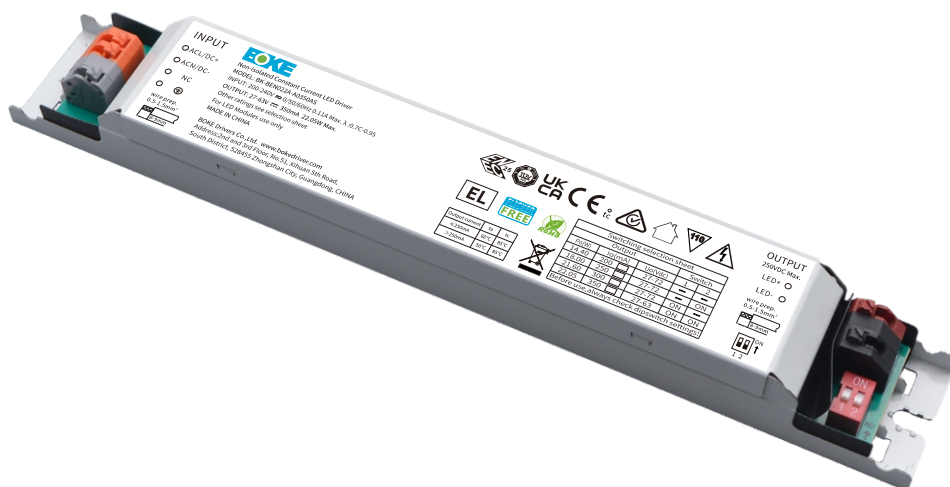


Non-isolated constant current linear driver

BEN Series suffix S



Features

- Input and output non-isolated
- Multi-level current output can be realized by DIP-switch
- Output flick-free, meets the new requirements of ErP certification
- Built in active PFC function, high PF, low THD
- Dual-stage circuit design, work stable
- Withstand 380VAC high voltage short-time shock
- Suitable for built-in use of Class I lamps
- Compliance with CE, ENEC, UKCA, RCM, EL and other certifications
- Compliance with Zhaga Book 13 standards
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5.5-year guarantee

Functions

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

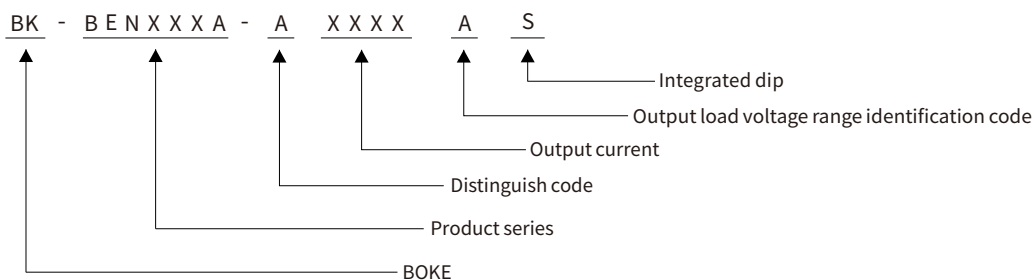
Suitable for lights

- Suitable for tri-proof lights.
- Suitable for lights with built-in drivers

Typical applications

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

Model coding rules of BEN series



Function list

Model	Mode	Function
BK-BEN022A-A BK-BEN040A-A BK-BEN060A-A BK-BEN080A-A BK-BEN100A-A BK-BEN150A-A	S	Integrated dialing

Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-BEN022A-A0350AS	200-240VAC/DC	22.05W MAX.	27-72VDC	0.2-0.35A	L210*W30*H21mm
BK-BEN040A-A0350AS	200-240VAC/DC	39.9W MAX.	50-133VDC	0.2-0.35A	L210*W30*H21mm
BK-BEN060A-A0350AS	200-240VAC/DC	60.2W MAX.	80-200VDC	0.2-0.35A	L210*W30*H21mm
BK-BEN080A-A0550AS	200-240VAC/DC	79.75W MAX.	50-216VDC	0.2-0.55A	L210*W30*H21mm
BK-BEN100A-A0800AS	200-240VAC/DC	100W MAX.	54-240VDC	0.35-0.8A	L280*W30*H21mm
BK-BEN150A-A1000AS	200-240VAC/DC	150.1W MAX.	54-240VDC	0.35-1A	L360*W30*H21mm

Technical data

Product model	BK-BEN022A-A0350AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.2-0.35A,see the DIP-switch for details
Rated output voltage range	27-72VDC,see the DIP-switch for details
Rated output power	22.05W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(4 levels)
Output current ripple LF	±3%
Output current accuracy	±5%-±8%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	250VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=1.552%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.020, SVM = 0.004, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.11A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.97,DF: 0.97 ,see the electrical values below for details
Input THD(typ.)	9% ,see the electrical values below for details
Efficiency(typ.)	88% ,see the electrical values below for details
In-rush current(typ.)	9.8A peak ,250us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):25.2W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.45mA
Isolation resistance	I/P-FG: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=-20-50/60°C,see the label below for details
Case temperature	Tc=85°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, 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, 50Hz, full load and 25°C of ambient temperature.

Technical data

Product model	BK-BEN040A-A0350AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.2-0.35A,see the DIP-switch for details
Rated output voltage range	50-133VDC,see the DIP-switch for details
Rated output power	39.9W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(4 levels)
Output current ripple LF	±3%
Output current accuracy	±5%-±8%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	250VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.62%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.028, SVM = 0.004, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.19A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.96,DF: 0.96 ,see the electrical values below for details
Input THD(typ.)	8% ,see the electrical values below for details
Efficiency(typ.)	92% ,see the electrical values below for details
In-rush current(typ.)	18.6A peak ,222us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):43.6W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.46mA
Isolation resistance	I/P-FG: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=-20-50/60°C,see the label below for details
Case temperature	Tc=85°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, 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, 50Hz, full load and 25°C of ambient temperature.

Technical data

Product model	BK-BEN060A-A0350AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.2-0.35A,see the DIP-switch for details
Rated output voltage range	80-200VDC,see the DIP-switch for details
Rated output power	60.2W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(4 levels)
Output current ripple LF	±3%
Output current accuracy	±5%-±8%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	250VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=1.567%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.028, SVM = 0.004, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input votage shock	<380 V AC
Input current	<0.34A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.95,DF: 0.96 ,see the electrical values below for details
Input THD(typ.)	10% ,see the electrical values below for details
Efficiency(typ.)	93% ,see the electrical values below for details
In-rush current(typ.)	15A 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	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):64.7W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.31mA
Isolation resistance	I/P-FG: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=-20-50/60°C,see the label below for details
Case temperature	Tc=85°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, 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, 50Hz, full load and 25°C of ambient temperature.

Technical data

Product model	BK-BEN080A-A0550AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.2-0.55A, see the DIP-switch for details
Rated output voltage range	50-216VDC, see the DIP-switch for details
Rated output power	79.75W Max, see the DIP-switch for details
Output current adjustment	DIP S.W(8 levels)
Output current ripple LF	±3%
Output current accuracy	±5%-±8%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	250VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=1.368%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.016, SVM = 0.041, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.432A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.98,DF: 0.99 ,see the electrical values below for details
Input THD(typ.)	7% ,see the electrical values below for details
Efficiency(typ.)	94% ,see the electrical values below for details
In-rush current(typ.)	20.94A peak ,254us duration(50 % Ipeak) , see the description below for details
Start/Switchover/Turn off	<0.7s(AC start),<0.7s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):85W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.54mA
Isolation resistance	I/P-FG: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, 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, 50Hz, full load and 25°C of ambient temperature.

Technical data

Product model	BK-BEN100A-A0800AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.35-0.8A, see the DIP-switch for details
Rated output voltage range	54-240VDC, see the DIP-switch for details
Rated output power	100W Max, see the DIP-switch for details
Output current adjustment	DIP S.W(10 levels)
Output current ripple LF	±3%
Output current accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	300VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.684%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.043, SVM = 0.003, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.55A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.98,DF:0.98, see the electrical values below for details
Input THD(typ.)	6% , see the electrical values below for details
Efficiency(typ.)	95% (230V AC & Full load), see the electrical values below for details
In-rush current(typ.)	19.8A peak ,340us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.5s(AC start), <0.5s(DC start), <0.3s(AC/DC switchover), <0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):105.3W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.46mA
Isolation resistance	I/P-FG: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, 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, 50Hz, full load and 25°C of ambient temperature.

Technical data

Product model	BK-BEN150A-A1000AS
Output parameters	
Regulation method	Constant Current
Rated output current range	0.35-1A, see the DIP-switch for details
Rated output voltage range	54-240 VDC, see the DIP-switch for details
Rated output power	150.1W Max, see the DIP-switch for details
Output current adjustment	DIP S.W(10 levels)
Output current ripple LF	±3%
Output current accuracy	±5%
Linear regulation	±5%
Load regulation	±5%
No load output voltage	300VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.196%(100Hz), Flicker index(IEEE 1789)=0.001(100Hz), Pst LM = 0.016, SVM = 0.001, (The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage range	200-240VAC 200-240VDC
Input voltage range	180-264VAC 180-264VDC
Input voltage shock	<380 V AC
Input current	<0.8A (Rated input voltage)
Input frequency	0/50/60Hz
Input PF/Input DF(typ.)	PF:0.98,DF:0.98, see the electrical values below for details
Input THD(typ.)	6% , see the electrical values below for details
Efficiency(typ.)	96% (230V AC & Full load), see the electrical values below for details
In-rush current(typ.)	23.67A peak ,390us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.5s(AC start),<0.5s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):156.4W, No load(Pno): N/A, On stand-by(Psb) : N/A, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-FG:1750VAC
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV(90°/270°, 5 times each with an interval of 60s)(Performance criterion:B)
Leakage current(typ.)	0.44mA
Isolation resistance	I/P-FG: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, 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

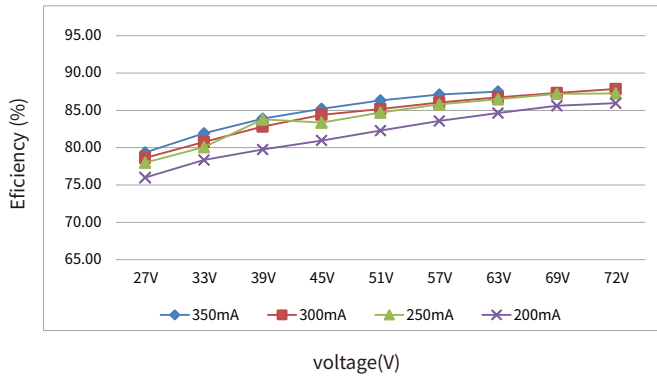
Remarks

1.By default, all parameter are measured at 230VAC input, 50Hz, full load and 25°C of ambient temperature.

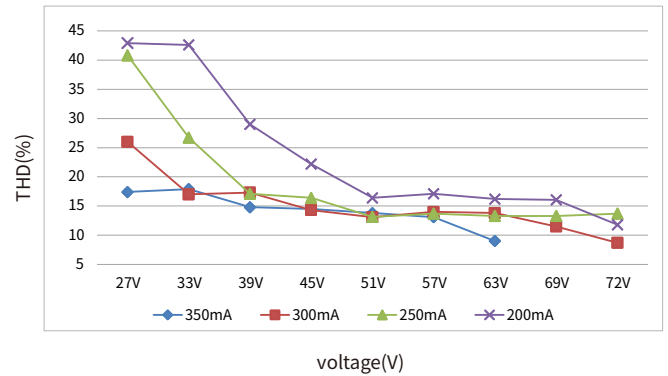
Electrical values

BK-BEN022A-A0350AS

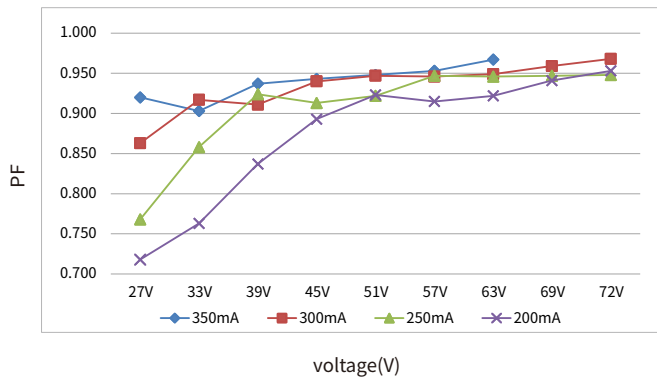
Efficiency vs voltage



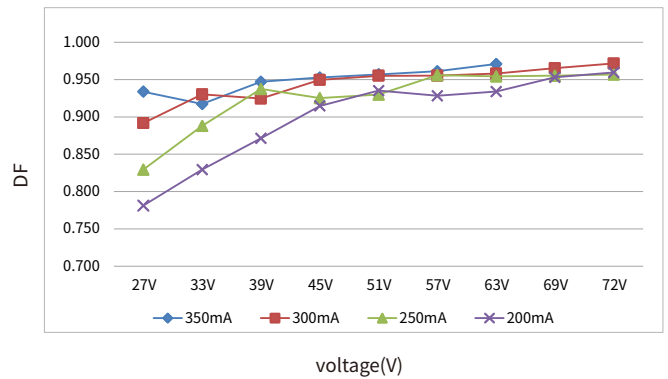
THD vs. voltage



Power factor vs. voltage

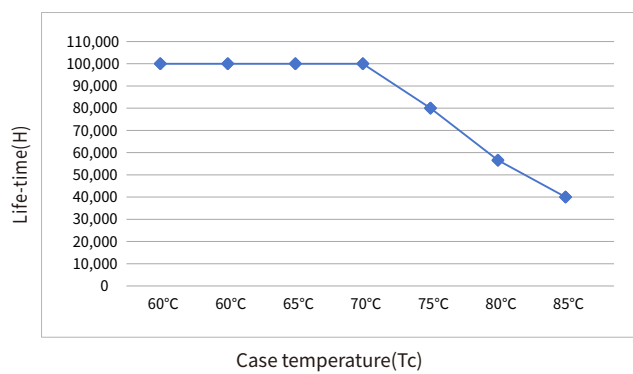


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



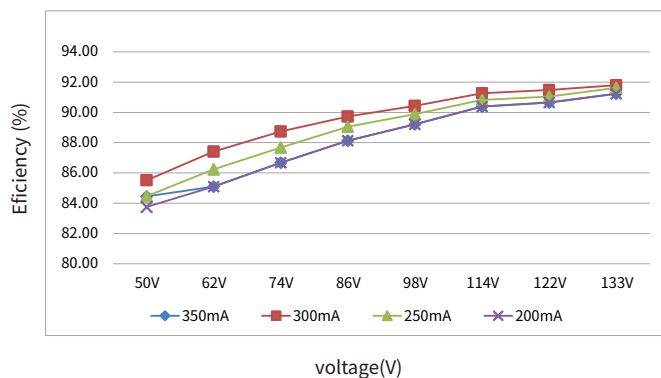
-The life-time of the LED driver is shown in the figure above
(calculated based on the 90% survival rate).

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

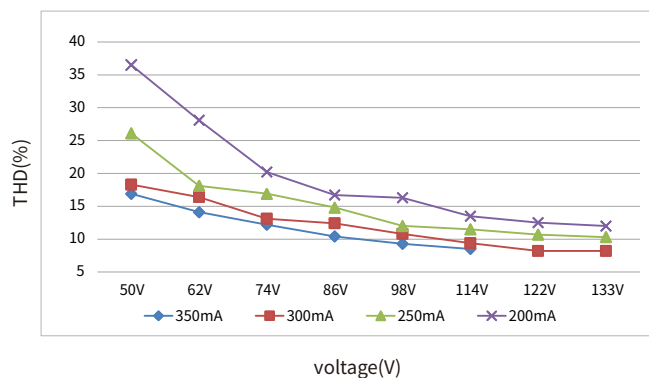
Electrical values

BK-BEN040A-A0350AS

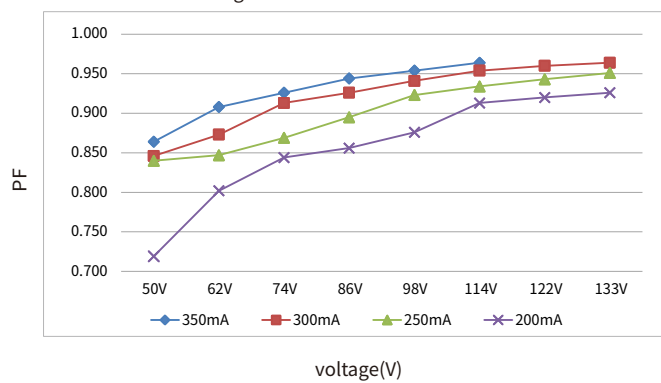
Efficiency vs. voltage



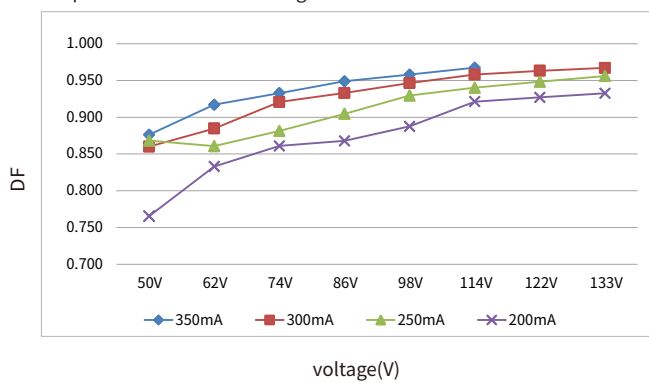
THD vs. voltage



Power factor vs. voltage

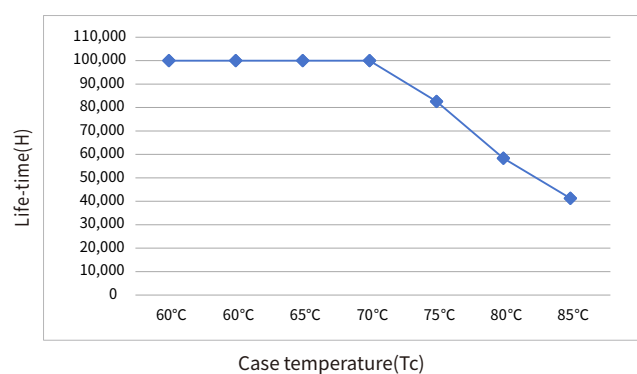


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



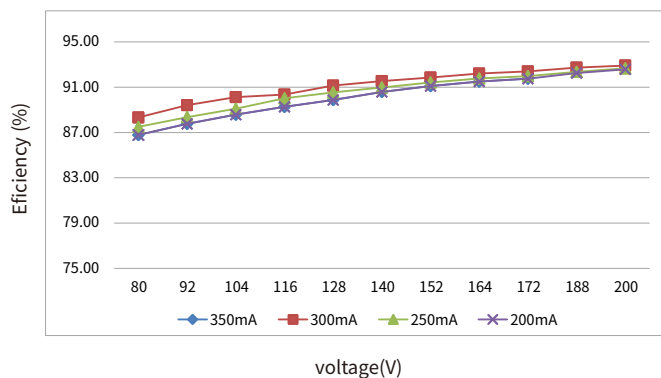
-The life-time of the LED driver is shown in the figure above
(calculated based on the 90% survival rate).

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

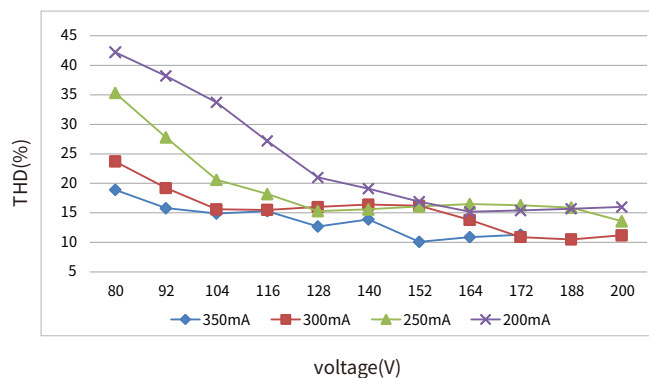
Electrical values

BK-BEN060A-A0350AS

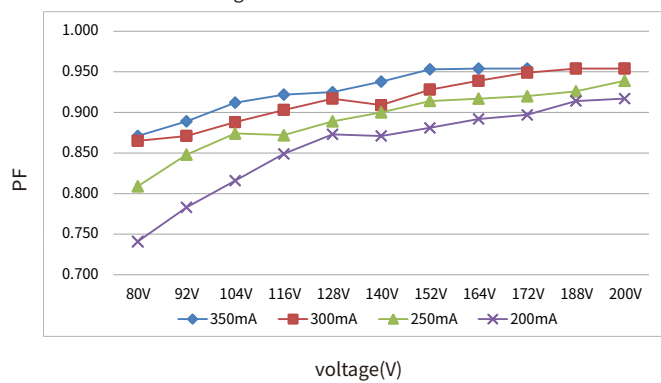
Efficiency vs voltage



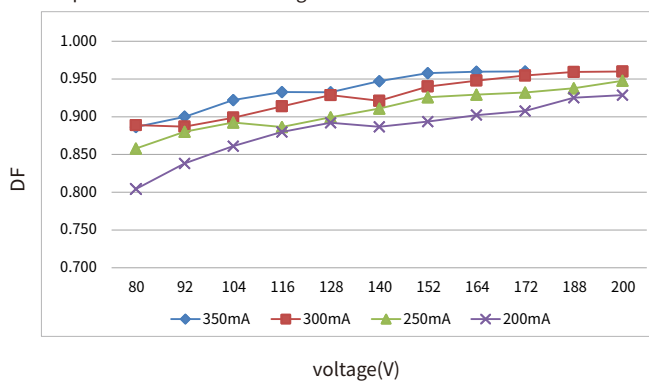
THD vs. voltage



Power factor vs. voltage

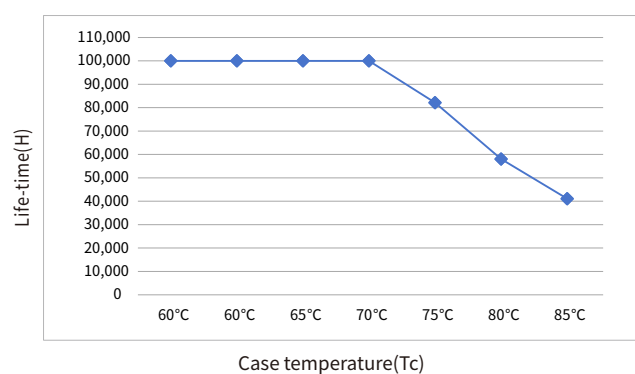


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



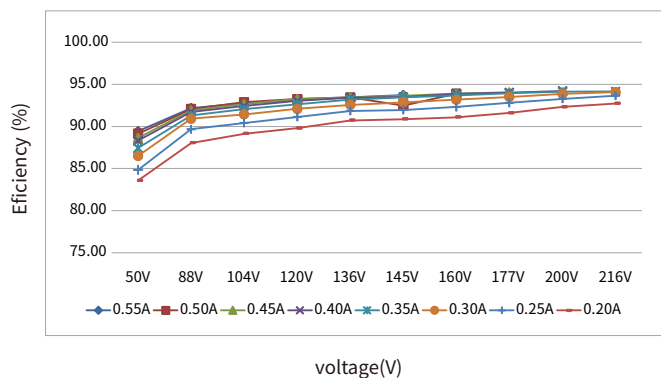
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

- The relation of t_c to t_a temperature depends also on the luminaire design.

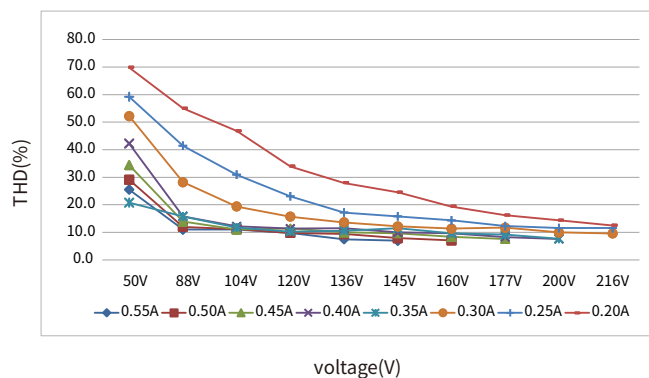
Electrical values

BK-BEN080A-A0550AS

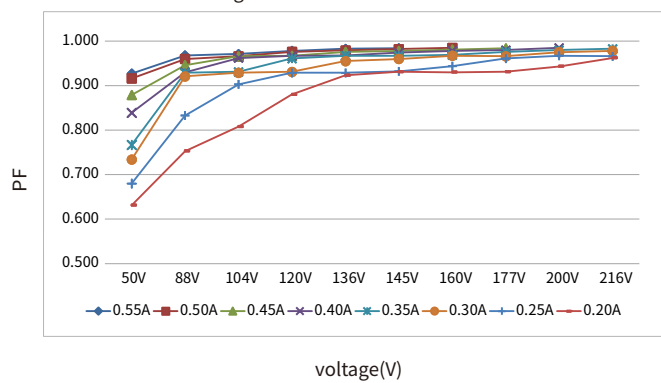
Efficiency vs. voltage



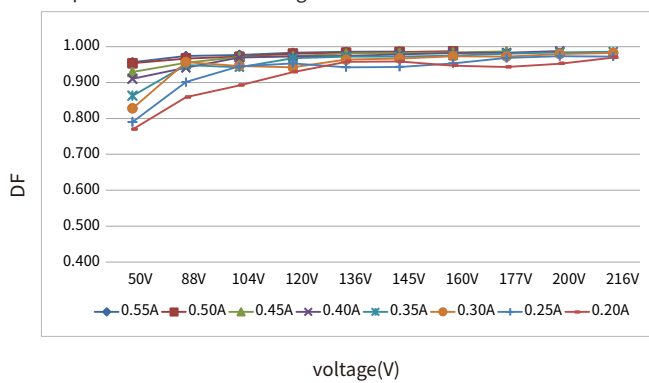
THD vs. voltage



Power factor vs. voltage

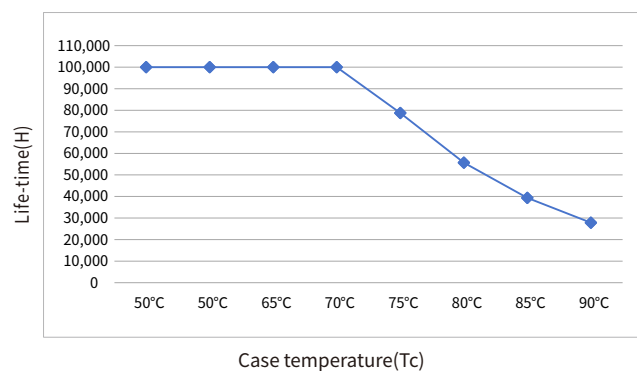


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



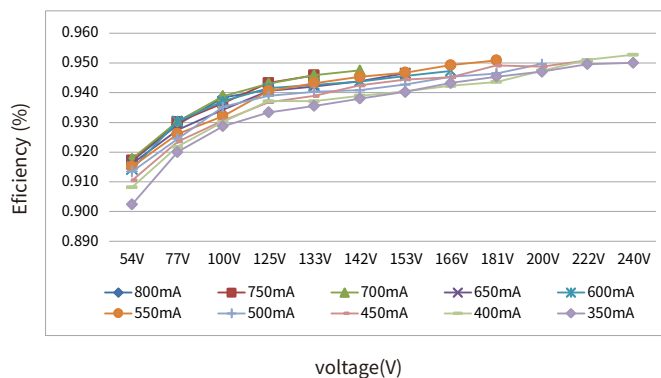
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

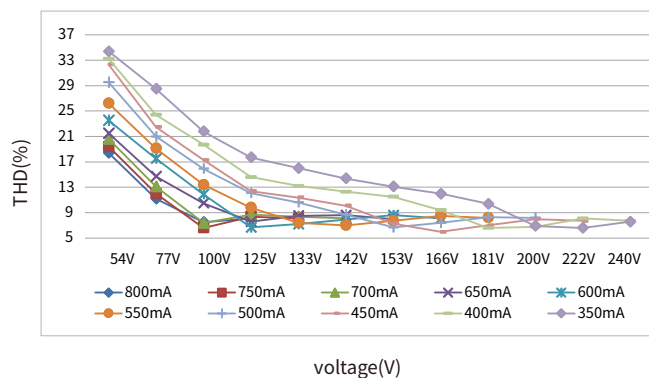
Electrical values

BK-BEN100A-A0800AS

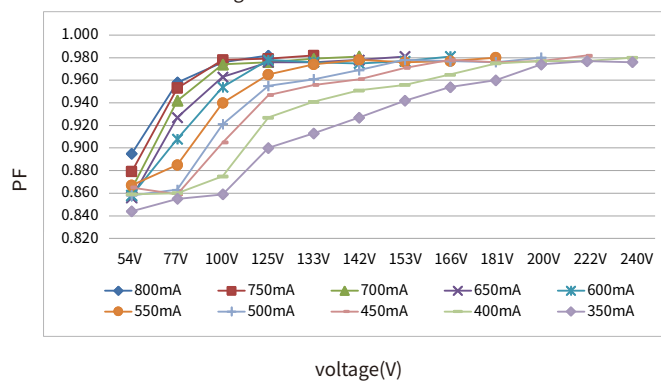
Efficiency vs. voltage



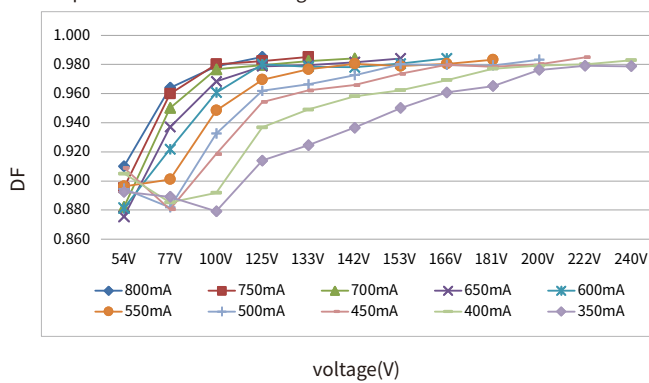
THD vs. voltage



Power factor vs. voltage

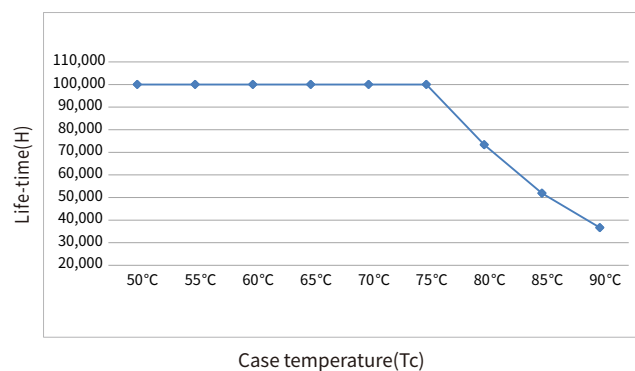


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



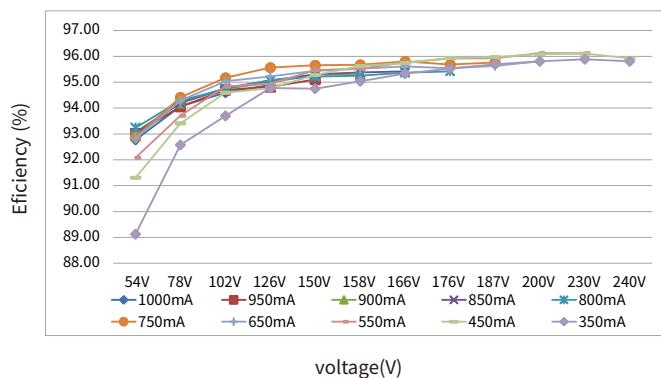
-The life-time of the LED driver is shown in the figure above
(calculated based on the 90% survival rate).

- The relation of t_c to t_a temperature depends also on the luminaire design.

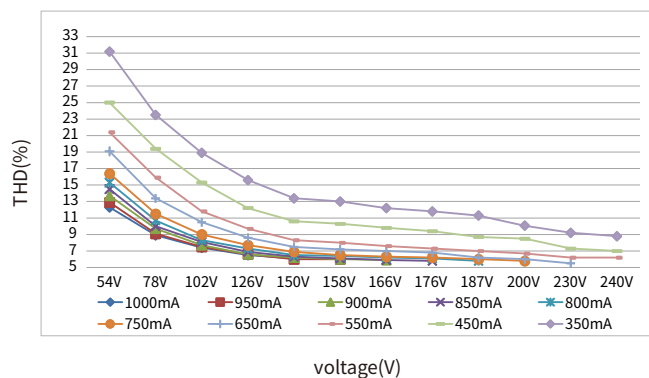
Electrical values

BK-BEN150A-A1000AS

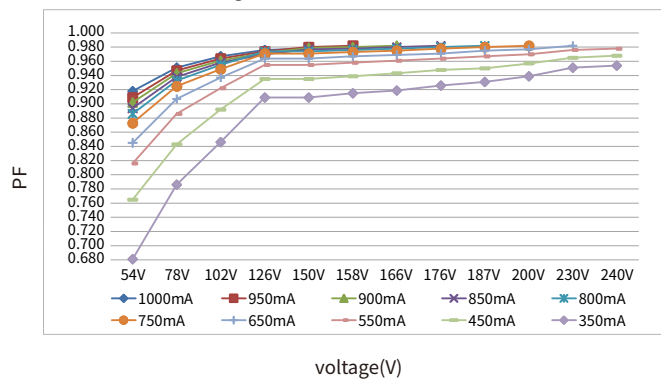
Efficiency vs voltage



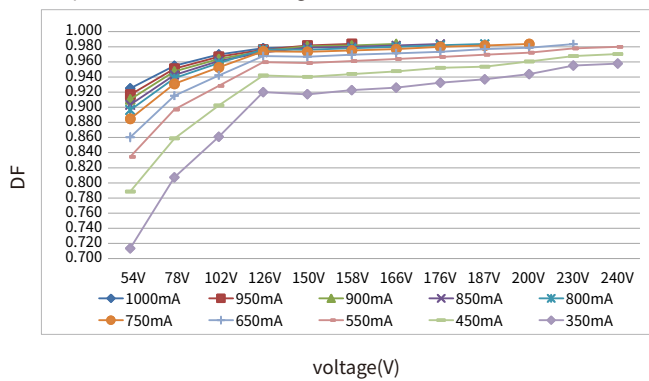
THD vs. voltage



Power factor vs. voltage

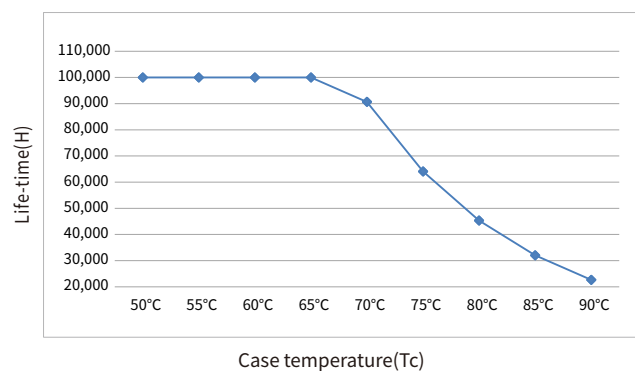


Displacement factor vs. voltage



Expected life-time

Life-time vs. case temperature



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

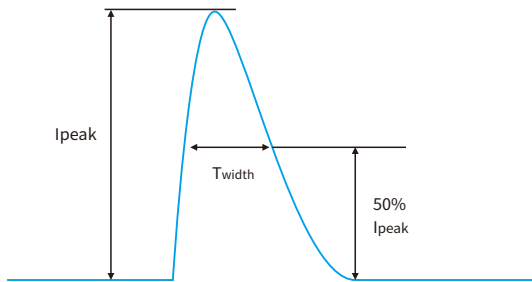
- The relation of t_c to t_a temperature depends also on the luminaire design.

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-BEN022A-A0350AS	9.8A	250us	AC 230V, Full load, Cold start, $T_a \leq 30^\circ\text{C}$, MCB is not installed side by side	28	37	45	56	70	47	61	75	94	117	71	92	113	142	177					
BK-BEN040A-A0350AS	18.6A	222us		17	22	28	35	43	29	37	46	58	72	41	53	65	82	102					
BK-BEN060A-A0350AS	15A	272us		16	21	26	32	40	27	35	43	54	67	28	36	44	55	69					
BK-BEN080A-A0550AS	20.94A	254us		13	17	21	26	32	21	27	34	42	52	21	27	34	42	52					
BK-BEN100A-A0800AS	19.8A	340us		10	13	16	19	24	16	21	26	32	40	17	22	27	34	42					
BK-BEN150A-A1000AS	23.67A	390us		6	8	10	12	15	10	13	16	20	24	10	13	16	20	24					

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.

Output overload protection

- The LED driver turns off the output if the output voltage range is exceeded.

The output will be activated again after restart the LED driver.

Output over temperature

- When the operating temperature exceeds the over temperature protection point inside the power supply IC, the power supply enters protection state such as output derating, output hiccup or output shutdown. After the external temperature is normal, restart and resume operation.

Driver restart method

- Through the AC input: disconnect the AC of the driver and power it again.

Insulation between circuits

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

Label

BEN022A-A

INPUT
 AC/L/DC+
 AC/N/DC-
 NC
 0.5-1.5mm²

OUTPUT
 250VDC Max.
 LED+
 LED-
 0.5-1.5mm²

EL FREE
 250VDC Max.
 0.5-1.5mm²

Switching selection sheet

Power	Output	Switch
12.40	250	27-72
18.60	250	27-72
21.60	300	27-72
22.05	350	27-63

BEN040A-A

INPUT
 AC/L/DC+
 AC/N/DC-
 NC
 0.5-1.5mm²

OUTPUT
 250VDC Max.
 LED+
 LED-
 0.5-1.5mm²

EL FREE
 250VDC Max.
 0.5-1.5mm²

Switching selection sheet

Power	Output	Switch
25.60	250	50-133
31.25	250	50-133
39.50	300	50-133
40.50	350	50-133

Label

BEN060A-A

INPUT

- AC/DC+
- AC/DC-
- NC
- ⊕

Non-isolated Constant Current LED Driver
MODEL: BK-BEN060A-A0350AS
INPUT: 200-240V $\approx$ 0/50/60Hz 0.3A Max. λ : 0.7C-0.95
OUTPUT: 80-172V $\approx$ 350mA 40-20W Max.
Other ratings see selection sheet
For LED Modules use only
MADE IN CHINA

wire prep.
0.5-1.5mm²

BOKE Drivers Co., Ltd. www.bokedriver.com
Address: 2nd and 3rd Floor, No.51, Xihuan 5th Road,
South District, 528455 Zhongshan City, Guangdong, CHINA

OUTPUT

250VDC Max.
LED+
LED-
LED-
LED-

wire prep.
0.5-1.5mm²

1 2

Switching selection sheet

Output	Switch
80-100	ON
100-120	ON
120-140	ON
140-160	ON
160-172	ON

Before use, always check dipswitch settings!

BEN080A-A

INPUT

- AC/DC+
- AC/DC-
- NC
- ⊕

Non-isolated Constant Current LED Driver
MODEL: BK-BEN080A-A0550AS
INPUT: 200-240V $\approx$ 0/50/60Hz 0.432A Max. λ : 0.6C-0.95
OUTPUT: 50-145V $\approx$ 550mA 79-75W Max.
Other ratings see selection sheet
For LED Modules use only
MADE IN CHINA

wire prep.
0.5-1.5mm²

BOKE Drivers Co., Ltd. www.bokedriver.com
Address: 2nd and 3rd Floor, No.51, Xihuan 5th Road,
South District, 528455 Zhongshan City, Guangdong, CHINA

OUTPUT

250VDC Max.
LED+
LED-
LED-
LED-

wire prep.
0.5-1.5mm²

1 2

Switching selection sheet

Output	Switch
50-60	ON
60-70	ON
70-80	ON
80-90	ON
90-100	ON
100-110	ON
110-120	ON
120-130	ON
130-140	ON
140-145	ON

Before use, always check dipswitch settings!

BEN100A-A

INPUT

- AC/DC+
- AC/DC-
- NC
- ⊕

Non-isolated Constant Current LED Driver
MODEL: BK-BEN100A-A0800AS
INPUT: 200-240V $\approx$ 0/50/60Hz 0.55A Max. λ : 0.7C-0.95
OUTPUT: 50-145V $\approx$ 800mA 100W Max.
Other ratings see selection sheet
For LED Modules use only
MADE IN CHINA

wire prep.
0.5-1.5mm²

BOKE Drivers Co., Ltd. www.bokedriver.com
Address: 2nd and 3rd Floor, No.51, Xihuan 5th Road,
South District, 528455 Zhongshan City, Guangdong, CHINA

OUTPUT

300VDC Max.
LED+
LED-
LED-
LED-

wire prep.
0.5-1.5mm²

1 2

Switching selection sheet

Output	Switch
50-60	ON
60-70	ON
70-80	ON
80-90	ON
90-100	ON
100-110	ON
110-120	ON
120-130	ON
130-140	ON
140-145	ON

Before use, always check dipswitch settings!

BEN150A-A

INPUT

- AC/DC+
- AC/DC-
- NC
- ⊕

Non-isolated Constant Current LED Driver
MODEL: BK-BEN150A-A1000AS
INPUT: 200-240V $\approx$ 0/50/60Hz 0.8A Max. λ : 0.65C-0.95
OUTPUT: 54-150V $\approx$ 1000mA 150W Max.
Other ratings see below sheet
For LED Modules use only
www.bokedriver.com
MADE IN CHINA

wire prep.
0.5-1.5mm²

BOKE Drivers Co., Ltd.
Address: 2nd and 3rd Floor, No.51, Xihuan 5th Road,
South District, 528455 Zhongshan City, Guangdong, CHINA

OUTPUT

300VDC Max.
LED+
LED-
LED-
LED-

wire prep.
0.5-1.5mm²

1 2 3 4

Switching selection sheet

Output	Switch
54-60	ON
60-70	ON
70-80	ON
80-90	ON
90-100	ON
100-110	ON
110-120	ON
120-130	ON
130-140	ON
140-145	ON

Before use, always check dipswitch settings!

DIP-switch & output current

BK-BEN022A-A0350AS

Output			1	2	current accuracy
Prated(W)	Irated(mA)	Voltage(Vdc)			
14.40	200	27-72	--	--	±8%
18.00	250	27-72	--	ON	±8%
21.60	300	27-72	ON	--	±6%
22.05	350 ★	27-63	ON	ON	±5%

BK-BEN040A-A0350AS

Output			1	2	current accuracy
Prated(W)	Irated(mA)	Voltage(Vdc)			
26.60	200	50-133	--	--	±8%
33.25	250	50-133	--	ON	±8%
39.90	300	50-133	ON	--	±6%
39.90	350 ★	50-114	ON	ON	±5%

BK-BEN060A-A0350AS

Output			1	2	current accuracy
Prated(W)	Irated(mA)	Voltage(Vdc)			
40.00	200	80-200	--	--	±8%
50.00	250	80-200	--	ON	±8%
60.00	300	80-200	ON	--	±6%
60.20	350 ★	80-172	ON	ON	±5%

BK-BEN080A-A0550AS

Output			1	2	current accuracy
Prated(W)	Irated(mA)	Voltage(Vdc)			
43.20	200	50-216	--	--	±8%
54.00	250	50-216	ON	--	±7%
64.80	300	50-216	--	ON	±7%
75.60	350	50-216	ON	ON	±7%
80.00	400	50-200	--	--	±7%
79.65	450	50-177	ON	--	ON
80.00	500	50-160	--	ON	ON
79.75	550 ★	50-145	ON	ON	ON

BK-BEN100A-A0800AS

Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
84.00	350	54-240	--	ON	ON	ON
96.00	400	54-240	ON	--	ON	ON
99.90	450	54-222	--	--	ON	ON
100.0	500	54-200	--	ON	--	ON
99.55	550	54-181	--	--	--	ON
99.60	600	54-166	ON	ON	ON	--
99.45	650	54-153	--	--	ON	--
99.40	700	54-142	--	ON	--	--
99.75	750	54-133	ON	--	--	--
100.0	800 ★	54-125	--	--	--	--

BK-BEN150A-A1000AS

Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
84.00	350	54-240	--	ON	ON	ON
108.0	450	54-240	ON	--	ON	ON
132.0	550	54-240	--	--	ON	ON
149.5	650	54-230	--	ON	--	ON
150.0	750	54-200	--	--	--	ON
149.6	800	54-187	ON	ON	ON	--
149.6	850	54-176	--	--	ON	--
149.4	900	54-166	--	ON	--	--
150.1	950	54-158	ON	--	--	--
150.0	1000 ★	54-150	--	--	--	--

Remarks:

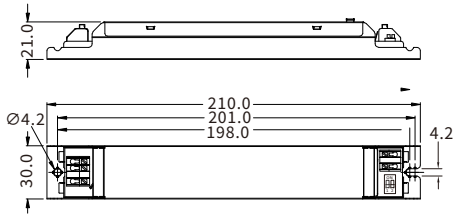
- ★ It means that this item is the factory default current.
- It means that this channel is OFF.

Mechanical Specification

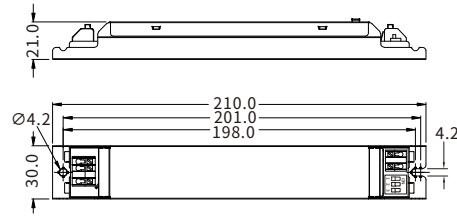
Size

Unit:mm

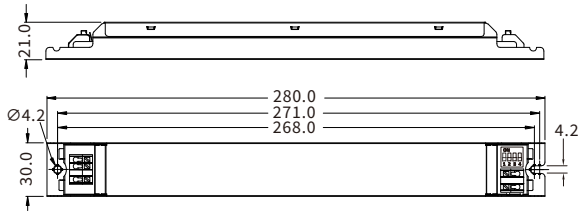
BEN022A-A/BEN040A-A/BEN060A-A



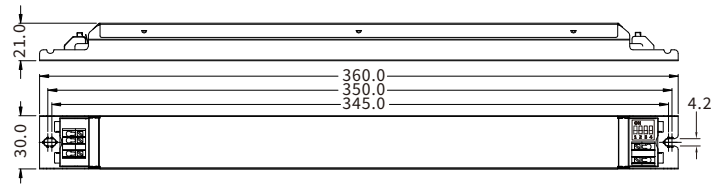
BEN080A-A



BEN100A-A



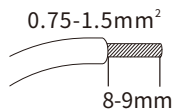
BEN150A-A



INPUT

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

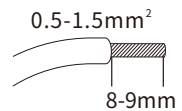
Input wire



OUTPUT

Numbering	function	colour
1	LED+	red
2	NC	black
3	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 driver shall not exceed the value of Ta at any time.
- The temperature of the mounting surface of the driver should be lower than the temperature of Ta.
- The driver should keep a certain distance from the heating stuff (such as the luminaire radiator).
- If the driver is used externally (it needs to be used with the accessories), the installation of the driver should also meet the following conditions:
 - 1.The driver should be a certain distance between the drivers, as shown in Figure 1.
 - 2.The driver keeps a certain distance from surrounding objects, as shown in Figure 2.

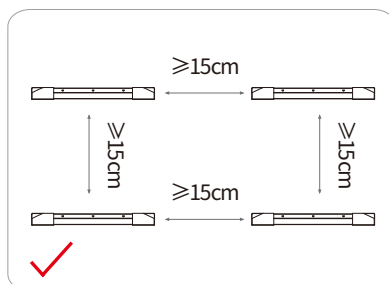
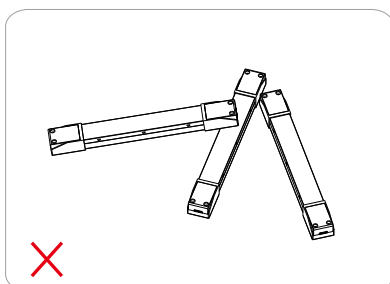


Figure 1

Replace LED module

1. Mains off
2. Wait more than 15 seconds
3. Remove LED module
4. Connect LED module again

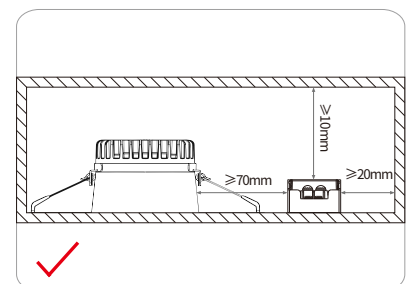
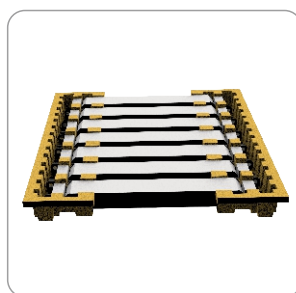


Figure 2

Packaging



Product



Paper tray



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
BEN022A-A	L210*W30*H21mm	111g	L340*W75*H29mm	L355*W250*H205mm	42pcs	4.66kg	5.95kg
BEN040A-A	L210*W30*H21mm	120g	L340*W75*H29mm	L355*W250*H205mm	42pcs	5.04kg	6.41kg
BEN060A-A	L210*W30*H21mm	128g	L340*W75*H29mm	L355*W250*H205mm	42pcs	5.38kg	6.75kg
BEN080A-A	L210*W30*H21mm	152g	L340*W75*H29mm	L355*W250*H205mm	42pcs	6.38kg	7.75kg
BEN100A-A	L285*W30*H21mm	215g	L345*W75*H29mm	L355*W325*H170mm	35pcs	7.53kg	8.75kg
BEN150A-A	L355*W30*H21mm	268g	L345*W75*H29mm	L395*W355*H140mm	28pcs	7.50kg	8.65kg

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.