

Constant current linear driver

CWL Series



Features

- 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
- Turn on delay time < 0.5s
- Class II applications can be achieved by adding accessories
- SELV and Class I design, suitable for use built-in of the light
- Passed ENEC-TUV, CE, RCM, CCC and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5-year guarantee

Functions

- Protective features
(short-circuit, no-load protection)

Suitable for lights

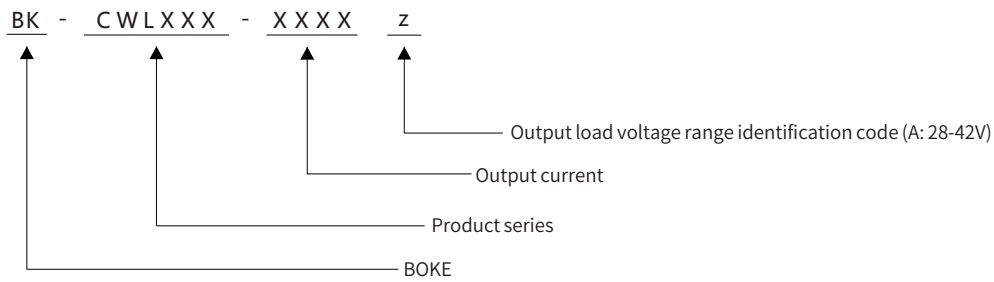
- Suitable for linear lights, tri-proof lights, working lights and other linear or ultra-thin lights etc.
- Not suitable for lights with built-in drivers

Typical applications

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



Model coding rules of CWL series



Order selection table of CWL series(just output power 13-80W)

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-CWL013-0350A	200-240VAC	14.0W	28-42VDC	0.15-0.35A	L158*W30*H21mm
BK-CWL022-0600A	200-240VAC	22.8W	28-42VDC	0.35-0.60A	L158*W30*H21mm
BK-CWL030-0750A	200-240VAC	31.5W	28-42VDC	0.55-0.75A	L195*W30*H21mm
BK-CWL040-1050A	200-240VAC	40.0W	28-42VDC	0.75-1.05A	L195*W30*H21mm
BK-CWL050-1250A	200-240VAC	50.4W	28-42VDC	0.95-1.25A	L285*W30*H21mm
BK-CWL060-1600A	200-240VAC	60.0W	28-42VDC	1.20-1.60A	L285*W30*H21mm
BK-CWL080-2000A	200-240VAC	80.0W	28-42VDC	1.40-2.00A	L355*W36*H23mm

Technical data

Product model	BK-CWL013-0300A	BK-CWL013-0350A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current	0.15-0.3A	0.3-0.35A	
Rated output voltage	28-42V	28-40V	
Rated output power	12.6W Max	14W Max	
Output current adjustment	N/A	N/A	
Output current ripple LF	±2%	±2%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50V	50V	
Flicker-free(typical)	Modulation depth =0.791% (100Hz), Pst LM = 0.211, SVM = 0.017 (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	<0.15A (AC input)		
Input frequency	47-63Hz		
Input power factor	>0.95 (230V AC & Full load)		
Input THD	<15% (230V AC & Full load)		
Efficiency(typical)	85% (230V AC & Full load)		
In-rush current	7.7A peak ,190us 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(Pmax):14W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC 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-CWL022-0500A	BK-CWL022-0550A	BK-CWL022-0600A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current	0.35-0.5A	0.5-0.55A	0.55-0.6A
Rated output voltage	28-42V	28-40V	28-38V
Rated output power	21W Max	22W Max	22.8W Max
Output current adjustment	N/A	N/A	N/A
Output current ripple LF	±2%	±2%	±2%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50V	50V	50V
Flicker-free(typical)	Modulation depth =0.689% (100Hz), Pst LM = 0.093, SVM = 0.017 (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	<0.2A (AC input)		
Input frequency	47-63Hz		
Input power factor	>0.95 (230V AC & Full load)		
Input THD	<15% (230V AC & Full load)		
Efficiency(typical)	85% (230V AC & Full load)		
In-rush current	8.1A peak ,186us 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(Pmax):22.8W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

Remarks

1. By default, all parameter are measured at 230VAC 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-CWL030-0750A	
Output parameters		
Regulation method	Constant Current	
Rated output current	0.55-0.75A	
Rated output voltage	28-42V	
Rated output power	31.5W Max	
Output current adjustment	N/A	
Output current ripple LF	±2%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50V	
Flicker-free(typical)	Modulation depth =0.240% (100Hz), Pst LM = 0.011, SVM = 0.007 (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	<15% (230V AC & Full load)	
Efficiency(typical)	90% (230V AC & Full load)	
In-rush current	17.8A peak ,197us 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(Pmax):31.5W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC	
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	N/A	
PUSH 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(100% output 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, 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	
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	N/A	
RF	N/A	

Remarks

- 1.By default, all parameter are measured at 230VAC 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-CWL040-0950A	BK-CWL040-1000A	BK-CWL040-1050A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current	0.75-0.95A	0.95-1A	1.01-1.05A
Rated output voltage	28-42V	28-40V	28-38V
Rated output power	39.9W Max	40W Max	39.9W Max
Output current adjustment	N/A	N/A	N/A
Output current ripple LF	±2%	±2%	±2%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50V	50V	50V
Flicker-free(typical)	Modulation depth =0.166% (100Hz), Pst LM = 0.000, SVM = 0.005 (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	<0.35A (AC input)		
Input frequency	47-63Hz		
Input power factor	>0.95 (230V AC & Full load)		
Input THD	<15% (230V AC & Full load)		
Efficiency(typical)	90% (230V AC & Full load)		
In-rush current	20.5A peak ,262us 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(Pmax):40W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

Remarks

1. By default, all parameter are measured at 230VAC 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-CWL050-1200A	BK-CWL050-1250A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current	0.95-1.2A	1.2-1.25A	
Rated output voltage	28-42V	28-40V	
Rated output power	50.4W Max	50W Max	
Output current adjustment	N/A	N/A	
Output current ripple LF	±2%	±2%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50V	50V	
Flicker-free(typical)	Modulation depth =0.201% (100Hz), Pst LM = 0.028, SVM = 0.006 (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	<0.4A (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	23.1A peak ,302us 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(Pmax):50.4W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC 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-CWL060-1400A	BK-CWL060-1500A	BK-CWL060-1600A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current	1.2-1.4A	1.4-1.5A	1.5-1.6A
Rated output voltage	28-42V	28-40V	28-36V
Rated output power	58.8W Max	60W Max	57.6W Max
Output current adjustment	N/A	N/A	N/A
Output current ripple LF	±2%	±2%	±2%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50V	50V	50V
Flicker-free(typical)	Modulation depth =0.136% (100Hz), Pst LM = 0.057, SVM = 0.003 (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 vorage 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	27.3A peak ,332us 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(Pmax):60W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

Remarks

- 1.By default, all parameter are measured at 230VAC 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-CWL080-1900A	BK-CWL080-1950A	BK-CWL080-2000A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current	1.4-1.9A	1.9-1.95A	1.95-2A
Rated output voltage	28-42V	28-41V	28-40V
Rated output power	79.8W Max	79.95W Max	80W Max
Output current adjustment	N/A	N/A	N/A
Output current ripple LF	±2%	±2%	±2%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50V	50V	50V
Flicker-free(typical)	Modulation depth =0.135% (100Hz), Pst LM = 0.005, SVM = 0.004 (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	<0.5A (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	19A peak ,142us 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(Pmax):80W, No load(Pno): <0.5W, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC		
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	N/A		
PUSH 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(100% output 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, 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		
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	N/A		
RF	N/A		

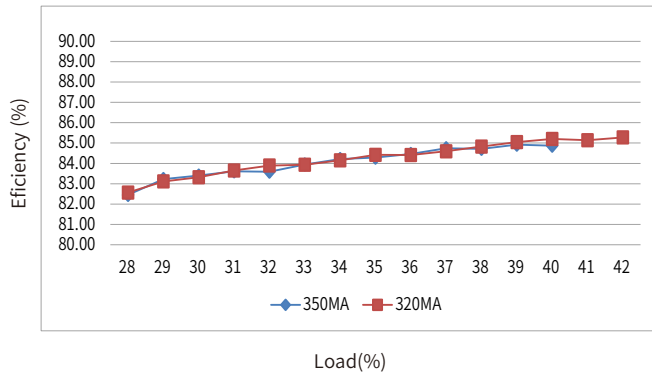
Remarks

1. By default, all parameter are measured at 230VAC 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.

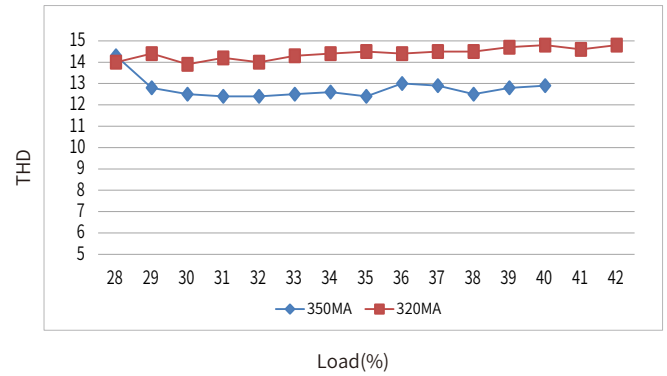
Electrical values

BK-CWL013-0350A

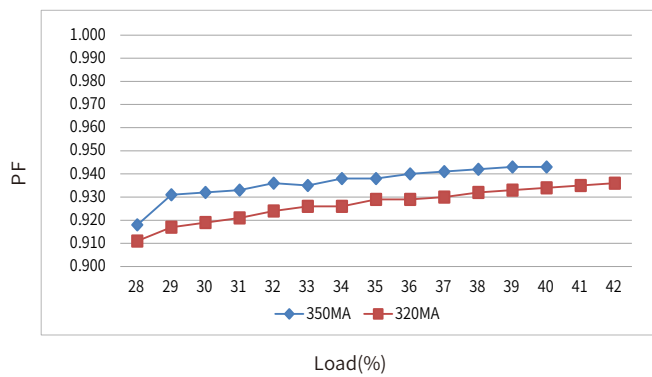
Efficiency vs load



THD vs. Load

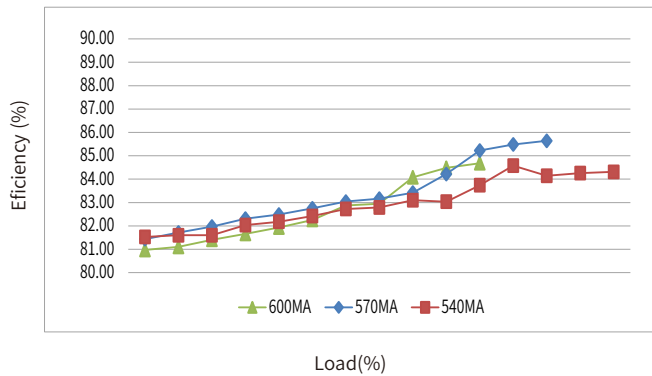


Power factor vs. Load

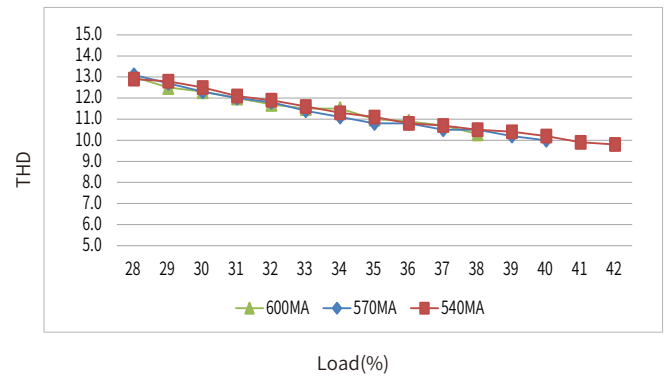


BK-CWL022-0600A

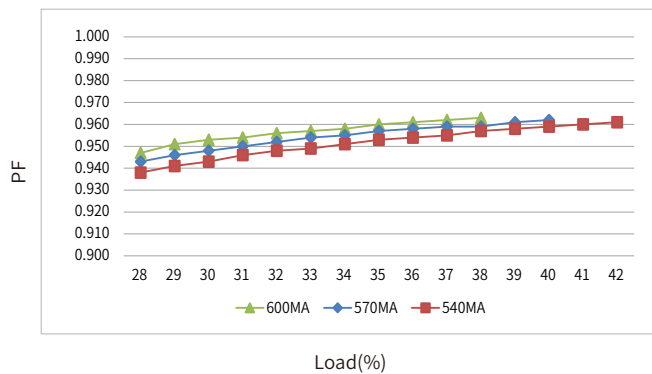
Efficiency vs load



THD vs. Load



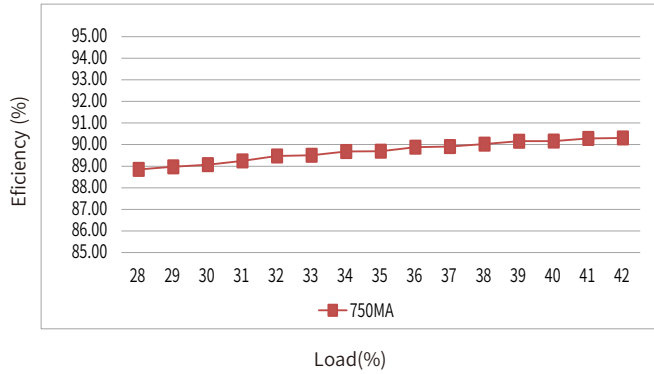
Power factor vs. Load



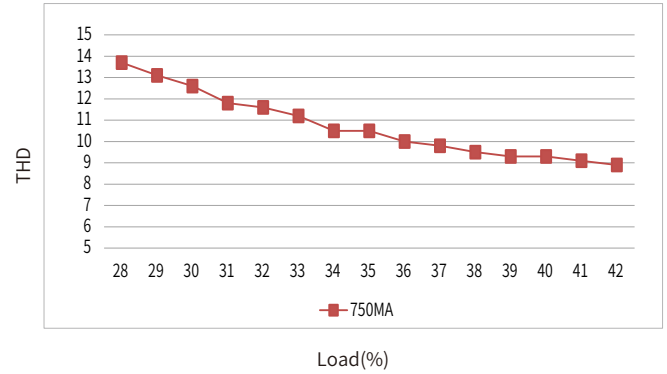
Electrical values

BK-CWL030-0750A

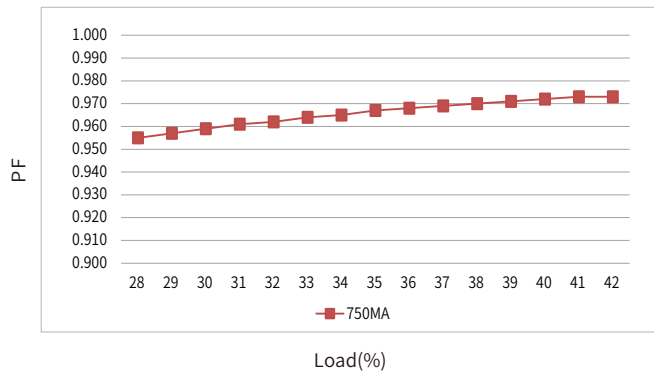
Efficiency vs load



THD vs. Load

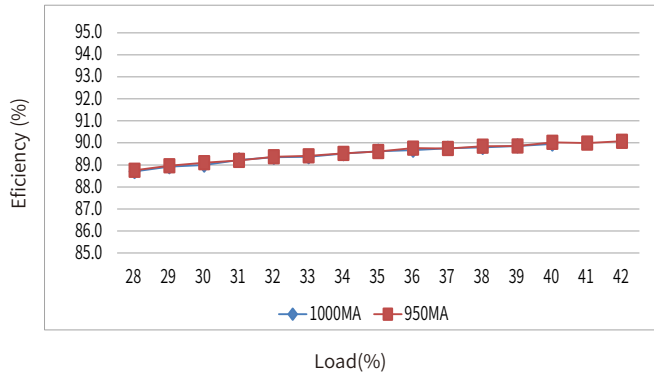


Power factor vs. Load

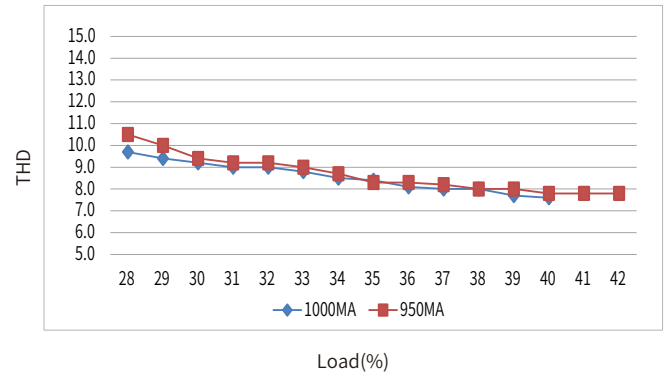


BK-CWL040-1000A

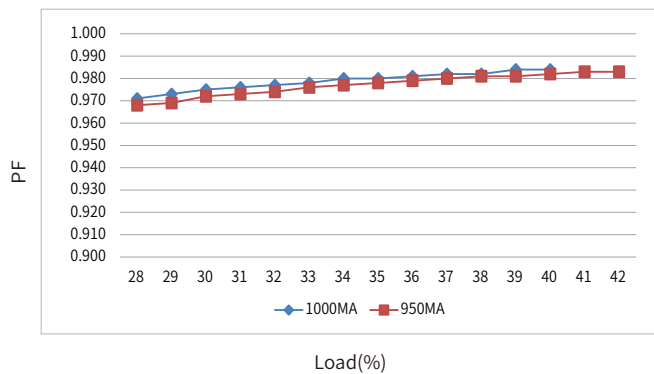
Efficiency vs load



THD vs. Load



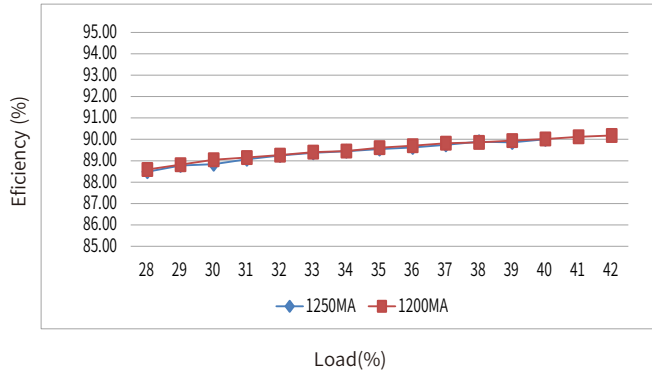
Power factor vs. Load



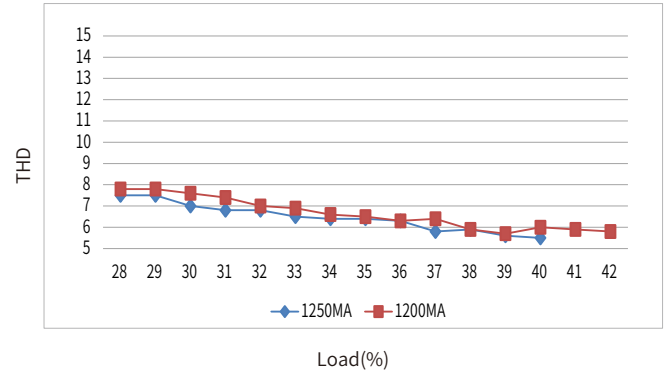
Electrical values

BK-CWL050-1250A

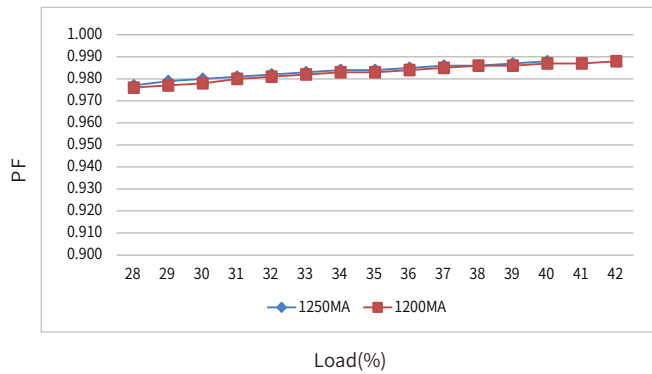
Efficiency vs load



THD vs. Load

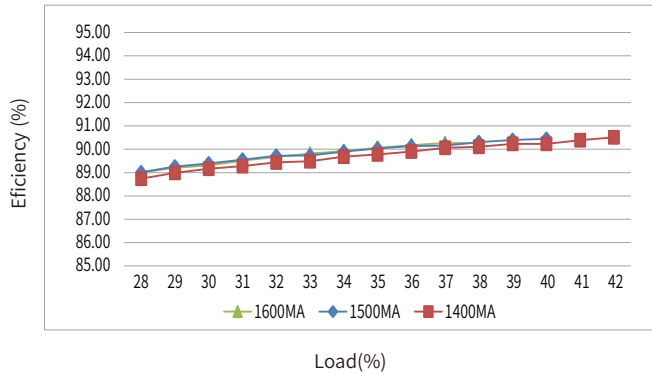


Power factor vs. Load

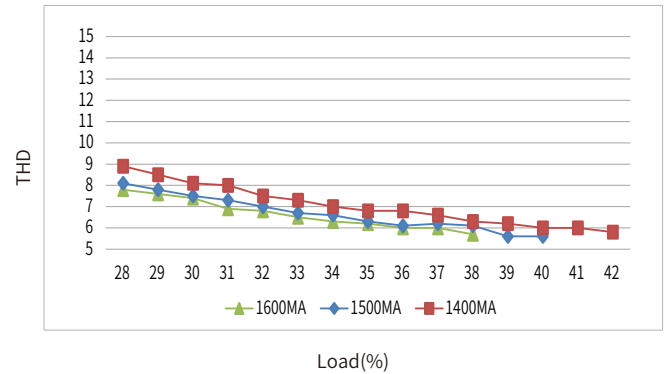


BK-CWL060-1600A

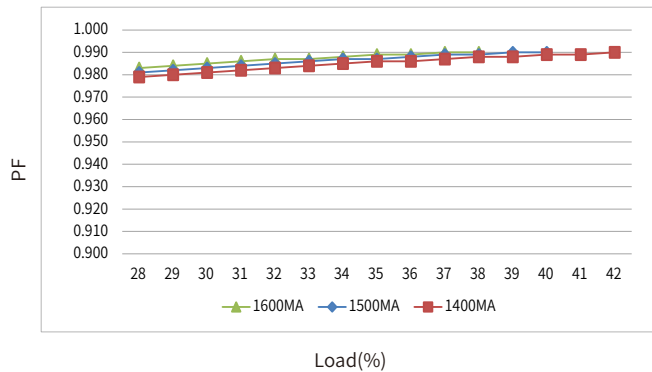
Efficiency vs load



THD vs. Load



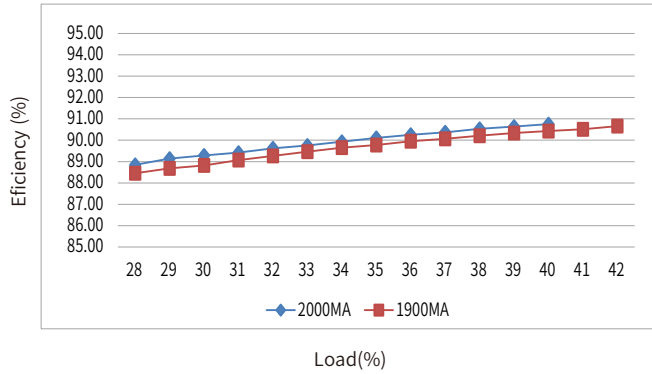
Power factor vs. Load



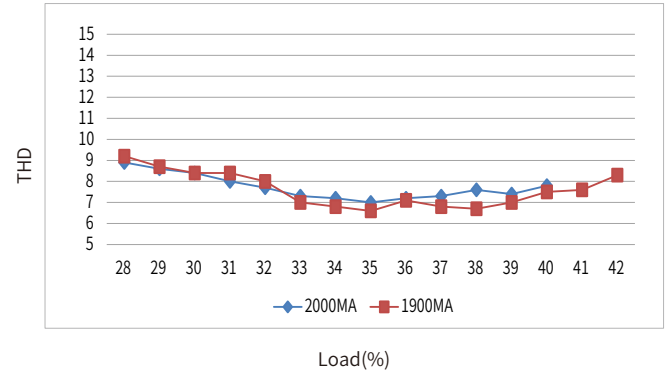
Electrical values

BK-CWL080-2000A

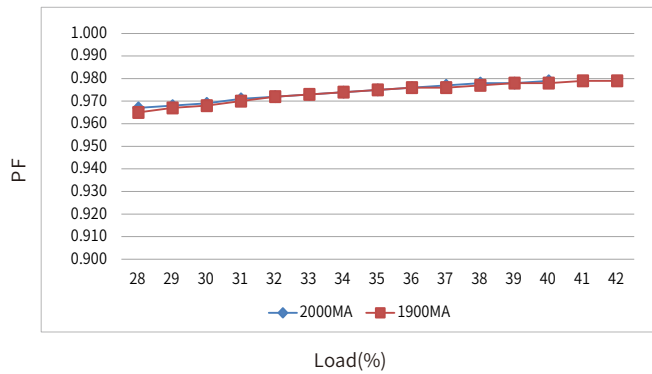
Efficiency vs load



THD vs. Load



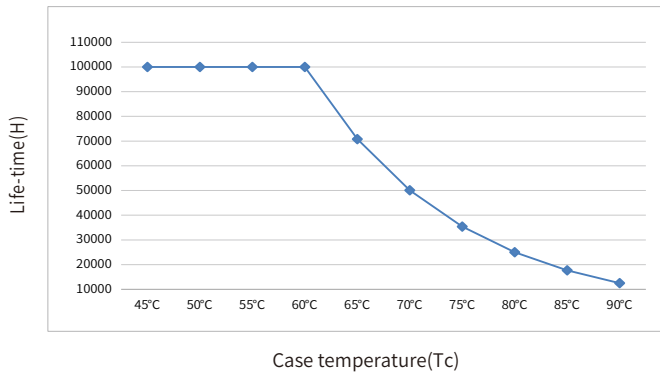
Power factor vs. Load



Expected life-time

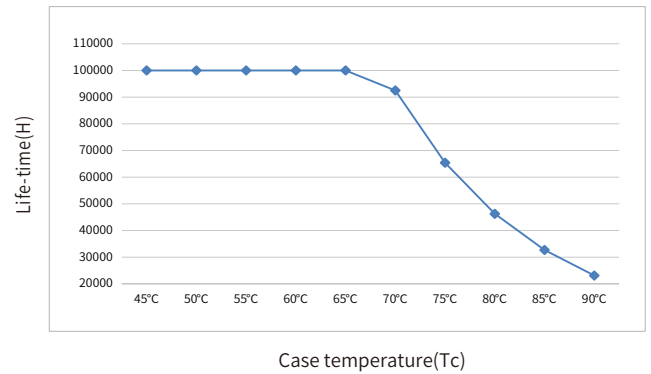
BK-CWL013-0350A

Life-time vs. case temperature



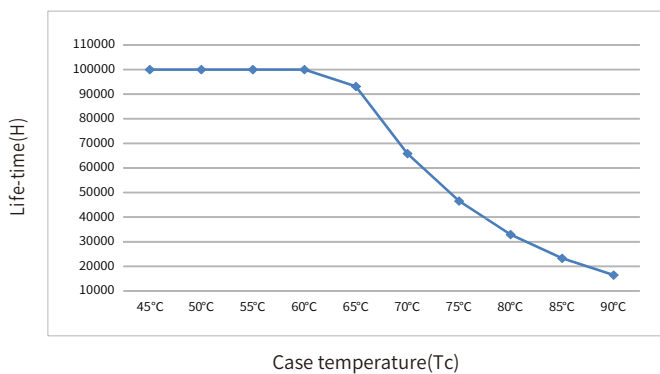
BK-CWL022-0600A

Life-time vs. case temperature



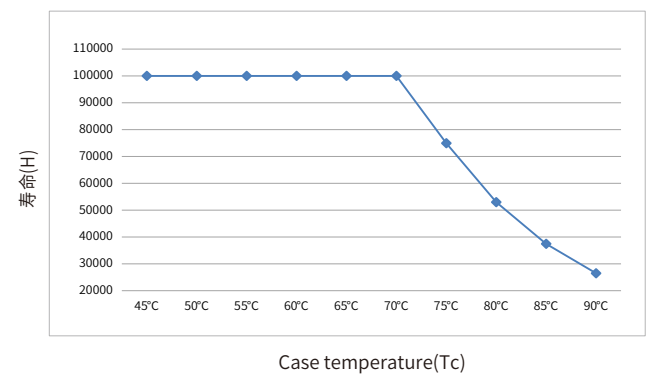
BK-CWL030-0750A

Life-time vs. case temperature



BK-CWL040-1000A

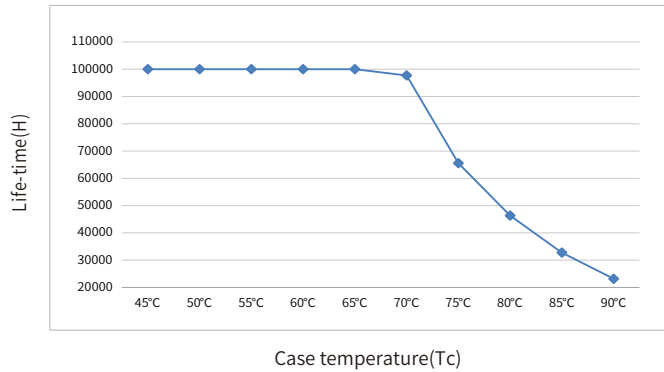
Life-time vs. case temperature



Expected life-time (Continue)

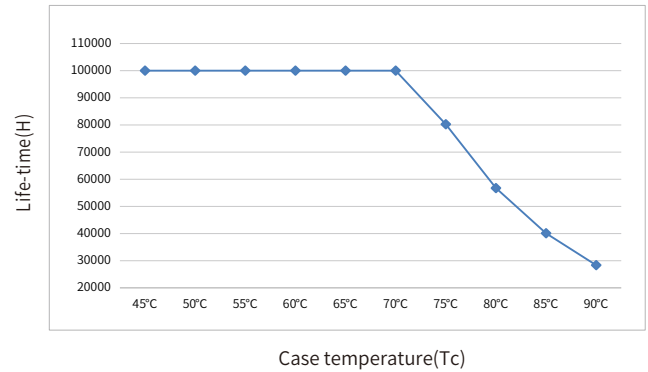
BK-CWL050-1250A

Life-time vs. case temperature



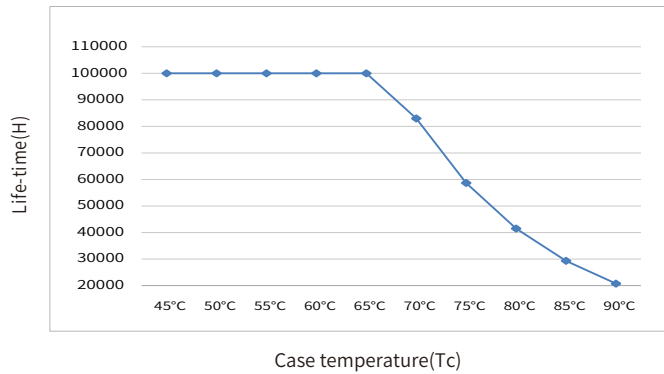
BK-CWL060-1600A

Life-time vs. case temperature



BK-CWL080-2000A

Life-time vs. case temperature



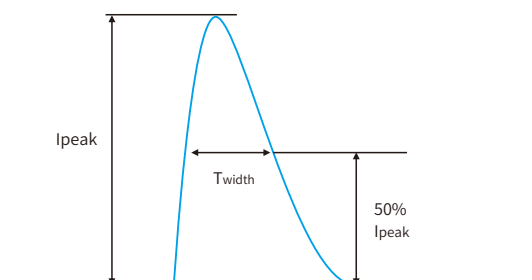
- The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).
- The relation of tc to ta temperature depends also on the luminaire design.

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-CWL013-0350A	7.7A	190us	AC 230V,Full load, Cold start,Ta≤30°C, MCB is not installed side by side	43	56	69	87	108	72	94	116	145	181	95	123	152	190	237	
BK-CWL022-0600A	8.1A	186us		42	55	68	85	106	58	76	93	117	146	58	76	93	117	146	
BK-CWL030-0750A	17.8A	197us		18	23	28	35	44	29	38	47	59	74	45	58	71	89	112	
BK-CWL040-1000A	20.5A	262us		11	15	18	23	28	19	24	30	38	47	35	46	56	70	88	
BK-CWL050-1250A	23.1A	302us		8	11	13	16	20	14	18	22	27	34	27	35	44	55	68	
BK-CWL060-1600A	27.3A	332us		6	10	12	15	19	13	16	20	25	31	23	30	38	47	59	
BK-CWL080-2000A	19A	142us		18	23	28	36	44	18	23	28	36	44	18	23	28	36	44	

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

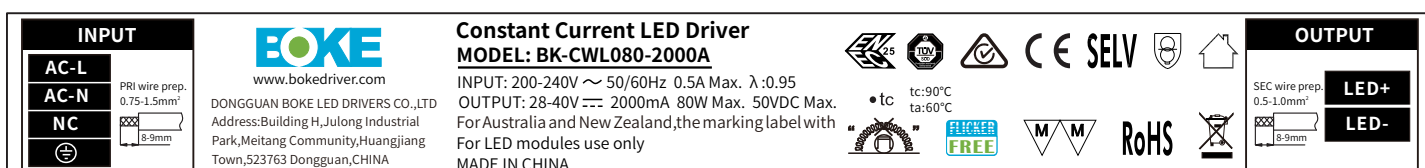
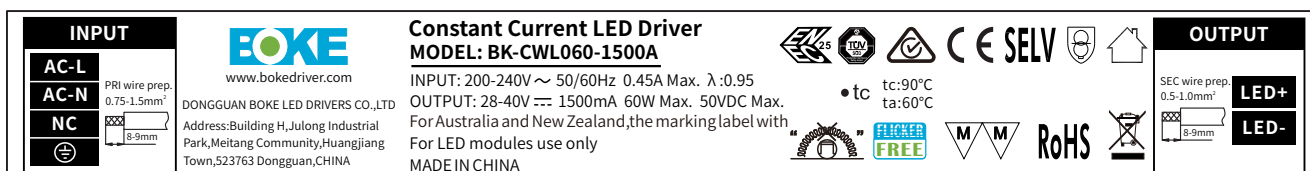
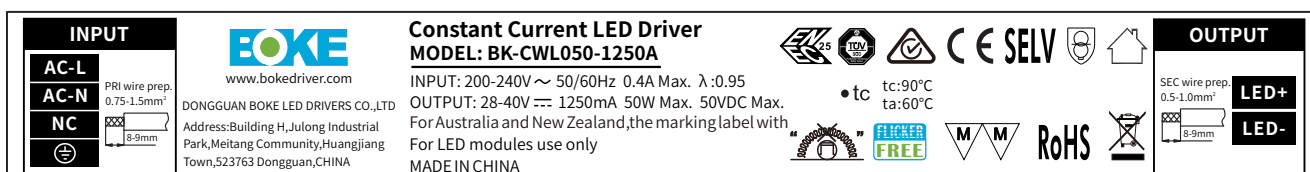
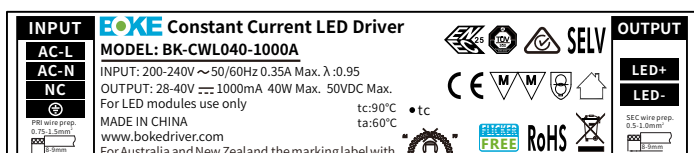
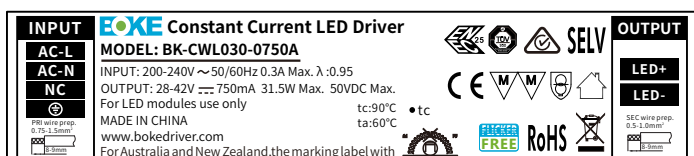
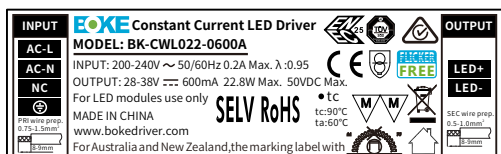
Output short-circuit behaviour

- Output short-circuit will not damage the driver.
- After removing the short-circuit fault point, the drive will automatically restore output.

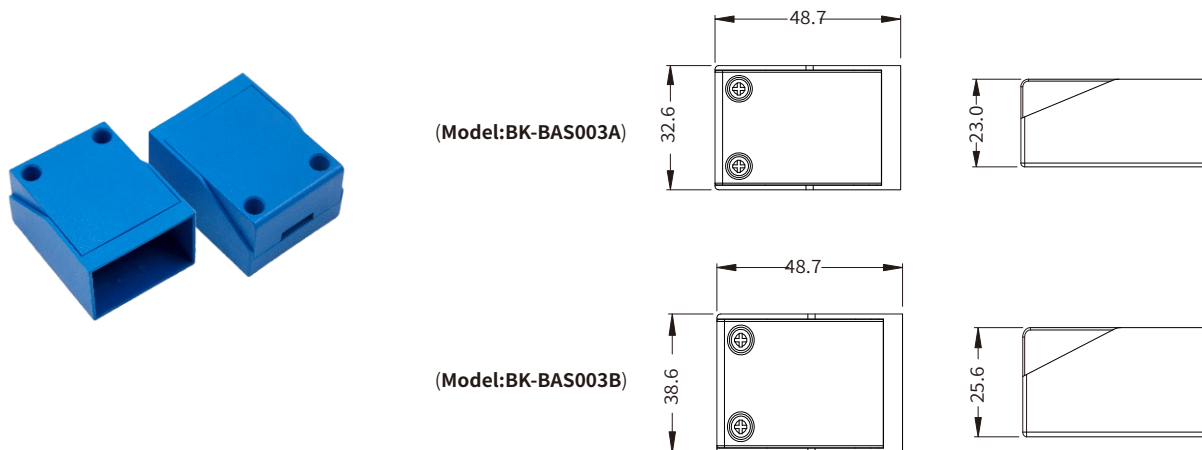
Output no-load operation

- Output no-load will not damage the driver.
- Please turn off the power supply of the driver first if you need to connect the LED load.

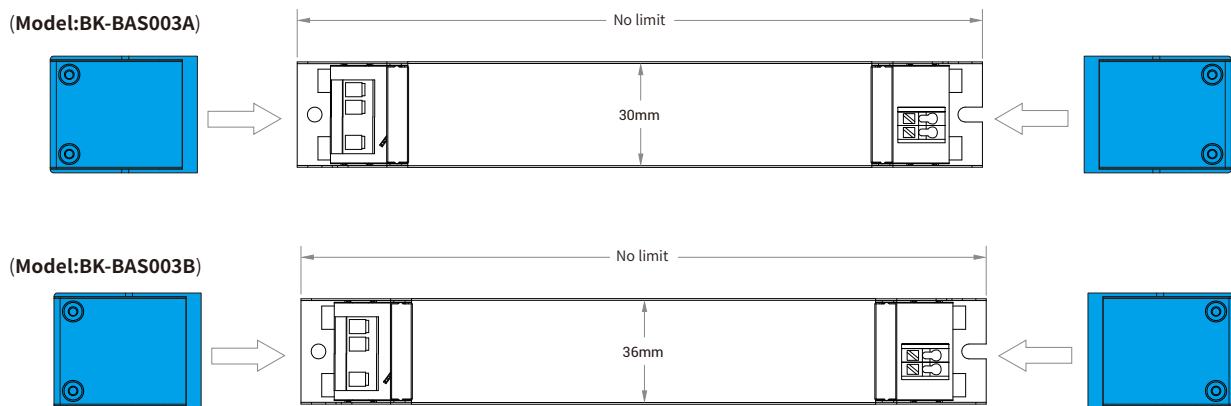
Label



Wiring block size



Wiring block usage

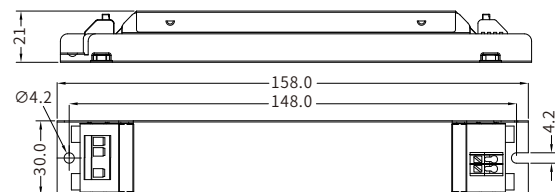


Mechanical Specification

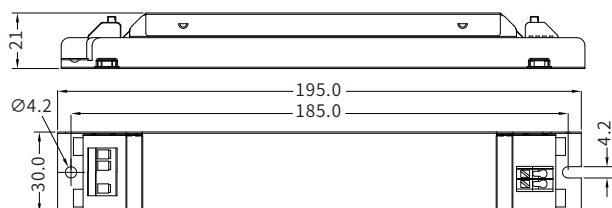
Size(Excluding accessories)

Unit:mm

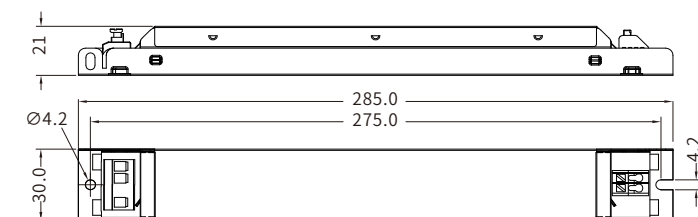
CWL013/CWL022



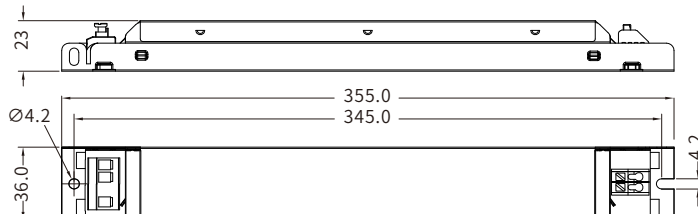
CWL030/CWL040



CWL050/CWL060



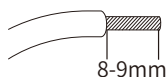
CWL080



INPUT

Pin Numbering	function	colour
1	ACL	orange
2	ACN	orange
3	NC	gray
4	FG	gray

Input wire

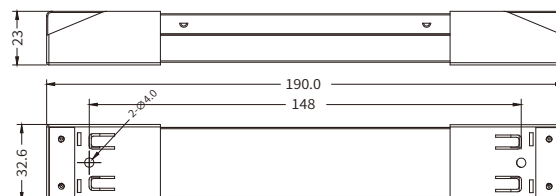
0.75-1.5mm²


Mechanical Specification

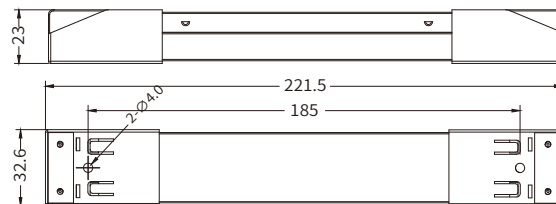
Size(Include accessories)

Unit:mm

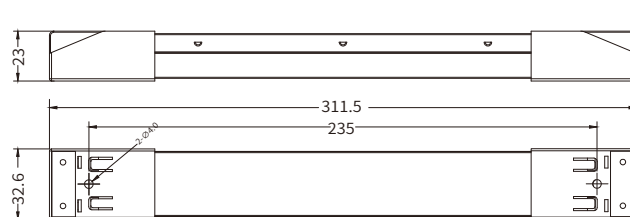
CWL013/CWL022



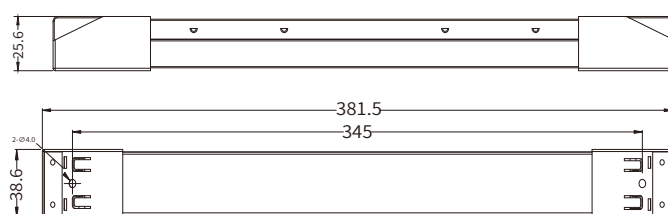
CWL030/CWL040



CWL050/CWL060



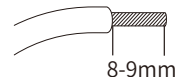
CWL080



OUTPUT

Pin Numbering	function	colour
1	LED+	red
2	LED-	black

Output wire

0.5-1.0mm²


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.

Mounting screw specifications and torque

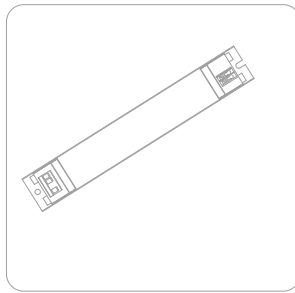
- Max. torque at the clamping screw: 0.5 Nm / M4

Replace LED module

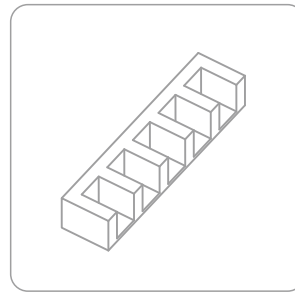
1. Mains off
2. Remove LED module
3. Wait for 5 seconds
4. Connect LED module again

Packaging

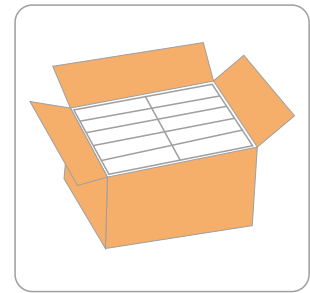
(Excluding accessories)



Product



Pearl wool

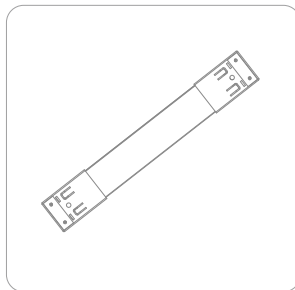


14pcs*5layer=70pcs/CTN
10pcs*4layer=40pcs/CTN
8pcs*5layer=40pcs/CTN
7pcs*4layer=28pcs/CTN

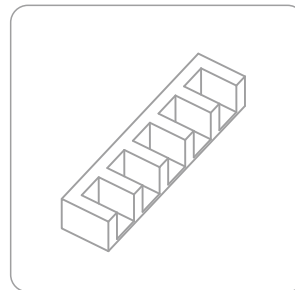
Model	Product size	Weight	Pearl wool	Carton size	Packing	N.W	G.W
CWL013	L158*W30*H21mm	90g	L319*W30*H75mm	L415*W330*H190mm	70pcs	6.50kg	9.20kg
CWL022	L158*W30*H21mm	105g	L319*W30*H75mm	L415*W330*H190mm	70pcs	7.50kg	9.80kg
CWL030	L195*W30*H21mm	150g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	6.00kg	8.50kg
CWL040	L195*W30*H21mm	150g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	6.00kg	8.50kg
CWL050	L285*W30*H21mm	200g	L405*W30*H65mm	L415*W330*H190mm	40pcs	8.00kg	10.5kg
CWL060	L285*W30*H21mm	235g	L405*W30*H65mm	L415*W330*H190mm	40pcs	9.50kg	12.0kg
CWL080	L355*W36*H23mm	380g	L364*W28*H105mm	L435*W375*H150mm	28pcs	10.7kg	13.0kg

Packaging

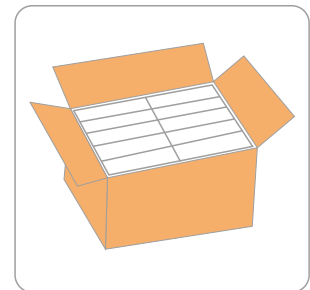
(Include accessories)



Product



Pearl wool



10pcs*4layer=40pcs/CTN
8pcs*5layer=40pcs/CTN
7pcs*4layer=28pcs/CTN

Model	Product size	Weight	Pearl wool	Carton size	Packing	N.W	G.W
CWL013	L190*W32.6*H23mm	110g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	4.50kg	7.00kg
CWL022	L190*W32.6*H23mm	125g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	5.00kg	7.50kg
CWL030	L221.5*W32.6*H23mm	170g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	6.80kg	9.50kg
CWL040	L221.5*W32.6*H23mm	170g	L285*W66.3*H50mm	L465*W285*H230mm	40pcs	6.80kg	9.50kg
CWL050	L311.5*W32.6*H23mm	220g	L435*W30*H65mm	L450*W350*H180mm	40pcs	8.80kg	11.5kg
CWL060	L311.5*W32.6*H23mm	255g	L435*W30*H65mm	L450*W350*H180mm	40pcs	10.2kg	12.5kg
CWL080	L381.5*W38.6*H25.6mm	405g	L405*W30*H65mm	L435*W375*H150mm	28pcs	11.5kg	13.5kg

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.