

Constant voltage linear driver
HGV(E) Series



Features

- Flicker-free output, which meets the requirement of ErP standard
- Standby power input < 0.5W, meets the requirements of ErP certification
- High PF, high efficiency, low THD
- SELV and Class I design, suitable for use inside of the luminaires
- 5.5-year guarantee

Suitable for lights

- Suitable for CV strip lights, CV linear lights, floor lights, tri-proof lights, bracket lights, etc

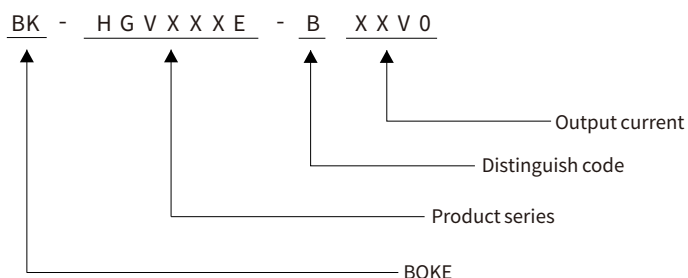
Functions

- Support central emergency application (100% output in DC input)
- Support self-contained emergency application
- Protective features (short-circuit, overload protection)

Typical applications

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

Model coding rules of HGV(E) series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-HGV100E-48V0	200-240VAC/DC	100W MAX.	48VDC	2.1A	L285*W30*H21mm
BK-HGV150E-B48V0	200-240VAC/DC	150W MAX.	48VDC	3.12A	L285*W30*H21mm
BK-HGV200E-48V0	200-240VAC/DC	199.2W MAX.	48VDC	4.15A	L375*W36*H23mm

Technical data

Product model	BK-HGV100E-48V0
Output parameters	
Regulation method	Constant voltage
Rated output current	2.1A
Rated output voltage	48VDC
Rated output power	100W Max
Output voltage adjustment	Fixed output
Output voltage ripple(typ.)	≤500mV(100Hz)
Output voltage accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
Flicker-free(typ.)	Pst LM=0.003, SVM=0.027,(The above parameters are obtained by testing with constant voltage light strip)
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	<0.65A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF: 0.99,DF:0.99, see the electrical values below for details
Input THD(typ.)	7.5% , see the electrical values below for details
Efficiency(typ.)	92.5% , see the electrical values below for details
In-rush current(typ.)	26.1A peak ,285us 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(typ.)	Full load(Pin):108.1W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P(LED):3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:A)
Leakage current(typ.)	0.49mA
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	Supported
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-25-55°C
Case temperature	Tc=90°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, EL
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.
- 2.Connect the power supply to the load before powering it on.
- 3.When the load is a DC to DC module, the input impulse current of this module must be controlled (<30A).

Technical data

Product model	BK-HGV150E-B48V0
Output parameters	
Regulation method	Constant voltage
Rated output current	3.12A
Rated output voltage	48VDC
Rated output power	150W Max
Output voltage adjustment	Fixed output
Output voltage ripple(typ.)	≤500mV(100Hz)
Output voltage accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
Flicker-free(typ.)	Pst LM=0.007, SVM=0.037,(The above parameters are obtained by testing with constant voltage light strip)
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	<1A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF: 0.99,DF:0.99, see the electrical values below for details
Input THD(typ.)	4.5% , see the electrical values below for details
Efficiency(typ.)	93% , see the electrical values below for details
In-rush current(typ.)	32.6A peak ,340us 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(typ.)	Full load(Pin):161W, 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):3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.67mA
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	Supported
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-55°C
Case temperature	Tc=90°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, EL
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.
- 2.Connect the power supply to the load before powering it on.
- 3.When the load is a DC to DC module, the input impulse current of this module must be controlled (<30A).

Technical data

Product model	BK-HGV200E-48V0
Output parameters	
Regulation method	Constant voltage
Rated output current	4.15A
Rated output voltage	48VDC
Rated output power	199.2W Max
Output voltage adjustment	Fixed output
Output voltage ripple(typ.)	≤500mV(100Hz)
Output voltage accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
Flicker-free(typ.)	Pst LM=0.007, SVM=0.037,(The above parameters are obtained by testing with constant voltage light strip)
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	<1.25A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF: 0.99,DF:0.99, see the electrical values below for details
Input THD(typ.)	4% , see the electrical values below for details
Efficiency(typ.)	93.5% , see the electrical values below for details
In-rush current(typ.)	56.25A peak ,320us 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(typ.)	Full load(Pin):213.0W, 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):3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.4mA
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	Supported
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-25-55°C
Case temperature	Tc=90°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, EL
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

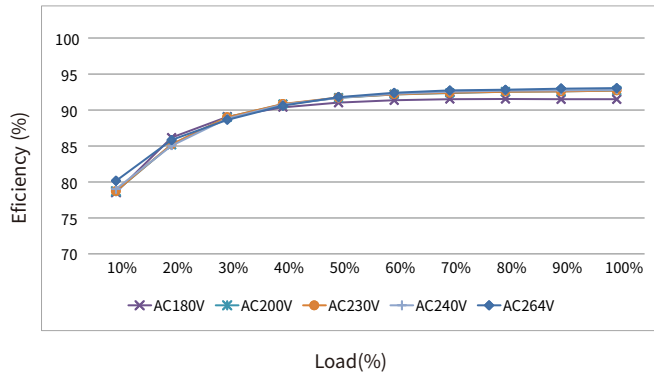
Remarks

- 1.By default, all parameter are measured at 230VAC input, 50Hz, full load and 25°C of ambient temperature.
- 2.Connect the power supply to the load before powering it on.
- 3.When the load is a DC to DC module, the input impulse current of this module must be controlled (<30A).

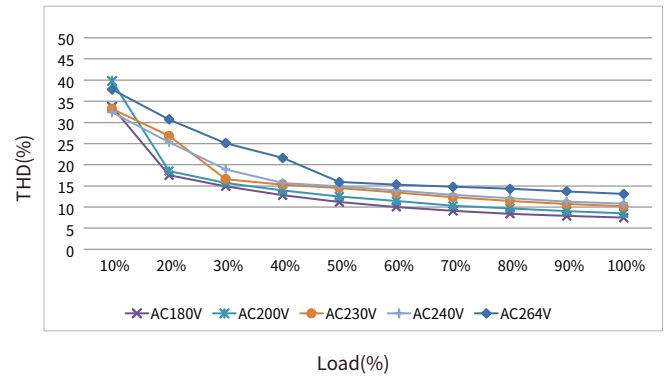
Electrical values

BK-HGV100E-48V0

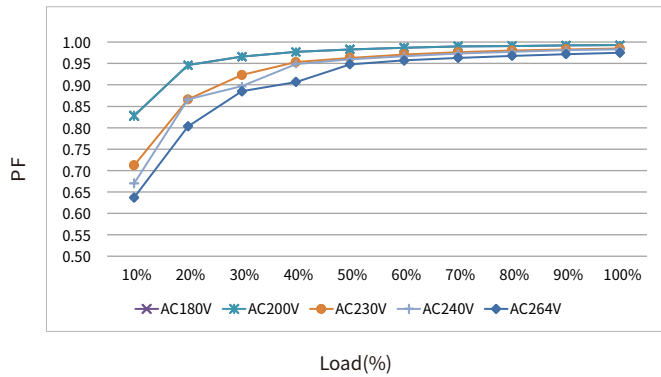
Efficiency vs load



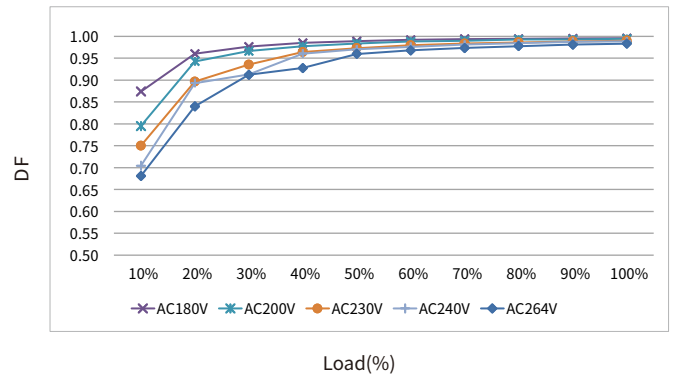
THD vs. Load



Power factor vs. Load



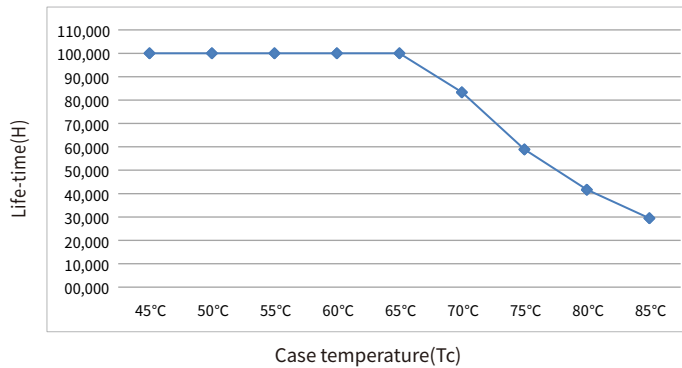
Displacement factor vs. Load



Expected life-time

BK-HGV100E-48V0

Life-time vs. case temperature

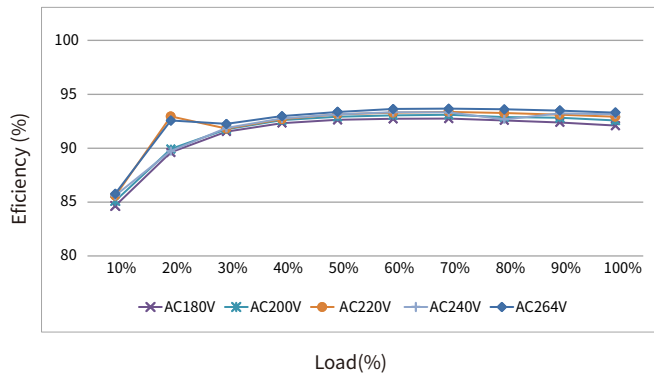


- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

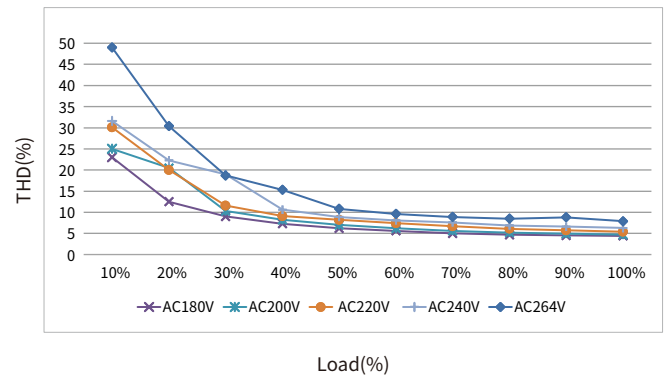
Electrical values

BK-HGV150E-B48V0

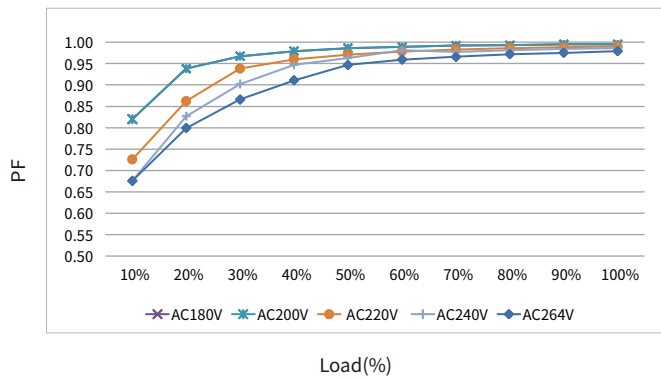
Efficiency vs load



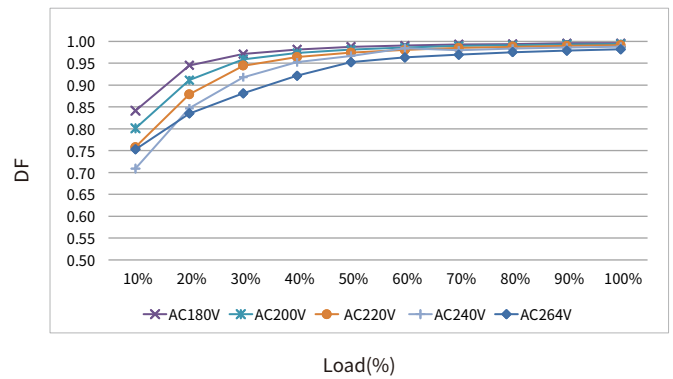
THD vs. Load



Power factor vs. Load



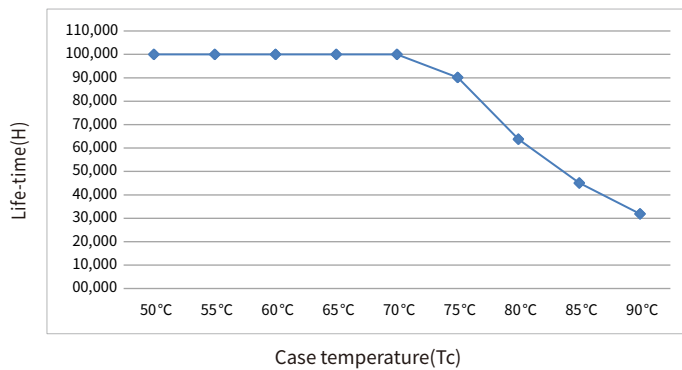
Displacement factor vs. Load



Expected life-time

BK-HGV150E-B48V0

Life-time vs. case temperature



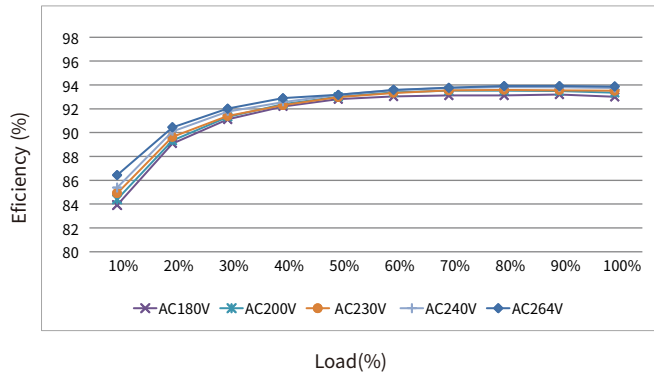
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

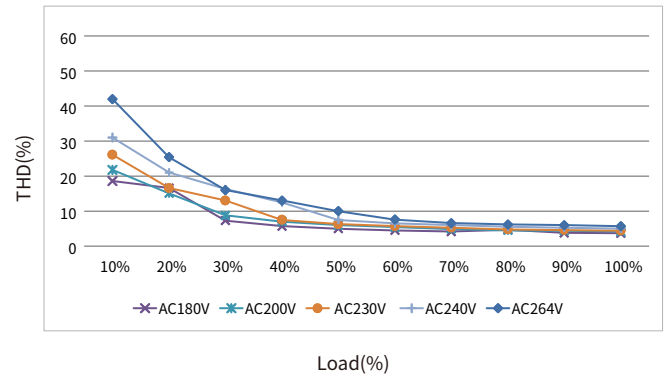
Electrical values

BK-HGV200E-48V0

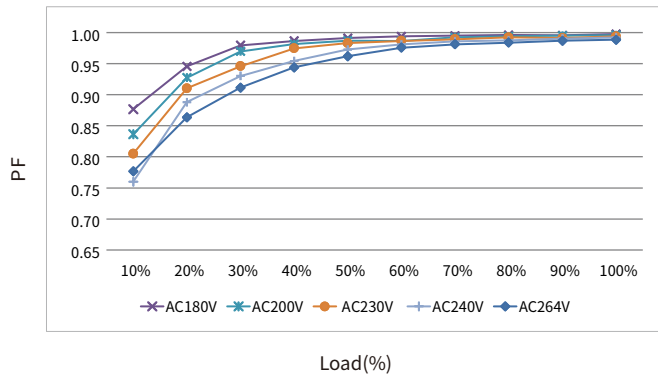
Efficiency vs load



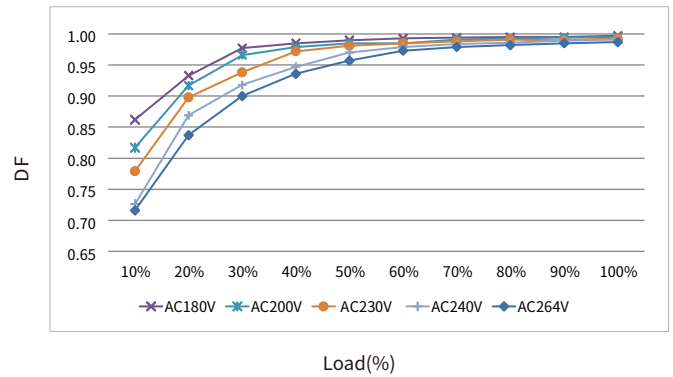
THD vs. Load



Power factor vs. Load



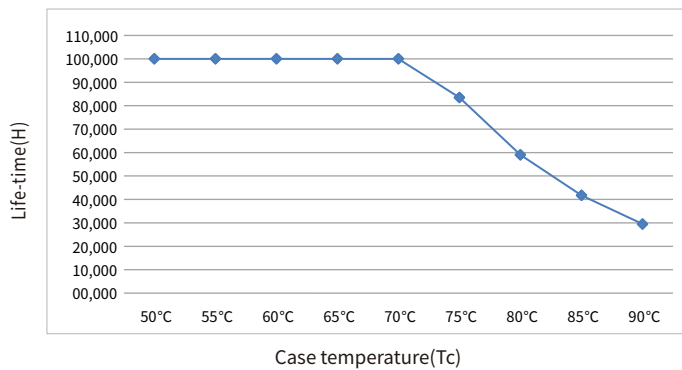
Displacement factor vs. Load



Expected life-time

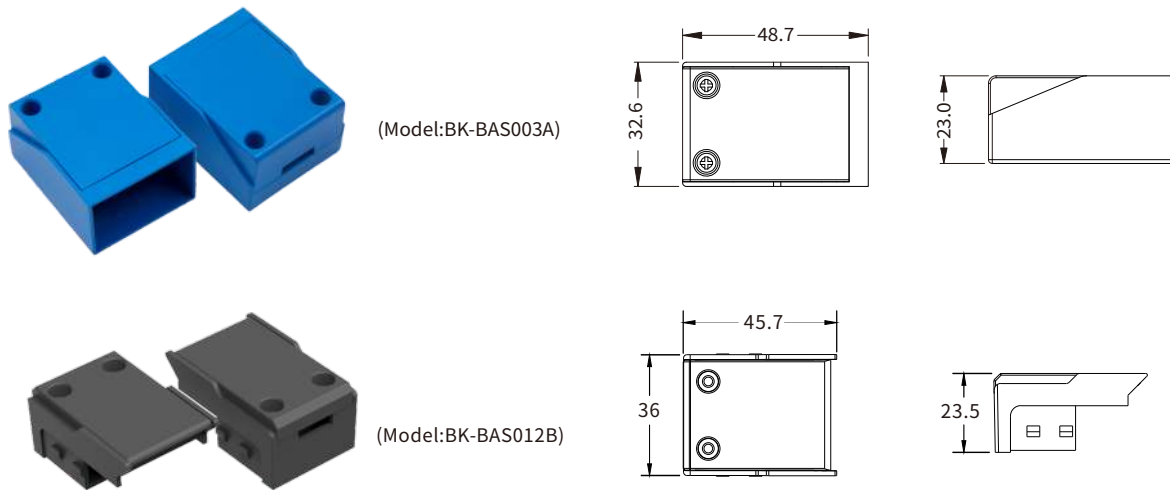
BK-HGV200E-48V0

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.

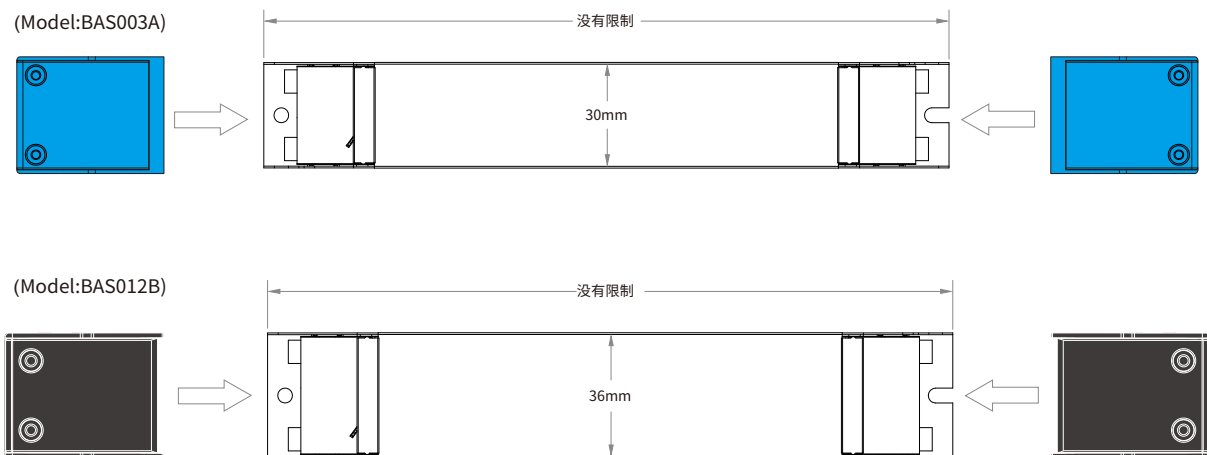
Optional accessories



Remark: BK-BAS003A apply to HGV100E, HGV150E-B;
BK-BAS012B apply to HGV200E.

Unit:mm

Installation diagram of accessories

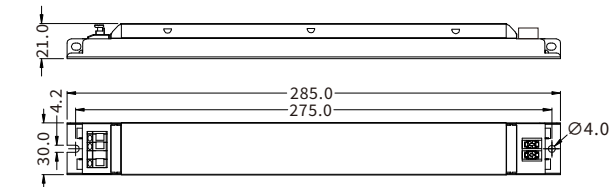


Mechanical Specification

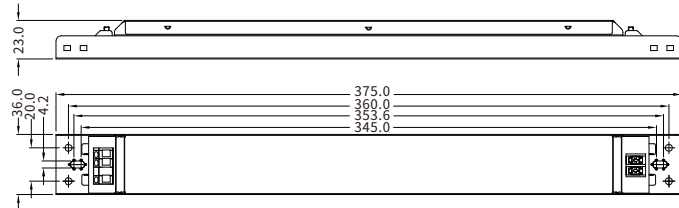
Size(Excluding accessories)

Unit:mm

HGV100E/HGV150E-B



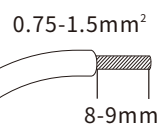
HGV200E



INPUT

Numbering	function	colour
1	ACL/DC+	orange
2	ACN/DC-	orange
3	NG	grey
4	FG	grey

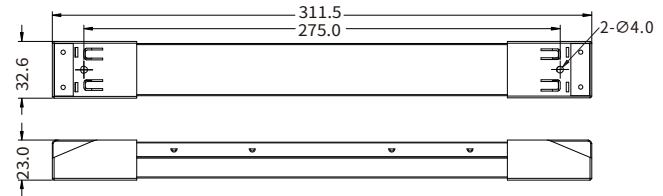
Input wire



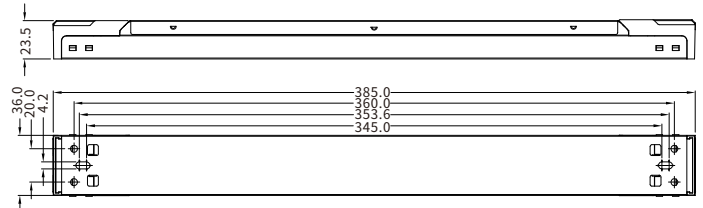
Size(Include accessories)

Unit:mm

HGV100E/HGV150E-B



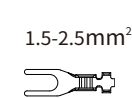
HGV200E



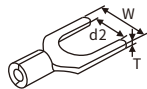
OUTPUT

Numbering	function
1	V-
2	V+

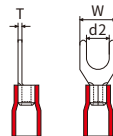
Output wire



Cold-pressed terminal reference



Cold-pressed Terminal (bare part)



Cold-pressed Terminal (Insulating part)

Product model	Position	Cable cord diameter	Cold-pressed Terminal			
			Model reference	Diameter		
				Inside diameter(d2)	Outside diameter(W)	Thickness(T)
HGV100E/HGV150E-B	Output	0.5-1.5mm²	SNB1.25-3.2/SV1.25-3	3.2mm	5.7mm	0.7mm
		1.5-2.5mm²	SNB2-3.2/SV2-3			0.8mm

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 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.

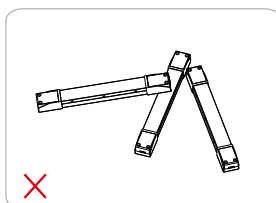


Figure 1

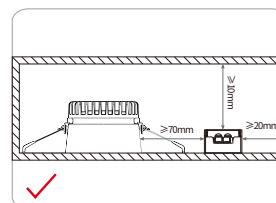
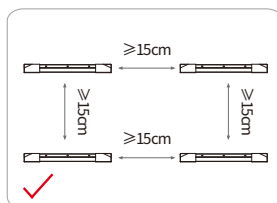


Figure 2

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 2 m.
- Incorrect wiring can damage LED modules.

Replace LED module

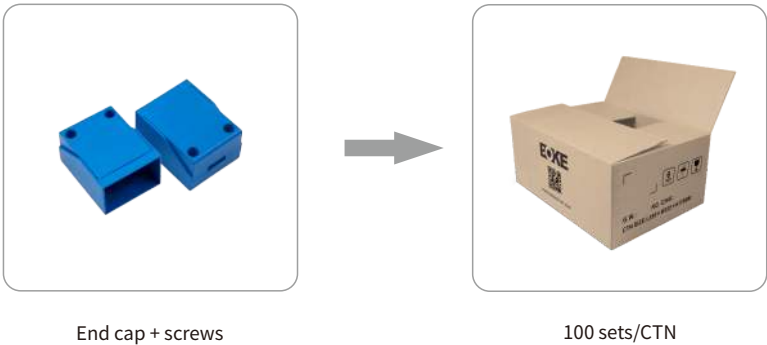
1. Mains off
2. Wait more than 5 seconds
3. Remove LED module
4. Connect LED module again

Packaging



Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
HGV100E	L285*W30*H21mm	234g	L305*W110*H78mm	L325*W240*H100mm	20pcs	4.68KG	5.99KG
HGV150E-B	L285*W30*H21mm	284g	L305*W110*H78mm	L325*W240*H100mm	20pcs	5.68KG	6.99KG
HGV200E	L375*W36*H23mm	440g	L390*W120*H90mm	L405*W255*H110mm	20pcs	8.80KG	9.51KG

Accessories



Model	Product size	Weight/set	Carton size	Qty/carton	N.W	G.W
BK-BAS003A	L48.7*W32.6*H23mm	22g	L450*W350*H180mm	100 sets	2.2kg	2.7kg
BK-BAS012B	L45.7*W36*H23.5mm	27g	L450*W350*H180mm	100 sets	2.7kg	3.2kg

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.