Constant current linear dimmable driver
KHL Series suffix m(Isolated 1-10V/10V PWM/Rx)

Features

- Isolated 1-10V/10V PWM/Rx dimming interface
- 10-level current output can be realized by 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 brightness of the lights is the same
- 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 light
- Passed CE, ENEC, UKCA, RCM, CCC, EL and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5-year guarantee

Interfaces

- 1-10V 3in1 Isolated(1-10V / 10V PWM / Rx)

Functions

- Support central emergency application (dimming normal in DC input)
- Support self-contained emergency application
- Protective features (short-circuit protection, no-load protection)

Suitable for lights

- Suitable for linear lights,tri-proof lights,working lights, bracket lights and other linear or ultra-thin lights etc.

Typical applications

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

Model coding rules of KHL series

BK - KHLXXX - XXXX z m

- m: Function mode(m: 1-10V/10V PWM/Rx)
- z: Output load voltage range identification code
- XXXX: Output current
- KHLXXX: Product series
- BK: BOKE

0/1...10VDC PWM signal R0...100KΩ

Function list

Model	Suffix	Wired dimming
		1-10V 3in1
BK-KHL030 BK-KHL040 BK-KHL050 BK-KHL060 BK-KHL080	m	√

Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-KHL030-0800Am	200-240VAC/DC	30.4W MAX.	24-38/40/42VDC	0.35-0.8A	L245*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL
BK-KHL040-1050Am	200-240VAC/DC	40W MAX.	24-38/40/42VDC	0.6-1.05A	L245*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL
BK-KHL050-1300Am	200-240VAC/DC	52.5W MAX.	24-40/42VDC	0.85-1.3A	L285*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL
BK-KHL060-1650Am	200-240VAC/DC	62.7W MAX.	24-38/40/42VDC	1.2-1.65A	L355*W30*H21mm	CE, ENEC, UKCA, RCM, CCC, EL
BK-KHL080-2000Am	200-240VAC/DC	80W MAX.	24-40/42VDC	1.55-2A	L355*W36*H23mm	CE, ENEC, UKCA, RCM, CCC, EL

Technical data

Product model	BK-KHL030-0800Am	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.35-0.8A	
Rated output voltage range	24-38/40/42VDC	
Rated output power	30.4W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.215%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.006, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input votage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.21A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.97 ,DF: 0.97 ,see the electrical values below for details	
Input THD	15% ,see the electrical values below for details	
Efficiency(Max)	88%,see the electrical values below for details	
In-rush current	13.25A peak ,266us 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):34.5W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P(LED):3750V AC(LED,DIM port must be short-circuited),I/P-FG:1750V AC,O/P-FG:500V AC,O/P(LED)-O/P(DIM):1500V AC, I/P-O/P(DIM):1500V AC	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:B)	
Leakage current	0.31mA (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	Voltage range: 0-10V, interface current consumption: <0.3mA	
Auxiliary power supply	N/A	
Dimming range	5%-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=-20-60°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		
Certification	CE, ENEC, UKCA, RCM, CCC, EL	
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	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, full load and 25°C of ambient temperature.

Technical data

Product model	BK-KHL040-1050Am	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.6-1.05A	
Rated output voltage range	24-38/40/42VDC	
Rated output power	40W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.172%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.012, SVM = 0.005, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input votage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.24A（Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.97 ,DF: 0.98 ,see the electrical values below for details	
Input THD	13% ,see the electrical values below for details	
Efficiency(Max)	89%,see the electrical values below for details	
In-rush current	14.5A peak ,260us 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):44.9W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P(LED):3750V AC(LED,DIM port must be short-circuited),I/P-FG:1750V AC,O/P-FG:500V AC,O/P(LED)-O/P(DIM):1500V AC, I/P-O/P(DIM):1500V AC	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:B)	
Leakage current	0.34mA (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	Voltage range: 0-10V, interface current consumption: <0.3mA	
Auxiliary power supply	N/A	
Dimming range	5%-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=-20-60°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		
Certification	CE, ENEC, UKCA, RCM, CCC, EL	
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	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, full load and 25°C of ambient temperature.

Technical data

Product model	BK-KHL050-1300Am	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.85-1.3A	
Rated output voltage range	24-40/42VDC	
Rated output power	52W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.327%, Flicker index(IEEE 1789)=0.001,Pst LM = 0.010, SVM = 0.004, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input votage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.29A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.97 ,DF: 0.97 ,see the electrical values below for details	
Input THD	14% ,see the electrical values below for details	
Efficiency(Max)	89%,see the electrical values below for details	
In-rush current	19.5A peak ,276us 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):58.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P(LED):3750V AC(LED,DIM port must be short-circuited),I/P-FG:1750V AC,O/P-FG:500V AC,O/P(LED)-O/P(DIM):1500V AC, I/P-O/P(DIM):1500V AC	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:B)	
Leakage current	0.44mA (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	Voltage range: 0-10V, interface current consumption: <0.3mA	
Auxiliary power supply	N/A	
Dimming range	5%-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=-20-60°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		
Certification	CE, ENEC, UKCA, RCM, CCC, EL	
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	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, full load and 25°C of ambient temperature.

Technical data

Product model	BK-KHL060-1650Am	
Output parameters		
Regulation method	Constant Current	
Rated output current range	1.2-1.65A	
Rated output voltage range	24-38/40/42VDC	
Rated output power	62.7W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.137%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.016, SVM = 0.003, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input votage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.37A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.97 ,DF: 0.98 ,see the electrical values below for details	
Input THD	11.5% ,see the electrical values below for details	
Efficiency(Max)	91%,see the electrical values below for details	
In-rush current	23A peak ,312us 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):68.9W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P(LED):3750V AC(LED,DIM port must be short-circuited),I/P-FG:1750V AC,O/P-FG:500V AC,O/P(LED)-O/P(DIM):1500V AC, I/P-O/P(DIM):1500V AC	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV (Performance criterion:B)	
Leakage current	0.51mA (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	Voltage range: 0-10V, interface current consumption: <0.3mA	
Auxiliary power supply	N/A	
Dimming range	5%-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=-20-60°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		
Certification	CE, ENEC, UKCA, RCM, CCC, EL	
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	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, full load and 25°C of ambient temperature.

Technical data

Product model	BK-KHL080-2000Am	
Output parameters		
Regulation method	Constant Current	
Rated output current range	1.55-2A	
Rated output voltage range	24-40V42VDC	
Rated output power	80W Max	
Output current adjustment	DIP S.W(10 levels)	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.210%,Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.004, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	200-240VAC 200-240VDC	
Input votage range	180-264VAC 200-264VDC	
Input votage shock	<380 V AC	
Input current	<0.45A (Rated input voltage)	
Input frequency	0/50/60Hz	
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	27A peak ,370us 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):89.9W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P(LED):3750V AC(LED,DIM port must be short-circuited),I/P-FG:1750V AC,O/P-FG:500V AC,O/P(LED)-O/P(DIM):1500V AC, I/P-O/P(DIM):1500V AC	
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(Performance criterion:B)	
Leakage current	0.38mA (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	Voltage range: 0-10V, interface current consumption: <0.3mA	
Auxiliary power supply	N/A	
Dimming range	5%-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=-20-60°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		
Certification	CE, ENEC, UKCA, RCM, CCC, EL	
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	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172	
RF	N/A	

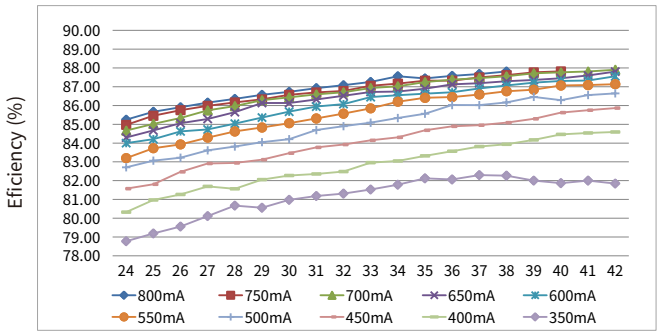
Remarks

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

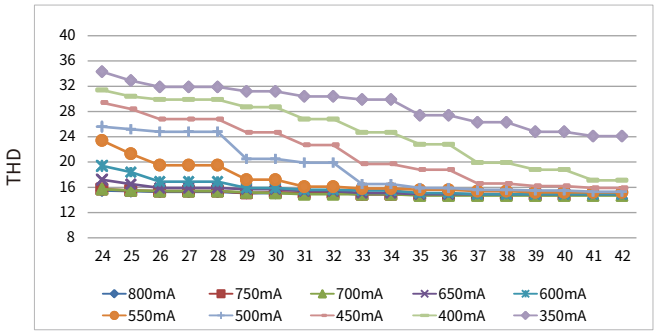
Electrical values

BK-KHL030-0800Am

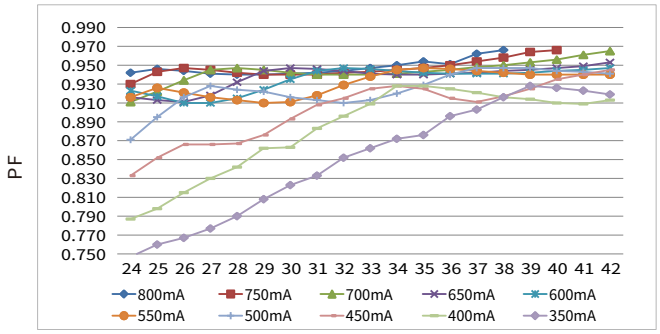
Efficiency vs voltage



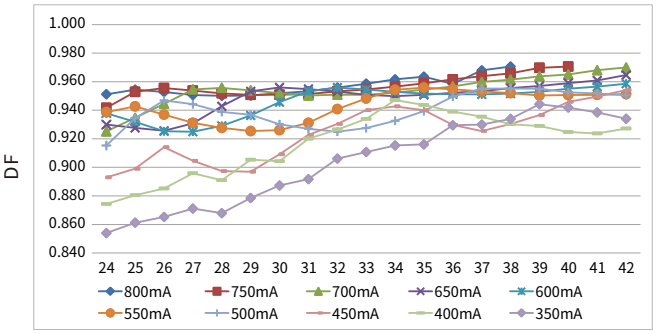
THD vs. voltage



Power factor vs. voltage

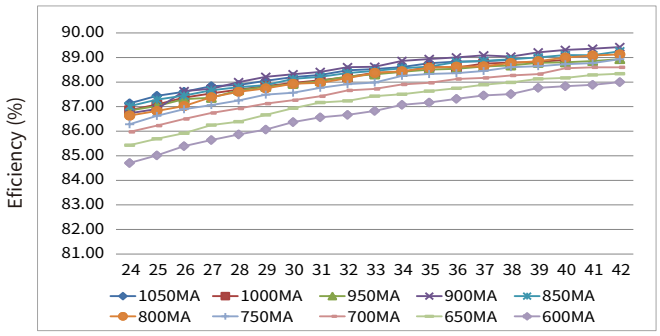


Displacement factor vs. voltage

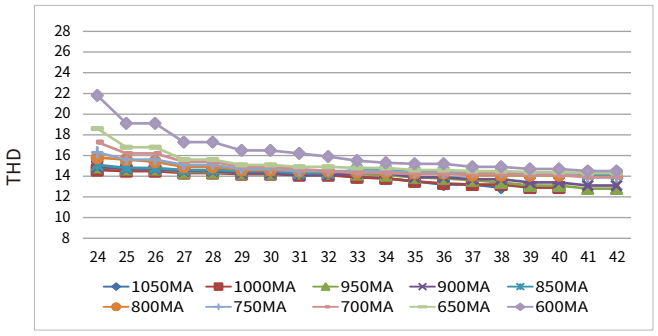


BK-KHL040-1050Am

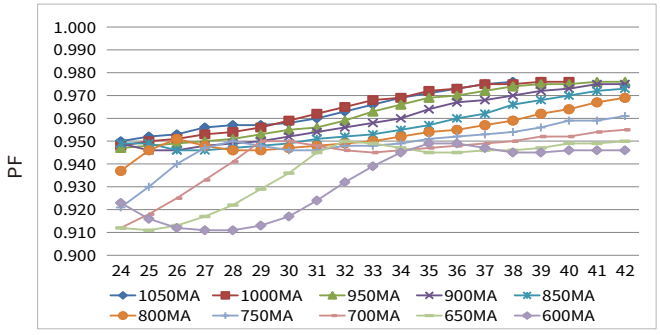
Efficiency vs voltage



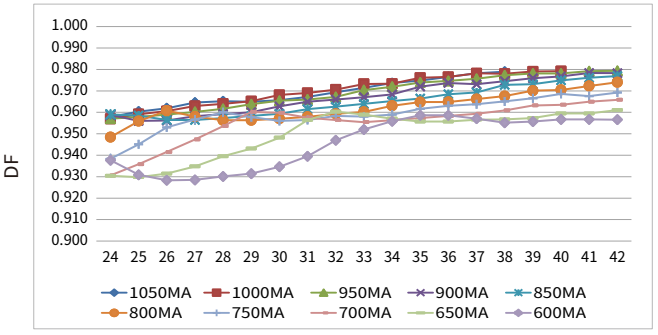
THD vs. voltage



Power factor vs. voltage



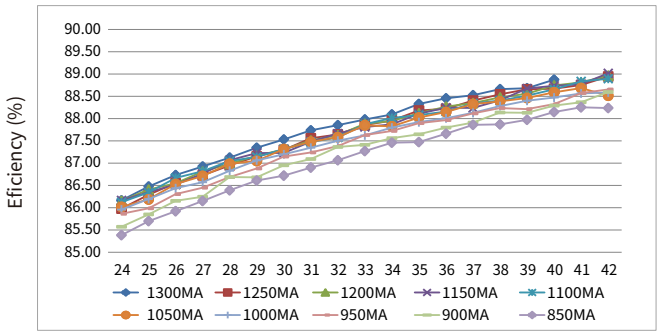
Displacement factor vs. voltage



Electrical values

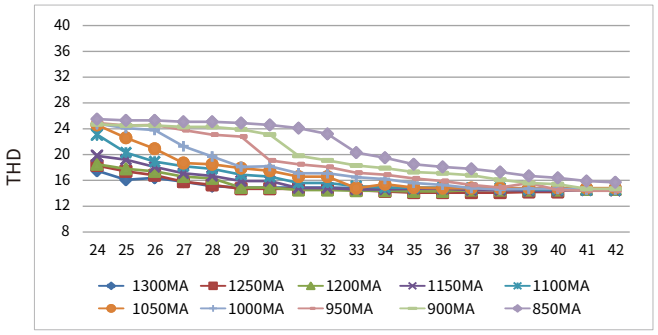
BK-KHL050-1300Am

Efficiency vs voltage



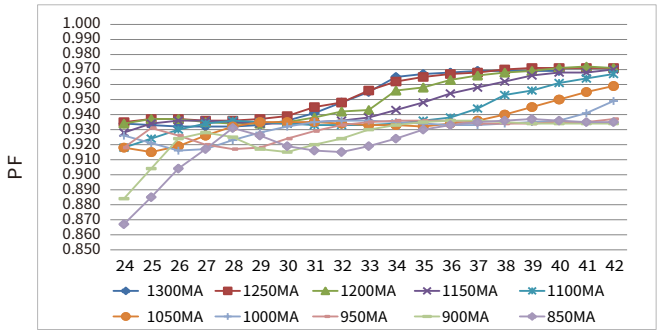
Voltage(V)

THD vs. voltage



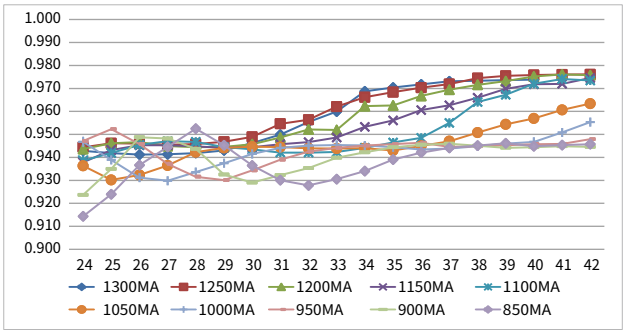
Voltage(V)

Power factor vs. voltage



Voltage(V)

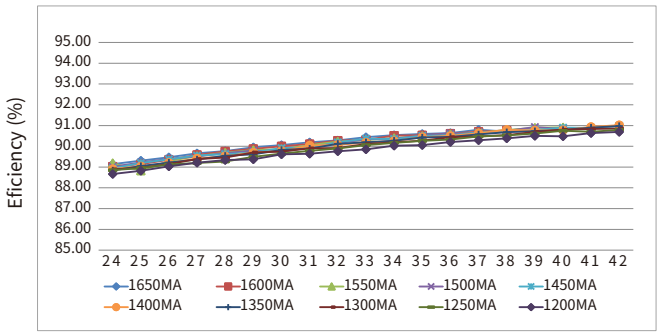
Displacement factor vs. voltage



Voltage(V)

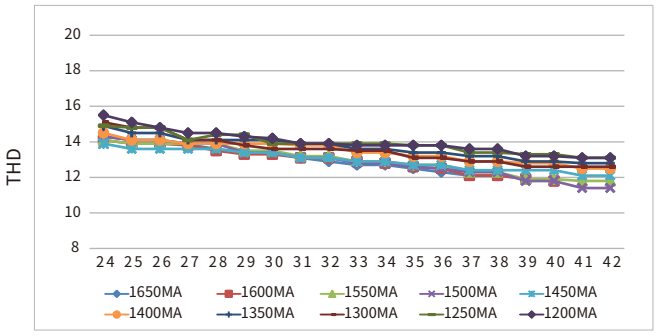
BK-KHL060-1650Am

Efficiency vs voltage



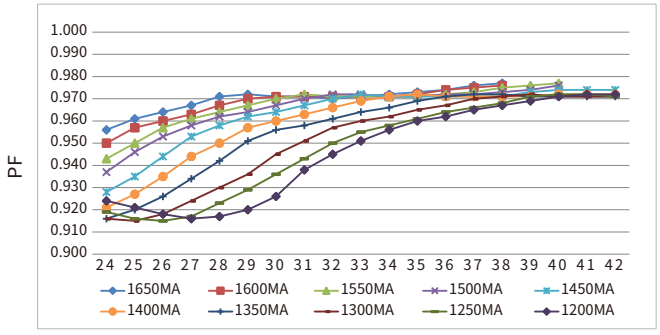
Voltage(V)

THD vs. voltage



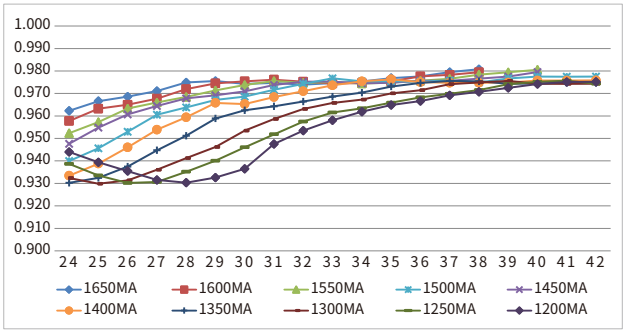
Voltage(V)

Power factor vs. voltage



Voltage(V)

Displacement factor vs. voltage

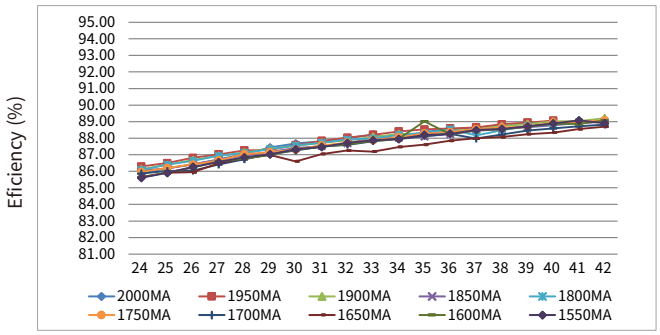


Voltage(V)

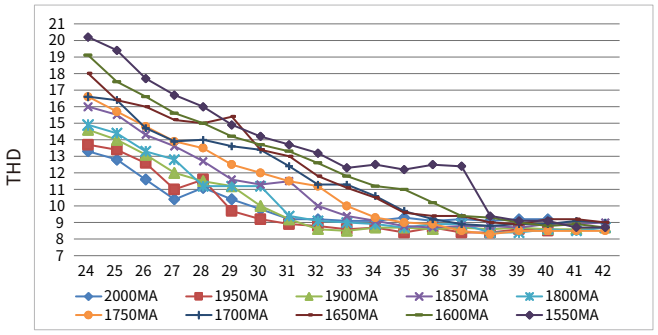
Electrical values

BK-KHL080-2000Am

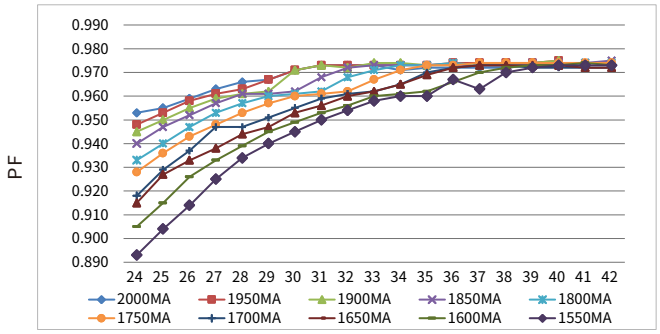
Efficiency vs voltage



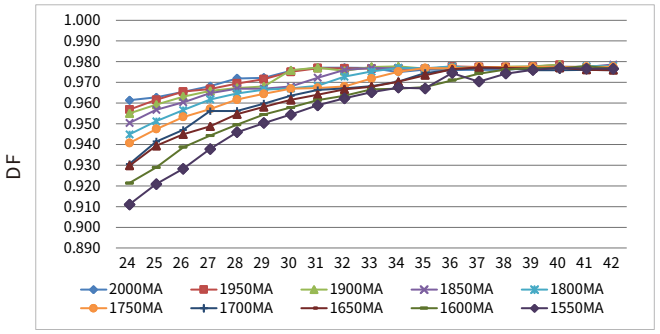
THD vs. voltage



Power factor vs. voltage



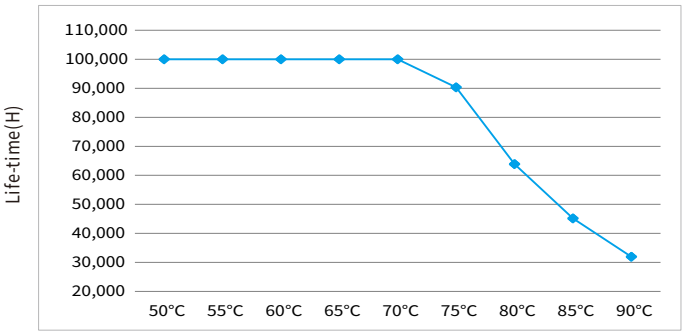
Displacement factor vs. voltage



Expected life-time

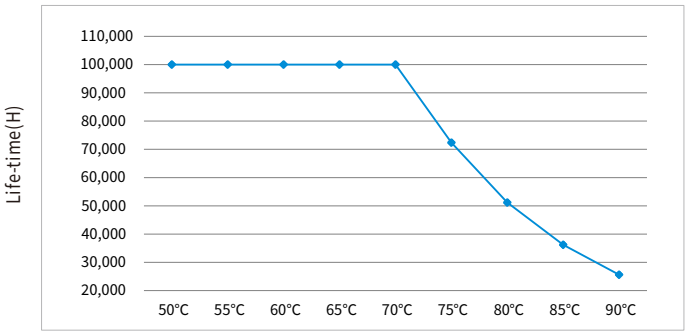
BK-KHL030-0800Am

Life-time vs. case temperature



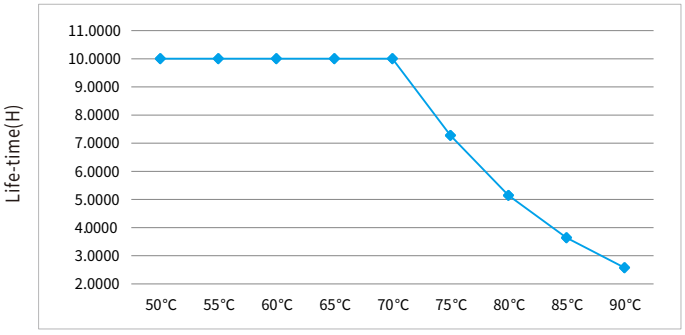
BK-KHL040-1050Am

Life-time vs. case temperature



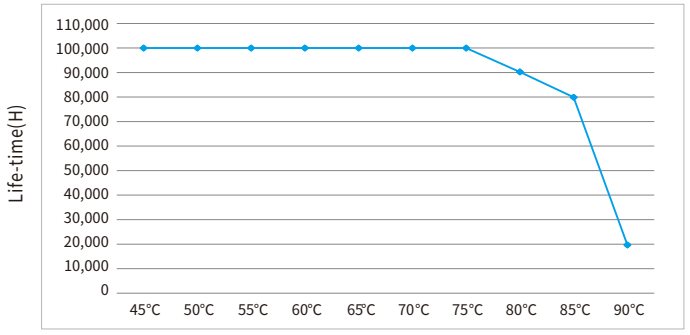
BK-KHL050-1300Am

Life-time vs. case temperature



BK-KHL060-1650Am

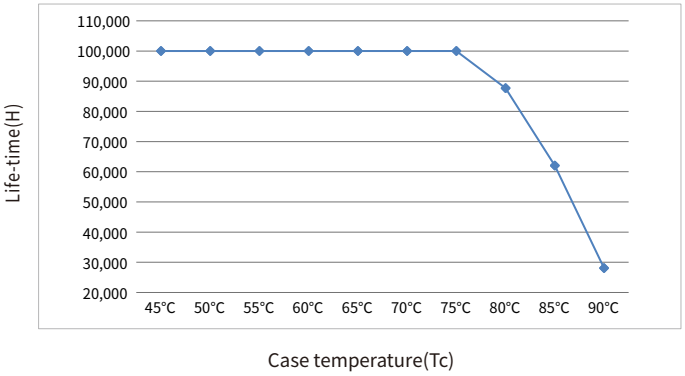
Life-time vs. case temperature



Expected life-time

BK-KHL080-2000Am

Life-time vs. case temperature

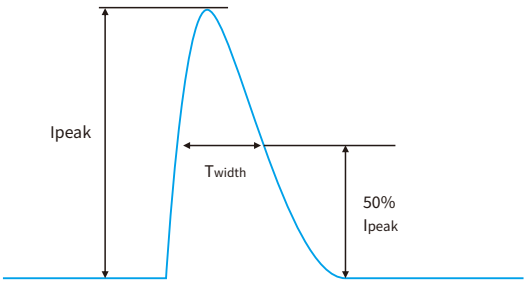


-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

- 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-KHL030-0800Am	13.25A	266us	AC 230V,Full load, Cold start,Ta≤30°C, MCB is not installed side by side	17	22	27	34	42	28	36	45	56	70	44	57	70	88	110
BK-KHL040-1050Am	14.5A	260us		16	21	25	32	40	27	35	42	53	66	34	44	54	67	84
BK-KHL050-1300Am	19.5A	276us		11	14	17	21	27	18	23	29	36	45	26	34	42	52	65
BK-KHL060-1650Am	23A	312us		8	10	13	16	20	13	17	21	26	33	22	28	35	44	55
BK-KHL080-2000Am	27A	370us		6	7	9	11	14	9	12	15	19	24	17	22	27	34	43



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	DIM
Input	-	Double	Basic	Double
Output	Double	-	Basic	Basic
Case	Basic	Basic	-	Basic

DIP-switch & output current

BK-KHL030-0800Am

Pin(W) typ.	Output			1	2	3	4
	Prated(W)	Irated(mA)	Voltage(Vdc)				
18.1	14.7	350	24-42	--	ON	ON	ON
19.5	16.8	400	24-42	ON	--	ON	ON
22.1	18.9	450	24-42	--	--	ON	ON
24.6	21.0	500	24-42	--	ON	--	ON
26.8	23.1	550	24-42	--	--	--	ON
29.1	25.2	600	24-42	ON	ON	ON	--
31.4	27.3	650	24-42	--	--	ON	--
33.8	29.4	700	24-42	--	ON	--	--
34.4	30.0	750	24-40	ON	--	--	--
34.9	30.4	800 ★	24-38	--	--	--	--

BK-KHL040-1050Am

Pin(W) typ.	Output			1	2	3	4
	Prated(W)	Irated(mA)	Voltage(Vdc)				
28.8	25.2	600	24-42	--	ON	ON	ON
31.5	27.3	650	24-42	ON	--	ON	ON
33.5	29.4	700	24-42	--	--	ON	ON
35.8	31.5	750	24-42	--	ON	--	ON
38.2	33.6	800	24-42	--	--	--	ON
40.5	35.7	850	24-42	ON	ON	ON	--
43.0	37.8	900	24-42	--	--	ON	--
45.3	39.9	950	24-42	--	ON	--	--
45.4	40.0	1000	24-40	ON	--	--	--
45.4	39.9	1050 ★	24-38	--	--	--	--

BK-KHL050-1300Am

Pin(W) typ.	Output			1	2	3	4
	Prated(W)	Irated(mA)	Voltage(Vdc)				
40.4	35.7	850	24-42	--	ON	ON	ON
42.8	37.8	900	24-42	ON	--	ON	ON
45.0	39.9	950	24-42	--	--	ON	ON
47.4	42.0	1000	24-42	--	ON	--	ON
49.7	44.1	1050	24-42	--	--	--	ON
52.1	46.2	1100	24-42	ON	ON	ON	--
54.1	48.3	1150	24-42	--	--	ON	--
56.6	50.4	1200	24-42	--	ON	--	--
58.5	52.5	1250	24-42	ON	--	--	--
58.0	52.0	1300 ★	24-40	--	--	--	--

BK-KHL060-1650Am

Pin(W) typ.	Output			1	2	3	4
	Prated(W)	Irated(mA)	Voltage(Vdc)				
55.9	50.4	1200	24-42	--	ON	ON	ON
58.1	52.5	1250	24-42	ON	--	ON	ON
60.4	54.6	1300	24-42	--	--	ON	ON
62.8	56.7	1350	24-42	--	ON	--	ON
65.1	58.8	1400	24-42	--	--	--	ON
67.5	60.9	1450	24-42	ON	ON	ON	--
66.6	60.0	1500	24-40	--	--	ON	--
69.0	62.0	1550	24-40	--	ON	--	--
68.0	60.8	1600	24-38	ON	--	--	--
70.0	62.7	1650 ★	24-38	--	--	--	--

BK-KHL080-2000Am

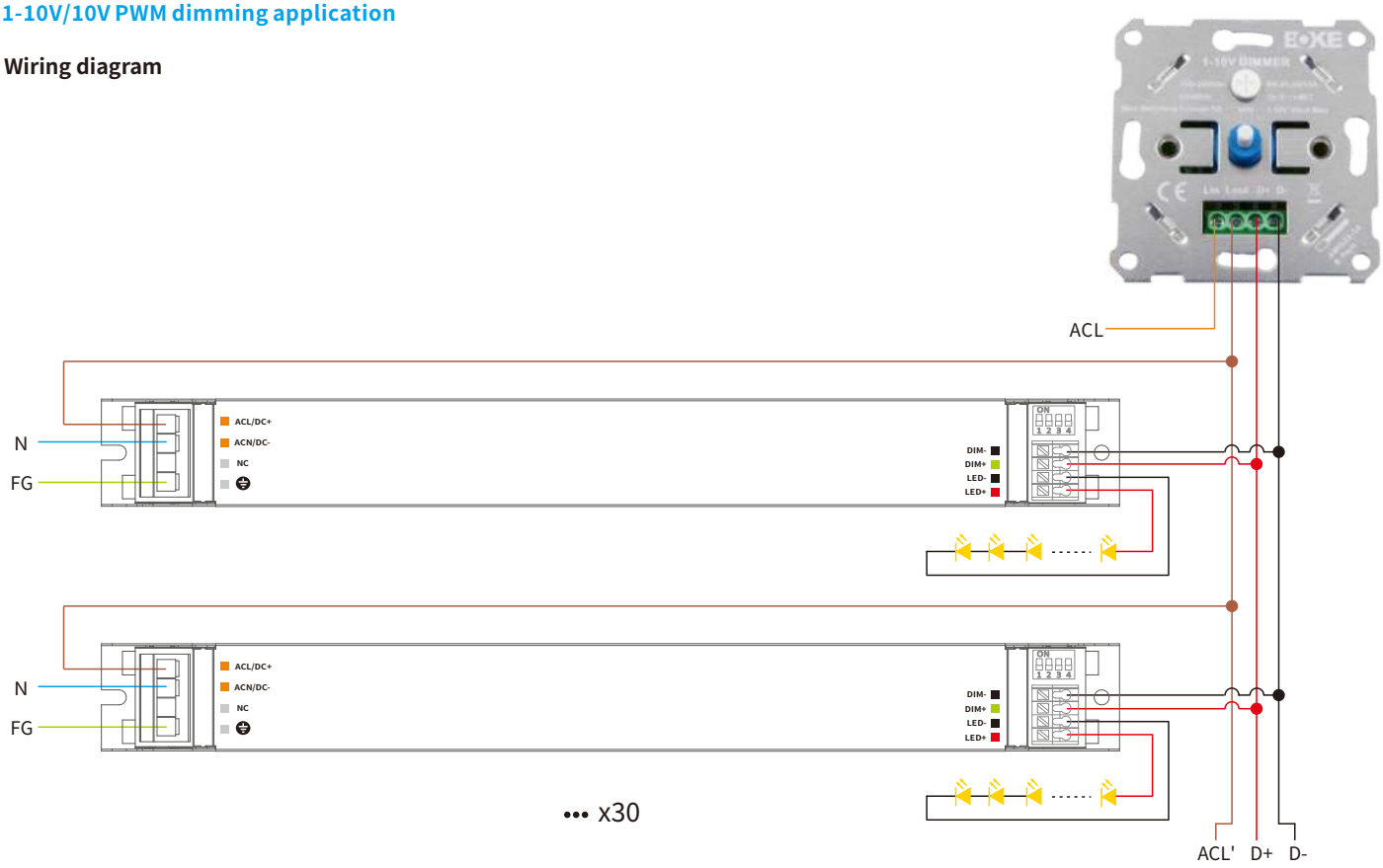
Pin(W) typ.	Output			1	2	3	4
	Prated(W)	Irated(mA)	Voltage(Vdc)				
72.0	65.1	1550	24-42	--	ON	ON	ON
74.4	67.2	1600	24-42	ON	--	ON	ON
76.8	69.3	1650	24-42	--	--	ON	ON
79.3	71.4	1700	24-42	--	ON	--	ON
81.8	73.5	1750	24-42	--	--	--	ON
84.3	75.6	1800	24-42	ON	ON	ON	--
86.9	77.7	1850	24-42	--	--	ON	--
89.5	79.8	1900	24-42	--	ON	--	--
87.9	78.0	1950	24-40	ON	--	--	--
89.8	80.0	2000 ★	24-40	--	--	--	--

Remarks:

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

1-10V/10V PWM dimming application

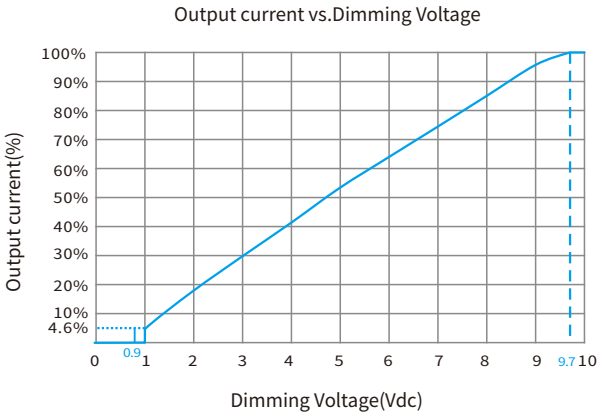
Wiring diagram

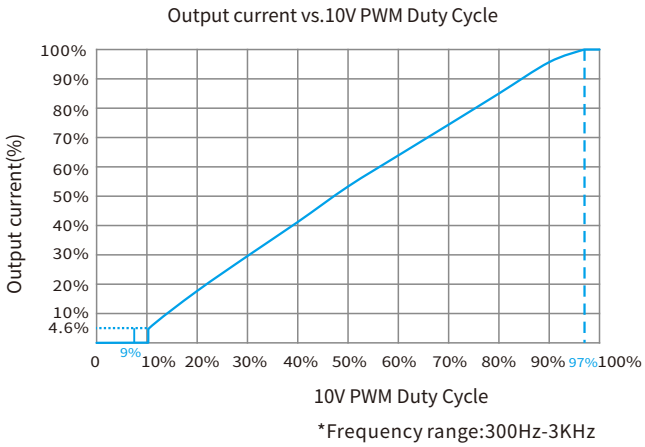


Remarks

- Dimming interface characteristics: 0.9V and below are closed, 1V is the darkest, 10V is the brightest,1-10V is the dimming range.
- The dimming interface distinguishes between positive and negative, DIM+ is positive, DIM- is negative, please do not reverse.
- Dimming interface does not support voltage access higher than 20V, otherwise it will cause damage to the internal components.
- When the dimming interface is open, the driver outputs the maximum current. When the interface is short-circuited, the current output is closed.
- When multiple synchronous dimming is required, the positive poles of the dimming interface of each driver are connected together, and the negative poles are connected together.
- Support passive dimmer or isolated active dimmer dimming, does not support non-isolated active dimmer dimming.
- In general, it is recommended that the number of mounted drives does not exceed 30pcs, and the wiring length does not exceed 100m.
- It is recommended that the dimming wires should not be lower than the 18AWG wire.
- Do not put the dimming wires with high voltage or interference sources. If it is unavoidable, please use the shielded wires.
- If you need a drive with 0-10V dimming characteristics, please contact BOKE.

Dimming curve





*Frequency range:300Hz-3KHz

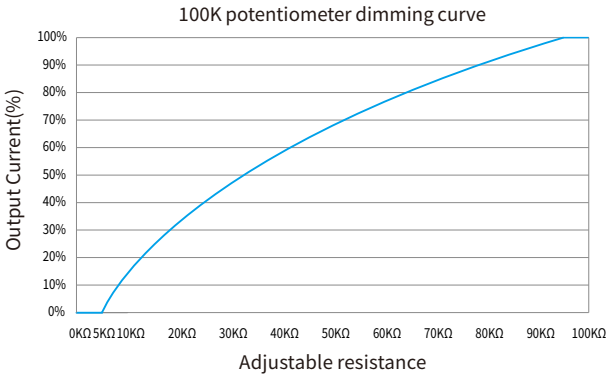
100K potentiometer dimming application

Wiring diagram

Remarks

- In the 100K potentiometer dimming mode, the potentiometer can only be connected to one driver.

Dimming curve



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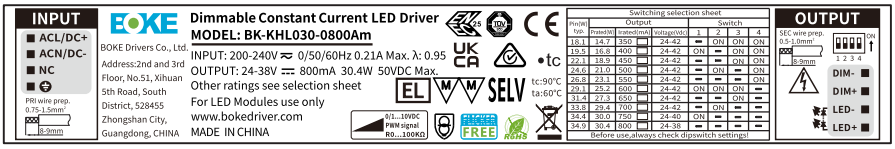
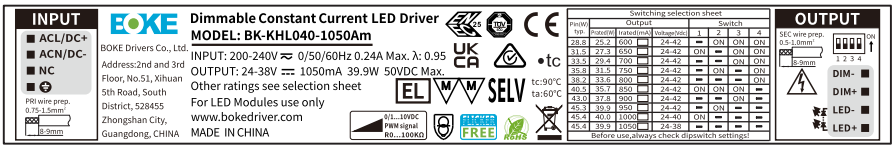
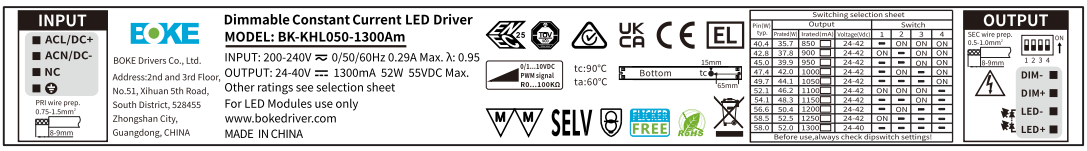
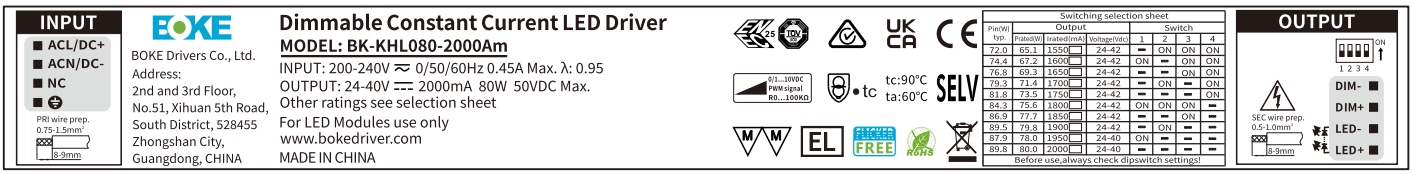


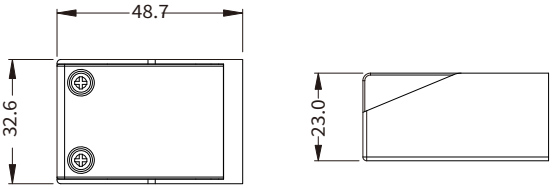




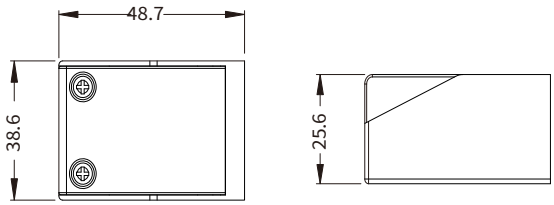


Optional accessories

(**Model:BK-BAS003A**)



(**Model:BK-BAS003B**)

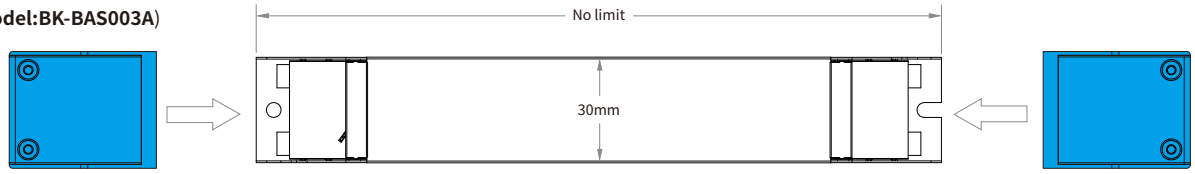


Remark: BK-BAS003A apply to KHL030,KHL040,KHL050,KHL060;
BK-BAS003B apply to KHL080.

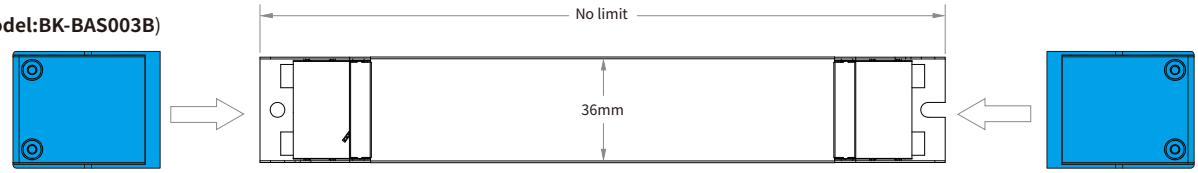
Unit:mm

Installation diagram of accessories

(**Model:BK-BAS003A**)



(**Model:BK-BAS003B**)

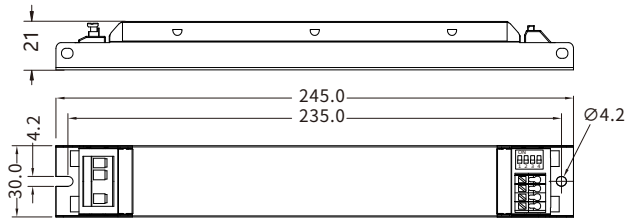


Mechanical Specification

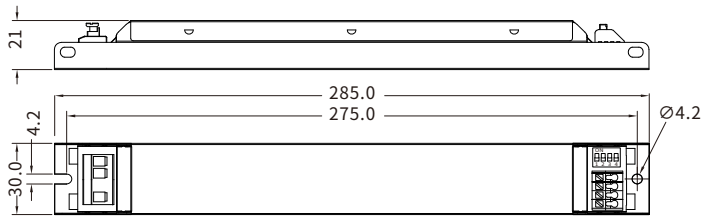
Size(Excluding accessories)

Unit:mm

KHL030/KHL040



KHL050

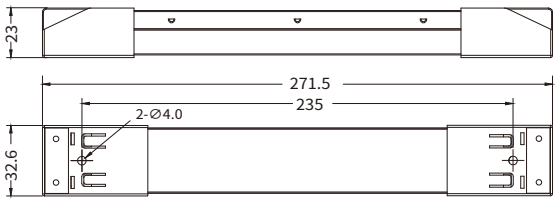


Mechanical Specification

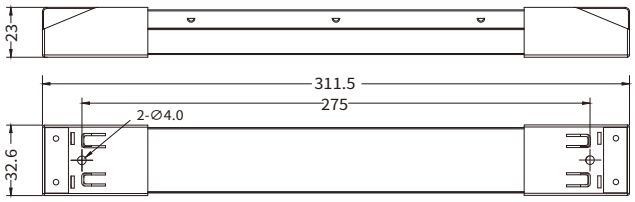
Size(Include accessories)

Unit:mm

KHL030/KHL040



KHL050

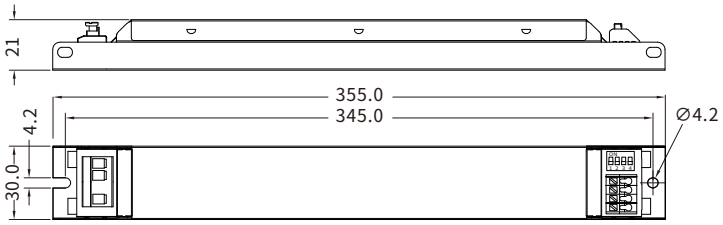


Mechanical Specification

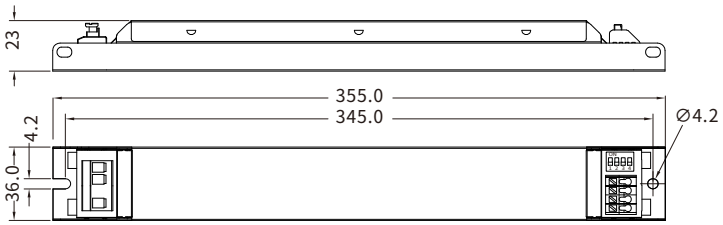
Size(Excluding accessories)

Unit:mm

KHL060



KHL080

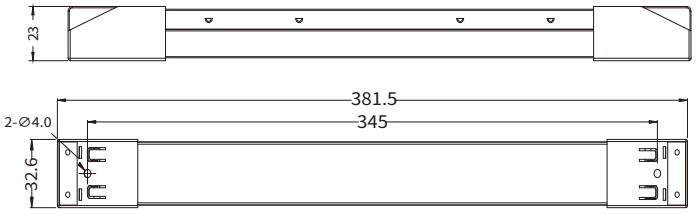


Mechanical Specification

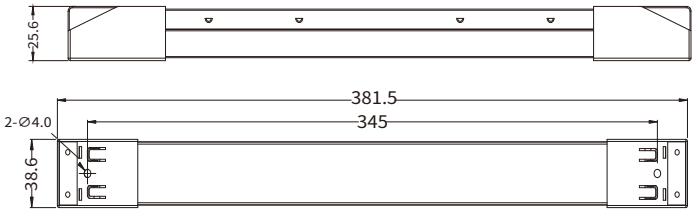
Size(Include accessories)

Unit:mm

KHL060



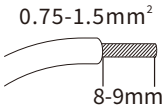
KHL080



INPUT

Numbering	function	colour
1	ACL/DC+	orange
2	ACN/DC-	orange
3	NC	gray
4	FG	gray

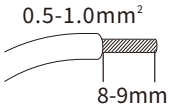
Input wire



OUTPUT

Numbering	function	colour
1	DIM-	black
2	DIM+	green
3	LED-	black
4	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. lenght 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

Replace LED module

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

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.

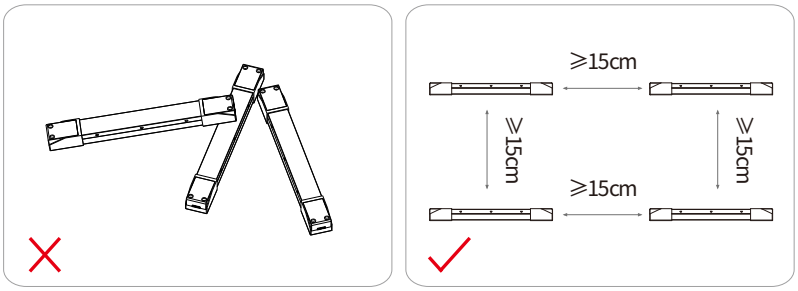


Figure 1

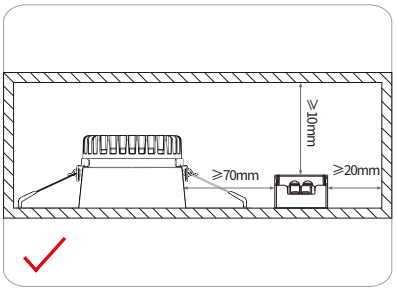
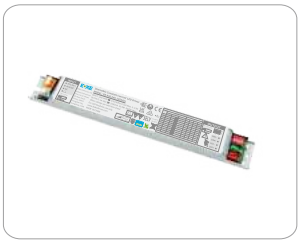


Figure 2

Packaging

Optional 1: factory default



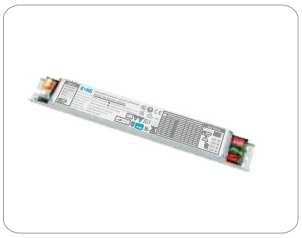
Product

Paper tray

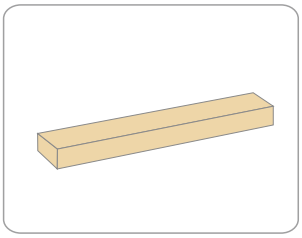
7pcs*6layer=42pcs/CTN
7pcs*5layer=35pcs/CTN
7pcs*4layer=28pcs/CTN
6pcs*4layer=24pcs/CTN

Model	Product size	Weight	Paper tray	Carton size	Qty/carton	N.W	G.W
KHL030	L245*W30*H21mm	170g	L340*W75*H29mm	L355*W285*H205mm	42pcs	7.14KG	8.54KG
KHL040	L245*W30*H21mm	180g	L340*W75*H29mm	L355*W285*H205mm	42pcs	7.56KG	8.96KG
KHL050	L285*W30*H21mm	226g	L340*W75*H29mm	L355*W325*H170mm	35pcs	7.91KG	9.21KG
KHL060	L355*W30*H21mm	282g	L340*W75*H29mm	L395*W355*H140mm	28pcs	7.90KG	9.10KG
KHL080	L355*W36*H23mm	340g	L340*W75*H33mm	L395*W355*H160mm	24pcs	8.16KG	9.36KG

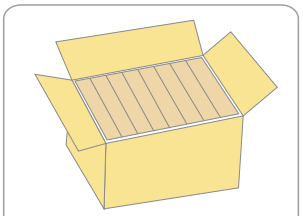
Optional 2:



Product



Packaging



8pcs*5layer=40pcs/CTN
7pcs*5layer=35pcs/CTN
9pcs*3layer=27pcs/CTN

Model	Product size	Weight	Packaging size	Carton size	Qty/carton	N.W	G.W
KHL030	L245*W30*H21mm	170g	L280*W40*H30mm	L345*W300*H175mm	40pcs	6.80kg	8.35kg
KHL040	L245*W30*H21mm	180g	L280*W40*H30mm	L345*W300*H175mm	40pcs	7.20kg	8.66kg
KHL050	L245*W30*H21mm	226g	L320*W40*H30mm	L345*W300*H175mm	35pcs	7.91kg	9.50kg
KHL060	L355*W30*H21mm	282g	L390*W40*H30mm	L410*W285*H155mm	27pcs	7.62kg	9.12kg
KHL080	L355*W36*H23mm	340g	L390*W43*H30mm	L410*W285*H155mm	27pcs	9.18kg	9.68kg

Additional information

1. 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.
2. For more information, please send an email to info@bokedriver.com.