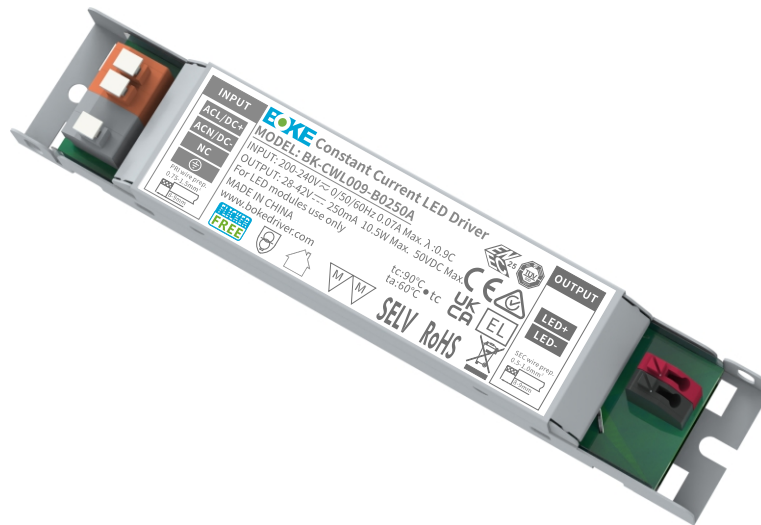




Features

- 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)

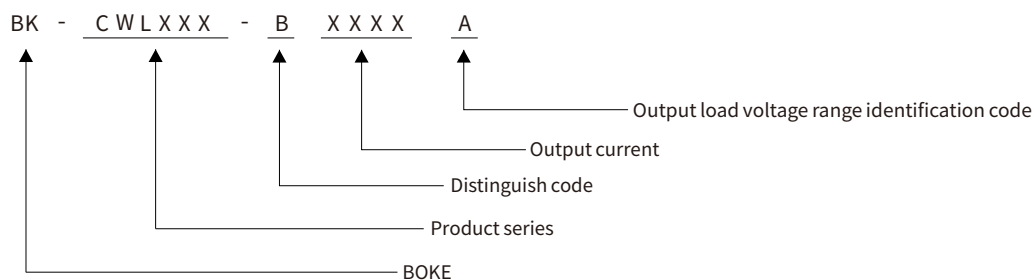
Suitable for lights

- Suitable for linear lights, tri-proof lights, working lights 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-xxxxA	200-240VAC/DC	31.5W MAX.	28-42VDC	0.55-0.75A	L195*W30*H21mm	CE,ENEC,UKCA,RCM,CCC,EL
BK-CWL040-xxxxA	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	±2%
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 200-264VDC
Input voltage shock	<380 V AC
Input current	<0.07A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.96 (230V AC & Full load)
Input THD	15% (230V AC & Full load)
Efficiency(typical)	82.5% (230V AC & Full load)
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	
Certified	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	±2%	±2%	
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 200-264VDC		
Input votage shock	<380 V AC		
Input current	<0.09A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.97 (230V AC & Full load)		
Input THD	15% (230V AC & Full load)		
Efficiency(typical)	83.5% (230V AC & Full load)		
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			
Certified	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	±2%	±2%	
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 200-264VDC		
Input vottage shock	<380 V AC		
Input current	<0.11A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	85.5% (230V AC & Full load)		
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):21.1W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A		
Safety			
Withstand voltage	I/P-O/P: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			
Certified	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	±2%	±2%	±2%
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 200-264VDC		
Input votage shock	<380 V AC		
Input current	<0.15A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	85.5% (230V AC & Full load)		
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			
Certified	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-CWL030-0750A
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	±2%
Output current accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	50VDC
Flicker-free(typical)	Flickering percent(IEEE 1789)=0.226%, Flicker index(IEEE 1789)=0.001, 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
Input voltage range	180-264VAC 200-264VDC
Input voltage shock	<380 V AC
Input current	<0.18A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	88.5% (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(Pin):35.6W, 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	0.55mA (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	
Certified	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-CWL040-0950A	BK-CWL040-1000A	BK-CWL040-1050A
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	±2%	±2%	±2%
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)=0.168%, 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 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>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	88.5% (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(Pin):45.2W, 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	0.48mA (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			
Certified	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	±2%	±2%	
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 200-264VDC		
Input vottage shock	<380 V AC		
Input current	<0.28A (Rated input voltage)		
Input frequency	0/50/60Hz		
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	89.5% (230V AC & Full load)		
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):56.3W, 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	0.43mA (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			
Certified	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	± 2%	± 2%	± 2%	
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 200-264VDC			
Input votage shock	<380 V AC			
Input current	<0.38A (Rated input voltage)			
Input frequency	0/50/60Hz			
Input PF/Input DF	PF>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)			
Input THD	10% (230V AC & Full load)			
Efficiency(typical)	89.5% (230V AC & Full load)			
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):70.1W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A			
Safety				
Withstand voltage	I/P-O/P: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				
Certified	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	±2%	±2%	±2%
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 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>0.95 (230V AC & Full load),DF>0.98 (230V AC & Full load)		
Input THD	10% (230V AC & Full load)		
Efficiency(typical)	89.5% (230V AC & Full load)		
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):89.4W, 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: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			
Certified	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		

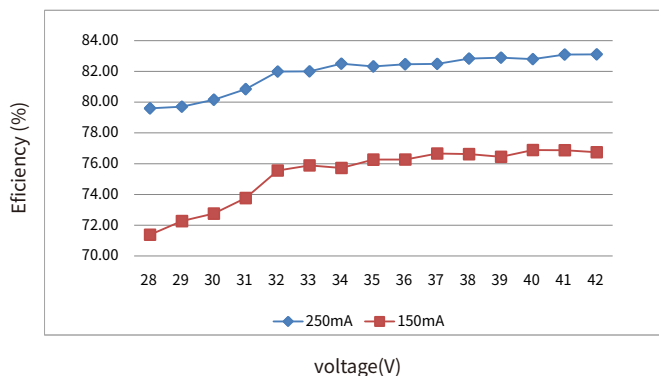
Remarks

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

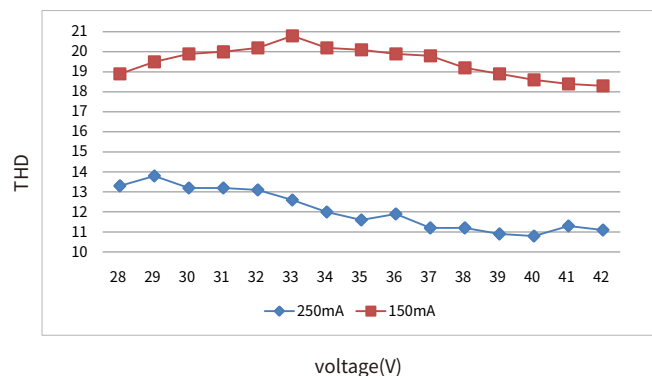
Electrical values

BK-CWL009-B

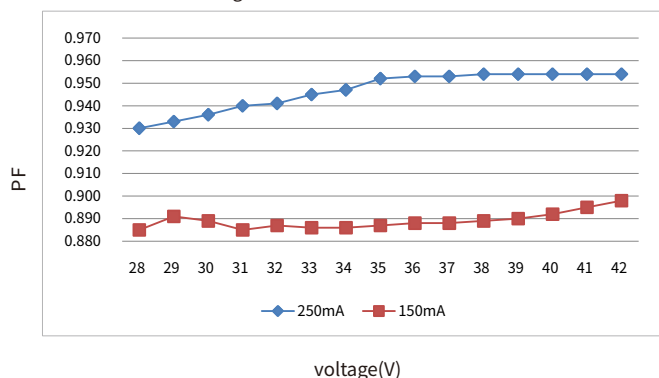
Efficiency vs voltage



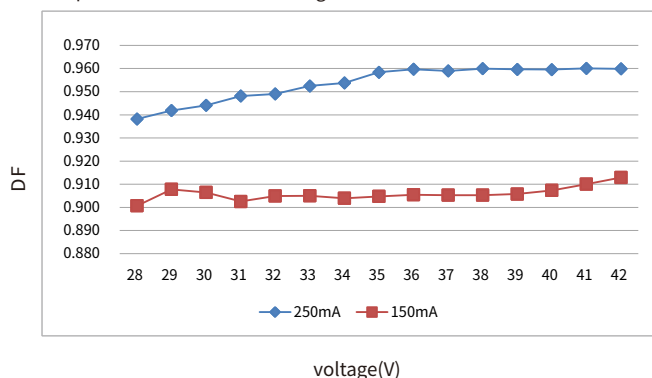
THD vs. voltage



Power factor vs. voltage

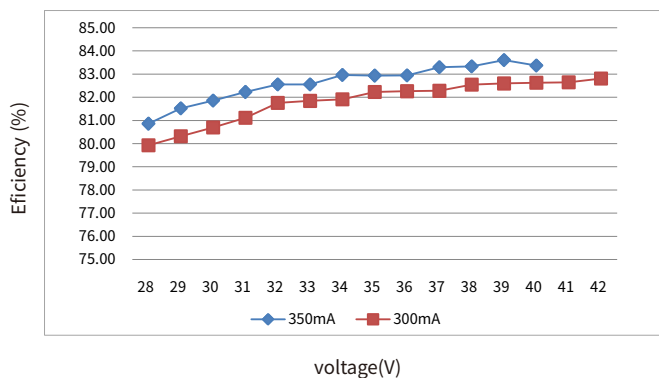


Displacement factor vs. voltage

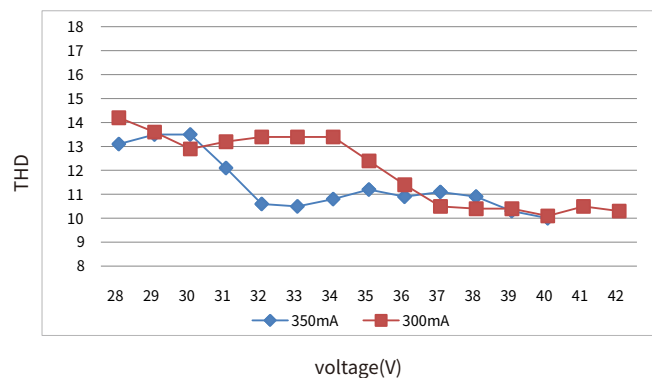


BK-CWL013-B

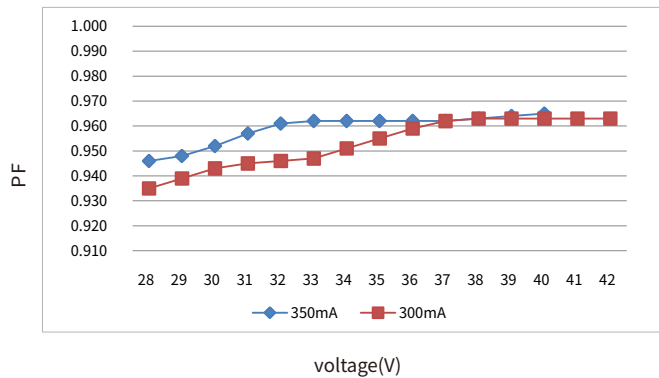
Efficiency vs voltage



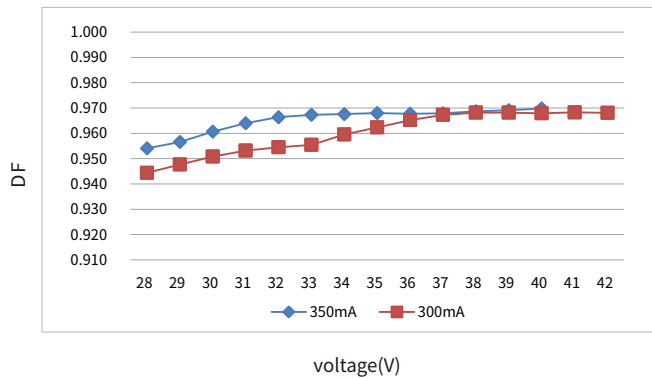
THD vs. voltage



Power factor vs. voltage



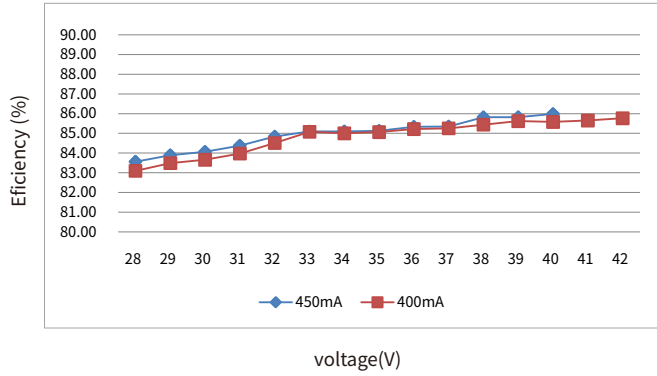
Displacement factor vs. voltage



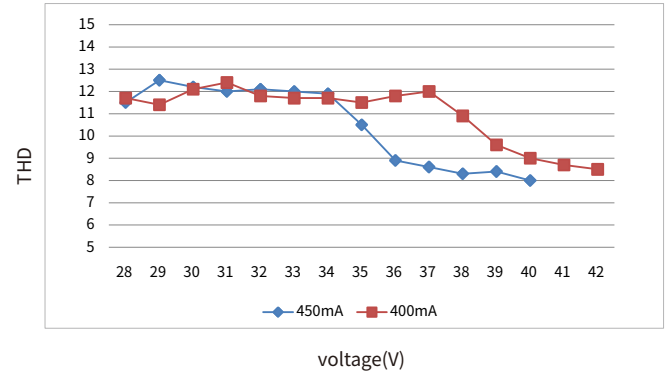
Electrical values

BK-CWL018-B

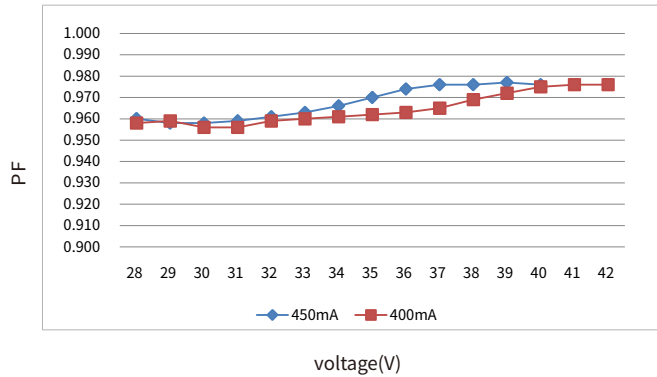
Efficiency vs voltage



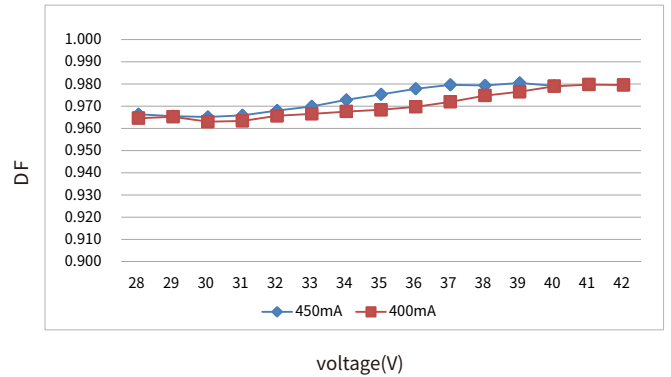
THD vs. voltage



Power factor vs. voltage

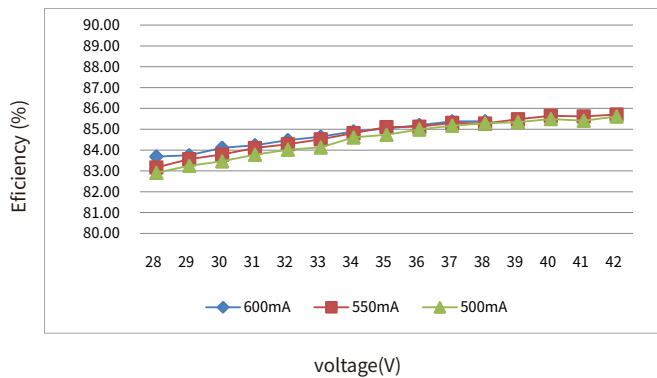


Displacement factor vs. voltage

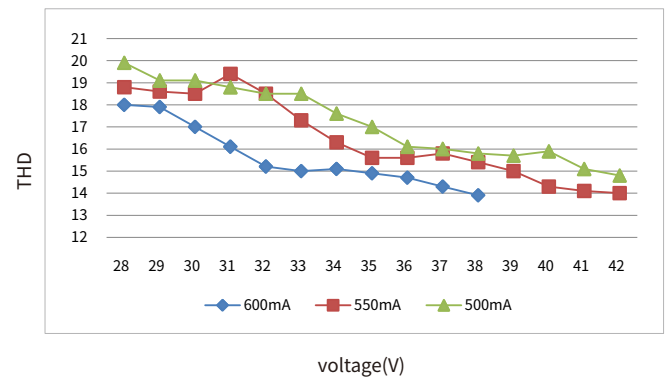


BK-CWL022-B

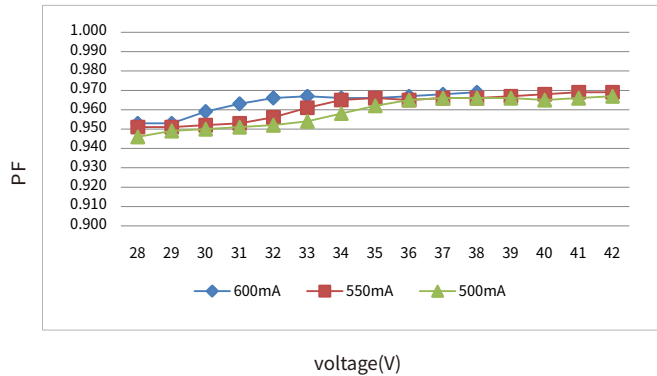
Efficiency vs voltage



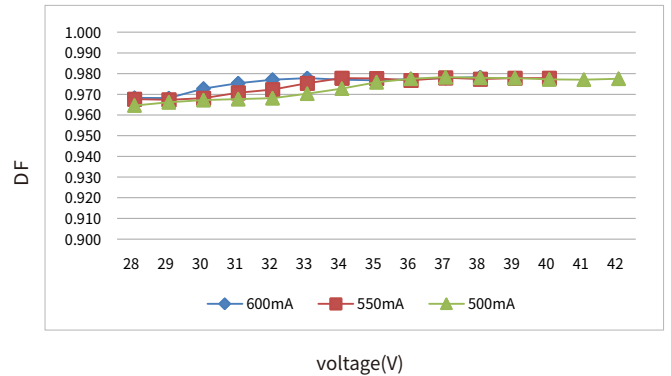
THD vs. voltage



Power factor vs. voltage



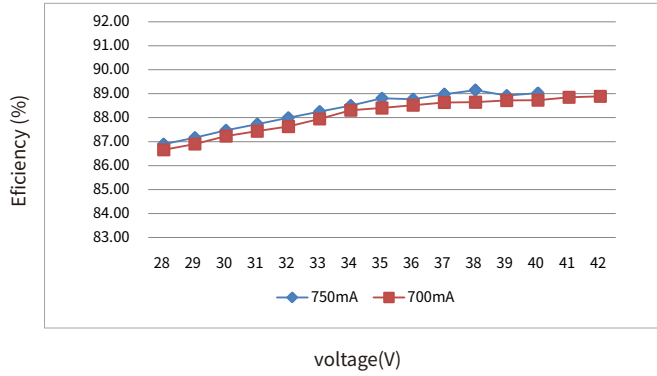
Displacement factor vs. voltage



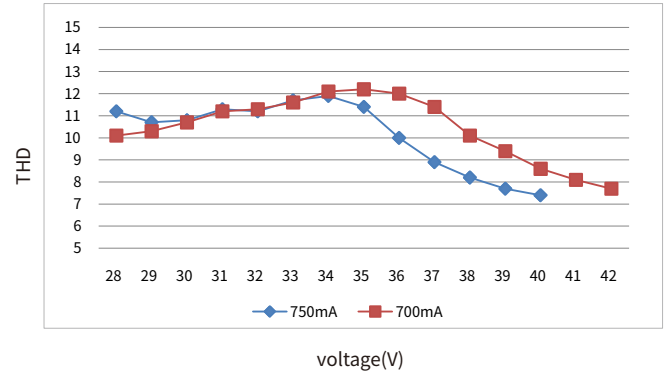
Electrical values

BK-CWL030

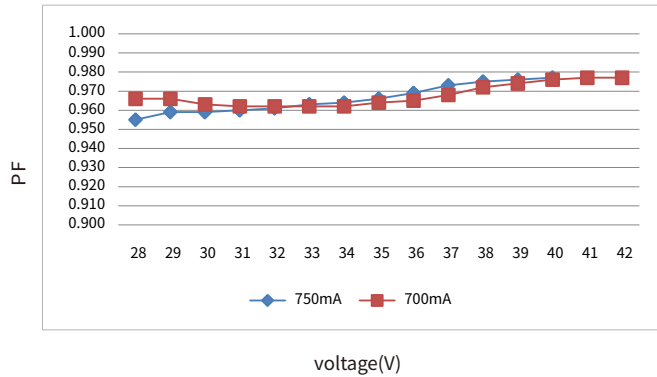
Efficiency vs voltage



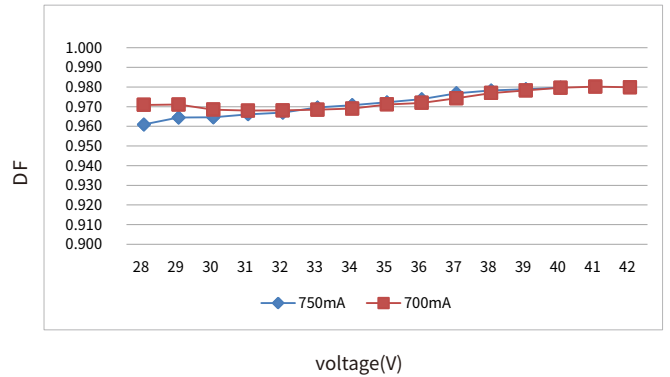
THD vs. voltage



Power factor vs. voltage

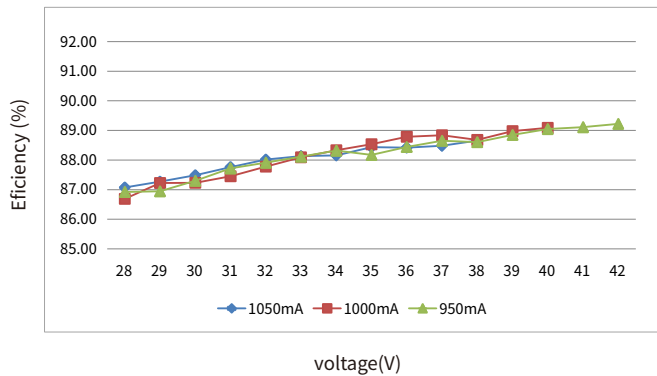


Displacement factor vs. voltage

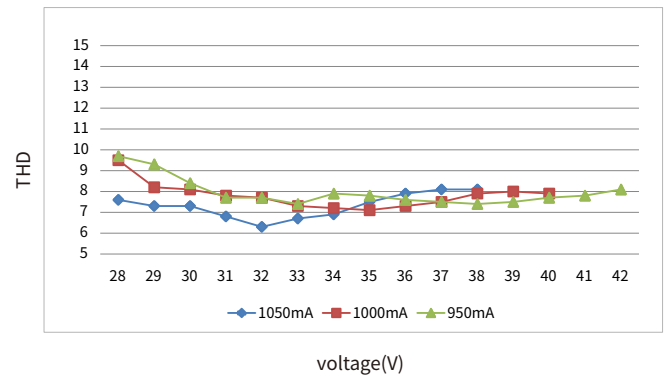


BK-CWL040

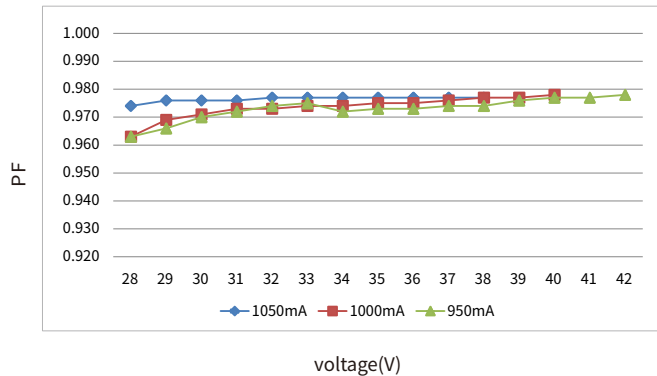
Efficiency vs voltage



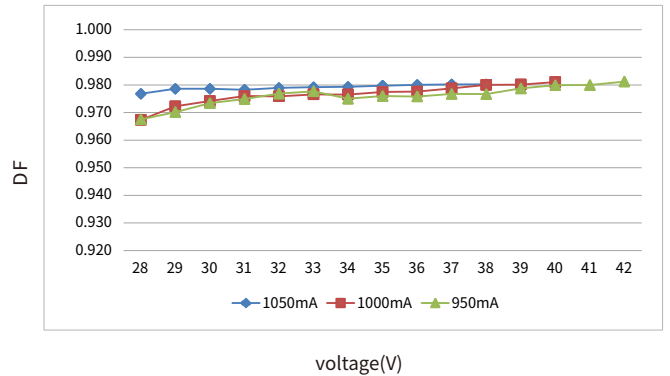
THD vs. voltage



Power factor vs. voltage



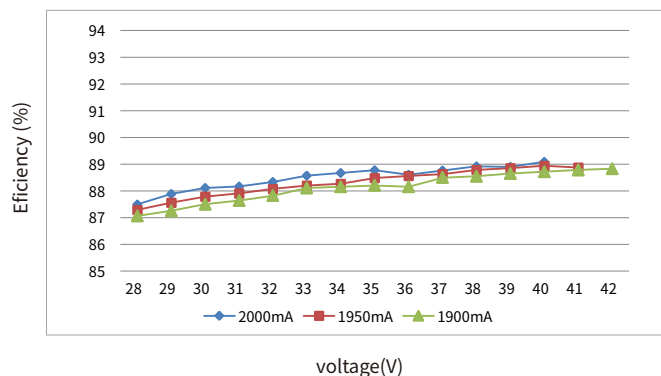
Displacement factor vs. voltage



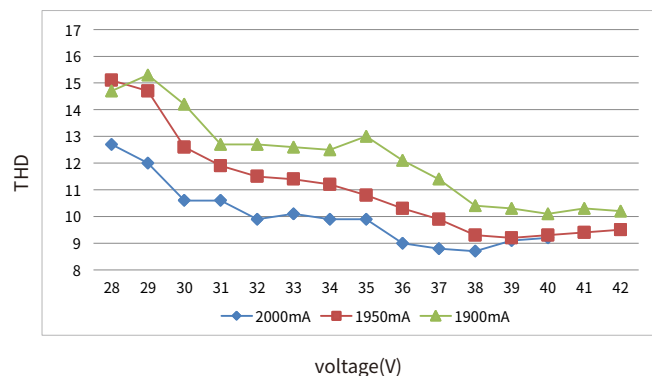
Electrical values

BK-CWL050-B

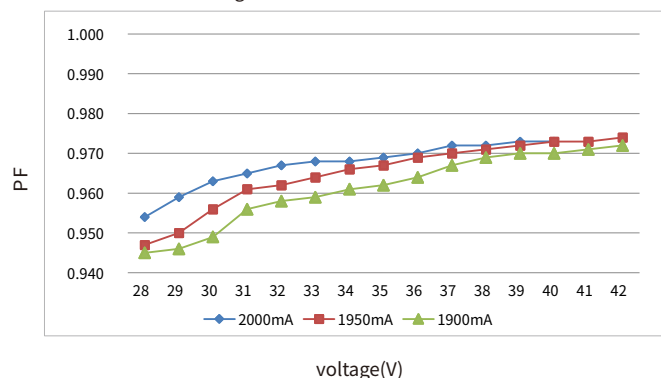
Efficiency vs voltage



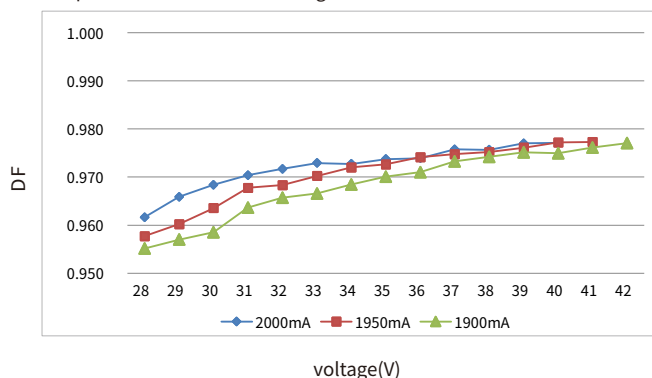
THD vs. voltage



Power factor vs. voltage

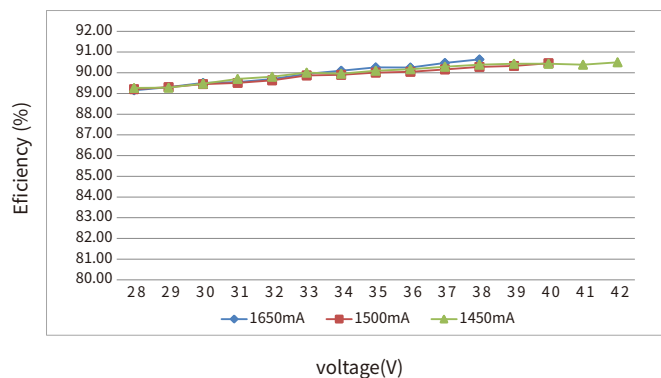


Displacement factor vs. voltage

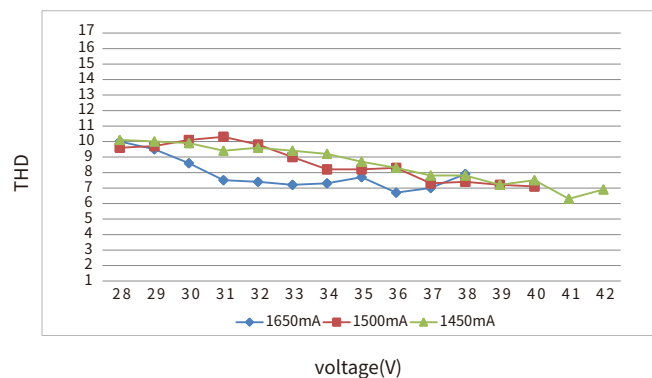


BK-CWL060-B

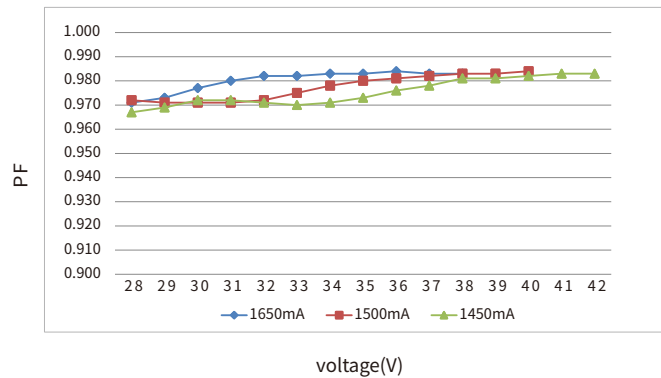
Efficiency vs voltage



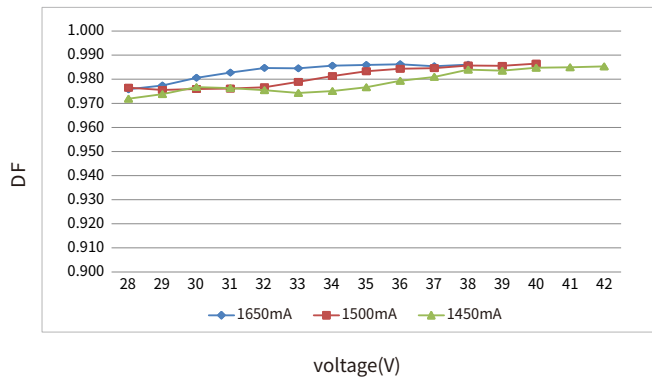
THD vs. voltage



Power factor vs. voltage



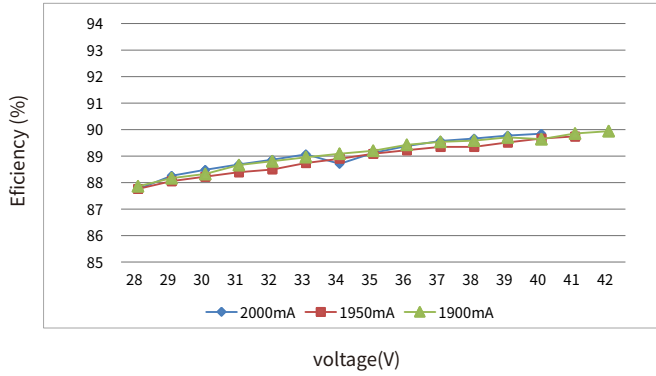
Displacement factor vs. voltage



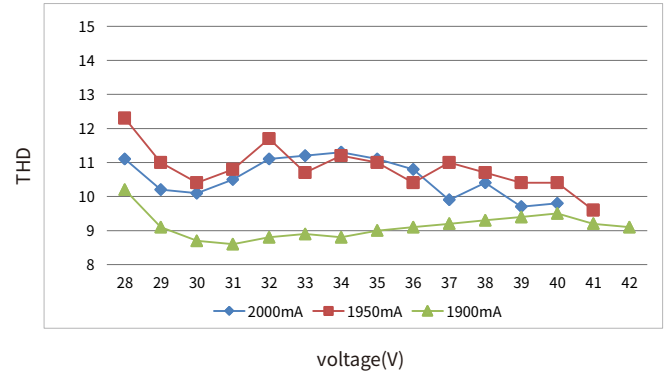
Electrical values

BK-CWL080-B

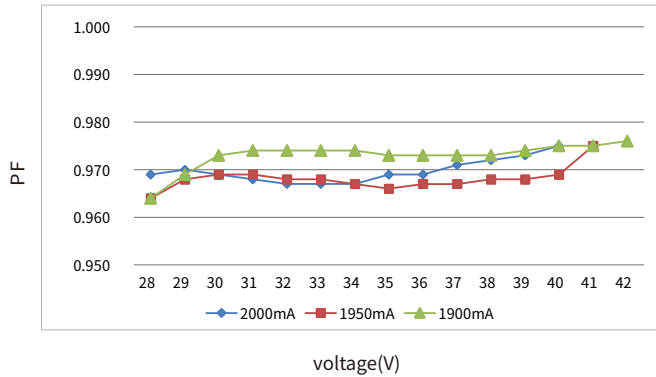
Efficiency vs. voltage



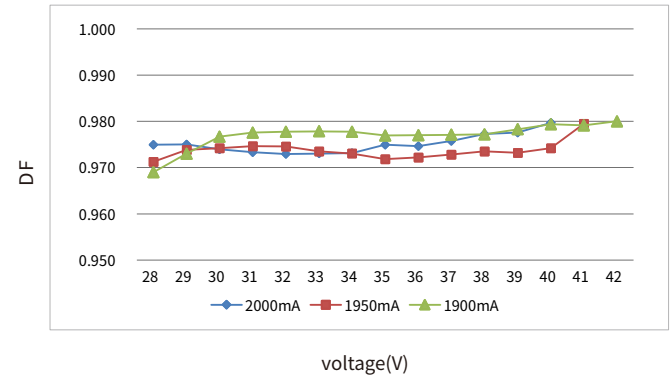
THD vs. voltage



Power factor vs. voltage



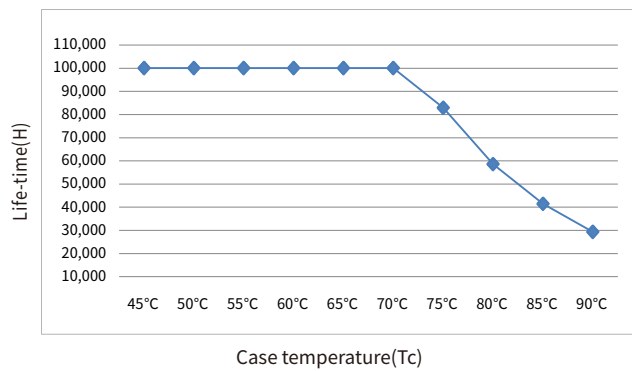
Displacement factor vs. voltage



Expected life-time

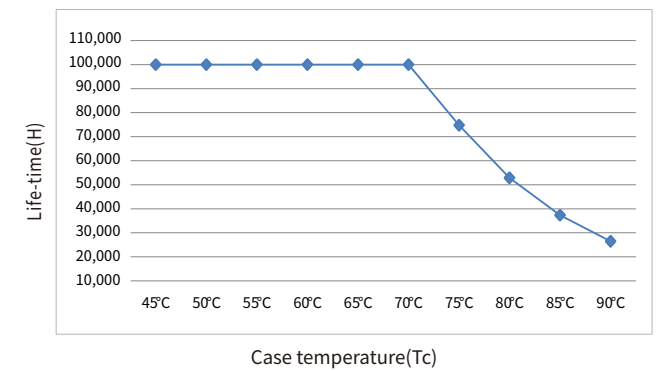
BK-CWL009-B

Life-time vs. case temperature



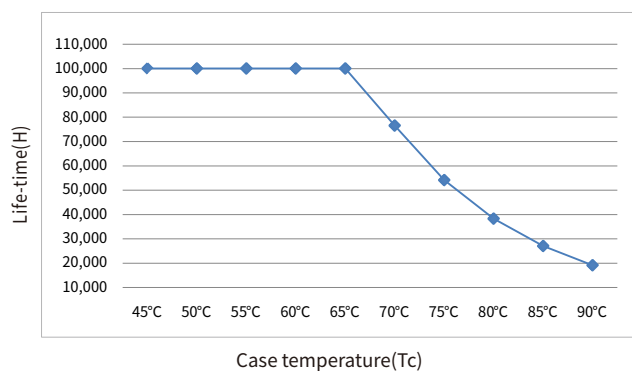
BK-CWL013-B

Life-time vs. case temperature



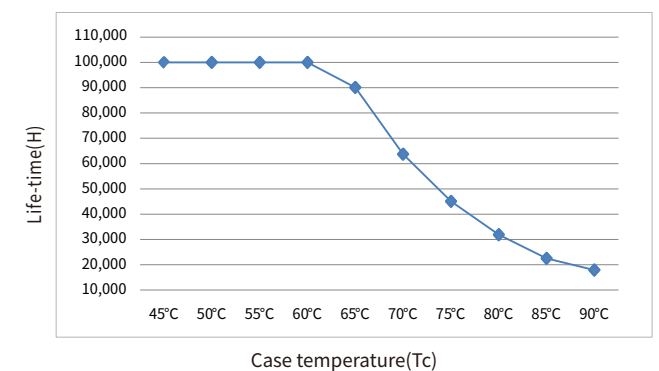
BK-CWL018-B

Life-time vs. case temperature



BK-CWL022-B

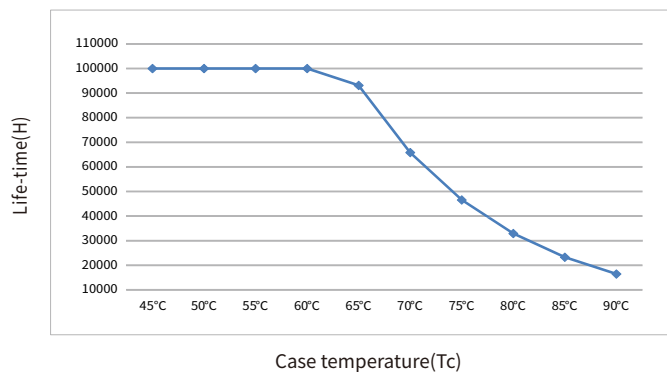
Life-time vs. case temperature



Expected life-time

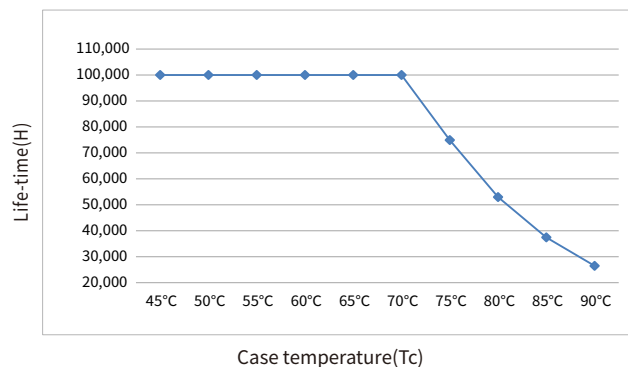
BK-CWL030

Life-time vs. case temperature



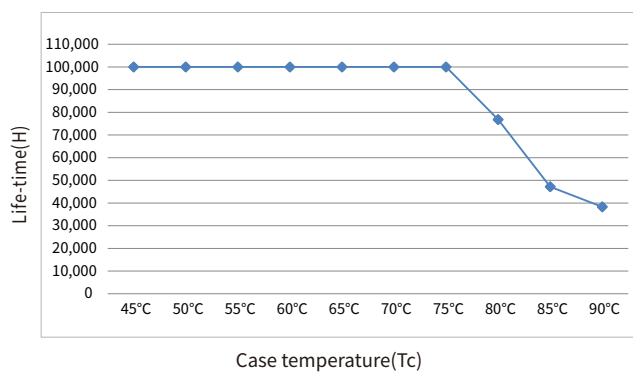
BK-CWL040

Life-time vs. case temperature



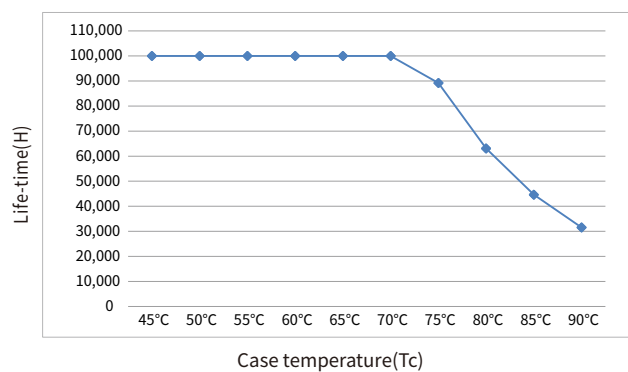
BK-CWL050-B

Life-time vs. case temperature



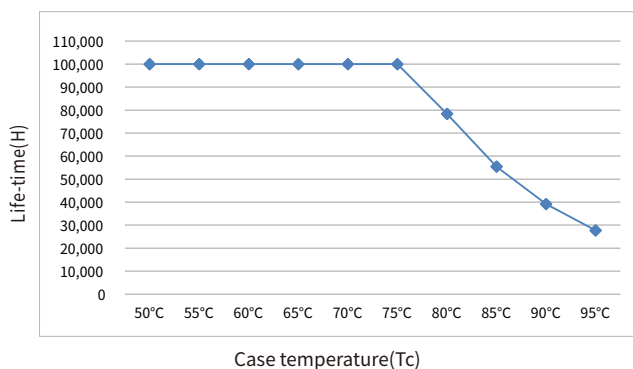
BK-CWL060-B

Life-time vs. case temperature



BK-CWL080-B

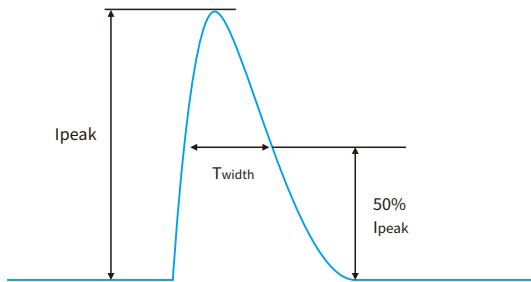
Life-time vs. case temperature



- 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	I _{peak}	T _{width}	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, T _a ≤ 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	17.8A	197us		18	23	28	35	44	29	38	47	59	74	45	58	71	89	112	
BK-CWL040	20.5A	262us		11	15	18	23	28	19	24	30	38	47	35	46	56	70	88	
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 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.

Insulation between circuits

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

Label

CWL009-B



CWL013-B



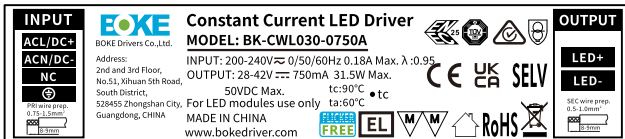
CWL018-B



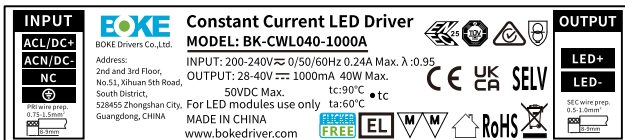
CWL022-B



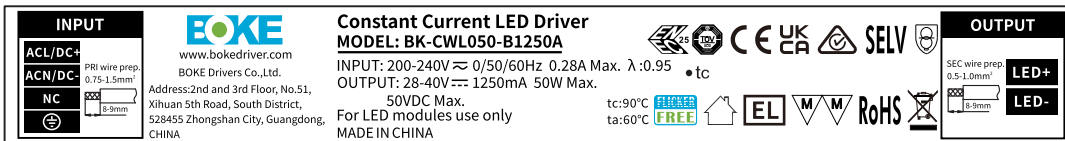
CWL030



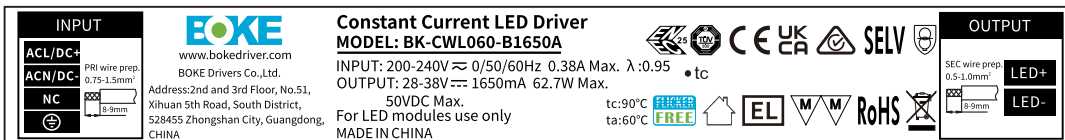
CWL040



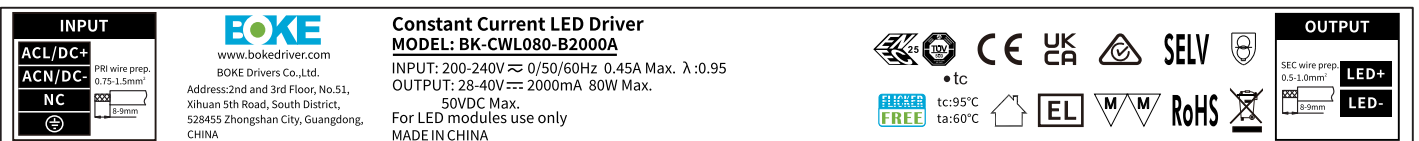
CWL050-B



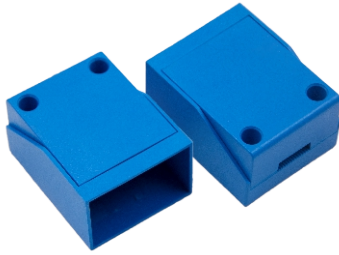
CWL060-B



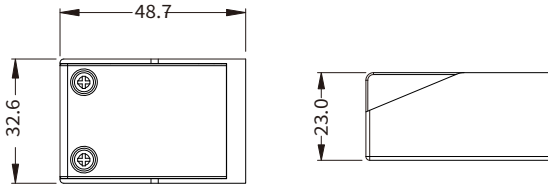
CWL080-B



Optional accessories



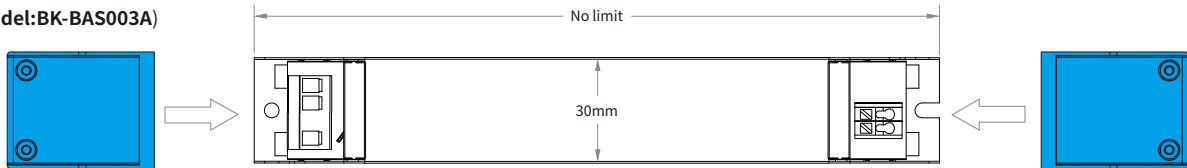
(Model: BK-BAS003A)



Unit:mm

Installation diagram of accessories

(Model: BK-BAS003A)

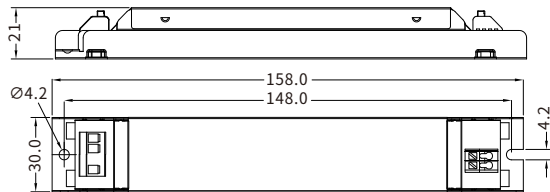


Mechanical Specification

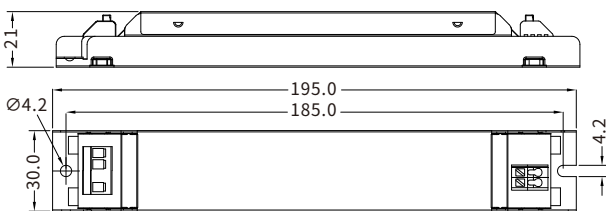
Size(Excluding accessories)

Unit:mm

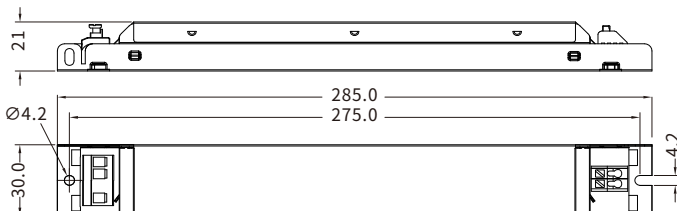
CWL009-B/CWL013-B/CWL018-B/CWL022-B



CWL030/CWL040



CWL050-B/CWL060-B

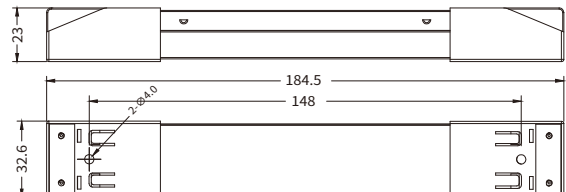


Mechanical Specification

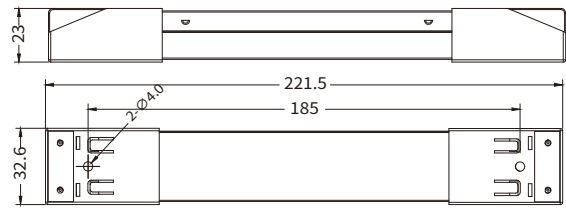
Size(Include accessories)

Unit:mm

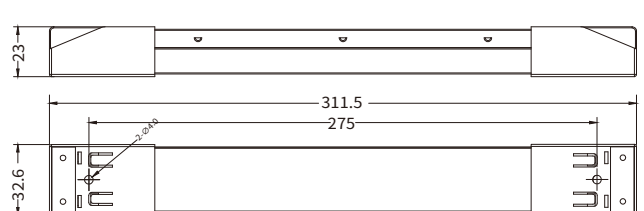
CWL009-B/CWL013-B/CWL018-B/CWL022-B



CWL030/CWL040



CWL050-B/CWL060-B

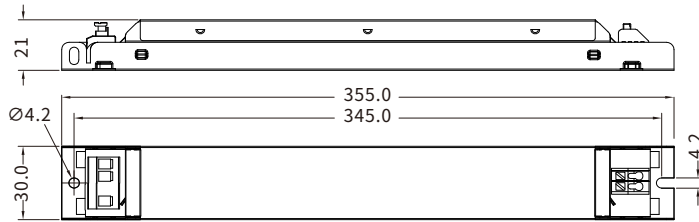


Mechanical Specification

Size(Excluding accessories)

Unit:mm

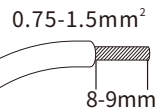
CWL080-B



INPUT

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

Input wire

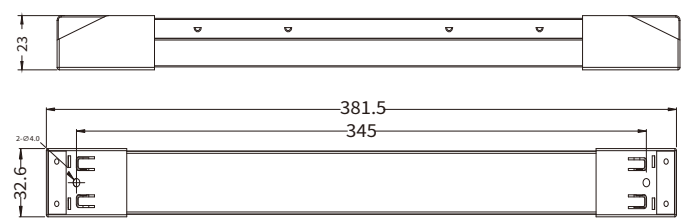


Mechanical Specification

Size(Include accessories)

Unit:mm

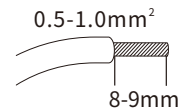
CWL080-B



OUTPUT

Number	function	colour
1	LED+	red
2	LED-	black

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. length of output wires is 2 m.
- Incorrect wiring can damage LED modules.

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.

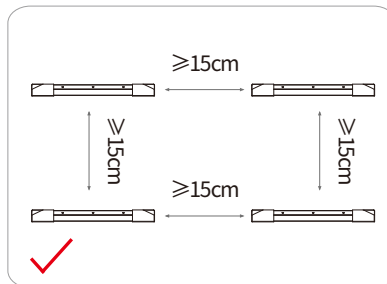
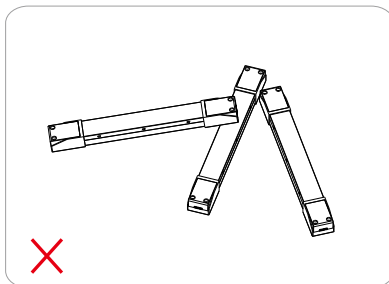


Figure 1

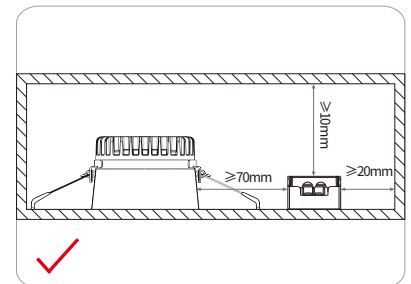
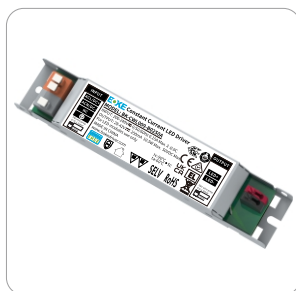


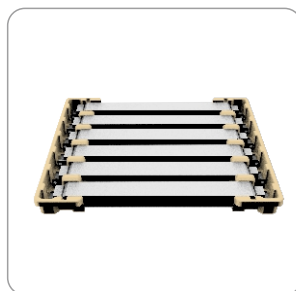
Figure 2

Packaging

(Excluding accessories)



Product



Paper tray

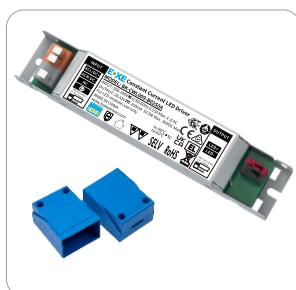


7pcs*8layer=56pcs/CTN
7pcs*6layer=42pcs/CTN
7pcs*5layer=35pcs/CTN
7pcs*4layer=28pcs/CTN

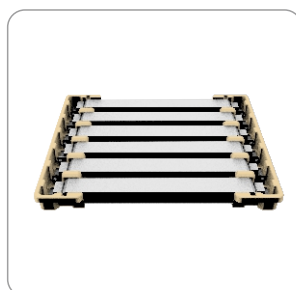
Model	Product size	Weight	Paper tray	Carton size	Packing	N.W	G.W
CWL009-B	L158*W30*H21mm	91g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.10kg	6.60kg
CWL013-B	L158*W30*H21mm	92g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.15kg	6.65kg
CWL018-B	L158*W30*H21mm	95g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.32kg	6.82kg
CWL022-B	L158*W30*H21mm	105g	L345*W75*H29mm	L355*W200*H240mm	56pcs	5.88kg	7.38kg
CWL030	L195*W30*H21mm	137g	L345*W75*H29mm	L355*W235*H205mm	42pcs	5.75kg	7.05kg
CWL040	L195*W30*H21mm	145g	L345*W75*H29mm	L355*W235*H205mm	42pcs	6.09kg	7.39kg
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

Packaging

(Include 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	111g	L345*W75*H29mm	L355*W200*H240mm	56pcs	6.22kg	8.02kg
CWL013-B	L158*W30*H21mm	112g	L345*W75*H29mm	L355*W200*H240mm	56pcs	6.27kg	8.07kg
CWL018-B	L158*W30*H21mm	115g	L345*W75*H29mm	L355*W200*H240mm	56pcs	6.44kg	8.34kg
CWL022-B	L158*W30*H21mm	125g	L345*W75*H29mm	L355*W200*H240mm	56pcs	7.00kg	8.90kg
CWL030	L195*W30*H21mm	157g	L345*W75*H29mm	L355*W235*H205mm	42pcs	6.59kg	8.39kg
CWL040	L195*W30*H21mm	165g	L345*W75*H29mm	L355*W235*H205mm	42pcs	6.93kg	8.73kg
CWL050-B	L285*W30*H21mm	224g	L345*W75*H29mm	L355*W325*H170mm	35pcs	7.84kg	9.64kg
CWL060-B	L285*W30*H21mm	245g	L345*W75*H29mm	L355*W325*H170mm	35pcs	8.58kg	10.3kg
CWL080-B	L355*W30*H21mm	309g	L345*W75*H29mm	L395*W355*H140mm	28pcs	8.66kg	10.4kg

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.