

Constant current linear color temperature driver DGL Series suffix D(DALI-2 + PUSH-DIM + PUSH-CCT)



Features

- Support DALI-2+PUSH-DIM+PUSH-CCT control
- 10-level current output can be realized through DIP-switch
- Soft dimming and flicker-free at any brightness, meets the new requirements of ErP certification
- Using HPC patented technology, at any dimming level, the current output between drivers is the same
- Dimming range 1%~100%, output current accuracy 1%
- Standby power input<0.5W, meets the requirements of ErP certification
- High PF, high efficiency, low THD
- Intelligent LED hot-plug protection function
- Class II applications can be achieved by adding accessories
- SELV and Class II design, suitable for use outside of the light
- Passed ENEC-TUV,CE,RCM,CCC,DALI-2 and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5-year guarantee

Interfaces

- DALI-2(DALI-2 DT8)
- PUSH(PUSH-DIM)
- PUSH(PUSH-CCT)

Functions

- PUSH-DIM and PUSH-CCT with memory function(PUSH)
- Support central emergency application (dimming normal in DC input)
- Support self-contained emergency application
- Protective features (short-circuit, overload, no-load, hot plug-in protection)

Suitable for lights

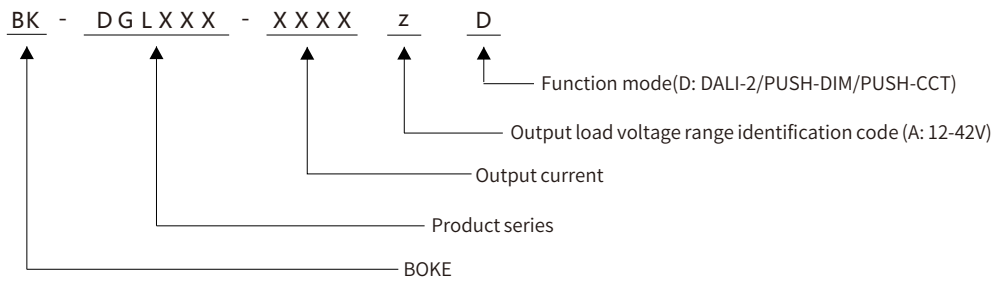
- Suitable for linear lights, tri-proof lights, working lights and other linear or ultra-thin lights etc.
- Not suitable for lights with built-in drivers

Typical applications

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



Model coding rules of DGL series



Order selection table of DGL series(just suffix D, 42-60W)

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Article number
BK-DGL042-1050AD	200-240VAC	42.0W	12-42VDC	0.60-1.05A	L285*W30*H21mm	B-DGL042-HB0101AD
BK-DGL060-1500AD	200-240VAC	63.0W	12-42VDC	1.05-1.55A	L355*W30*H21mm	B-DGL060-HB0101AD
BK-DGL060-2000AD	200-240VAC	62.0W	12-42VDC	1.55-2.00A	L355*W30*H21mm	B-DGL060-HB0100AD

Technical data

Product model	BK-DGL042-1050AD	
Output parameters		
Regulation method	Constant Current	
Rated output current	0.6-1.05A	
Rated output voltage	12-42V	
Rated output power	42W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	± 2%	
Output current accuracy	± 1%	
Linear regulation	± 1%	
Load regulation	± 1%	
No load output voltage	50V	
Flicker-free(typical)	Modulation depth =0.121% (1.466 kHz), Pst LM = 0.01, SVM = 0.002,(The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage	200-240VAC 200-240VDC	
Rated input voltage	180-264VAC 180-264VDC	
Input votage shock	<380 VAC, 1 h	
Input current	<0.3A (AC input)	
Input frequency	47-63Hz	
Input power factor	>0.95 (230V AC & Full load)	
Input THD	10% (230V AC & Full load)	
Efficiency(typical)	89% (230V AC & Full load)	
In-rush current	8.25A peak ,206us duration(50 % Ipeak), see the description below for details	
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)	
Switching cycles	> 50,000 switching cycles	
Power consumption	Full load(Pmax):42W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC, I/P-DALI: 500V AC.	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV	
Leakage current	<0.7mA (230V AC & Full load)	
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
PUSH dimming port	Voltage range: 180-264V 47/63Hz	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1-100%	
Dimming drive mode	AM(amplitude modulation)	
Emergency support		
Central emergency system	Supported(dimming normal in DC input)	
Self-contained emergency	Supported	
Environment & Life time		
Operating temperature	Ta=-20-45°C	
Case temperature	Tc=90°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, Full load)	
Environmental protection	RoHS	
Certifications and standards		
Certified	ENEC-TUV, RCM, EMC, CE, CCC, DALI-2	
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	EN 62386-101(DALI-2), EN 62386-102(DALI-2), EN 62386-207(DALI-2)	
EL	N/A	
RF	N/A	

Remarks

- 1.By default, all parameter are measured at 230V AC 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-DGL060-1500AD	BK-DGL060-2000AD	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current	1.05-1.55A	1.55-2A	
Rated output voltage	12-42V	12-42V	
Rated output power	63W Max	62W Max	
Output current adjustment	DIP S.W(10 levels)	DIP S.W(10 levels)	
Output current ripple LF	±2%	±2%	
Output current accuracy	±1%	±1%	
Linear regulation	±1%	±1%	
Load regulation	±1%	±1%	
No load output voltage	50V	50V	
Flicker-free(typical)	Modulation depth =0.486% (100 Hz), Pst LM = 0.014, SVM = 0.019,(The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Rated input voltage	180-264VAC 180-264VDC		
Input votage shock	<380 V AC, 1 h		
Input current	<0.45A (AC input)		
Input frequency	47-63Hz		
Input power factor	>0.95 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	90% (230V AC & Full load)		
In-rush current	11.8A peak ,168us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)		
Switching cycles	> 50,000 switching cycles		
Power consumption	Full load(Pmax):66W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC, I/P-DALI: 500V AC.		
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV		
Leakage current	<0.7mA (230V AC & Full load)		
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH		
Control interface			
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA		
PUSH dimming port	Voltage range: 180-264V 47/63Hz		
1-10V 3in1 dimming port	N/A		
Auxiliary power supply	N/A		
Dimming range	1-100%		
Dimming drive mode	AM(amplitude modulation)		
Emergency support			
Central emergency system	Supported(dimming normal in DC input)		
Self-contained emergency	Supported		
Environment & Life time			
Operating temperature	Ta=-20-45°C		
Case temperature	Tc=90°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, Full load)		
Environmental protection	RoHS		
Certifications and standards			
Certified	ENEC-TUV, RCM, EMC, CE, CCC, DALI-2		
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	EN 62386-101(DALI-2), EN 62386-102(DALI-2), EN 62386-207(DALI-2)		
EL	N/A		
RF	N/A		

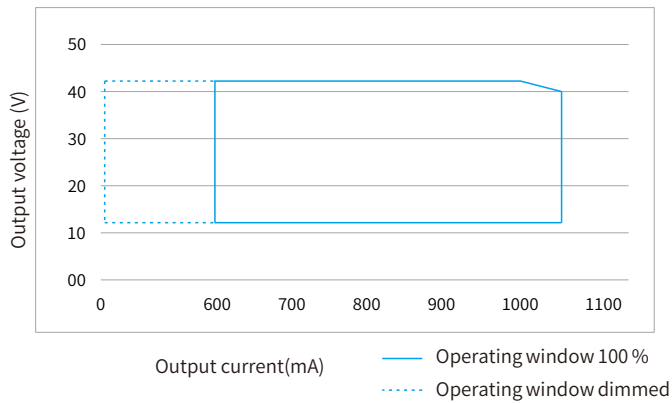
Remarks

- 1.By default, all parameter are measured at 230V AC 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.

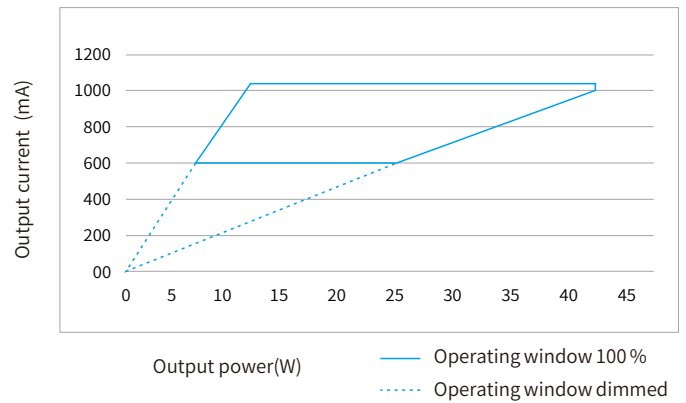
Electrical values

BK-DGL042-1050AD

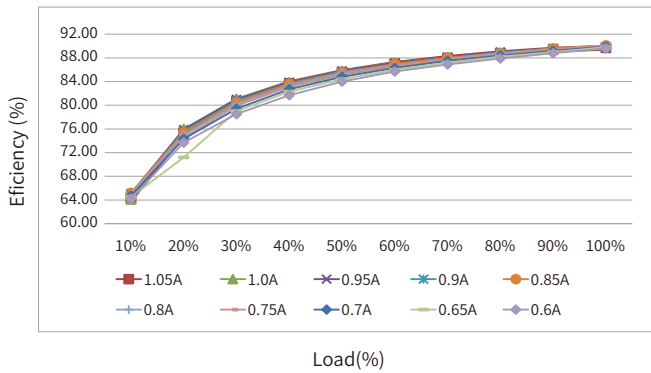
Operating window



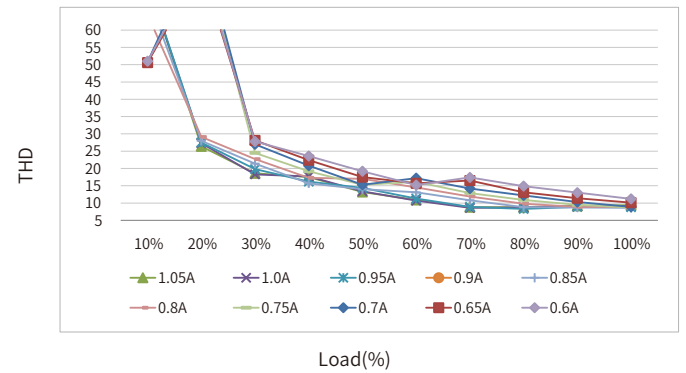
Operating window



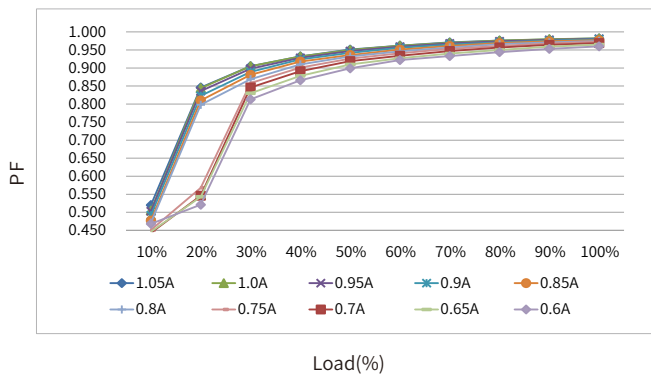
Efficiency vs load



THD vs. Load

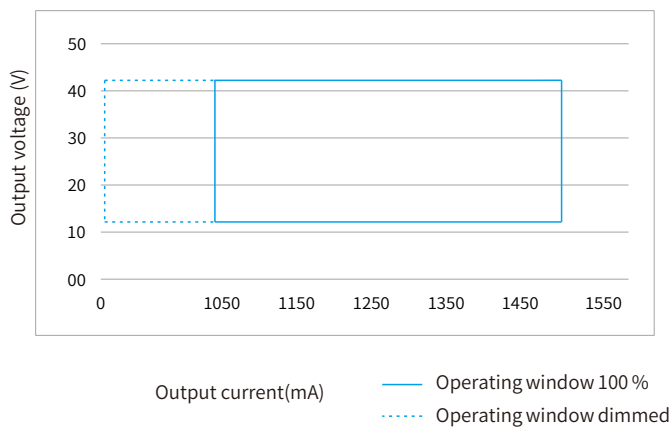


Power factor vs. Load

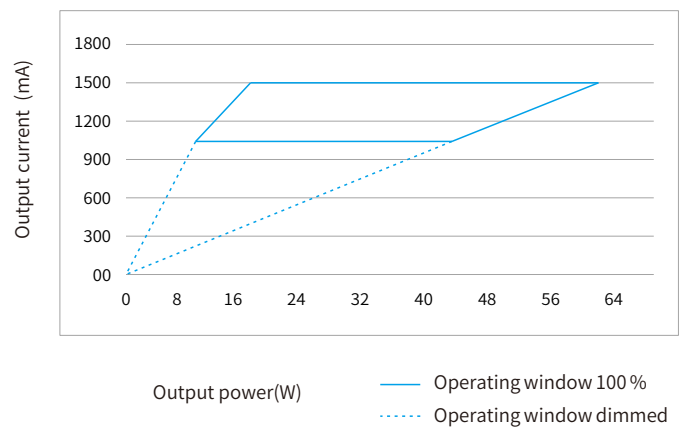


BK-DGL060-1500AD

Operating window

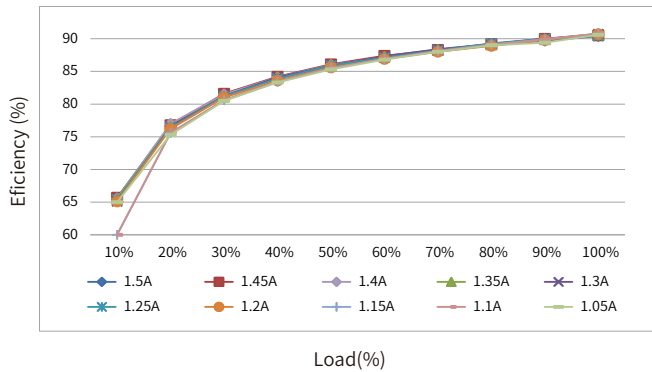


Operating window

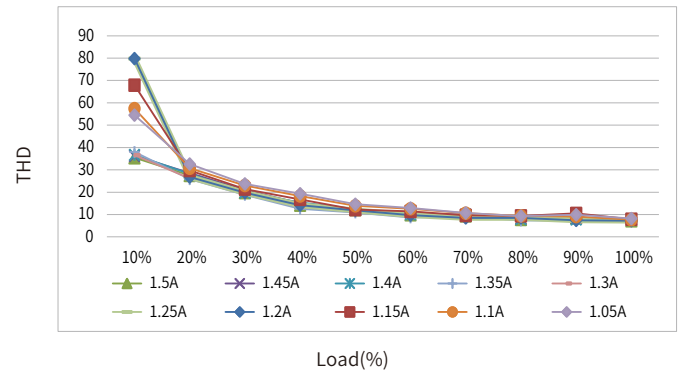


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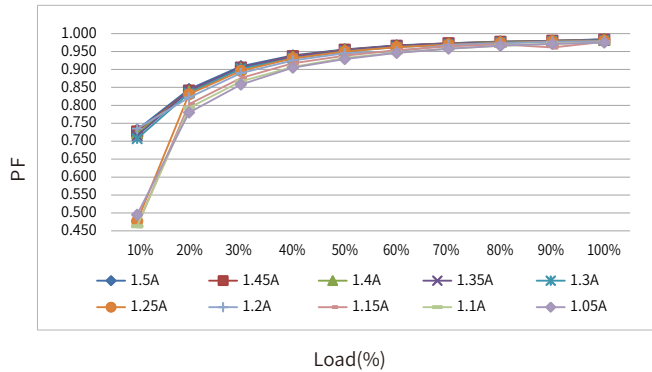
Efficiency vs load



THD vs. Load

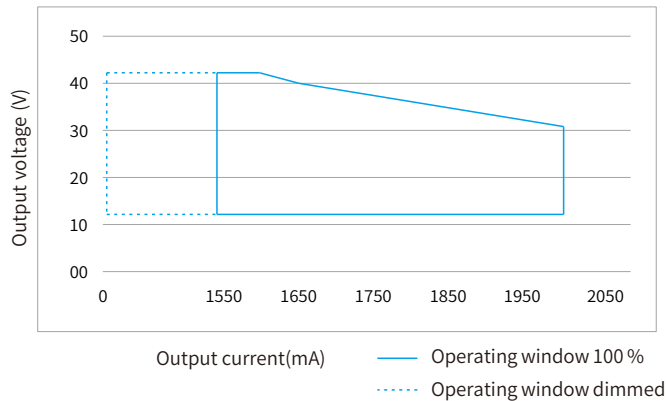


Power factor vs. Load

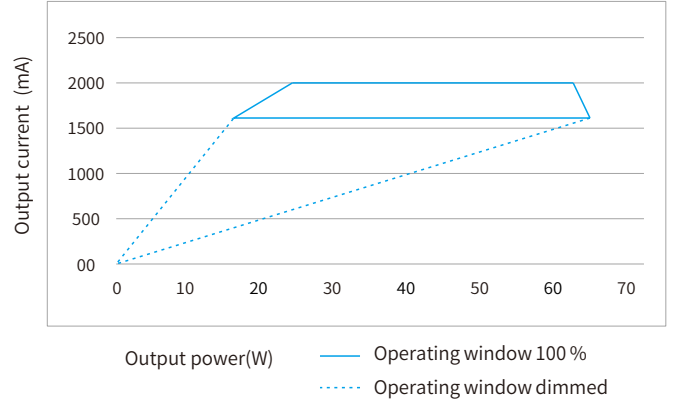


BK-DGL060-2000AD

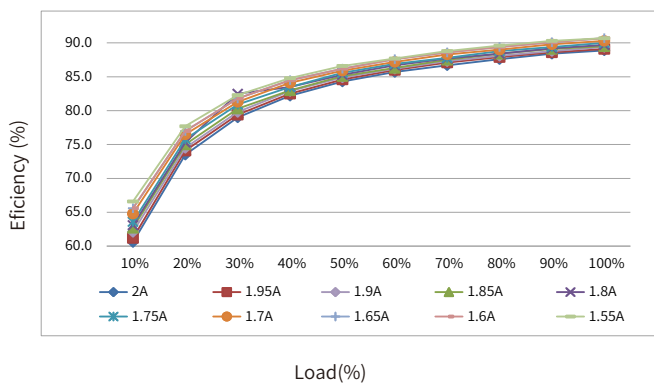
Operating window



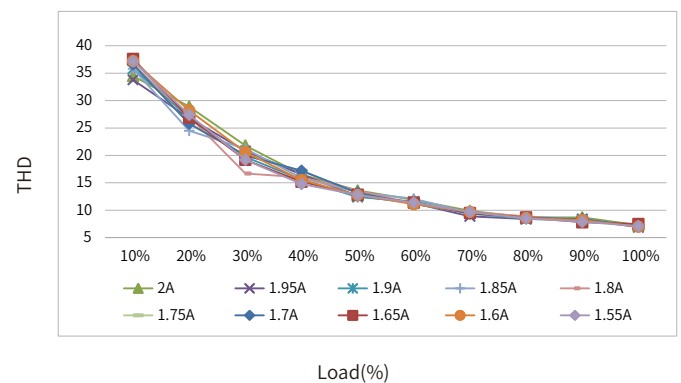
Operating window



Efficiency vs load

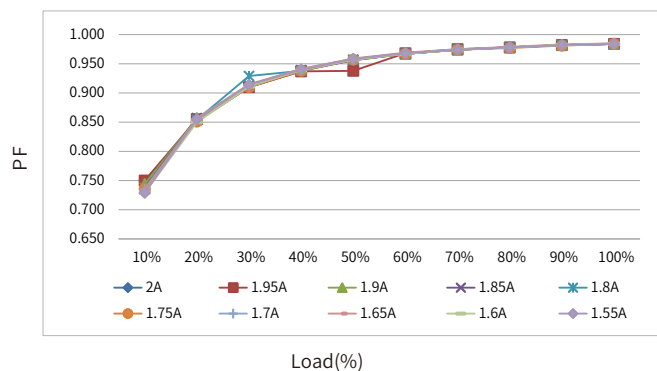


THD vs. Load



BK-DGL060-1500AD(Continue)

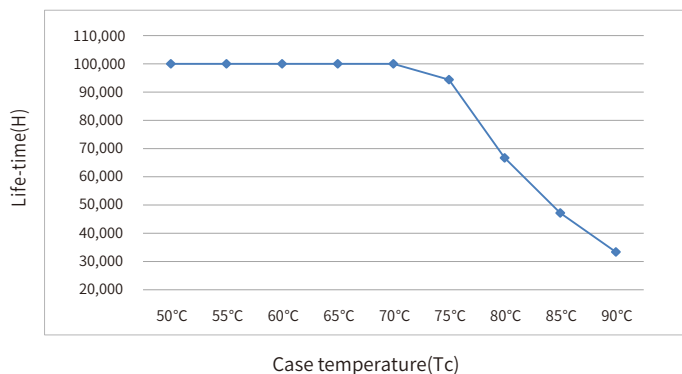
Power factor vs. Load



Expected life-time

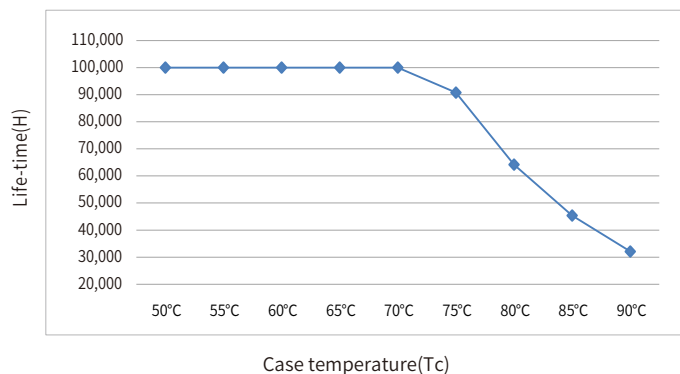
BK-DGL042-105AD

Life-time vs. case temperature



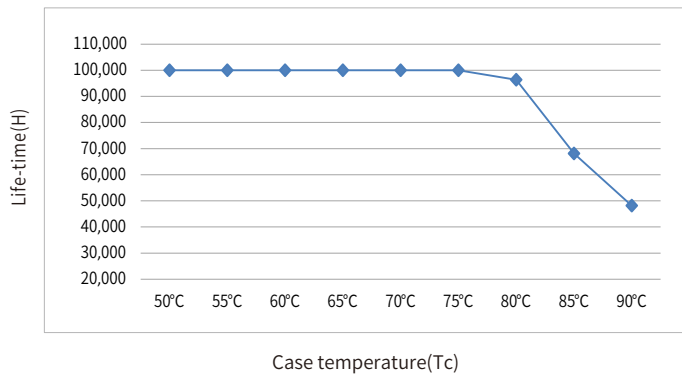
BK-DGL060-1500AD

Life-time vs. case temperature



BK-DGL060-2000AD

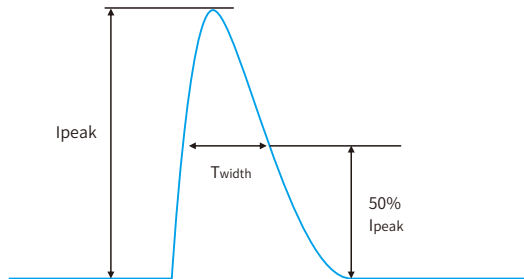
Life-time vs. case temperature



- 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														
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25
BK-DGL042-1050AD	8.70A	230us	AC 230V, Full load, Cold start, $T_a \leq 30^\circ\text{C}$, MCB is not installed side by side	31pcs	41pcs	50pcs	63pcs	78pcs	33pcs	43pcs	53pcs	66pcs	83pcs	33pcs	43pcs	53pcs	66pcs	83pcs
BK-DGL060-1500AD	11.2A	170us		22pcs	29pcs	36pcs	45pcs	56pcs	22pcs	29pcs	36pcs	45pcs	56pcs	22pcs	29pcs	36pcs	45pcs	56pcs
BK-DGL060-2000AD	11.8A	168us		23pcs	30pcs	36pcs	45pcs	57pcs	23pcs	30pcs	36pcs	45pcs	57pcs	23pcs	30pcs	36pcs	45pcs	57pcs



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

- In case of a short-circuit at the LED output, the LED output is switched off.
- After restart of the LED driver, the output will be activated again.
- The restart can either be done via mains reset or via interface (DALI, PUSH-DIM).

Output no-load operation

- The LED driver will not be damaged in no-load operation.
- The output will be deactivated and is therefore free of voltage.
- If a LED load is connected the device has to be restarted before the output will be activated again.
- The restart can either be done via mains reset or via interface (DALI, PUSH-DIM).

Output overload protection

- If the output voltage range is exceeded the LED driver turns off the LED output.
- After restart of the LED driver the output will be activated again.
- The restart can either be done via mains reset or via interface (DALI, PUSH-DIM).

Output hot plug-in

- Plug the LED into the output of the powered driver. For protection LED, the LED will not on, The device has to be restarted.
- This can be done via mains reset or via interface (DALI).

Tunable white functionality

- This driver have 2 output channels used to control the intensity and temperature of white colour as well known as "Tunable White".
- These drivers respond to DALI type 8 (DT8) commands, which in practice means that they only have 1 common address for both output channels.
- The tunable white level of intensity and colour temperature can be set either with a DALI command or by PUSH switch control.
- The driver will operate correctly once tunable white LED module parameters are programmed to the driver. Use the DALI tools for the parameter setting.
- The higher the brightness, the wider the color temperature range can be obtained.

DIP-switch & output current

BK-DGL042-1050AD

Pin	Irated	Voltage	1	2	3	4
29.0W	600mA	42VDC		ON	ON	ON
31.0W	650mA	42VDC	ON	--	ON	ON
33.5W	700mA	42VDC	--	--	ON	ON
36.0W	750mA	42VDC	--	ON	--	ON
38.0W	800mA	42VDC	--	--	--	ON
40.5W	850mA	42VDC	ON	ON	ON	--
43.0W	900mA	42VDC	--	--	ON	--
45.0W	950mA	42VDC	--	ON	--	--
47.5W	1000mA	42VDC	ON	--	--	--
47.5W	1050mA ★	40VDC	--	--	--	--

BK-DGL060-1500AD

Pin	Irated	Voltage	1	2	3	4
50.0W	1050mA	42VDC	--	ON	ON	ON
52.0W	1100mA	42VDC	ON	--	ON	ON
54.5W	1150mA	42VDC	--	--	ON	ON
57.0W	1200mA	42VDC	--	ON	--	ON
59.5W	1250mA	42VDC	--	--	--	ON
61.5W	1300mA	42VDC	ON	ON	ON	--
64.0W	1350mA	42VDC	--	--	ON	--
66.5W	1400mA	42VDC	--	ON	--	--
69.0W	1450mA	42VDC	ON	--	--	--
70.5W	1500mA ★	42VDC	--	--	--	--

BK-DGL060-2000AD

Pin	Irated	Voltage	1	2	3	4
73.0W	1550mA	42VDC		ON	ON	ON
72.0W	1600mA	40VDC	ON	--	ON	ON
74.5W	1650mA	40VDC	--	--	ON	ON
73.0W	1700mA	38VDC	--	ON	--	ON
71.0W	1750mA	36VDC	--	--	--	ON
71.0W	1800mA	35VDC	ON	ON	ON	--
71.0W	1850mA	34VDC	--	--	ON	--
71.0W	1900mA	33VDC	--	ON	--	--
71.0W	1950mA	32VDC	ON	--	--	--
70.5W	2000mA ★	31VDC	--	--	--	--

Remarks:

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

Label

BK-DGL042-1050AD

INPUT

AC/L
 AC/N
 PUSH
 NC
 DA
 DA
 DA

AC/L: PUSH-DIM
 AC/N: DA
 AC/L: DA

PRI wire length 0.75-1.5mm"

Dimmable Tunable White LED Driver(DT8)

MODEL: BK-DGL042-1050AD

INPUT: 220-240V ~ 50/60Hz 0.3A Max. λ : 0.95

OUTPUT: 12-14V ~ 1050mA 0.2W

55VDC Max.

Other ratings see selection sheet

For LED Modules use only

MADE IN CHINA

OUTPUT

CW
 WW

SEC wire prep
0.5-1.5mm"

Do not energize the driver before connecting the LED.

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BOKE

SELV

Switching selection sheet

Pin/Vol. type	Protect	Indetecna	12-14V	1	2	3	4
29.0	25.2	650	12-14V	ON	ON	ON	ON
31.0	27.3	650	12-14V	ON	ON	ON	ON
33.5	29.4	700	12-14V	-	-	ON	ON
35.0	31.8	750	12-14V	-	-	ON	ON
38.0	33.8	800	12-14V	-	-	ON	ON
40.8	35.7	850	12-14V	ON	ON	ON	-
43.0	37.8	900	12-14V	-	-	ON	-
45.0	39.9	950	12-14V	-	-	ON	-
47.5	42.0	1000	12-14V	-	-	ON	-
47.5	42.0	1050	12-14V	-	-	ON	-

Before use, please check dimming settings.

BK-DGL060-1500AD

INPUT

- AC/L
- AC/N
- PUSH
- NC
- DA
- DA
- DA
- DA

Wiring prep: 0.75-1.5mm²



Dimmable Tunable White LED Driver(DT8)
MODEL: BK-DGL60E-1500AD

INPUT: 200-240V ~ 50/60Hz 0.45A Max. λ : 0.95
 OUTPUT: 12-42V ~ 1500mA 63W 50VDC Max.
 Other ratings see selection sheet

For LED Modules use only
 For Australia and New Zealand, the marking label with



•tc 90°C

DONGGUAN BOKE LED DRIVER CO.,LTD
 Address: Building H, Julong Industrial Park, Meitang Community, Huanqiang Town, 523763 Dongguan, CHINA
 MADE IN CHINA

OUTPUT

SEC wire prep: 0.5-1.5mm²

Don't energize the driver before connecting the LED.

BK-DGL060-2000AD

INPUT

- AC/L
- AC/N
- PUSH
- NIC
- DA
- 2A

AC/L → PUSH DIM
AC/N → PUSH CCT
NIC → DA

PR wire prep. 0.5-1.5mm

Dimmable Tunable White LED Driver(DT8)
MODEL: BK-DGL060-2000AD

INPUT: 200-240V ~ 50/60Hz 0.45A Max. λ: 0.95
 OUTPUT: 12-31V ~ 2000mA 62W 50VDC Max.
 Other ratings see selection sheet

For LED Modules use only
 For Australia and New Zealand, the marking label with

tc:90°C • tc

SELV

DONGGUAN BOKE LED DRIVER CO.,LTD
 ADDRESS: Building H, Julong Industrial Park, Meitang Community, Huanggang Town, 523763 Dongguan, CHINA
 MADE IN CHINA

www.bokeled.com

OUTPUT

CW +
-
0.5-1.5mm

WW +
-
0.5-1.5mm

-Do not energize the driver before connecting the LED.

DALI dimming application

Wiring diagram



Note: The voltage deviation of warm white and cool white light strings should be less than 0.5V

Activating DALI control mode

- After installation according to the wiring diagram of DALI control application, the driver will automatically switch to the DALI control mode after receiving any DALI command.

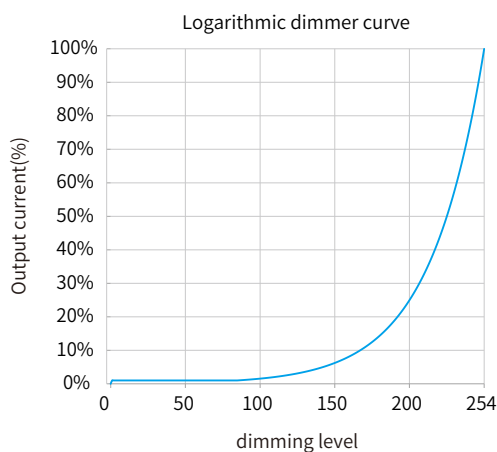
Remarks:

- Standard DALI control line voltage range: 9.5V to 22.5V, type 16V.
- The two DALI control lines polarity-reversible.
- Max. 64 DALI drivers per DALI control line.
- The maximum distance length of the DALI control line is 300m at $2 \times 1.5\text{mm}^2$.
- DALI bus can be wired together with any mains voltage cables, but separate wiring is recommended.

Wiring distance vs cable size

Cable size	Distance
$2 \times 0.50\text{mm}^2$	max.100m
$2 \times 0.75\text{mm}^2$	max.150m
$2 \times 1.00\text{mm}^2$	max.200m
$\geq 2 \times 1.50\text{mm}^2$	max.300m

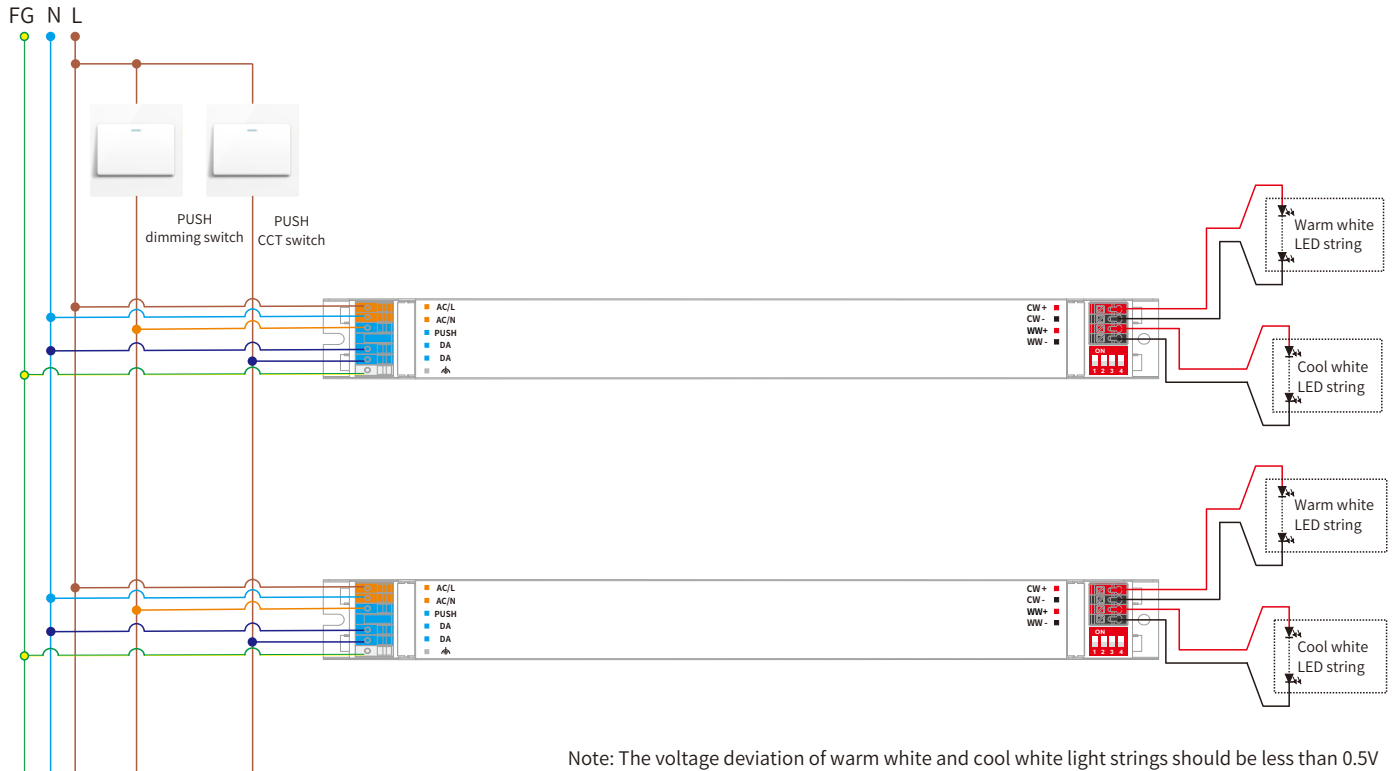
Dimming curve



Remarks:

The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

PUSH dimming application



Note: The voltage deviation of warm white and cool white light strings should be less than 0.5V

Activating PUSH control mode

- After installation according to the wiring diagram of PUSH-DIM control application, short press the PUSH dimming switch(PUSH-DIM port) 5 times within 3 seconds, the driver will automatically switch to PUSH control mode.

PUSH dimming switch operating instructions

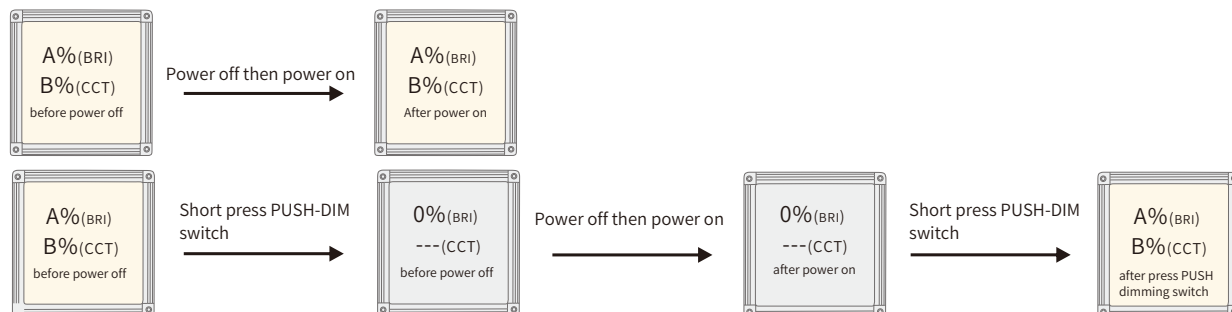
- Turn on or turn off: short press PUSH dimming switch for 0.2-1s.
- Stepless dimming : long press PUSH dimming switch for 1-6s, Press again to switch dimming directions.

PUSH CCT switch operating instructions

- Switch CCT level: short press PUSH CCT switch for 0.2-1s, 9 levels of preset CCT can be switched.
- Stepless CCT adjustment: long press CCT PUSH switch for 1-6s, Press again to switch CCT adjustment directions.

Power on status:

- After power on, the light state will be the same as the last dimming level and the last CCT level.
- If the light is on before the power is turned off, after turning the power back on, the brightness will be the same as the last time, and the color temperature will be the same as the last time.
- If the light is off before the power is turned off, the light will be turned off after the power is turned back on. You need to press the PUSH-DIM dimming switch for a short time to turn on the light. The brightness after lighting will be the same as the last time, and the color temperature will be the same as the last time.



Multiple lights synchronize control operation

method 1:

- Step 1: long press the PUSH-DIM switch, confirm each light is on.
- Step 2: short press the PUSH-DIM switch, confirm each light is off.
- Step 3: long press the PUSH-DIM switch, confirm each light is from darkest to brightest and all the lights are synchronous.

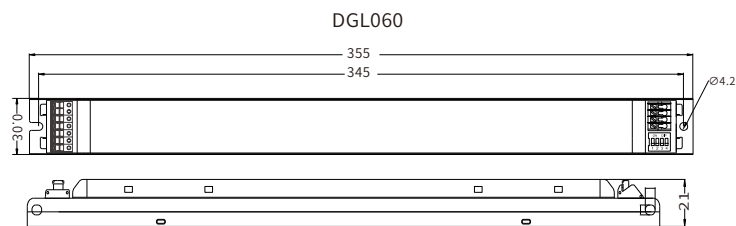
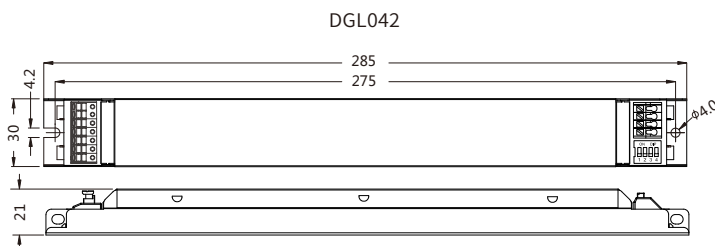
method 2:

- Long press the PUSH-DIM dimming switch for more than 15s, all drivers will output 100% brightness and the color temperature is natural white (middle of color temperature range).

Installation

Mechanical dimensions

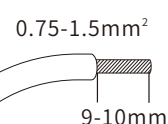
Unit:mm



INPUT

Pin Numbering	function	colour
1	ACL	orange
2	ACN	orange
3	PUSH	blue
4	NC	blue
5	DA	blue
6	DA	blue
7	FG	gray

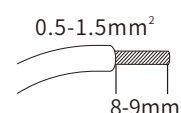
Input wire



OUTPUT

Pin Numbering	function	colour
1	WW+	red
2	WW-	black
3	CW+	red
4	CW-	black

Output wire



Installation note

Hot plug-in

- Hot plug-in is not supported due to residual output voltage of > 0 V.
- If a LED load is connected the device has to be restarted.
- This can be done via mains reset or via interface (DALI).

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.

Mounting screw specifications and torque

- Max. torque at the clamping screw: 0.5 Nm / M4

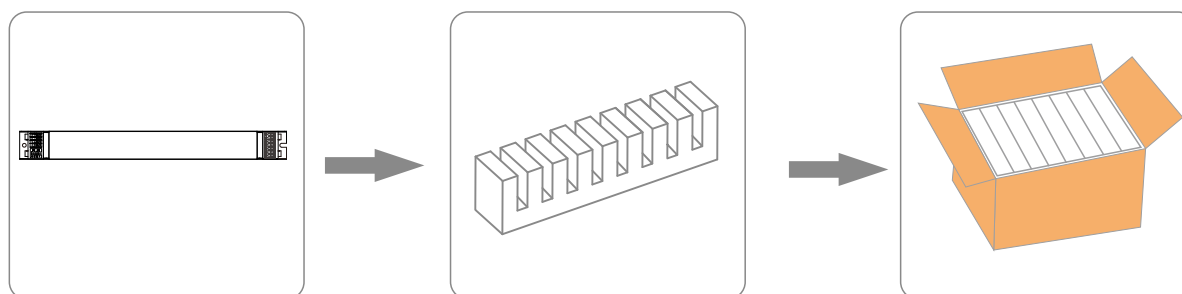
LED module

- The voltage deviation of warm white and cool white light strings should be less than 0.5V

Replace LED module

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

Packaging



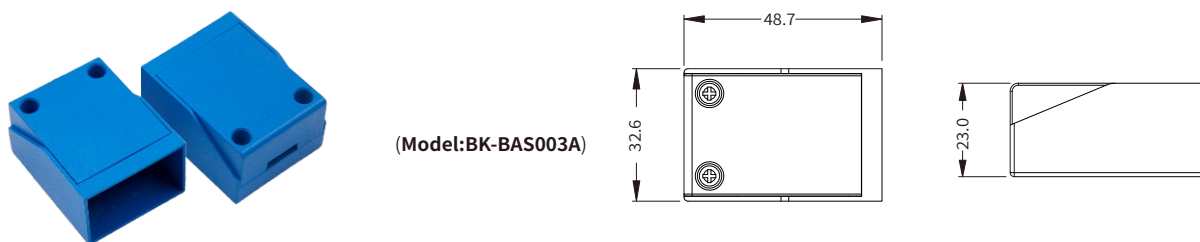
Product

Pearl wool

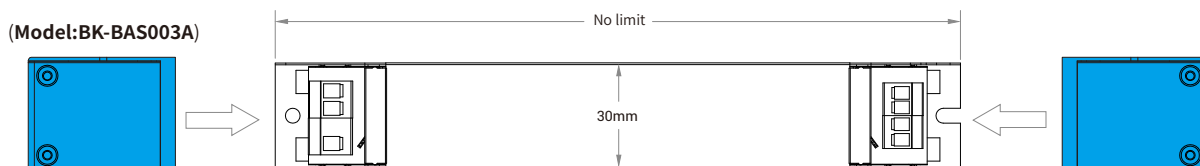
8pcs×5layer=40pcs/CIN
7pcs×5layer=35pcs/CIN

Model	Product size	Weight	Pearl wool	Carton size	Qty/carton	N.W	G.W
DGL042	L285*W30*H21mm	242g	L405*W30*H65mm	L415*W330*H190mm	40pcs	9.70kg	11.5kg
DGL060	L355*W30*H21mm	305g	L319*W30*H75mm	L415*W330*H190mm	35pcs	10.6kg	12.3kg

Wiring block size



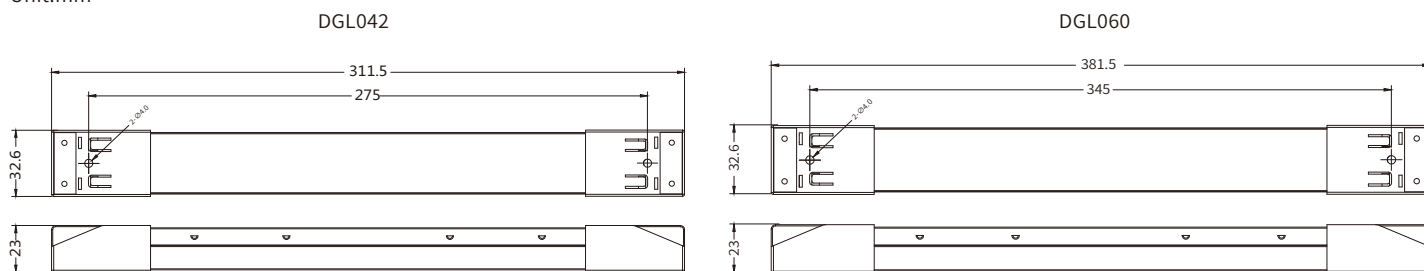
Wiring block usage



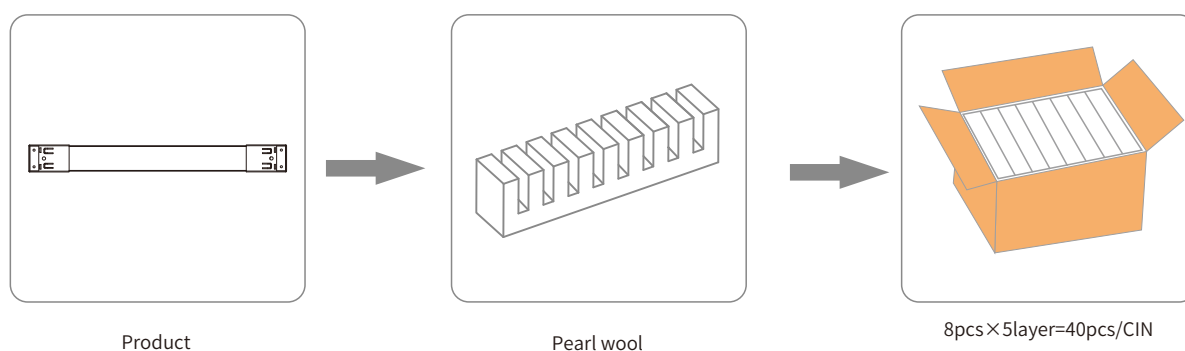
Installation

Mechanical dimensions

Unit:mm



Packaging



Model	Product size	Weight	Pearl wool	Carton size	Qty/carton	N.W	G.W
DGL042	L311.5*W32.6*H23mm	265g	L435*W30*H65mm	L450*W350*H180mm	40pcs	10.6kg	12.0kg
DGL060	L381.5*W32.6*H23mm	325g	L365*W40*H90mm	L435*W375*H150mm	28pcs	9.10kg	10.8kg

8pcs×5layer=40pcs/CIN
7pcs×4layer=28pcs/CIN

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. If the drive has been turned on, there is no warranty.
3. For more information, please send an email to info@powerboke.com.