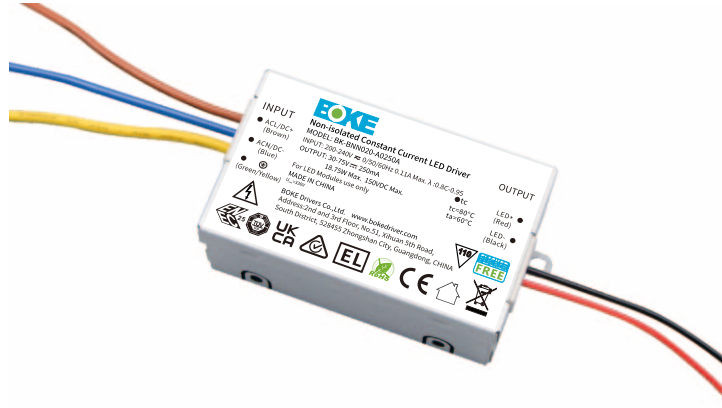




Features

- Input and output non-isolated
- Output flick-free, meets the new requirements of ErP certification
- Built in active PFC function, high PF, low THD
- Dual-stage circuit design, work stable
- Withstand 380VAC high voltage short-time shock
- Suitable for built-in use of Class I lamps
- Fast startup, power-on startup time <0.5s
- Compliance with CE, ENEC, UKCA, RCM and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5.5-year guarantee

Functions

- Support central emergency application
- Support self-contained emergency application
- Protective features (short-circuit, no-load protection)

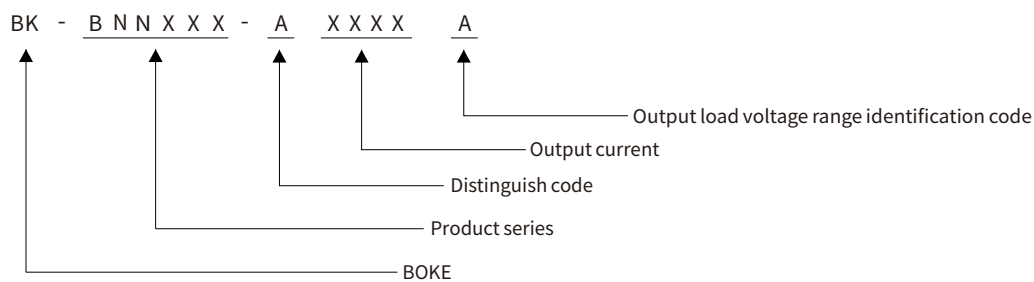
Suitable for lights

- Suitable for tri-proof lights.
- Suitable for lights with built-in drivers

Typical applications

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

Model coding rules of BNN series



Technical data

Product model	BK-BNN020-A0250A
Output parameters	
Regulation method	Constant Current
Rated output current range	0.1-0.25A
Rated output voltage range	30-75VDC
Rated output power	18.75W Max
Output current adjustment	Fixed output
Output current ripple LF	±1%
Output current accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	150VDC
Flicker-free(typical)	Flickering percent(IEEE 1789)=1.030%(100Hz), Flicker index(IEEE 1789)=0.003(100Hz), Pst LM = 0.005, SVM = 0.003, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.11A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typical)	PF:0.96,DF: 0.97 ,see the electrical values below for details
Input THD(typical)	11% ,see the electrical values below for details
Efficiency(typical)	91% ,see the electrical values below for details
In-rush current(typical)	11.25A peak ,224us 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	> 100,000 switching cycles
Power consumption(typical)	Full load(Pin):20.6W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:4KV,L-FG/N-FG:4KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:A)
Leakage current(typical)	0.44mA
Isolation resistance	I/P-FG: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	Supported
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=80°C
Operating humidity	5-85% RH, not condensed
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed
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	CE, ENEC, UKCA, RCM, CCC
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	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172
RF	N/A

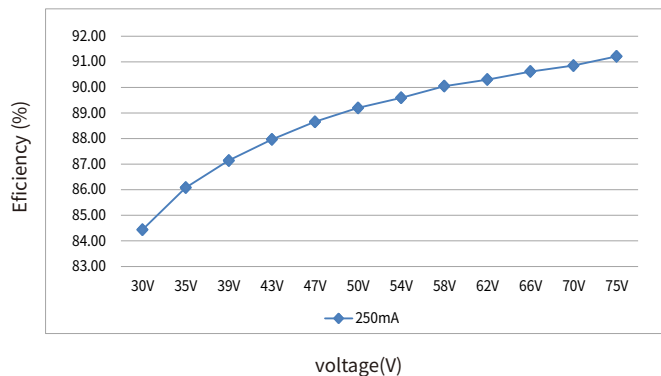
Remarks

1.By default, all parameter are measured at 230VAC input, 50Hz, full load and 25°C of ambient temperature.

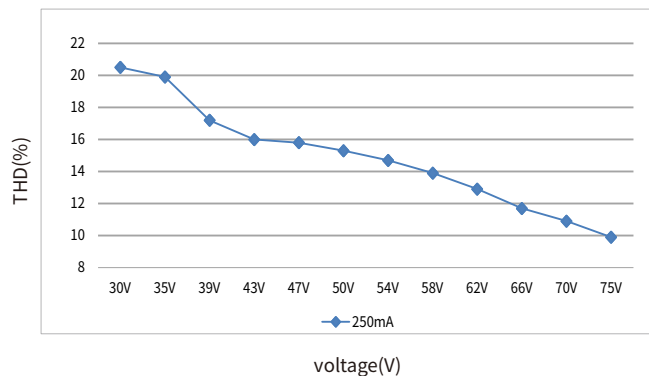
Electrical values

BK-BNN020-A0250A

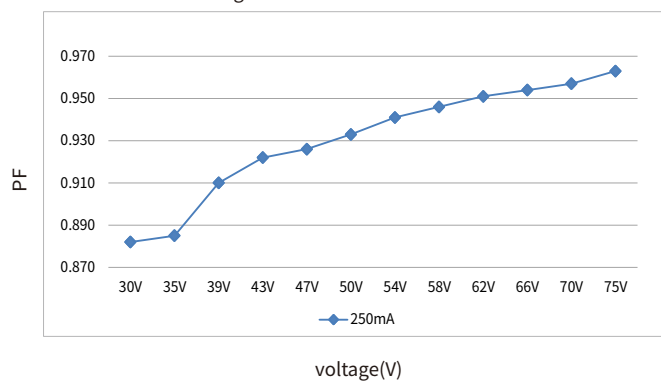
Efficiency vs voltage



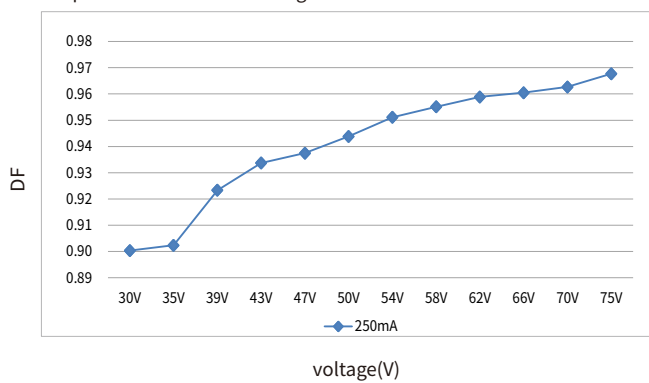
THD vs. voltage



Power factor vs. voltage

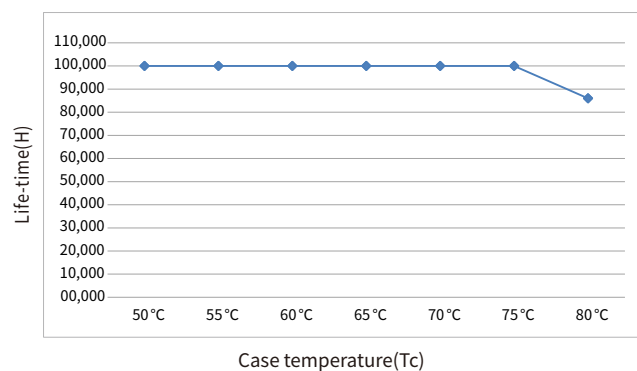


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature

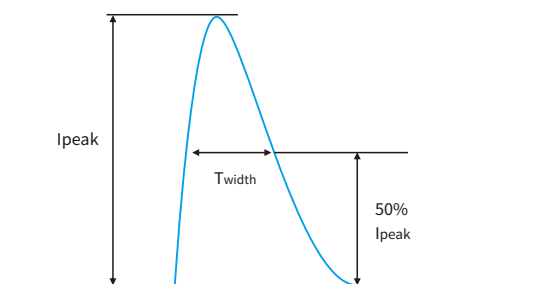


-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

- The relation of tc to ta temperature depends also on the luminaire design.

Surge

Model	Ipeak	Twidth	Condition	Relative number of MCB															Unit: pcs
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25	
BK-BNN020-A	11.25A	224us	AC 230V, Full load, Cold start, $T_a \leq 30^\circ\text{C}$, MCB is not installed side by side	28	37	45	56	70	47	61	75	94	117	87	113	139	173	217	



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	-	Strengthen	Strengthen
Output	Strengthen	-	Basic
Case	Strengthen	Basic	-

Label

BNN020-A

Non-isolated Constant Current LED Driver
MODEL: BK-BNN020-A0250A
INPUT: 200-240V $\approx$ 0.50/60Hz 0.11A Max. λ : 0.8C-0.95
OUTPUT: 30-75V $\approx$ 250mA
18.75W Max. 150VDC Max.
For LED Modules use only
www.bokedriver.com
MADE IN CHINA
Address:
2nd and 3rd Floor, No.51, Xihuan 5th Road,
South District, 528455 Zhongshan City, Guangdong, CHINA

INPUT

- AC/L/DC+ (Brown)
- ACN/DC- (Blue)
- (Green/Yellow)

OUTPUT

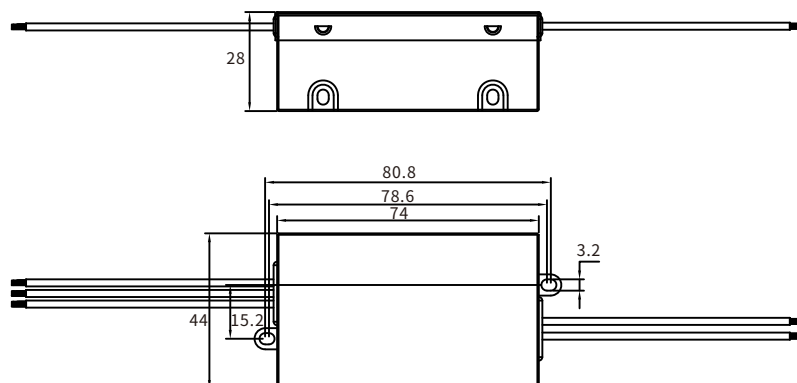
- tc
- tc=80°C
- ta=60°C
- LED+ (Red)
- LED- (Black)

Mechanical Specification

Size

Unit:mm

BNN020-A



Input wire

Numbering	Function	Colour	Wire type	Wire diameter	Wire length	Strip length
1	ACL/DC+	brown	H05V-K	0.75mm ²	120mm	8mm
2	ACN/DC-	blue	H05V-K	0.75mm ²	120mm	8mm
3	FG	green/yellow	H05V-K	0.75mm ²	120mm	8mm

Output wire

Numbering	Function	Colour	Wire type	Wire diameter	Wire length	Strip length
1	LED+	red	UL 1007	22AWG	120mm	8mm
2	LED-	black	UL 1007	22AWG	120mm	8mm

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 luminaire radiator).
- If the driver is used externally (it needs to be used with the accessories), the installation of the driver should also meet the following conditions:
 - 1.The driver should be a certain distance between the drivers, as shown in Figure 1.
 - 2.The driver keeps a certain distance from surrounding objects, as shown in Figure 2.

Replace LED module

1. Mains off
2. Wait more than 15 seconds
3. Remove LED module
4. Connect LED module again

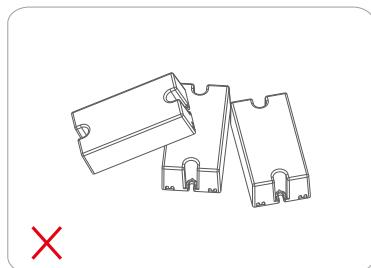


Figure 1

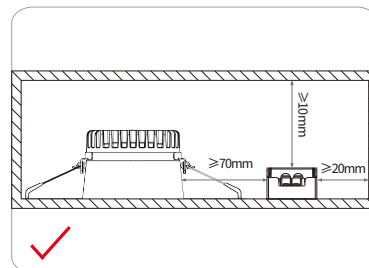
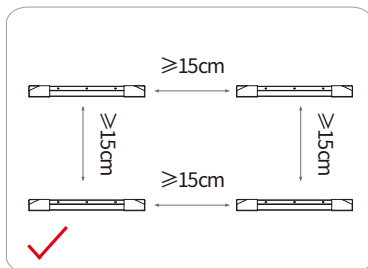
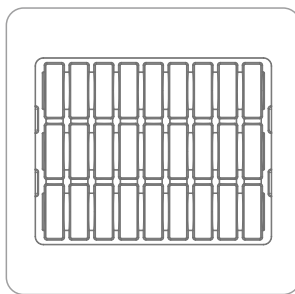


Figure 2

Packaging



Product



Blister



27pcs*3layer=81pcs/CTN

Model	Products size	Weight	Blister size	Carton size	Packing	N.W	G.W
BNN020-A	L80.8*W44*H21mm	90g	L430*W340*H47mm	L450*W350*H180mm	81pcs	7.29kg	8.54kg

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.