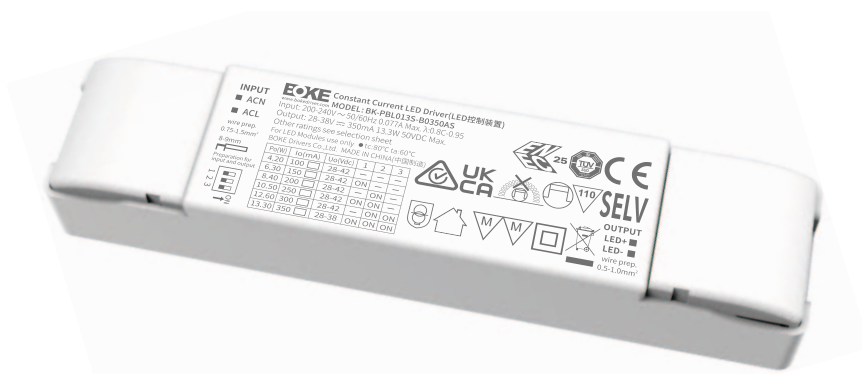


Constant current independent driver
PBL(S) Series suffix S



Features

- Slim shape design
- Multi-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
- High PF, low THD
- Screw-free design, easy wiring
- Screw-free and pressing type strain relief and easier to install
- SELV and Class II design, suitable for use outside of the luminaires
- 5.5-year guarantee

Functions

- Protective features
(short-circuit, no-load, overload,
over temperature protection)

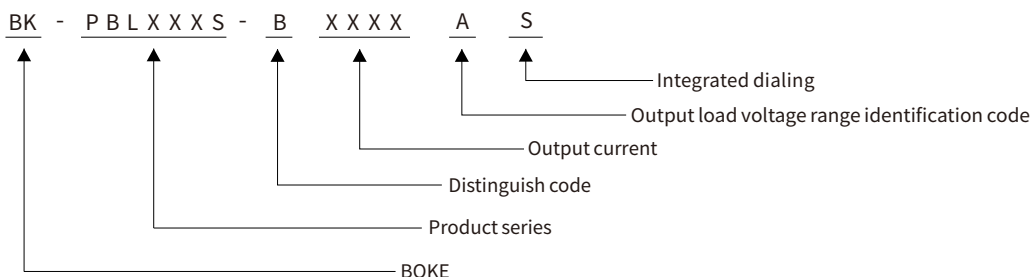
Suitable for lights

- Suitable for downlights or spotlights with
small mounting holes

Typical applications

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

Model coding rules of PBL(S) series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-PBL013S-B0350AS	200-240VAC	13.3W MAX.	28-42VDC	0.1-0.35A	L129*W29.5*H20mm



Technical data

Product model	BK-PBL013S-B0350AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.1-0.35A, see the DIP-switch for details
Rated output voltage range	28-42VDC, see the DIP-switch for details
Rated output power	13.3W Max, see the DIP-switch for details
Output current adjustment	DIP S.W(6 levels)
Output current ripple(typ.)	±2%(45kHz)
Output current accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	50VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.135%(100Hz), Flicker index(IEEE 1789)=0.011(100Hz), Pst LM = 0.000, 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 voltage shock	<380 V AC
Input current	<0.077A (Rated input voltage)
Input frequency	50/60Hz
Input PF/Input DF(typ.)	PF: 0.97, DF:0.97 , see the electrical values below for details
Input THD(typ.)	7% , see the electrical values below for details
Efficiency(typ.)	90% , see the electrical values below for details
In-rush current(typ.)	8.4A peak ,258us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.5s(AC start), <0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):14.8W, No load(Pno):N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P(LED):3750V AC
Mains surge capability	L-N:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:A)
Leakage current(typ.)	0.45mA
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	N/A
Self-contained emergency	N/A
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	
Compliance certification	CCC, CE, ENEC, UKCA, RCM
Safety	GB/T 19510.1,GB/T 19510.213, EN61347-1, EN61347-2-13, EN62384
EMC	GB/T 17743 , GB17625.1, 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

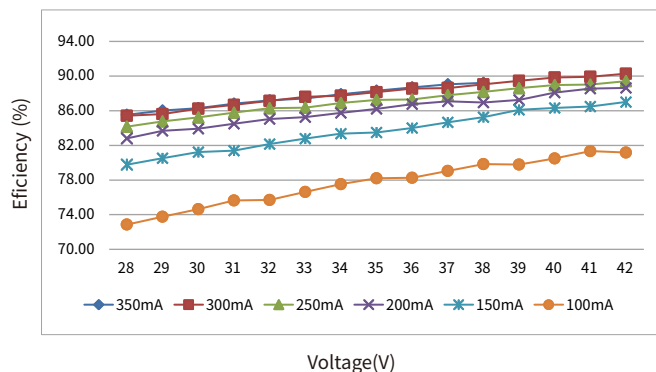
Remarks

- 1.By default, all parameter are measured at 230VAC input, 50Hz, 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.

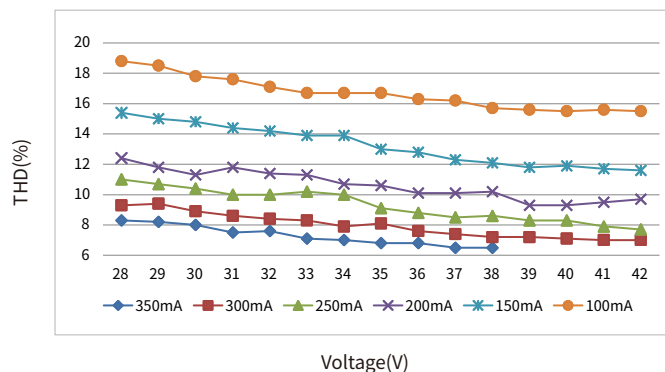
Electrical values

BK-PBL013S-B

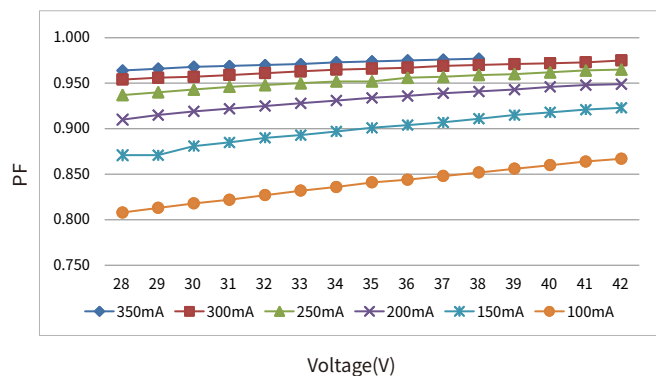
Efficiency vs voltage



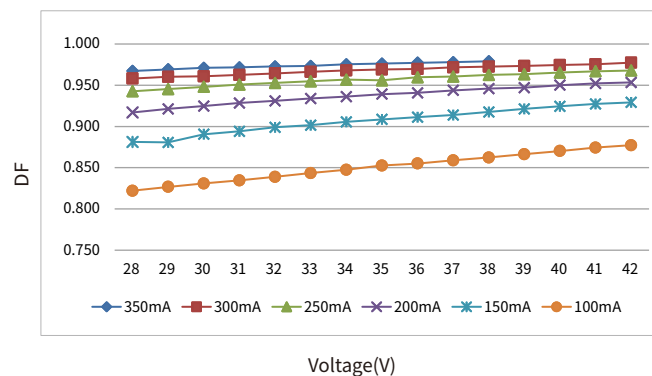
THD vs. voltage



Power factor vs. voltage

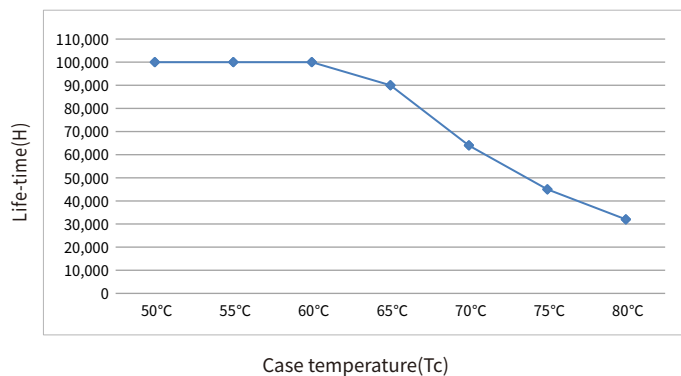


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature

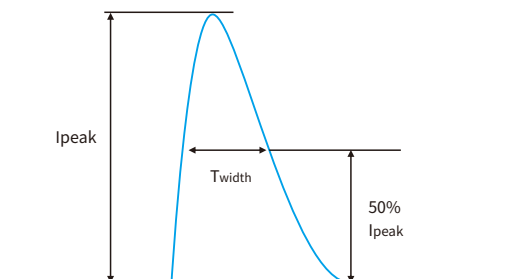


-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

- The relation of t_c to t_a temperature depends also on the luminaire design.

Surge

Model	Ipeak	Twidth	Condition	Relative number of MCB/pcs														
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
BK-PBL013S-B	8.4A	258us	AC 230V,Full load, Cold start,Ta≤30°C, MCB is not installed side by side	36	47	58	72	90	60	78	96	120	150	120	156	192	240	300



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.

Output overload protection

- The LED driver turns off the output if the output voltage range is exceeded.
- The output will be activated again after restart the LED driver .

Output over temperature

- When the operating temperature exceeds the over temperature protection point inside the power supply IC, the power supply enters protection state such as output derating, output hiccup or output shutdown. After the external temperature is normal, restart and resume operation.

Driver restart method

- Through the AC input: disconnect the AC of the driver and power it again.

Insulation between circuits

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

Label

BK-PBL013S-B0350AS

BOKE Constant Current LED Driver(LED控制装置) MODEL: BK-PBL013S-B0350AS Input: 200-240V ~ 50/60Hz 0.077A Max. $\lambda: 0.8C-0.95$ Output: 28-38V ~ 350mA 13.3W 50VDC Max. Other ratings see selection sheet For LED Modules use only. $T_c: 80^\circ\text{C}$ to 60°C BOKE Drivers Co., Ltd. MADE IN CHINA(中国制造)									
INPUT	ACN	ACL	Po(W)	Io(mA)	Uo(Vdc)	1	2	3	
8-9mm			4.20	100	28-42	ON	ON	ON	
Preparation for input and output			6.30	150	28-42	ON	ON	ON	
			8.40	200	28-42	ON	ON	ON	
			10.50	250	28-42	ON	ON	ON	
			12.60	300	28-42	ON	ON	ON	
			13.30	350	28-38	ON	ON	ON	

Laser engraving technique

DIP-switch & output current

BK-PBL013S-B0350AS

Output			1	2	3
Prated(W)	Irated(mA)	Voltage(Vdc)			
4.20	100	28-42	--	--	--
6.30	150	28-42	ON	--	--
8.40	200	28-42	--	ON	--
10.50	250	28-42	ON	ON	--
12.60	300	28-42	--	ON	ON
13.30	350	★ 28-38	ON	ON	ON

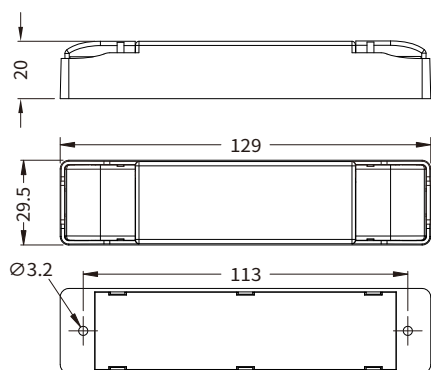
Remarks:

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

Mechanical Specification

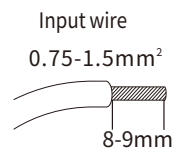
Size(Unit:mm)

PBL013S-B



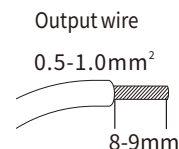
INPUT

Numbering	function	colour
1	ACN	grey
2	ACL	grey



OUTPUT

Numbering	function	colour
1	LED+	red
2	LED-	black



Installation note

Hot plug-in

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

Installation requirements

- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The installation ambient temperature of the driver shall not exceed the value of Ta at any time.
- The temperature of the mounting surface of the driver should be lower than the temperature of Ta.
- 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.

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 2m.
- Incorrect wiring can damage LED modules.

Replace LED module

1. Mains off
2. Wait more than 5 seconds
3. Remove LED module
4. Connect LED module again

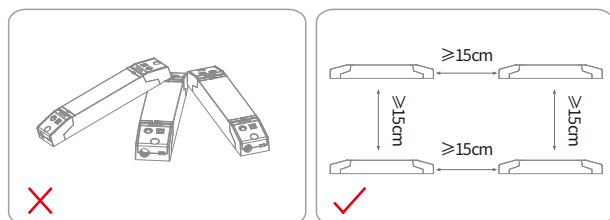


Figure 1

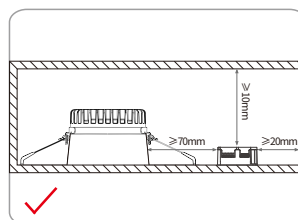


Figure 2

Packaging



Product



Packaging



20pcs×6boxes=120pcs/CTN

Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
PBL013S-B	L129*W29.5*H20mm	60g	L217*W133*H67mm	L285*W235*H220mm	120pcs	7.20KG	8.75KG

Additional information

1. The life and MTBF of the product are for reference only, and do not represent a warranty statement.
2. For more information, please send an email to info@bokedriver.com.