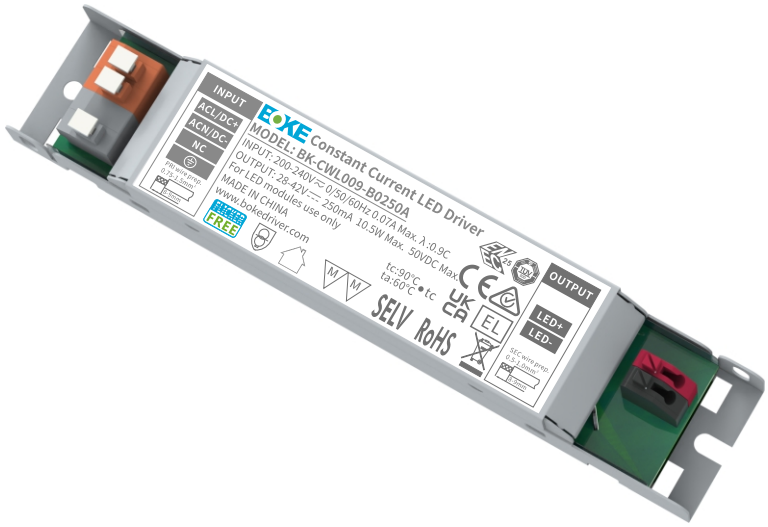
Constant current linear driver
CWL Series



Features

- Output flick-free, meets the new requirements of ErP certification
- High PF, high efficiency, low THD
- Dual-stage circuit design, work stable
- Withstand 380VAC high voltage short-time shock
- SELV and Class I design, suitable for use built-in 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

Functions

- Support central emergency application (100% output in DC input)
- Support self-contained emergency application
- Protective features (short-circuit, no-load protection)

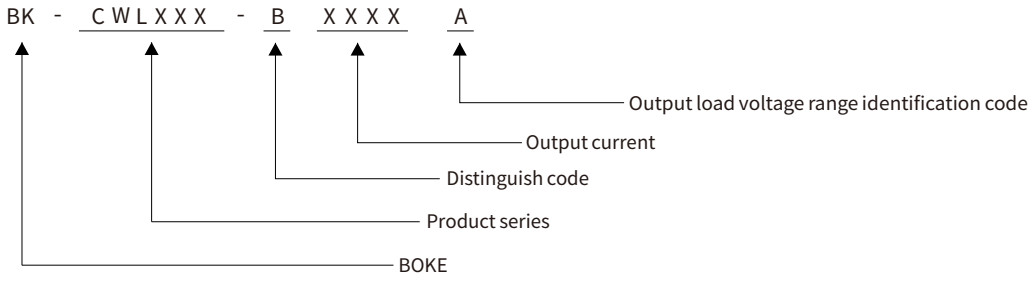
Suitable for lights

- 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 CWL series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-CWL009-BxxxxA	200-240VAC/DC	10.5W MAX.	28-42VDC	0.15-0.25A	L158*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL013-BxxxxA	200-240VAC/DC	14.0W MAX.	28-40/42VDC	0.3-0.35A	L158*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL018-BxxxxA	200-240VAC/DC	18.0W MAX.	28-40/42VDC	0.35-0.45A	L158*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL022-BxxxxA	200-240VAC/DC	22.8W MAX.	28-38/40/42VDC	0.45-0.6A	L158*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL030-BxxxxA	200-240VAC/DC	31.5W MAX.	28-42VDC	0.55-0.75A	L195*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL040-BxxxxA	200-240VAC/DC	40.0W MAX.	28-38/40/42VDC	0.8-1.05A	L195*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL050-BxxxxA	200-240VAC/DC	50.4W MAX.	28-40/42VDC	1-1.25A	L285*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL060-BxxxxA	200-240VAC/DC	62.7W MAX.	28-38/40/42VDC	1.25-1.65A	L285*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL080-BxxxxA	200-240VAC/DC	80.0W MAX.	28-40/41/42VDC	1.5-2A	L355*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL

Technical data

Product model	BK-CWL009-B0250A	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.15-0.25A	
Rated output voltage range	28-42VDC	
Rated output power	10.5W Max	
Output current adjustment	Fixed output	
Output current ripple LF	±3%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.211%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.071, SVM = 0.005, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 180-264VDC	
Input votage shock	<380 V AC	
Input current	<0.07A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.95,DF: 0.96 ,see the electrical values below for details	
Input THD	11% ,see the electrical values below for details	
Efficiency(Max)	83% ,see the electrical values below for details	
In-rush current	8A peak ,220us 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):12.7W, No load(Pno): N/A, 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(Performance criterion:B)	
Leakage current	0.29mA (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	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, 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-CWL013-B0300A	BK-CWL013-B0350A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	0.3A	0.35A	
Rated output voltage range	28-42VDC	28-40VDC	
Rated output power	12.6W Max	14W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.710%, Flicker index(IEEE 1789)=0.002, Pst LM = 0.071, SVM = 0.005, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.09A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF: 0.96,DF: 0.97 ,see the electrical values below for details		
Input THD	10% ,see the electrical values below for details		
Efficiency(Max)	83.5% ,see the electrical values below for details		
In-rush current	8.36A peak ,224us duration(50 % Ipeak), see the description below for details		
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)		
Switching cycles	> 50,000 switching cycles		
Power consumption	Full load(Pin):16.8W, No load(Pno): N/A, 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(Performance criterion:B)		
Leakage current	0.55mA (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	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, 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-CWL018-B0400A	BK-CWL018-B0450A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	0.35-0.4A	0.45A	
Rated output voltage range	28-42VDC	28-40VDC	
Rated output power	16.8W Max	18W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.242%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.031, SVM = 0.005, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.11A (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	8% ,see the electrical values below for details		
Efficiency(Max)	86% ,see the electrical values below for details		
In-rush current	10.4A peak ,242us 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):20.9W, No load(Pno): N/A, 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(Performance criterion:B)		
Leakage current	0.26mA (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	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, 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-CWL022-B0500A	BK-CWL022-B0550A	BK-CWL022-B0600A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current range	0.45-0.5A	0.55A	0.6A
Rated output voltage range	28-42VDC	28-40VDC	28-38VDC
Rated output power	21W Max	22W Max	22.8W Max
Output current adjustment	Fixed output	Fixed output	Fixed output
Output current ripple LF	±3%	±3%	±3%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.701%, Flicker index(IEEE 1789)=0.002, Pst LM = 0.031, SVM = 0.005, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.15A (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	14% ,see the electrical values below for details		
Efficiency(Max)	85.5% ,see the electrical values below for details		
In-rush current	10.5A peak ,248us 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):26.7W, No load(Pno): N/A, 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(Performance criterion:B)		
Leakage current	0.42mA (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	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, 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-CWL030-B0750A	
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.55-0.75A	
Rated output voltage range	28-42VDC	
Rated output power	31.5W Max	
Output current adjustment	Fixed output	
Output current ripple LF	±3%	
Output current accuracy	±5%	
Linear regulation	±5%	
Load regulation	±5%	
No load output voltage	50VDC	
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.136%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.001, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage	200-240VAC 200-240VDC	
Input voltage range	180-264VAC 180-264VDC	
Input votage shock	<380 V AC	
Input current	<0.21A (Rated input voltage)	
Input frequency	0/50/60Hz	
Input PF/Input DF	PF: 0.98,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	12.38A peak ,264us 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):35.4W, No load(Pno): N/A, 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:4KV(Performance criterion:A)	
Leakage current	0.35mA (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	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, 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-CWL040-B0950A	BK-CWL040-B1000A	BK-CWL040-B1050A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current range	0.8-0.95A	1A	1.05A
Rated output voltage range	28-42VDC	28-40VDC	28-38VDC
Rated output power	39.9W Max	40W Max	39.9W Max
Output current adjustment	Fixed output	Fixed output	Fixed output
Output current ripple LF	±3%	±3%	±3%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.153%, Flicker index(IEEE 1789)=0.000, Pst LM = 0.000, SVM = 0.002, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.24A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF: 0.98,DF: 0.98 ,see the electrical values below for details		
Input THD	7% ,see the electrical values below for details		
Efficiency(Max)	89% ,see the electrical values below for details		
In-rush current	14.125A peak ,272us 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) : 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:4KV(Performance criterion:A)		
Leakage current	0.28mA (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	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, 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-CWL050-B1200A	BK-CWL050-B1250A	
Output parameters			
Regulation method	Constant Current	Constant Current	
Rated output current range	1-1.2A	1.25A	
Rated output voltage range	28-42VDC	28-40VDC	
Rated output power	50.4W Max	50W Max	
Output current adjustment	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	
Output current accuracy	±5%	±5%	
Linear regulation	±5%	±5%	
Load regulation	±5%	±5%	
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.286%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.011, SVM = 0.006, (The above parameters are obtained from testing the panel lights)		
Input parameters			
Rated input voltage	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
Input votage shock	<380 V AC		
Input current	<0.28A (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	9% ,see the electrical values below for details		
Efficiency(Max)	89% ,see the electrical values below for details		
In-rush current	18.3A peak ,300us 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):56.6W, No load(Pno): N/A, 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(Performance criterion:B)		
Leakage current	0.43mA (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	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, 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-CWL060-B1450A	BK-CWL060-B1500A	BK-CWL060-B1650A	
Output parameters				
Regulation method	Constant Current	Constant Current	Constant Current	
Rated output current range	1.25-1.45A	1.5A	1.55-1.65A	
Rated output voltage range	28-42VDC	28-40VDC	28-38VDC	
Rated output power	60.9W Max	60W Max	62.7W Max	
Output current adjustment	Fixed output	Fixed output	Fixed output	
Output current ripple LF	±3%	±3%	±3%	
Output current accuracy	±5%	±5%	±5%	
Linear regulation	±5%	±5%	±5%	
Load regulation	±5%	±5%	±5%	
No load output voltage	50VDC			
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.104%, Flicker index(IEEE 1789)=0.001, Pst LM = 0.008, SVM = 0.002, (The above parameters are obtained from testing the panel lights)			
Input parameters				
Rated input voltage	200-240VAC 200-240VDC			
Input voltage range	180-264VAC 180-264VDC			
Input votage shock	<380 V AC			
Input current	<0.38A (Rated input voltage)			
Input frequency	0/50/60Hz			
Input PF/Input DF	PF: 0.98,DF: 0.98 ,see the electrical values below for details			
Input THD	7% ,see the electrical values below for details			
Efficiency(Max)	90.5% ,see the electrical values below for details			
In-rush current	27.6A peak ,300us 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):69.3W, No load(Pno): N/A, 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(Performance criterion:B)			
Leakage current	0.53mA (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	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, 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-CWL080-B1900A	BK-CWL080-B1950A	BK-CWL080-B2000A
Output parameters			
Regulation method	Constant Current	Constant Current	Constant Current
Rated output current range	1.5-1.9A	1.95A	2A
Rated output voltage range	28-42VDC	28-41VDC	28-40VDC
Rated output power	79.8W Max	79.95W Max	80W Max
Output current adjustment	Fixed output	Fixed output	Fixed output
Output current ripple LF	±3%	±3%	±3%
Output current accuracy	±5%	±5%	±5%
Linear regulation	±5%	±5%	±5%
Load regulation	±5%	±5%	±5%
No load output voltage	50VDC		
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.122%, 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	200-240VAC 200-240VDC		
Input voltage range	180-264VAC 180-264VDC		
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)	90% ,see the electrical values below for details		
In-rush current	33A peak ,330us 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):88.9W, No load(Pno): N/A, 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(Performance criterion:B)		
Leakage current	0.57mA (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	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=95°C		
Operating humidity	5-85% RH, not condensed		
Storage temp./humidity	-40-80°C, 5-85% RH, not condensed		
IP grade	IP20		
MTBF	500,000H,MIL-HDBK-217F(25°C)		
Life-time	Nominal life-time up to 100,000 h, see the description below for details		
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes		
Acoustic Noise	<25dB(30cm, Normal operation)		
Environmental protection	RoHS		
Certifications and standards			
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		

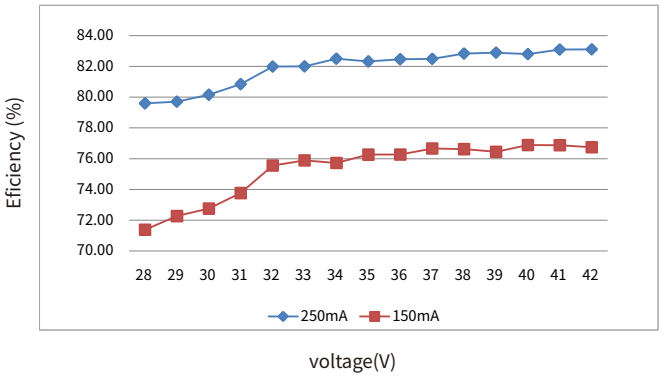
Remarks

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

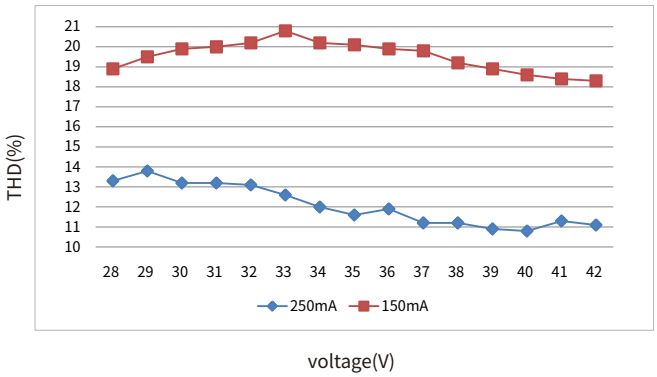
Electrical values

BK-CWL009-B

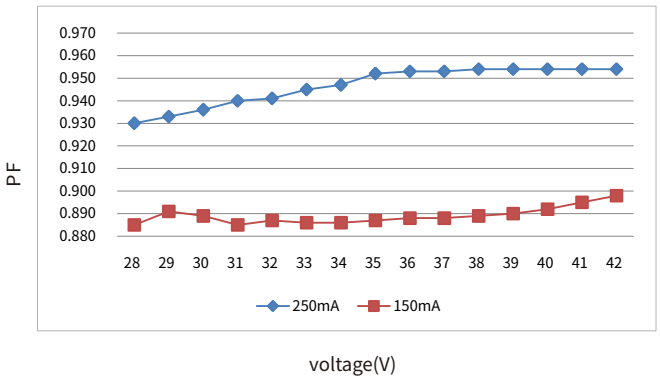
Efficiency vs voltage



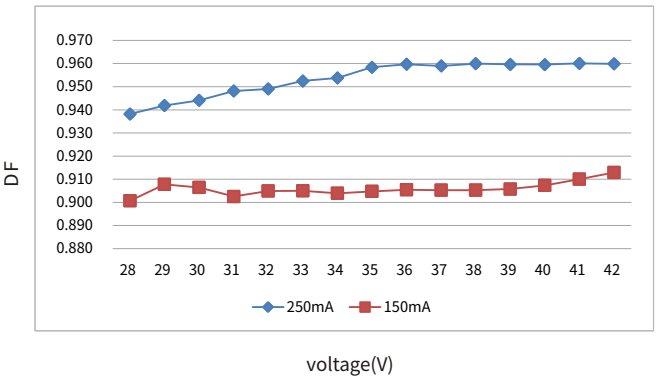
THD vs. voltage



Power factor vs. voltage

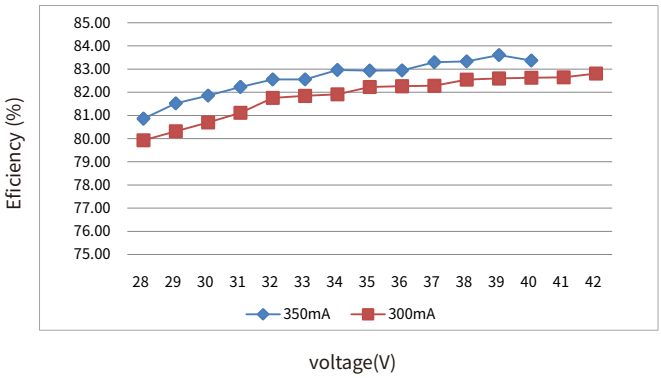


Displacement factor vs. voltage

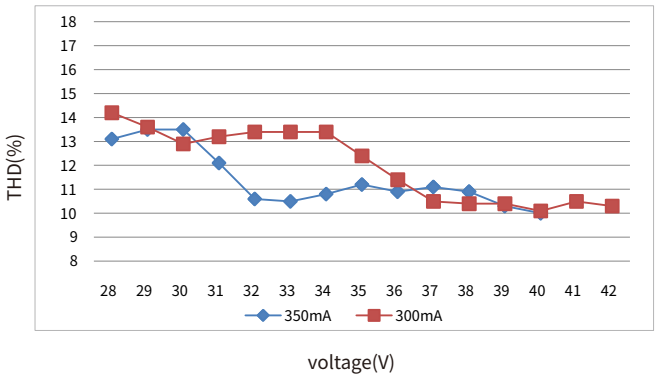


BK-CWL013-B

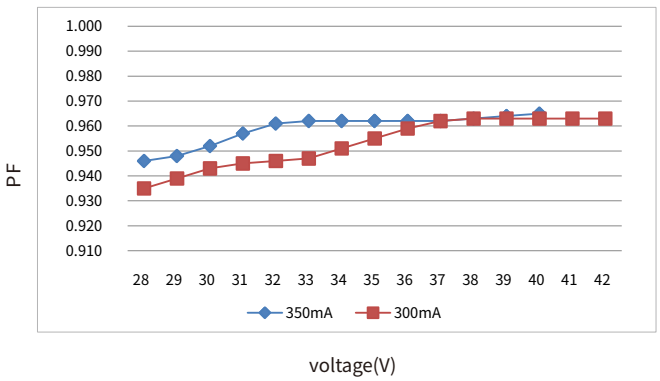
Efficiency vs voltage



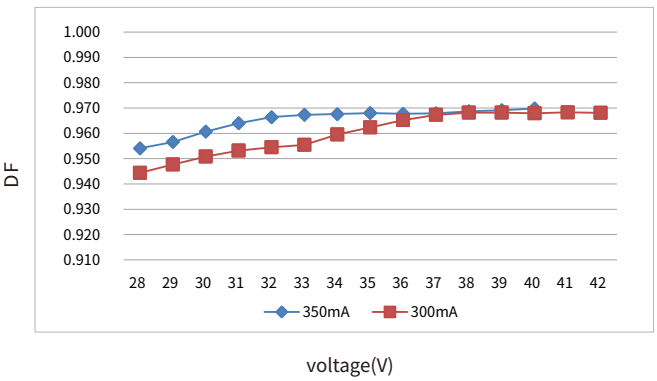
THD vs. voltage



Power factor vs. voltage



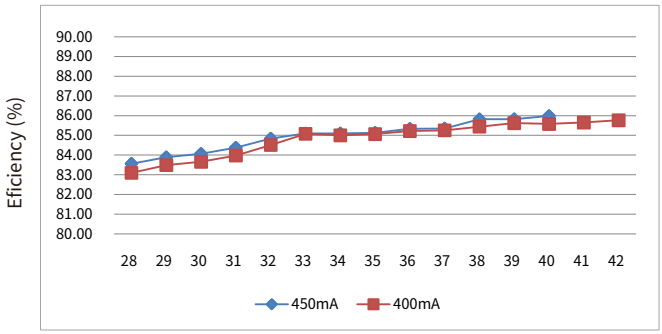
Displacement factor vs. voltage



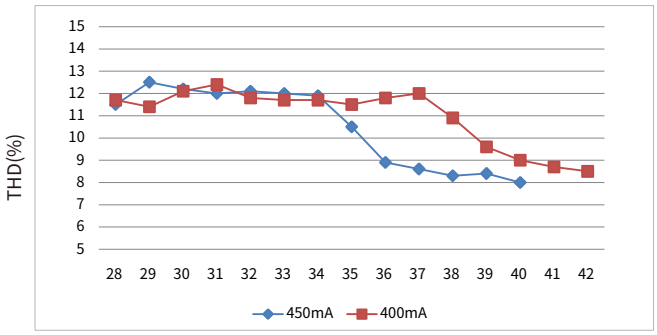
Electrical values

BK-CWL018-B

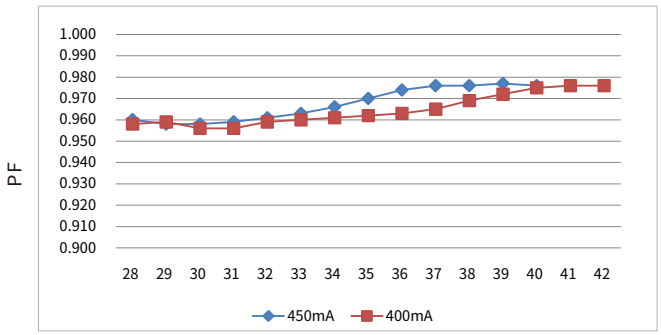
Efficiency vs voltage



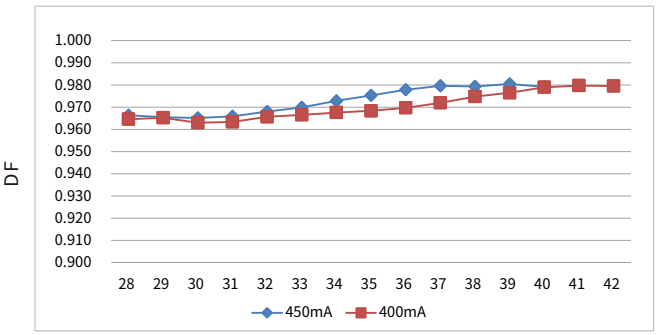
THD vs. voltage



Power factor vs. voltage

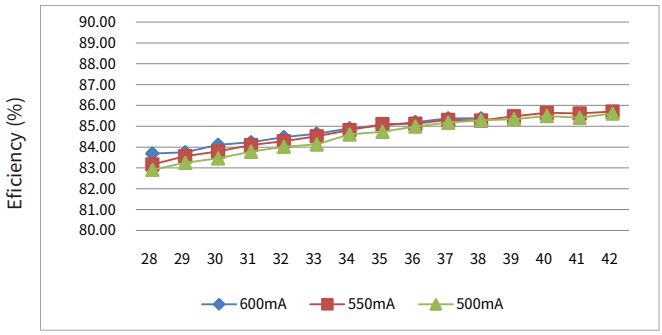


Displacement factor vs. voltage

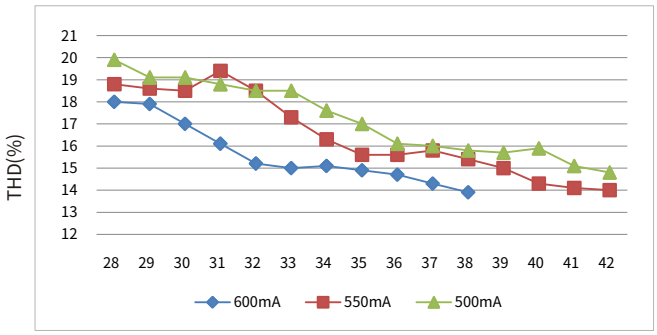


BK-CWL022-B

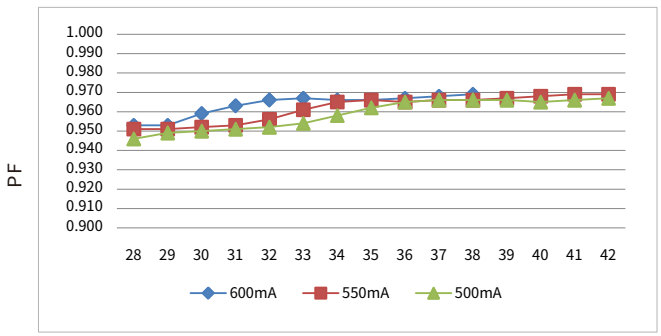
Efficiency vs voltage



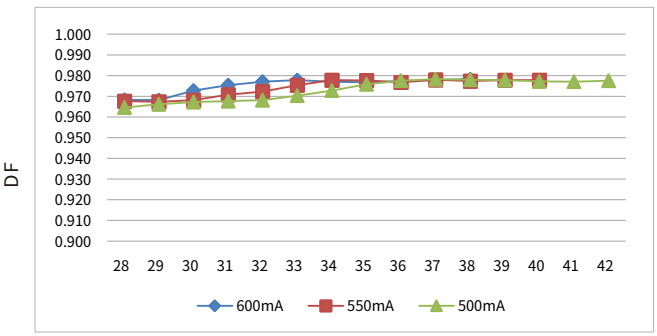
THD vs. voltage



Power factor vs. voltage



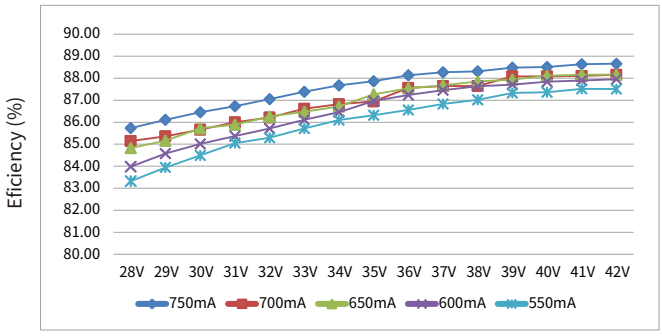
Displacement factor vs. voltage



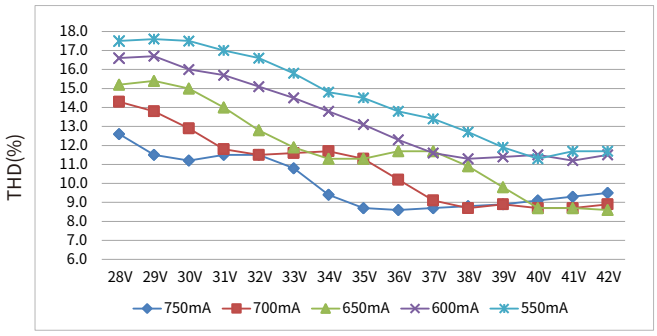
Electrical values

BK-CWL030-B

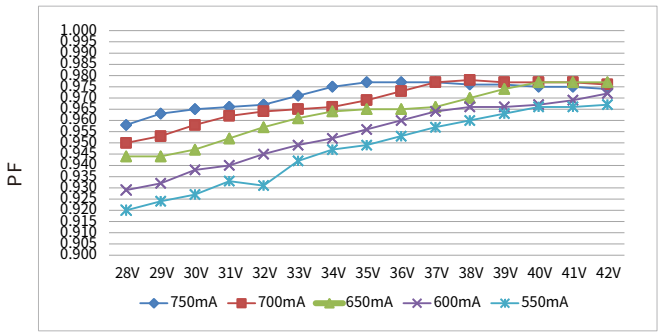
Efficiency vs voltage



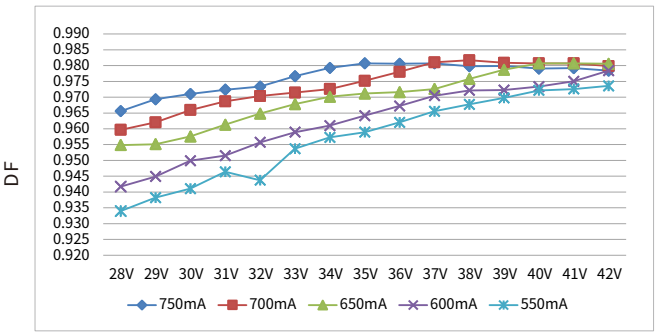
THD vs. voltage



Power factor vs. voltage

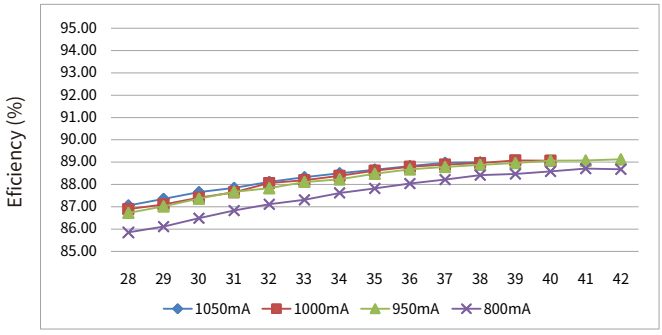


Displacement factor vs. voltage

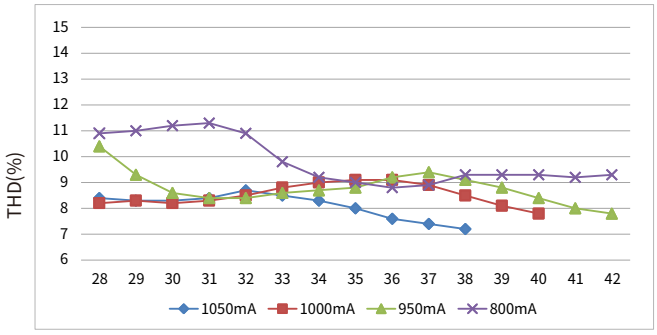


BK-CWL040-B

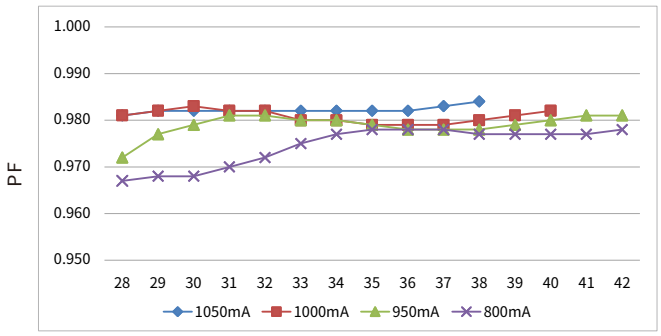
Efficiency vs voltage



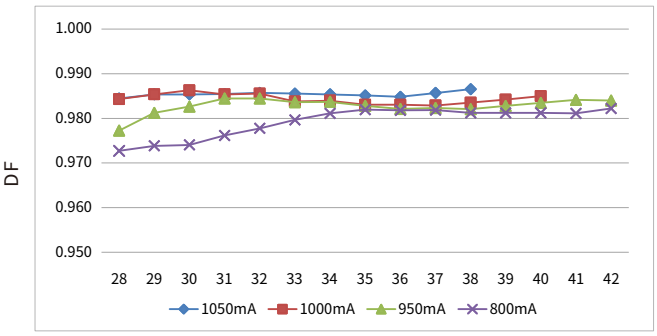
THD vs. voltage



Power factor vs. voltage



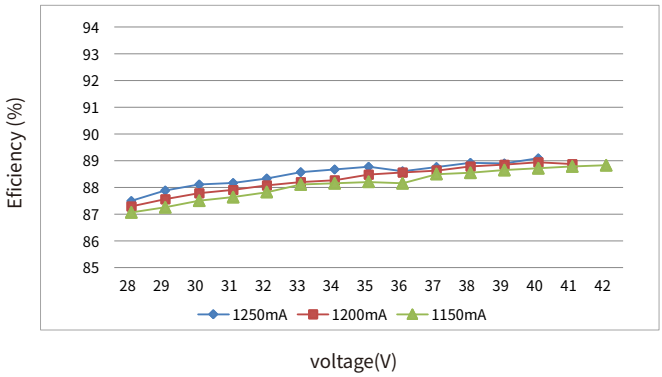
Displacement factor vs. voltage



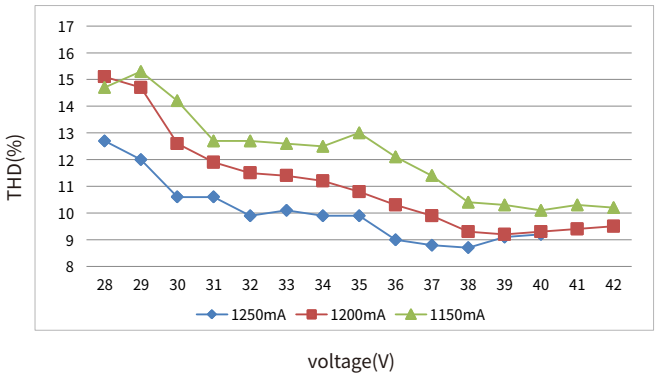
Electrical values

BK-CWL050-B

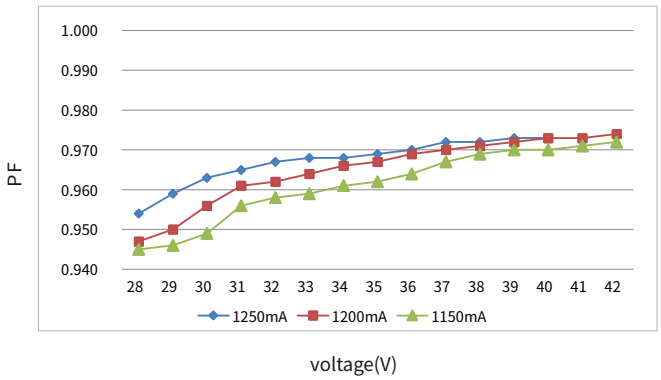
Efficiency vs voltage



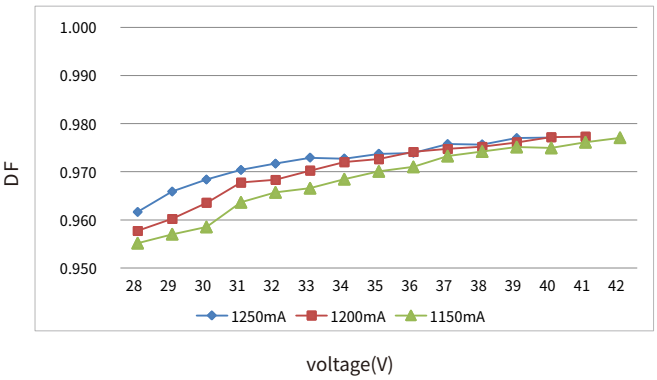
THD vs. voltage



Power factor vs. voltage

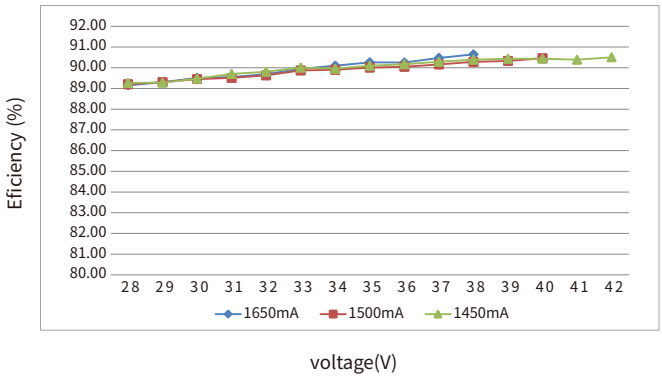


Displacement factor vs. voltage

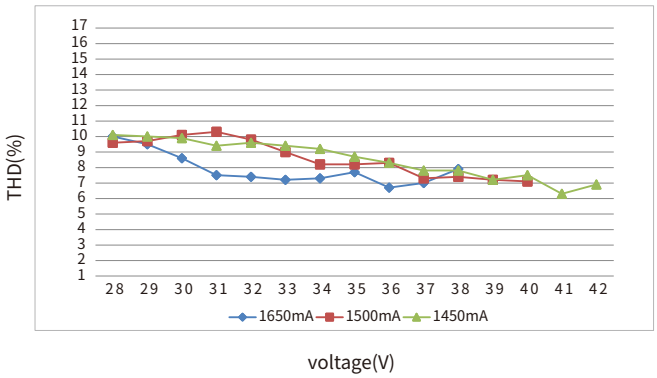


BK-CWL060-B

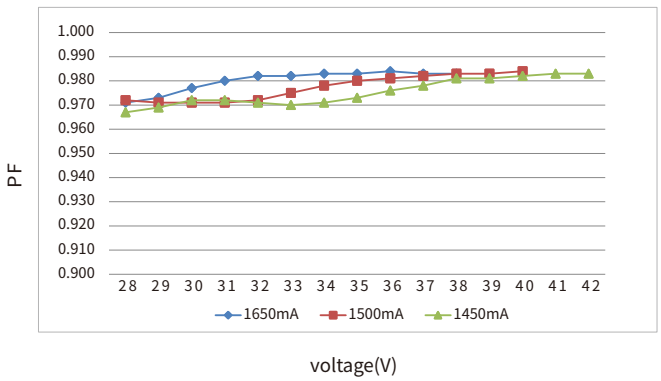
Efficiency vs voltage



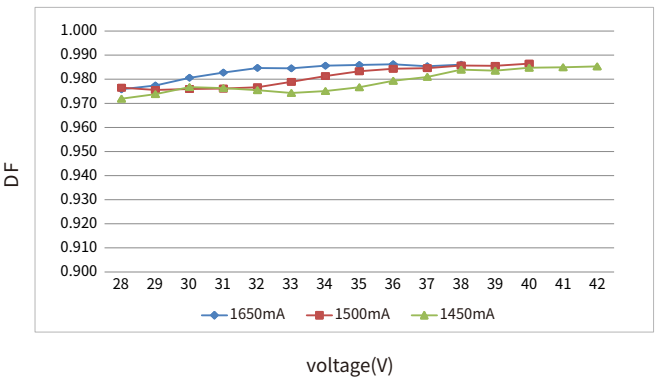
THD vs. voltage



Power factor vs. voltage



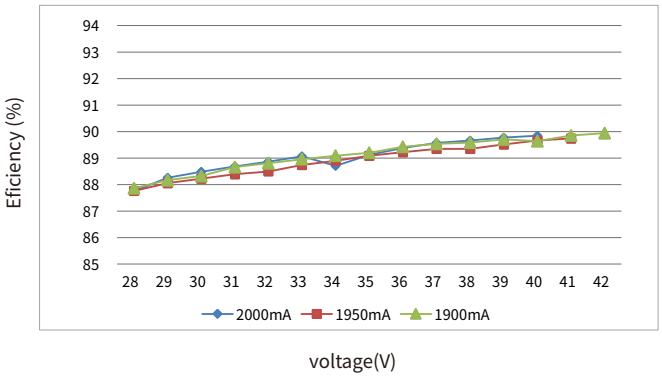
Displacement factor vs. voltage



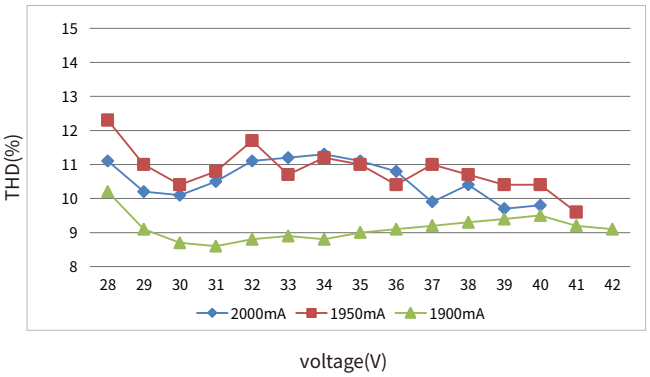
Electrical values

BK-CWL080-B

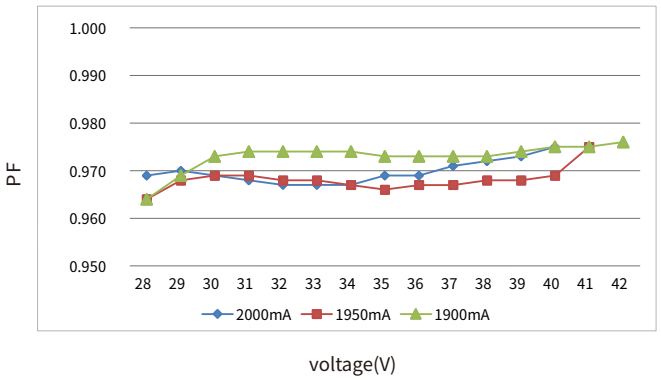
Efficiency vs voltage



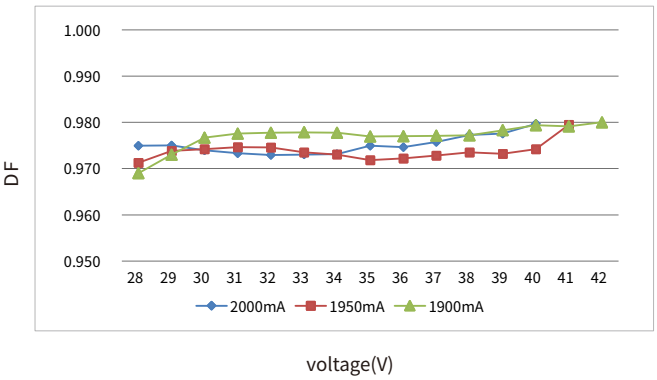
THD vs. voltage



Power factor vs. voltage



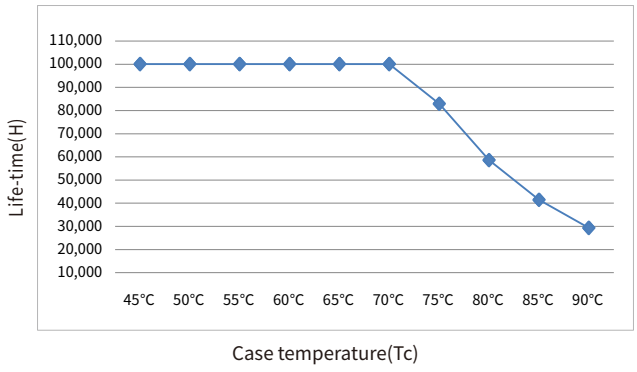
Displacement factor vs. voltage



Expected life-time

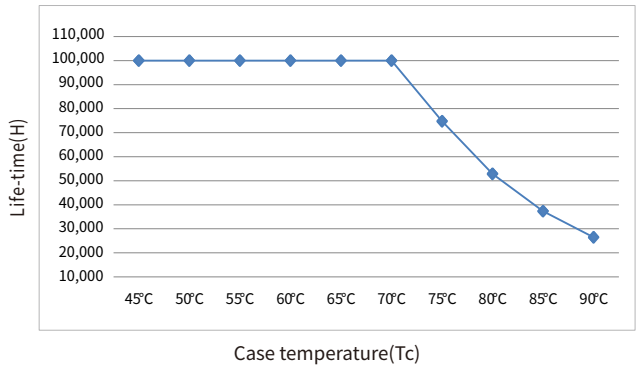
BK-CWL009-B

Life-time vs. case temperature



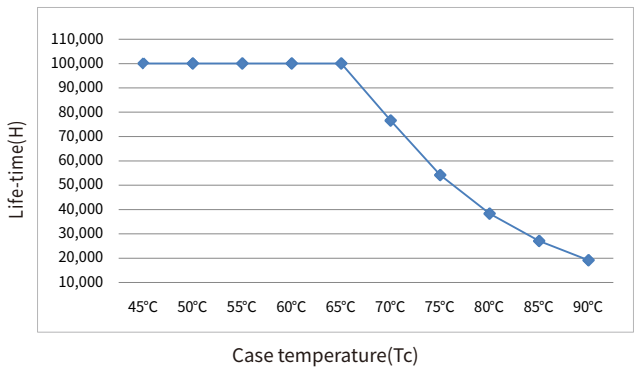
BK-CWL013-B

Life-time vs. case temperature



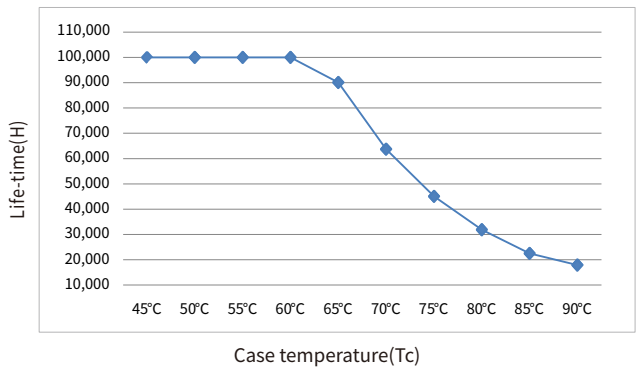
BK-CWL018-B

Life-time vs. case temperature



BK-CWL022-B

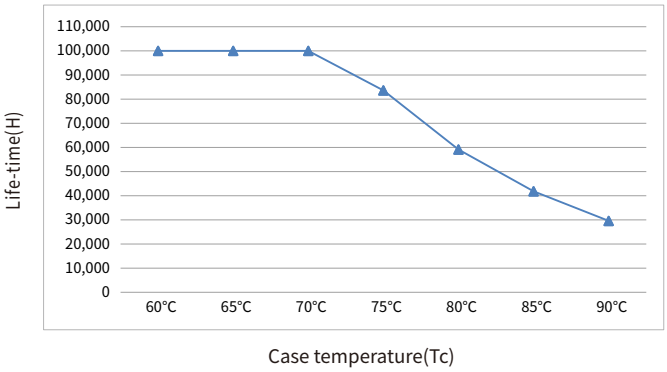
Life-time vs. case temperature



Expected life-time

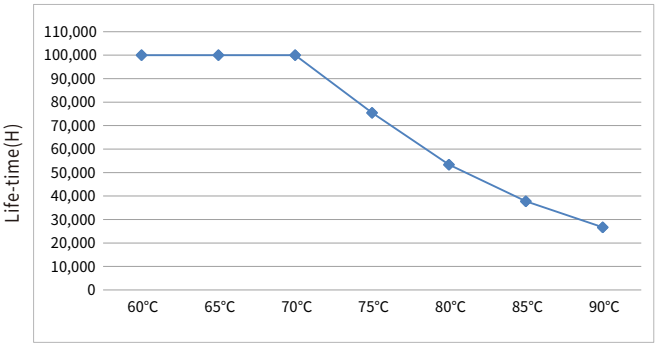
BK-CWL030B

Life-time vs. case temperature



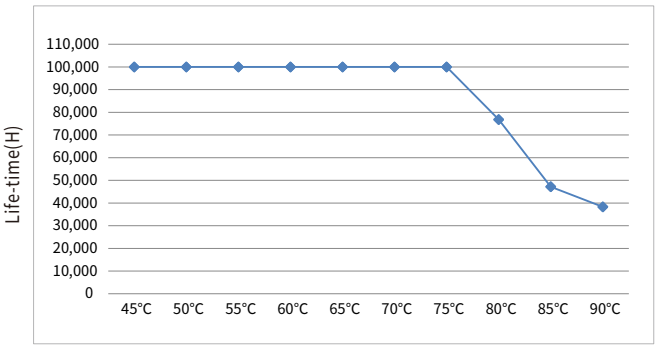
BK-CWL040-B

Life-time vs. case temperature



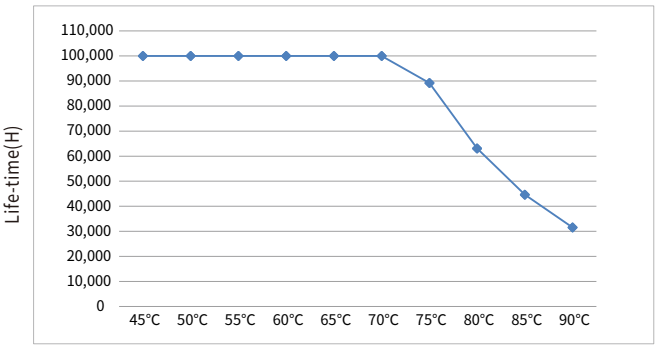
BK-CWL050-B

Life-time vs. case temperature



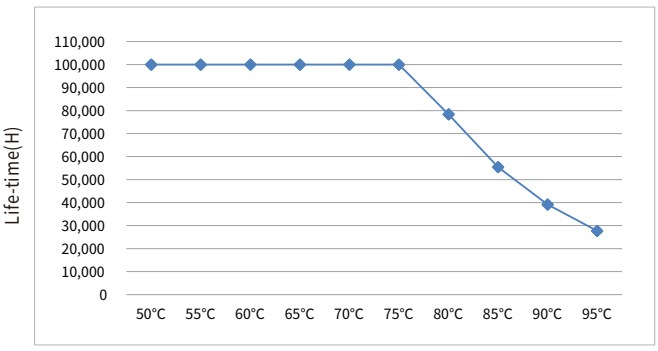
BK-CWL060-B

Life-time vs. case temperature



BK-CWL080-B

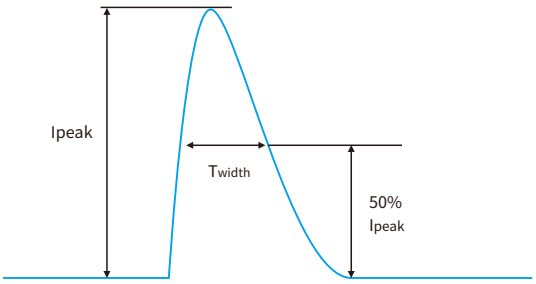
Life-time vs. case temperature



-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-CWL009-B	8A	220us	AC 230V,Full load, Cold start,Ta≤30°C, MCB is not installed side by side	35	45	56	70	87	58	76	93	116	145	116	151	186	233	291
BK-CWL013-B	8.36A	224us		33	43	53	66	83	55	72	88	111	138	93	121	149	186	232
BK-CWL018-B	10.4A	242us		24	32	39	48	61	40	53	65	81	101	74	96	118	148	185
BK-CWL022-B	10.5A	248us		24	31	38	47	59	39	51	63	79	98	58	76	94	117	146
BK-CWL030-B	12.38A	264us		21	27	33	42	52	35	45	56	70	87	50	66	81	101	126
BK-CWL040-B	14.125A	272us		18	23	28	35	44	29	38	47	58	73	40	52	64	80	99
BK-CWL050-B	18.3A	300us		10	13	17	21	26	17	22	28	34	43	28	36	45	56	70
BK-CWL060-B	27.6A	300us		8	10	12	15	19	13	16	20	25	32	22	29	36	45	56
BK-CWL080-B	33A	330us		5	7	8	10	13	9	11	14	17	22	17	23	28	35	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.

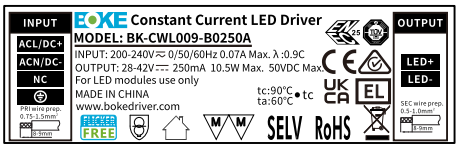
  Please turn off the driver first if you need to connect the LED load.

Insulation between circuits

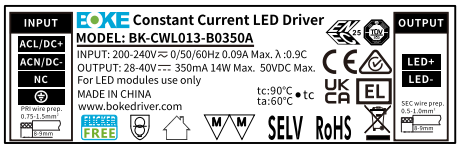
Isolation	Input	Output	Case
Input	-	Double	Basic
Output	Double	-	Basic
Case	Basic	Basic	-

Label

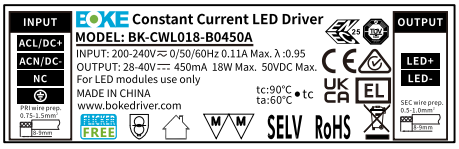
CWL009-B



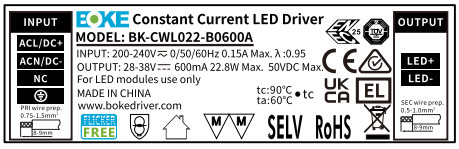
CWL013-B



CWL018-B



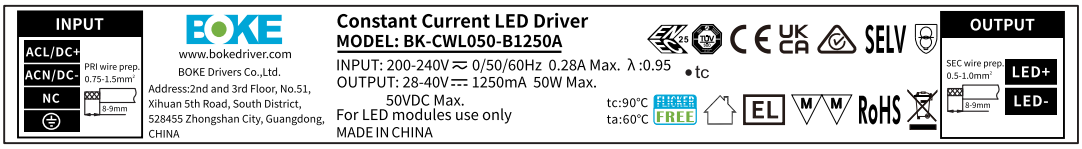
CWL022-B



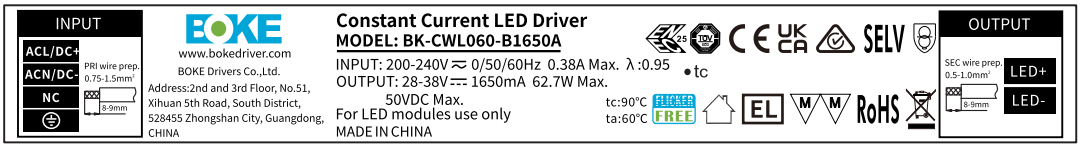
CWL030-B

CWL040-B

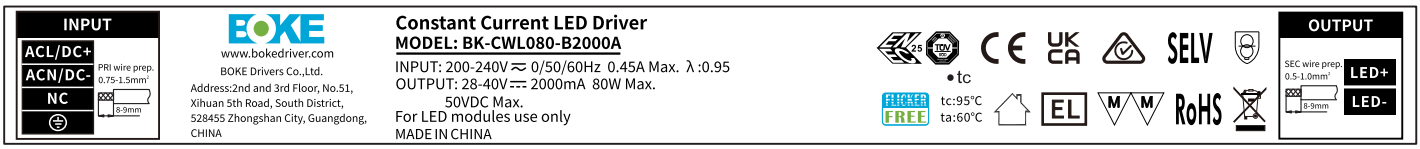
CWL050-B



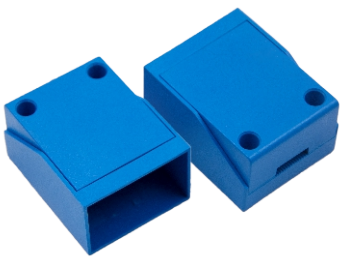
CWL060-B



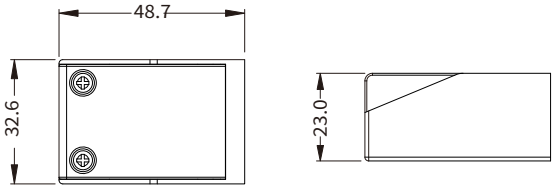
CWL080-B



Optional accessories



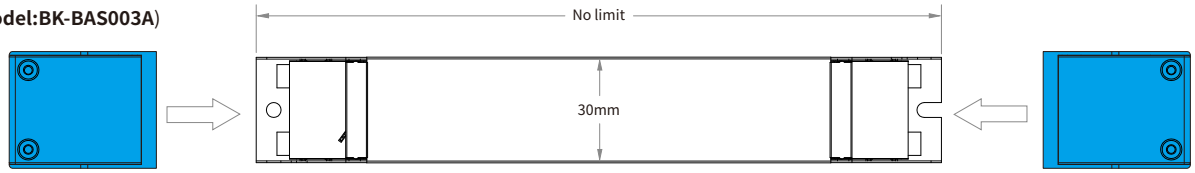
(**Model:BK-BAS003A**)



Unit:mm

Installation diagram of accessories

(**Model:BK-BAS003A**)

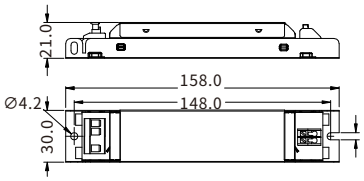


Mechanical Specification

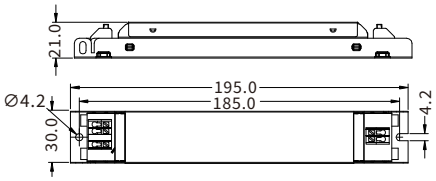
Size(Excluding accessories)

Unit:mm

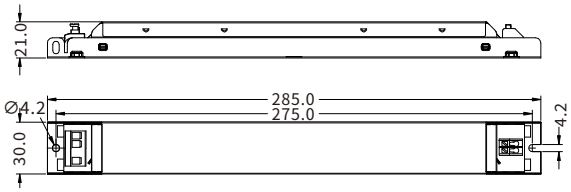
CWL009-B/CWL013-B/CWL018-B/CWL022-B



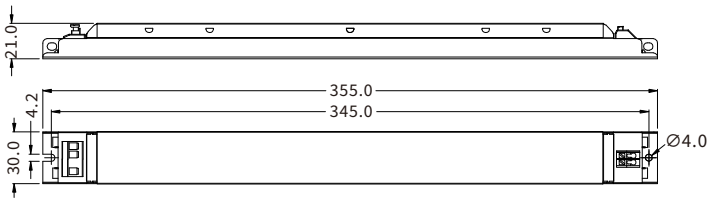
CWL030-B/CWL040-B



CWL050-B/CWL060-B



CWL080-B

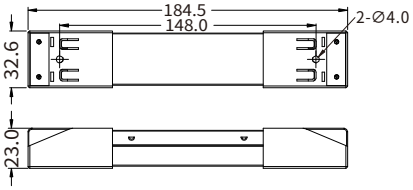


Mechanical Specification

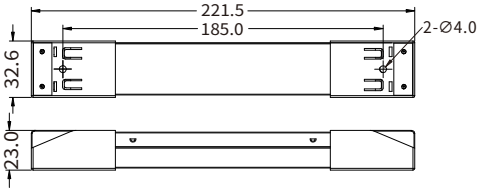
Size(Include accessories)

Unit:mm

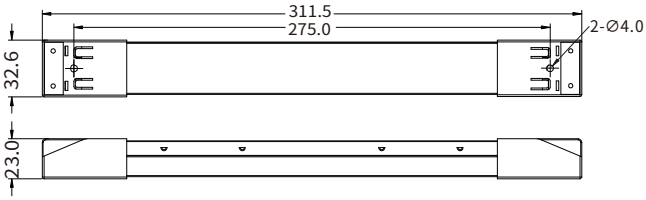
CWL009-B/CWL013-B/CWL018-B/CWL022-B



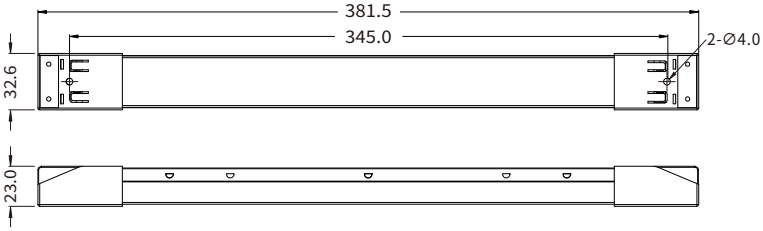
CWL030-B/CWL040-B



CWL050-B/CWL060-B



CWL080-B

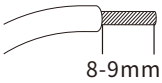


INPUT

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

Input wire

0.75-1.5mm²

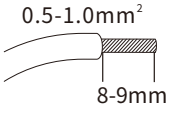


OUTPUT

Number	function	colour
1	LED+	red
2	LED-	black

Output wire

0.5-1.0mm²



Input terminal

DA250

DA260

Note: The input terminal of CWL030-B/CWL040-B is DA250,
the input terminal of CWL009-B/CWL013-B/CWL018-B/CWL022-B/CWL050-B/CWL060-B/CWL080-B is DA260.

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. Wait more than 5 seconds
3. Remove LED module
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.

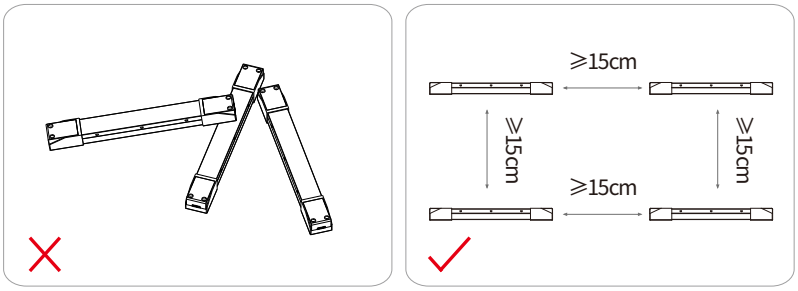


Figure 1

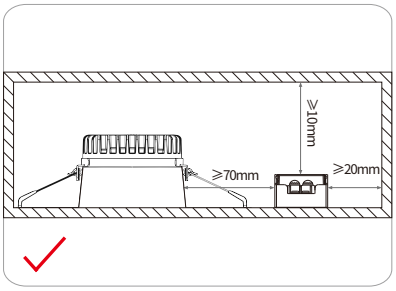
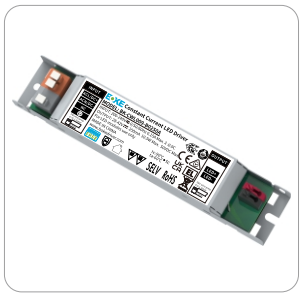


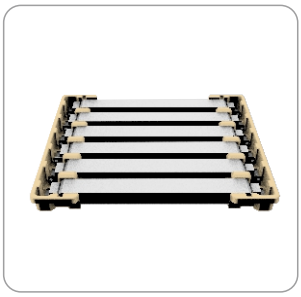
Figure 2

Packaging

(Excluding accessories)



Product

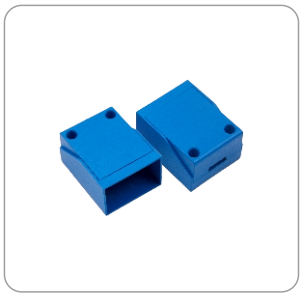


Paper tray

7pcs*8layer=56pcs/CTN
7pcs*6layer=42pcs/CTN
7pcs*5layer=35pcs/CTN
7pcs*4layer=28pcs/CTN

Model	Product size	Weight	Paper tray	Carton size	Packing	N.W	G.W
CWL009-B	L158*W30*H21mm	91g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.10kg	6.60kg
CWL013-B	L158*W30*H21mm	92g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.15kg	6.65kg
CWL018-B	L158*W30*H21mm	95g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.32kg	6.82kg
CWL022-B	L158*W30*H21mm	105g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.88kg	7.38kg
CWL030-B	L195*W30*H21mm	129g	L345*W75*H29mm	L355*W235*H205mm	42pcs	5.42kg	6.65kg
CWL040-B	L195*W30*H21mm	129g	L345*W75*H29mm	L355*W235*H205mm	42pcs	5.42kg	6.65kg
CWL050-B	L285*W30*H21mm	204g	L345*W75*H29mm	L355*W325*H170mm	35pcs	7.14kg	8.44kg
CWL060-B	L285*W30*H21mm	225g	L345*W75*H29mm	L355*W325*H170mm	35pcs	7.88kg	9.08kg
CWL080-B	L355*W30*H21mm	289g	L345*W75*H29mm	L395*W355*H140mm	28pcs	8.10kg	9.30kg

Accessories



End cap + screws

100 sets/CIN

Model	Product size	Weight	Carton size	Qty/carton	N.W	G.W
BAS003A	L48.7*W32.6*H23mm	22g	L450*W350*H180mm	100 sets	2.2kg	2.7kg

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.