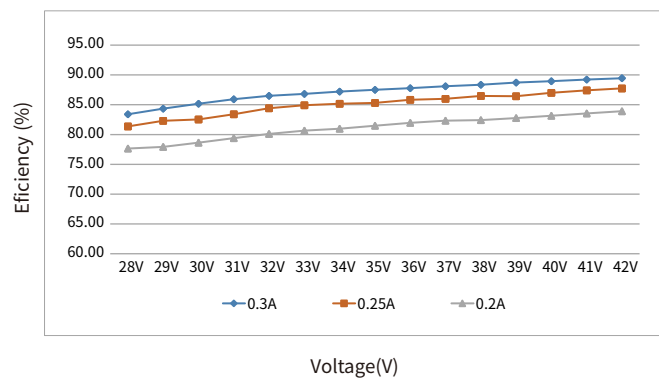
Remarks

- 1.By default, all parameter are measured at 230VAC input, full load and 25°C of ambient temperature.
- 2.The driver can not be installed inside the light. when the driver is used with the light, the EMC of the whole light needs to be tested.

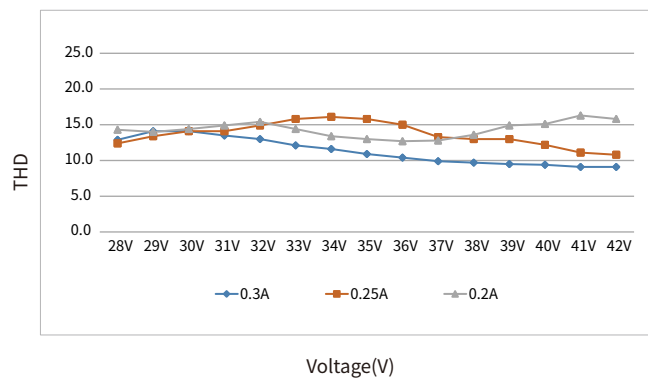
Electrical values

BK-PSL012L-A0300AS

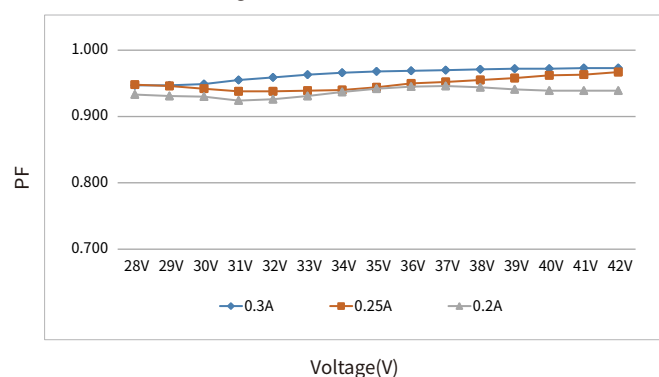
Efficiency vs voltage



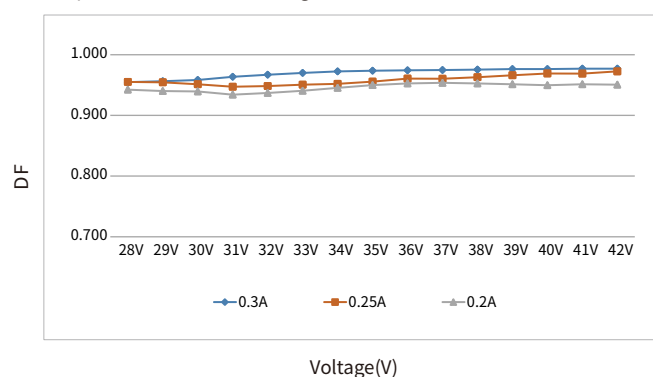
THD vs. voltage



Power factor vs. voltage

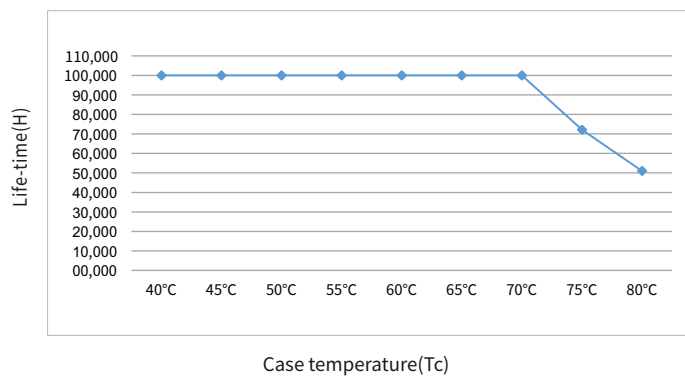


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature

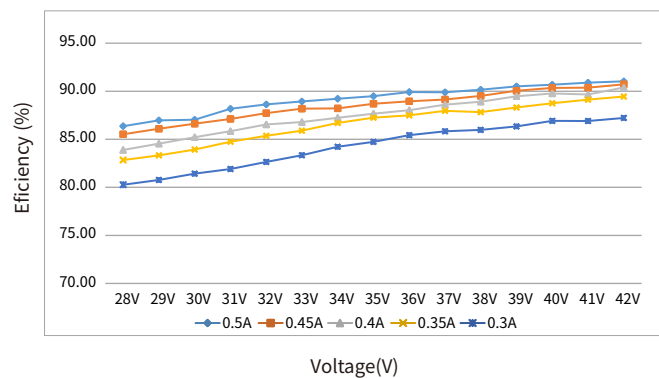


- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of t_c to t_a temperature depends also on the luminaire design.

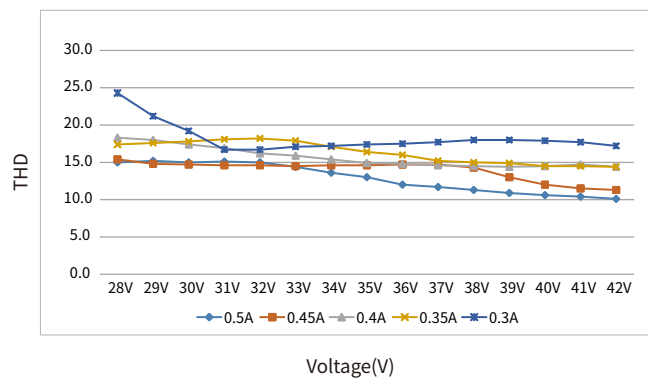
Electrical values

BK-PSL022L-A0500AS

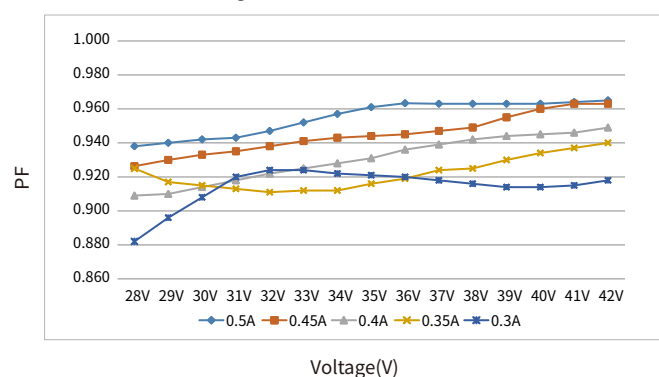
Efficiency vs voltage



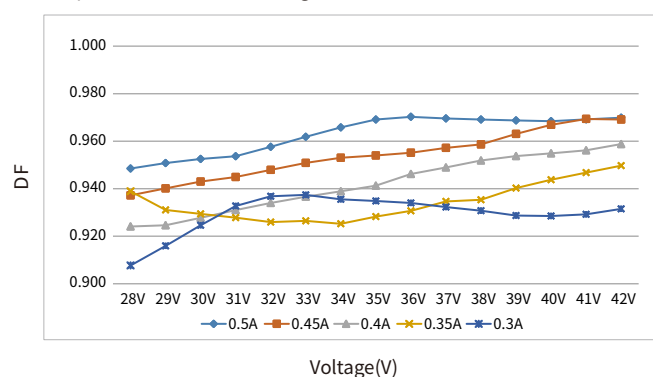
THD vs. voltage



Power factor vs. voltage

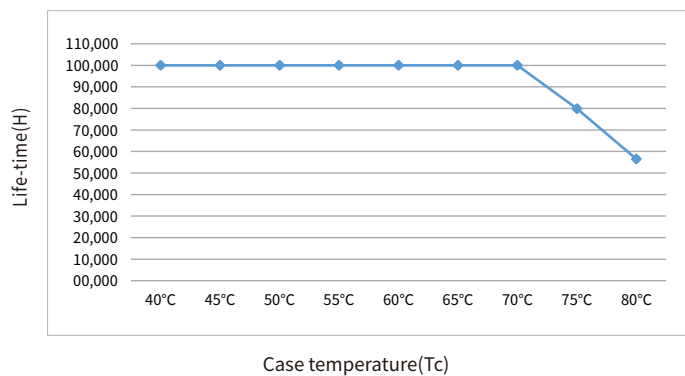


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature

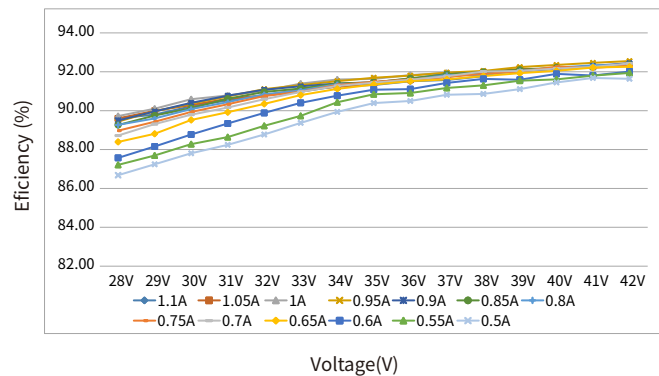


- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

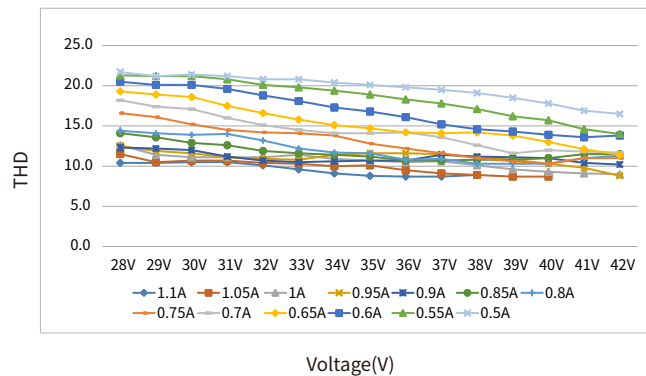
Electrical values

BK-PSL042L-A1100AS

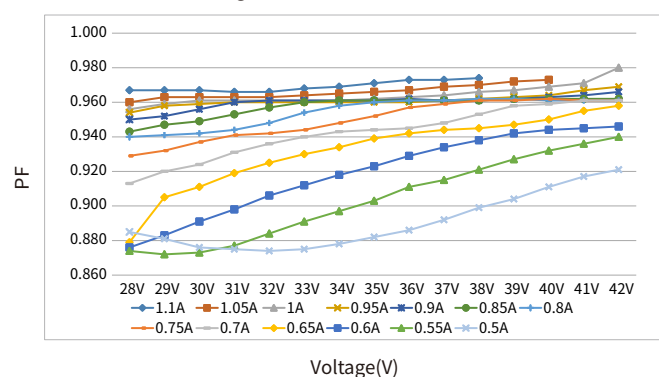
Efficiency vs voltage



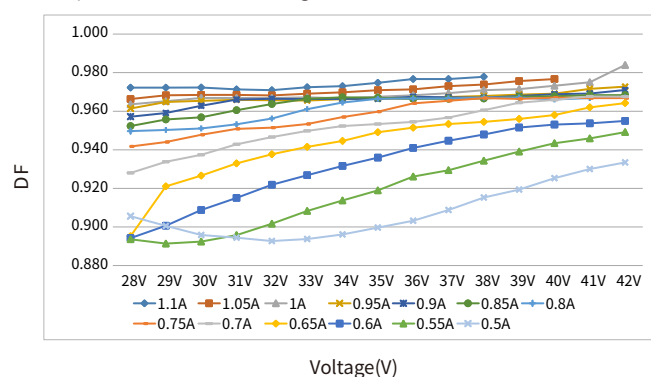
THD vs. voltage



Power factor vs. voltage

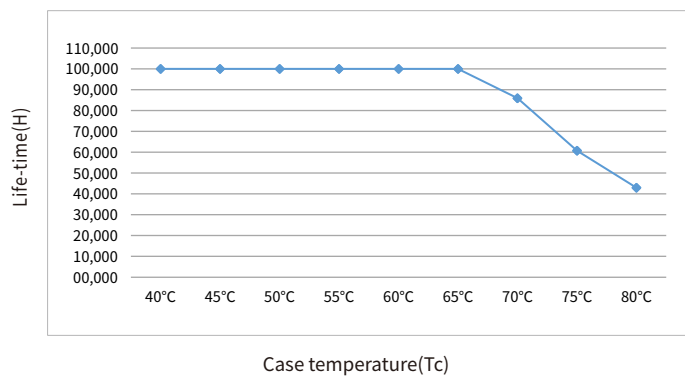


Displacement factor vs. voltage



Expected life-time

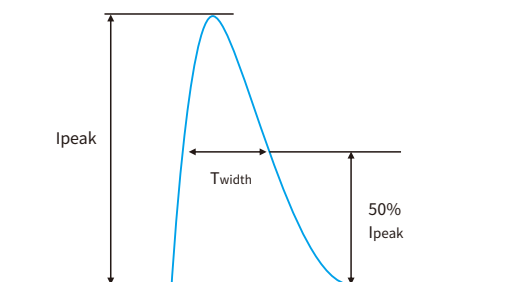
Life-time vs. case temperature



- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

Surge

Model	I _{peak}	T _{width}	Condition	Relative number of MCB/pcs														
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
BK-PSL012L-A0300AS	9.72A	236us	AC 230V, Full load, Cold start, T _a ≤ 30°C, MCB is not installed side by side	31	40	49	62	77	51	67	82	103	129	103	134	165	206	257
BK-PSL022L-A0500AS	9.7A	254us		28	37	45	56	71	47	61	75	94	118	77	100	124	155	193
BK-PSL042L-A1100AS	15.1A	270us		17	22	27	34	42	28	36	45	56	70	39	51	63	79	98



Remarks

- The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- Calculation uses typical values from ABB series S200 as a reference.
- Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
- If the ambient temperature of the MCB installation exceeds 30°C or multiple MCBs are installed side by side, the number of drives mounted will be reduced and the calculation needs to be recalculated.
- Electrician's usually consider Type B for household lighting and Type C for commercial lighting application.

Functions

Output short-circuit behaviour

- Output short-circuit will not damage the driver.
- After removing the short circuit fault, the driver will automatically resume output.

Output no-load operation

- Output no-load will not damage the driver.
- Please turn off the driver first if you need to connect the LED load.

Insulation between circuits

Isolation	Input	Output	Case
Input	-	Double	Double
Output	Double	-	Basic
Case	Double	Basic	-

Label

BK-PSL012L-A0300AS

tc:80°C
ta:60°C

BOKE Constant Current LED Driver
MODEL: BK-PSL012L-A0300AS
Input: 200-240V ~50/60Hz 0.07A Max. λ :0.8C-0.95
Output: 28-42V $\Rightarrow$ 300mA 12.6W 54VDC Max.
Other ratings see selection sheet
For LED Modules use only

■ ACN
■ ACN
■ E
■ E
■ ACL
■ ACL

wire prep.
0.75-2.5mm²

8-9mm

Switching selection sheet

Output	Switch
Po(W)	I _o (mA)
8.40	200
10.50	250
12.60	300

LED-
LED+

wire prep.
0.5-1.5mm²

8-9mm

MADE IN CHINA
www.bokedriver.com
BOKE Drivers Co.,Ltd.
Address:2nd and 3rd Floor, No.51,
Xihuan 5th Road, South District,
528455 Zhongshan City, Guangdong, CHINA
For Australia and New Zealand,the marking label with

BK-PSL022L-A0500AS

tc:80°C
ta:60°C

BOKE Constant Current LED Driver
MODEL: BK-PSL022L-A0500AS
Input: 200-240V ~50/60Hz 0.12A Max. λ :0.8C-0.95
Output: 28-42V $\Rightarrow$ 500mA 21W 54VDC Max.
Other ratings see selection sheet
For LED Modules use only

■ ACN
■ ACN
■ E
■ E
■ ACL
■ ACL

wire prep.
0.75-2.5mm²

8-9mm

Switching selection sheet

Output	Switch
Po(W)	I _o (mA)
12.60	300
14.70	350
16.80	400
18.90	450
21.00	500

LED-
LED+

wire prep.
0.5-1.5mm²

8-9mm

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528455 Zhongshan City, Guangdong, CHINA
For Australia and New Zealand,the marking label with

BK-PSL042L-A1100AS

tc:80°C
ta:60°C

BOKE Constant Current LED Driver
MODEL: BK-PSL042L-A1100AS
Input: 200-240V ~50/60Hz 0.24A Max. λ :0.85C-0.95
Output: 28-38V $\Rightarrow$ 1100mA 42W 54VDC Max.
Other ratings see selection sheet
For LED Modules use only

■ ACN
■ ACN
■ E
■ E
■ ACL
■ ACL

wire prep.
0.75-2.5mm²

8-9mm

Switching selection sheet

Output	Switch
Po(W)	I _o (mA)
21.00	350
23.10	400
25.20	450
27.30	500
29.40	550
31.50	600
33.60	650
35.70	700
37.80	750
39.90	800
42.00	850
44.10	900
46.20	950
48.30	1000
50.40	1050
52.50	1100

LED-
LED+

wire prep.
0.5-1.5mm²

8-9mm

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BOKE Drivers Co.,Ltd.
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For Australia and New Zealand,the marking label with

DIP-switch & output current

BK-PSL12L-A0300AS

输出 功率(W)	输出 电流(mA)	输出 电压(Vdc)	1	2
8.40	200	28-42	--	--
10.50	250	28-42	ON	--
12.60	300 ★	28-42	ON	ON

BK-PSL022L-A0500AS

Output			1	2	3	4
Prated(w)	Irated(mA)	Voltage(Vdc)				
12.60	300	28-42	--	--	--	--
14.70	350	28-42	ON	--	--	--
16.80	400	28-42	--	ON	--	--
18.90	450	28-42	--	--	ON	--
21.00	500 ★	28-42	--	--	--	ON

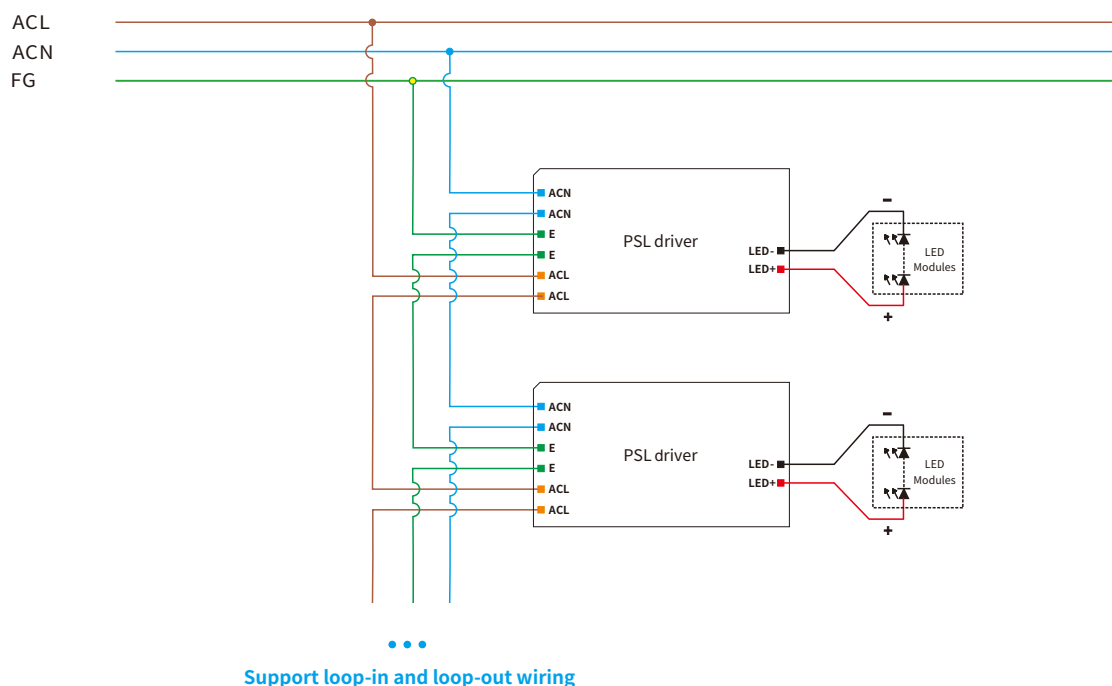
BK-PSL042L-A1100AS

Ta	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
60°C	21.00	500	28-42	--	--	--	--
	23.10	550	28-42	ON	--	--	--
	25.20	600	28-42	--	ON	--	--
	27.30	650	28-42	ON	ON	--	--
	29.40	700	28-42	--	--	ON	--
	31.50	750	28-42	ON	--	ON	--
55°C	33.60	800	28-42	--	ON	ON	--
	35.70	850	28-42	ON	ON	ON	--
	37.80	900	28-42	ON	ON	--	ON
50°C	39.90	950	28-42	--	--	ON	ON
	42.00	1000	28-42	ON	--	ON	ON
	42.00	1050	28-40	--	ON	ON	ON
	41.80	1100 ★	28-38	ON	ON	ON	ON

Remarks:

- ★ It means that this item is the factory default current.
- It means that this channel is OFF.

Wiringdiagram



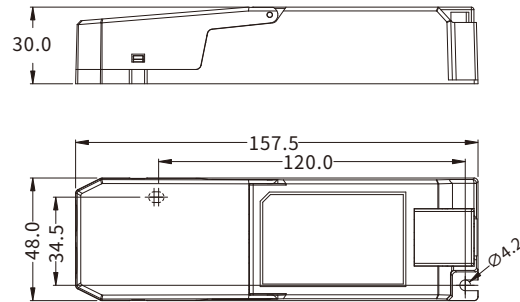
Model	Relative number of loop-in and loop-out wiring/pcs
BK-PSL012L-A	142
BK-PSL022L-A	83
BK-PSL042L-A	41

Mechanical Specification

Size

Unit:mm

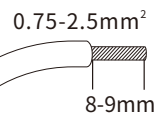
PSL012L-A/PSL022L-A/PSL042L-A



INPUT

Numbering	function	colour
1	ACL	blue
2	ACL	blue
3	E	green
4	E	green
5	ACN	orange
6	ACN	orange

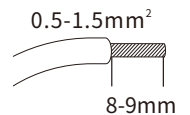
Input wire



OUTPUT

Numbering	function	colour
1	LED-	black
2	LED+	red

Output wire



Installation note

Hot plug-in

- Hot plug-in is not supported due to residual output voltage of > 0 V.

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. length of output wires is 2 m.
- Incorrect wiring can damage LED modules.

Installation requirements

- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The installation ambient temperature of the drive shall not exceed the value of Ta at any time.
- The temperature of the mounting surface of the driver should be lower than 40°C
- The driver should keep a certain distance from the heating stuff (such as the lamp radiator).
- If the driver is used externally (it needs to be used with the power end cover), the installation of the driver should also meet the following conditions:
 - 1.The driver should be a certain distance between the drives, as shown in Figure 1.
 - 2.The driver keeps a certain distance from surrounding objects, as shown in Figure 2.

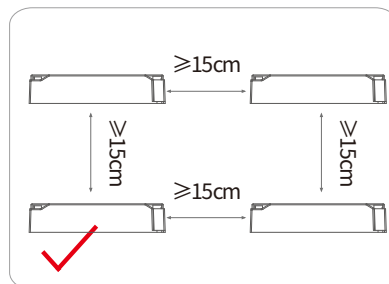
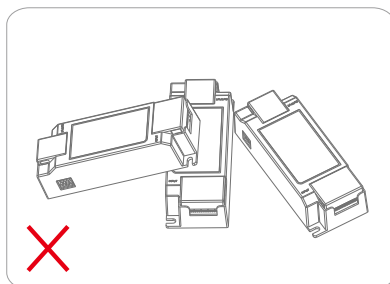


Figure 1

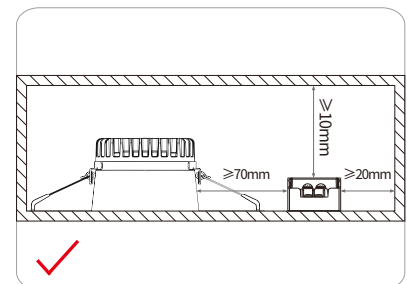


Figure 2

Packaging



Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
PSL012L-A	L157.5*W48*H30mm	119g	L180*W65*H35mm	L380*W285*H200mm	40pcs	4.76kg	6.03kg
PSL022L-A	L157.5*W48*H30mm	121g	L180*W65*H35mm	L380*W285*H200mm	40pcs	4.84kg	6.13kg
PSL042L-A	L157.5*W48*H30mm	139g	L180*W65*H35mm	L380*W285*H200mm	40pcs	5.56kg	6.83kg

Additional information

1. This product can only be used outside the light body, Can not be used inside of the light, and it must be used within the specified working environment.
2. The life and MTBF of the product are for reference only, and do not represent a warranty statement.
3. For more information, please send an email to info@bokedriver.com.