

Constant current linear dimmable driver
DAL Series suffix d(DALI-2+pushDIM)



Features

- DALI-2+pushDIM dimming interface
- 16-level current output can be realized by DIP-switch
- Soft dimming and flicker-free at any brightness
- Using HPC patented technology at any dimming level, the brightness between lights is same
- Standby power input<0.5W, meets the requirements of ErP certification
- High PF, high efficiency, low THD
- Intelligent LED hot-plug protection function
- SELV and Class II design, suitable for use inside of the light
- Passed CE, ENEC, UKCA, SAA, RCM, EL, DALI-2 and other certifications
- IP20 protection grade, indoor use
- Nominal life-time up to 100,000 h
- 5-year guarantee

Interfaces

- DALI-2(DALI-2 DT6)
- PUSH(pushDIM)

Functions

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

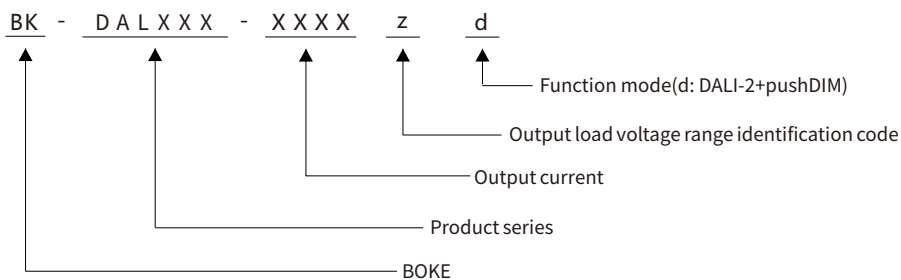
Suitable for lights

- 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 DAL series



Function list

Model	Suffix	Wired dimming		Advanced functions
		DALI-2	pushDIM	EL
BK-DAL030 BK-DAL040 BK-DAL050 BK-DAL060 BK-DAL080	d	√	√	√

* The description in this specification is only applicable to the products with the suffix d and the model are DAL030,DAL040,DAL050,DAL060 and DAL080 .

Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension	Certifications
BK-DAL030-0800Ad	200-240VAC	30W	6-38/40/42VDC	0.275-0.8A	L245*W30*H21mm	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
BK-DAL040-1000Ad	200-240VAC	40W	6-38/40/42VDC	0.4-1.05	L285*W30*H21mm	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
BK-DAL050-1250Ad	200-240VAC	50W	6-38/40/42VDC	0.55-1.3A	L285*W30*H21mm	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
BK-DAL060-1650Ad	200-240VAC	60W	6-38/40/42VDC	0.9-1.65A	L355*W30*H21mm	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
BK-DAL080-2000Ad	200-240VAC	80W	6-40/41/42VDC	1.25-2A	L355*W36*H23mm	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2

* The description in this specification is only applicable to the products with the suffix d and the model are DAL030,DAL040,DAL050,DAL060 and DAL080 .

Technical data

Product model	BK-DAL030-0800Ad
Output parameters	
Regulation method	Constant Current
Rated output current	0.275-0.8A
Rated output voltage	6V - 38V/40V/42V
Rated output power	30.4W Max
Output current adjustment	DIP S.W(16 levels)
Output current ripple LF	±2%
Output current accuracy	±1%
Linear regulation	±1%
Load regulation	±1%
No load output voltage	50V
Flicker-free(typical)	Modulation depth =0.305% (100Hz), Pst LM = 0.000, SVM = 0.006,(The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage	200-240VAC 200-240VDC
Rated input voltage	180-264VAC 200-264VDC
Input voltage shock	<380 V AC, 1 h
Input current	<0.19A (AC input)
Input frequency	0/50/60Hz
Input power factor	0.95 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	88% (230V AC & Full load)
In-rush current	4.05A peak ,182us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 50,000 switching cycles
Power consumption	Full load(Pmax):30.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV
Leakage current	<0.7mA (230V AC & Full load)
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH
Control interface	
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA
pushDIM dimming port	Voltage range: 180-264V 47/63Hz
1-10V 3in1 dimming port	N/A
Auxiliary power supply	N/A
Dimming range	1%-100%
Dimming drive mode	AM(amplitude modulation)
Emergency support	
Central emergency system	Supported(dimming normal in DC input)
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=90°C
Operating humidity	5-85% RH, non-condensing
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing
IP grade	IP20
MTBF	500,000H,MIL-HDBK-217F(25°C)
Life-time	Nominal life-time up to 100,000 h, see the description below for details
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes
Acoustic Noise	<25dB(30cm, Full load)
Environmental protection	RoHS
Certifications and standards	
Certified	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
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	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)
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-DAL040-1050Ad
Output parameters	
Regulation method	Constant Current
Rated output current	0.4-1.05A
Rated output voltage	6V - 38V/40V/42V
Rated output power	40W Max
Output current adjustment	DIP S.W(16 levels)
Output current ripple LF	±2%
Output current accuracy	±1%
Linear regulation	±1%
Load regulation	±1%
No load output voltage	50V
Flicker-free(typical)	Modulation depth =0.177% (100Hz), Pst LM = 0.002, SVM = 0.005,(The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage	200-240VAC 200-240VDC
Rated input voltage	180-264VAC 200-264VDC
Input voltage shock	<380 V AC, 1 h
Input current	<0.24A (AC input)
Input frequency	0/50/60Hz
Input power factor	0.95 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	88% (230V AC & Full load)
In-rush current	4A peak ,170us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 50,000 switching cycles
Power consumption	Full load(Pmax):40W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV
Leakage current	<0.7mA (230V AC & Full load)
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH
Control interface	
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA
pushDIM dimming port	Voltage range: 180-264V 47/63Hz
1-10V 3in1 dimming port	N/A
Auxiliary power supply	N/A
Dimming range	1%-100%
Dimming drive mode	AM(amplitude modulation)
Emergency support	
Central emergency system	Supported(dimming normal in DC input)
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=90°C
Operating humidity	5-85% RH, non-condensing
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing
IP grade	IP20
MTBF	500,000H,MIL-HDBK-217F(25°C)
Life-time	Nominal life-time up to 100,000 h, see the description below for details
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes
Acoustic Noise	<25dB(30cm, Full load)
Environmental protection	RoHS
Certifications and standards	
Certified	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
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	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)
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-DAL050-1300Ad
Output parameters	
Regulation method	Constant Current
Rated output current	0.55-1.3A
Rated output voltage	6V - 38V/40V/42V
Rated output power	49.4W Max
Output current adjustment	DIP S.W(16 levels)
Output current ripple LF	±2%
Output current accuracy	±1%
Linear regulation	±1%
Load regulation	±1%
No load output voltage	50V
Flicker-free(typical)	Modulation depth =0.263% (120Hz), Pst LM = 0.003, SVM = 0.006,(The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage	200-240VAC 200-240VDC
Rated input voltage	180-264VAC 200-264VDC
Input voltage shock	<380 V AC, 1 h
Input current	<0.3A (AC input)
Input frequency	0/50/60Hz
Input power factor	0.95 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	89% (230V AC & Full load)
In-rush current	4.75A peak ,162us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 50,000 switching cycles
Power consumption	Full load(Pmax):49.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV
Leakage current	<0.7mA (230V AC & Full load)
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH
Control interface	
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA
pushDIM dimming port	Voltage range: 180-264V 47/63Hz
1-10V 3in1 dimming port	N/A
Auxiliary power supply	N/A
Dimming range	1%-100%
Dimming drive mode	AM(amplitude modulation)
Emergency support	
Central emergency system	Supported(dimming normal in DC input)
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=90°C
Operating humidity	5-85% RH, non-condensing
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing
IP grade	IP20
MTBF	500,000H,MIL-HDBK-217F(25°C)
Life-time	Nominal life-time up to 100,000 h, see the description below for details
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes
Acoustic Noise	<25dB(30cm, Full load)
Environmental protection	RoHS
Certifications and standards	
Certified	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
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	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)
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-DAL060-1650Ad
Output parameters	
Regulation method	Constant Current
Rated output current	0.9-1.65A
Rated output voltage	6V - 38V/40V/42V
Rated output power	62.7W Max
Output current adjustment	DIP S.W(16 levels)
Output current ripple LF	±2%
Output current accuracy	±1%
Linear regulation	±1%
Load regulation	±1%
No load output voltage	50V
Flicker-free(typical)	Modulation depth =0.191% (120Hz), Pst LM = 0.002, SVM = 0.005,(The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage	200-240VAC 200-240VDC
Rated input voltage	180-264VAC 200-264VDC
Input voltage shock	<380 V AC, 1 h
Input current	<0.38A (AC input)
Input frequency	0/50/60Hz
Input power factor	0.95 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	89% (230V AC & Full load)
In-rush current	5.1A peak ,148us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 50,000 switching cycles
Power consumption	Full load(Pmax):62.7W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV
Leakage current	<0.7mA (230V AC & Full load)
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH
Control interface	
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA
pushDIM dimming port	Voltage range: 180-264V 47/63Hz
1-10V 3in1 dimming port	N/A
Auxiliary power supply	N/A
Dimming range	1%-100%
Dimming drive mode	AM(amplitude modulation)
Emergency support	
Central emergency system	Supported(dimming normal in DC input)
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=90°C
Operating humidity	5-85% RH, non-condensing
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing
IP grade	IP20
MTBF	500,000H,MIL-HDBK-217F(25°C)
Life-time	Nominal life-time up to 100,000 h, see the description below for details
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes
Acoustic Noise	<25dB(30cm, Full load)
Environmental protection	RoHS
Certifications and standards	
Certified	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
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	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)
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-DAL080-2000Ad
Output parameters	
Regulation method	Constant Current
Rated output current	1.25-2A
Rated output voltage	6V - 40V/41V/42V
Rated output power	80W Max
Output current adjustment	DIP S.W(16 levels)
Output current ripple LF	±2%
Output current accuracy	±1%
Linear regulation	±1%
Load regulation	±1%
No load output voltage	50V
Flicker-free(typical)	Modulation depth =0.106% (120Hz), Pst LM = 0.002, SVM = 0.003,(The above parameters are obtained from testing the panel lights)
Input parameters	
Rated input voltage	200-240VAC 200-240VDC
Rated input voltage	180-264VAC 200-264VDC
Input voltage shock	<380 V AC, 1 h
Input current	<0.47A (AC input)
Input frequency	0/50/60Hz
Input power factor	0.95 (230V AC & Full load)
Input THD	10% (230V AC & Full load)
Efficiency(typical)	90% (230V AC & Full load)
In-rush current	9.25A peak ,174us duration(50 % Ipeak), see the description below for details
Start/Switchover/Turn off	<0.6s(AC start),<0.6s(DC start),<0.3s(AC/DC switchover),<0.5s(Turn off)
Switching cycles	> 50,000 switching cycles
Power consumption	Full load(Pmax):80W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-O/P:3750VAC,I/P-FG:1750VAC,O/P-FG:500VAC ,I/P-DALI: 1500V AC, O/P-DALI: 1500V AC.
Mains surge capability	L-N:2KV,L-FG/N-FG:2KV
Leakage current	<0.7mA (230V AC & Full load)
Isolation resistance	I/P-O/P:100MΩ/500Vdc/25°C/70% RH
Control interface	
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA
pushDIM dimming port	Voltage range: 180-264V 47/63Hz
1-10V 3in1 dimming port	N/A
Auxiliary power supply	N/A
Dimming range	1%-100%
Dimming drive mode	AM(amplitude modulation)
Emergency support	
Central emergency system	Supported(dimming normal in DC input)
Self-contained emergency	Supported
Environment & Life time	
Operating temperature	Ta=-20-60°C
Case temperature	Tc=90°C
Operating humidity	5-85% RH, non-condensing
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing
IP grade	IP20
MTBF	500,000H,MIL-HDBK-217F(25°C)
Life-time	Nominal life-time up to 100,000 h, see the description below for details
Vibration resistant	10~500Hz,5G 12min./1cycle,period for 72min. each along X,Y,Z axes
Acoustic Noise	<25dB(30cm, Full load)
Environmental protection	RoHS
Certifications and standards	
Certified	CE, ENEC, UKCA, SAA, RCM, EL, DALI-2
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	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)
EL	Compatible IEC 61347-2- 13 Annex J, compatible with EN 60598-2-22 and EN 50172
RF	N/A

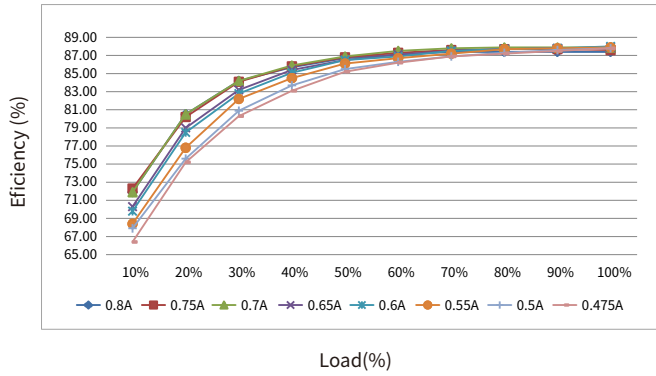
Remarks

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

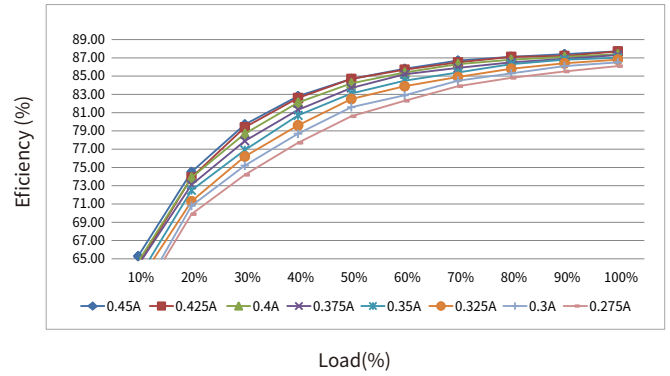
Electrical values

BK-DAL030-0800Ad

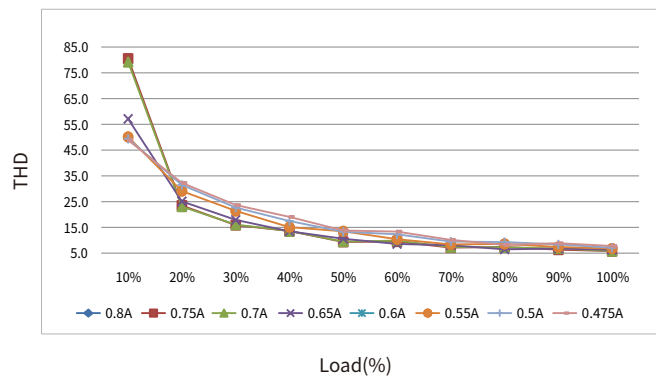
Efficiency vs Load



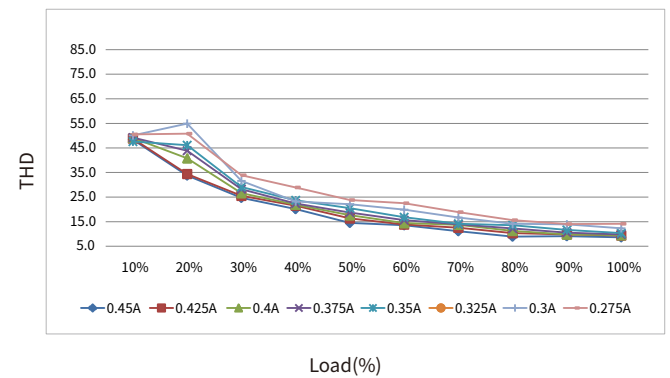
Efficiency vs Load



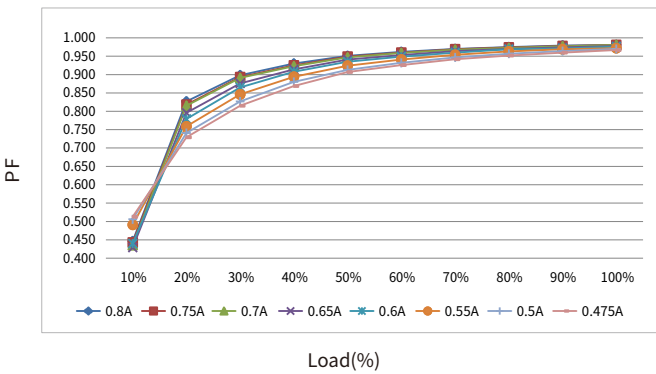
THD vs. Load



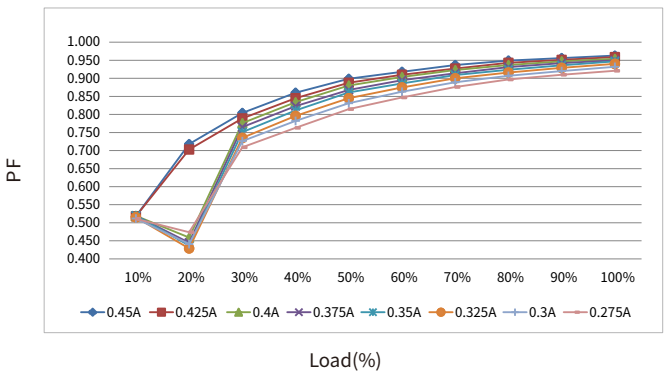
THD vs. Load



Power factor vs. Load

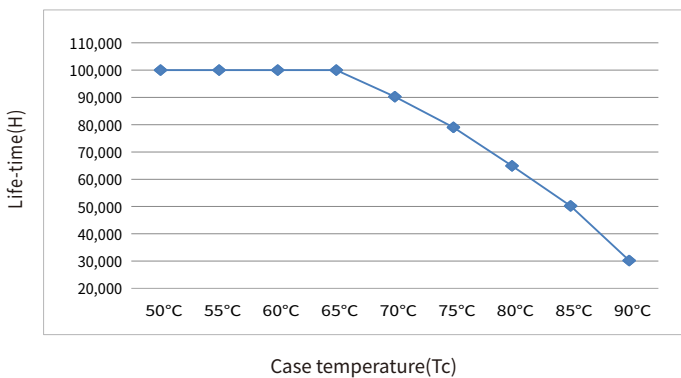


Power factor vs. Load



Expected life-time

Life-time vs. case temperature



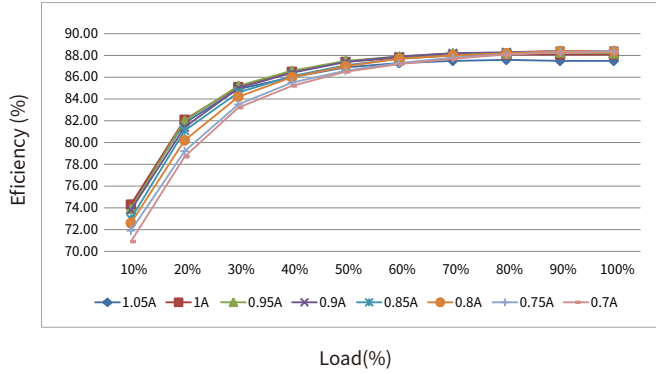
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

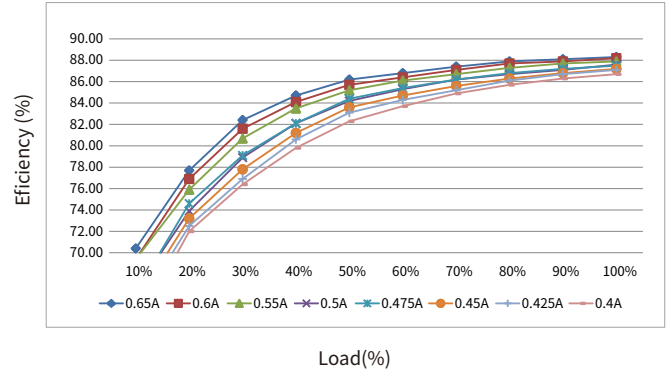
Electrical values

BK-DAL040-1050Ad

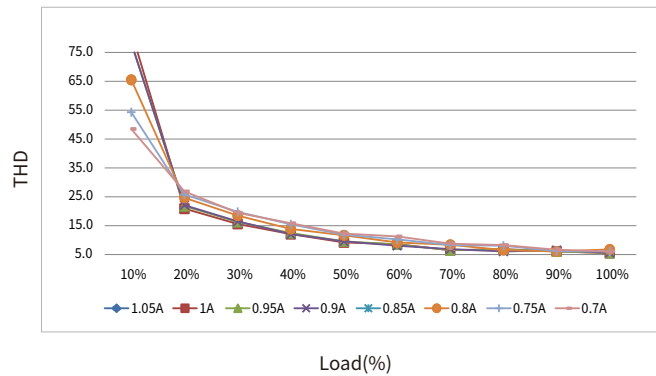
Efficiency vs Load



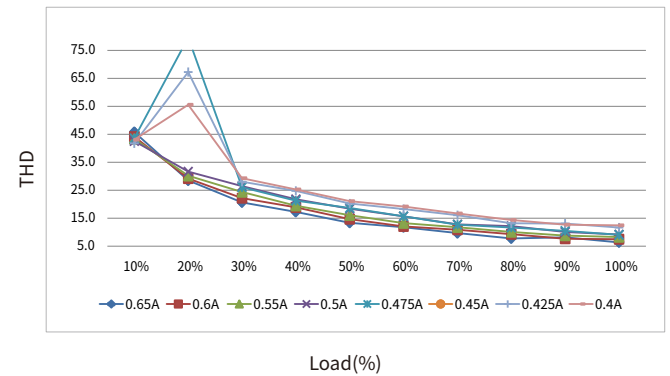
Efficiency vs Load



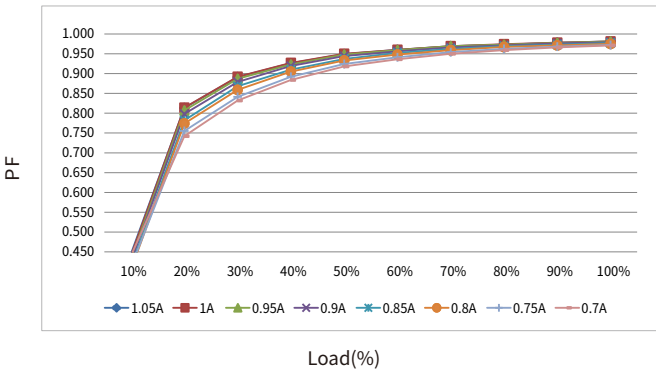
THD vs. Load



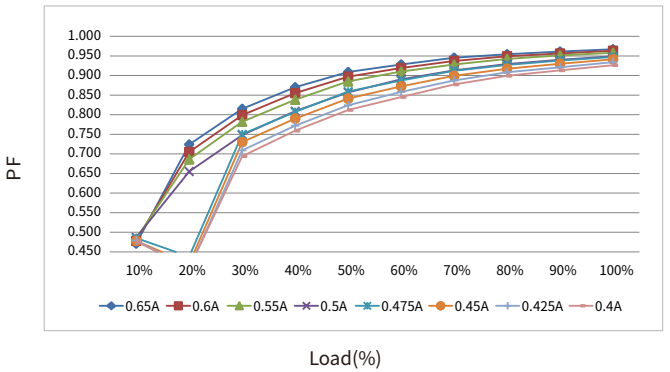
THD vs. Load



Power factor vs. Load

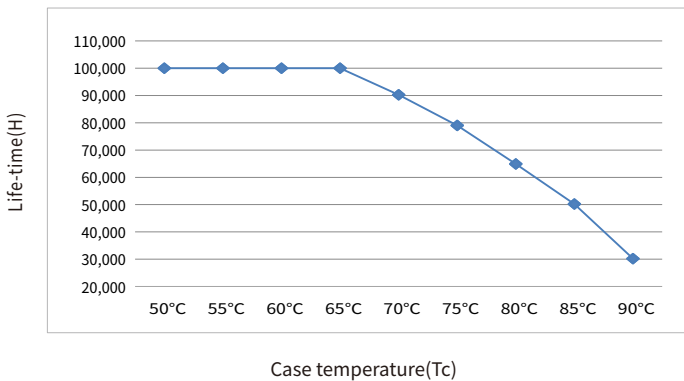


Power factor vs. Load



Expected life-time

Life-time vs. case temperature



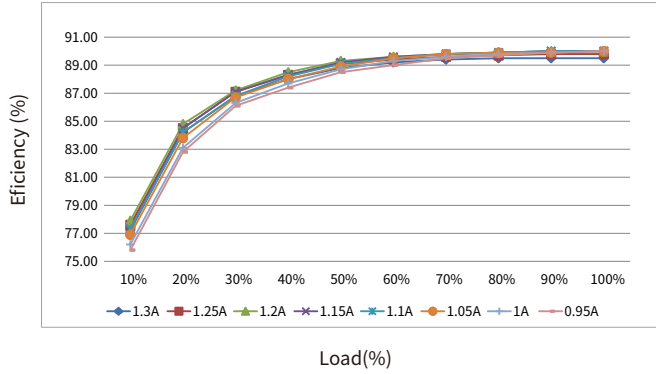
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

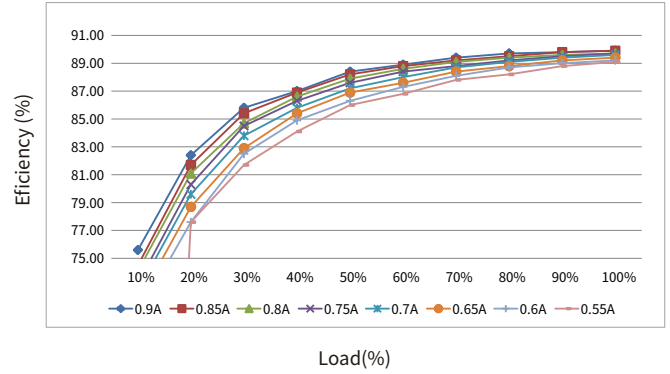
Electrical values

BK-DAL050-1300Ad

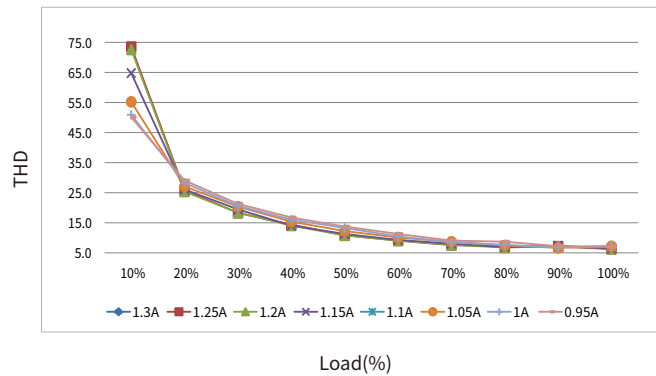
Efficiency vs Load



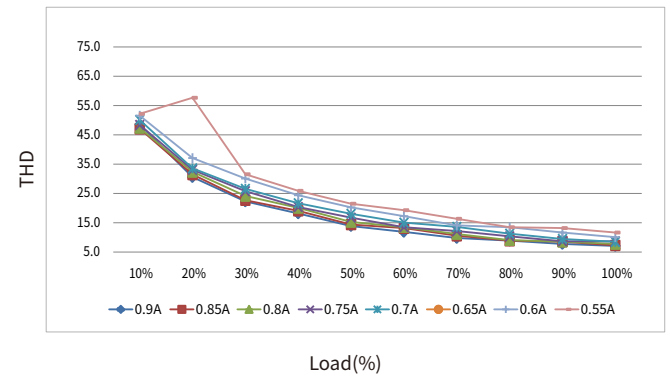
Efficiency vs Load



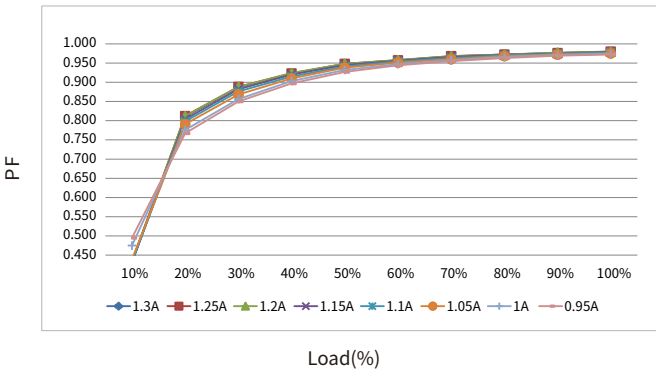
THD vs. Load



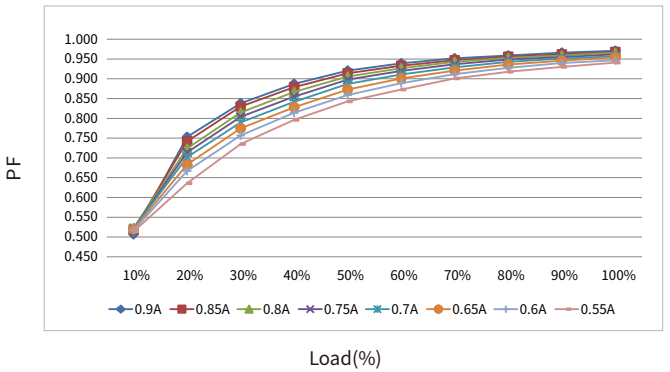
THD vs. Load



Power factor vs. Load

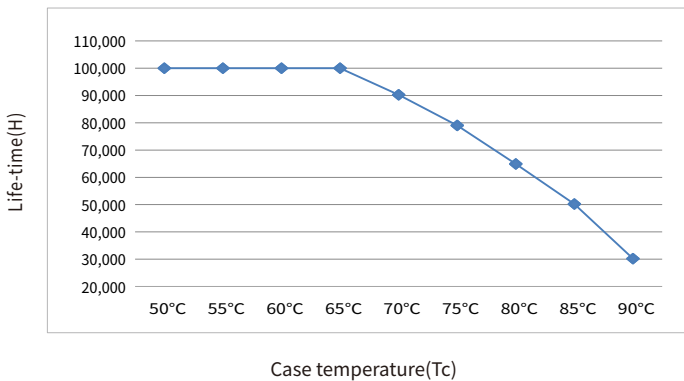


Power factor vs. Load



Expected life-time

Life-time vs. case temperature



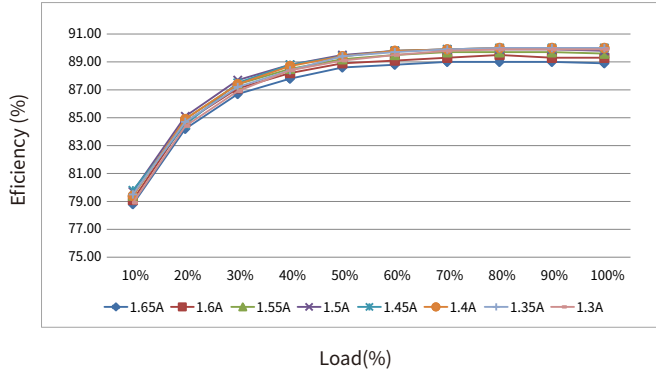
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

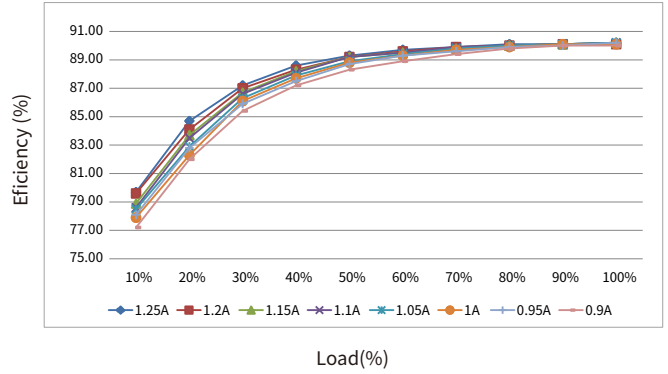
Electrical values

BK-DAL060-1650Ad

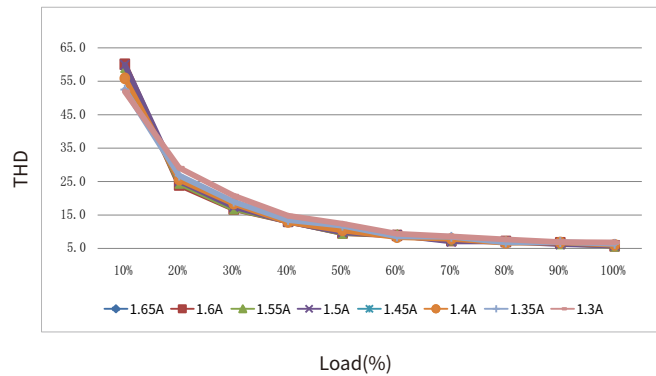
Efficiency vs Load



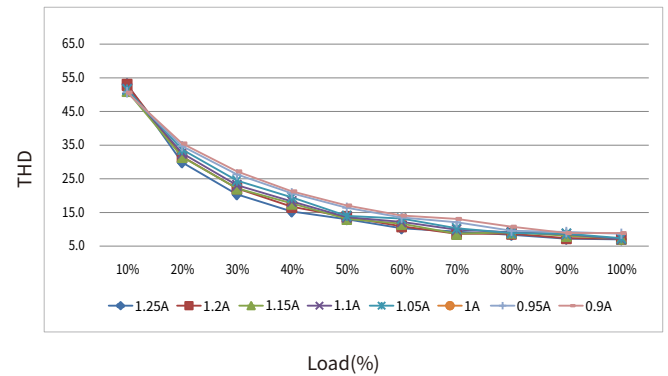
Efficiency vs Load



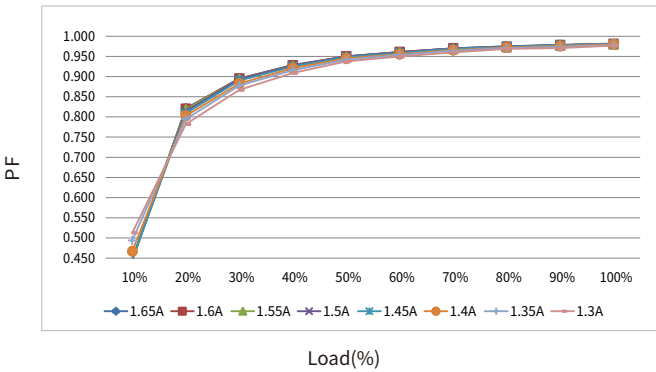
THD vs. Load



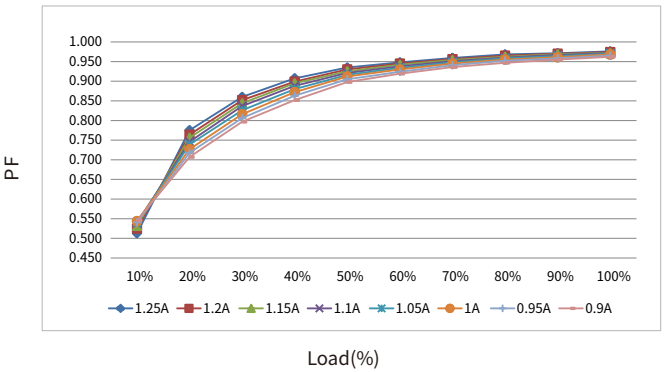
THD vs. Load



Power factor vs. Load

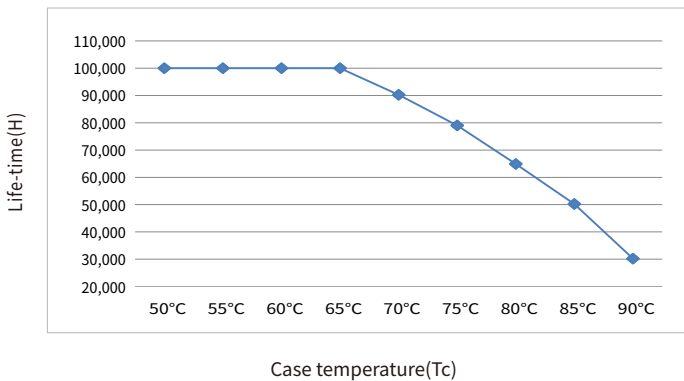


Power factor vs. Load



Expected life-time

Life-time vs. case temperature



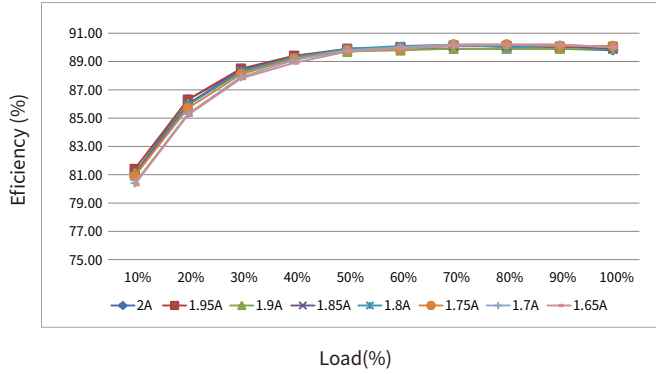
-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

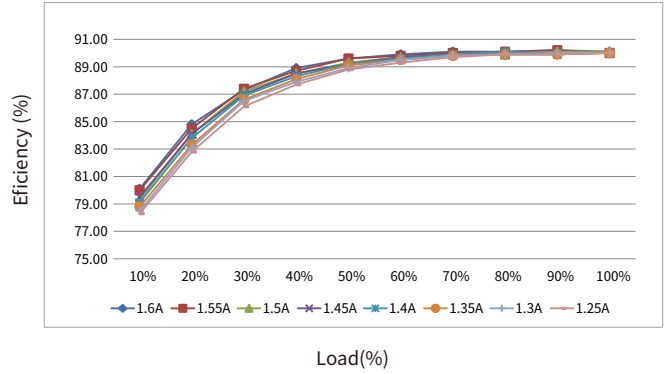
Electrical values

BK-DAL080-2000Ad

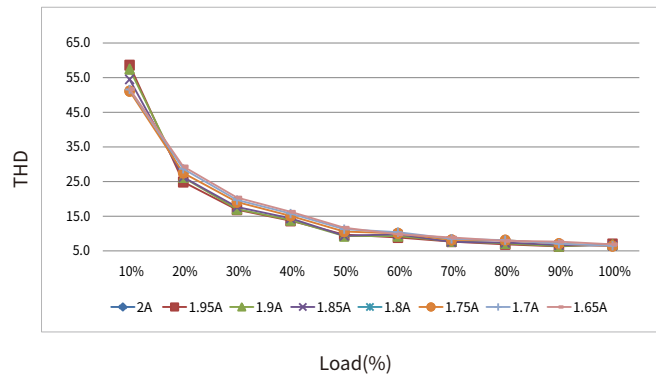
Efficiency vs Load



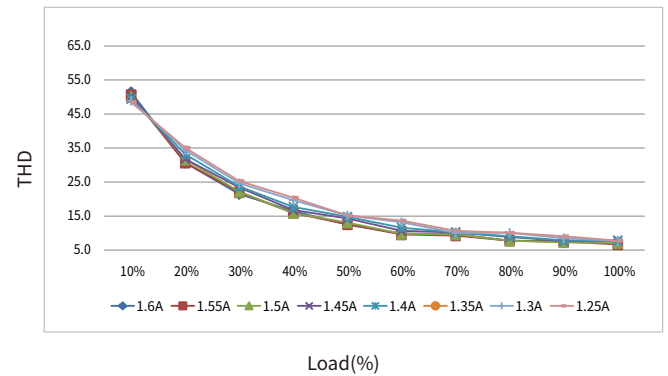
Efficiency vs Load



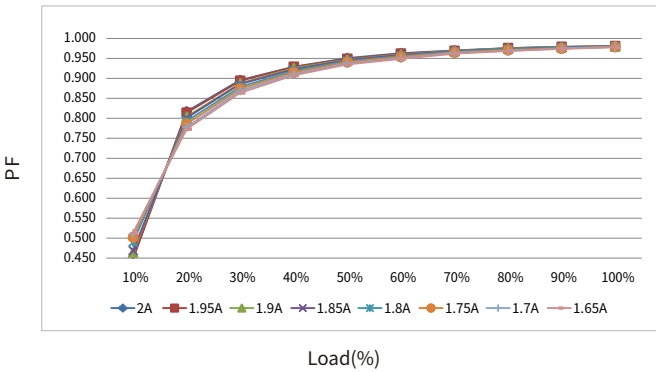
THD vs. Load



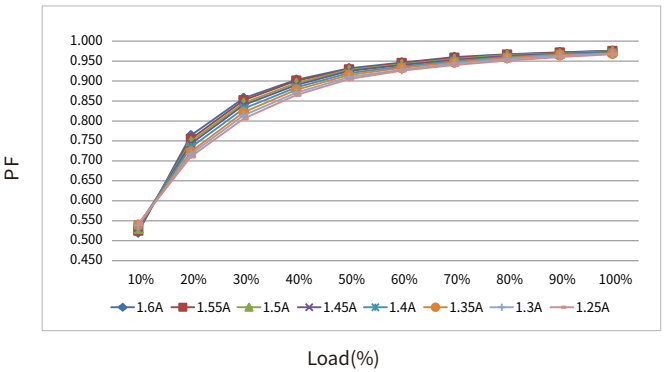
THD vs. Load



Power factor vs. Load

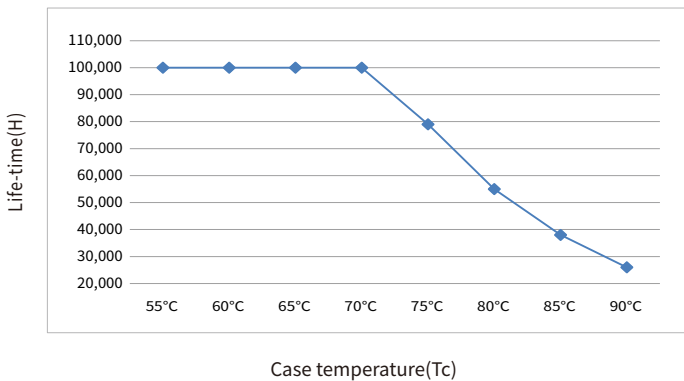


Power factor vs. Load



Expected life-time

Life-time vs. case temperature

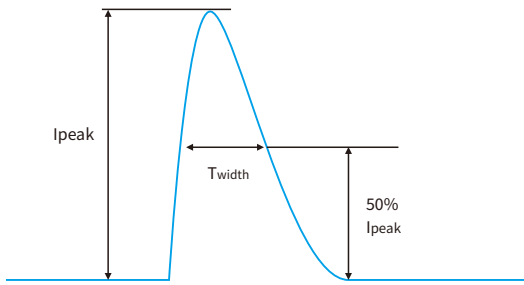


-The life-time of the LED driver is shown in the figure above (calculated based on the 90% survival rate).

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

Surge

Model	I _{peak}	T _{width}	Condition	Relative number of MCB															
				B10	B13	B16	B20	B25	C10	C13	C16	C20	C25	D10	D13	D16	D20	D25	
BK-DAL030-0800Ad	4.05A	182us	AC 230V, Full load, Cold start, Ta ≤ 30°C, MCB is not installed side by side	45	59	72	91	113	45	59	72	91	113	45	59	72	91	113	
BK-DAL040-1050Ad	4.00A	170us		34	45	55	69	86	34	45	55	69	86	34	45	55	69	86	
BK-DAL050-1300Ad	4.75A	162us		28	37	45	56	70	28	37	45	56	70	28	37	45	56	70	
BK-DAL060-1650Ad	5.10A	148us		23	30	37	47	59	23	30	37	47	59	23	30	37	47	59	
BK-DAL080-2000Ad	9.25A	174us		18	23	28	35	44	18	23	28	35	44	18	23	28	35	44	



Remarks

- The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- Calculation uses typical values from ABB series S200 as a reference.
- Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.
- If the ambient temperature of the MCB installation exceeds 30°C or multiple MCBs are installed side by side, the number of drives mounted will be reduced and the calculation needs to be recalculated.
- Electrician's usually consider Type B for household lighting and Type C for commercial lighting application.

Functions

Output short-circuit behaviour

- In case of a short-circuit at the LED output ,the LED output is switched off.
- After restart of the LED driver ,the output will be activated again.

Output no-load operation

- The LED driver will not be damaged in no-load operation.
- The output will be deactivated and is therefore free of voltage.
- If a LED load is connected , the device has to be restarted before the output will be activated again.

Output overload protection

- If the output voltage range is exceeded the LED driver turns off the LED output.
- After restart of the LED driver the output will be activated again.

Output hot plug-in

- For protection LED if plug the LED into the output of the powered driver, the LED will not on, the device has to be restarted.

Driver restart method

There are two ways to restart the device:

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

DALI: send "OFF" command first, then send " MAX" command.

pushDIM: short press PUSH switch two times, then long press PUSH switch.

DIP-switch & output current
BK-DAL030-0800Ad

Pin(w) typ.	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
13.4	11.55	275	6-42	ON	ON	ON	ON
14.6	12.60	300	6-42	--	ON	ON	ON
15.7	13.65	325	6-42	ON	--	ON	ON
16.9	14.70	350	6-42	--	--	ON	ON
18.0	15.75	375	6-42	ON	ON	--	ON
19.2	16.80	400	6-42	--	ON	--	ON
20.3	17.85	425	6-42	ON	--	--	ON
21.5	18.90	450	6-42	--	--	--	ON
22.6	19.95	475	6-42	ON	ON	ON	--
23.8	21.00	500	6-42	--	ON	ON	--
26.2	23.10	550	6-42	ON	--	ON	--
28.6	25.20	600	6-42	--	--	ON	--
30.9	27.30	650	6-42	ON	ON	--	--
33.3	29.40	700	6-42	--	ON	--	--
34.2	30.00	750	6-40	ON	--	--	--
34.8	30.40	800 ★	6-38	--	--	--	--

BK-DAL050-1300Ad

Pin(w) typ.	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
26.2	23.10	550	6-42	ON	ON	ON	ON
28.6	25.20	600	6-42	--	ON	ON	ON
31.0	27.30	650	6-42	ON	--	ON	ON
33.4	29.40	700	6-42	--	--	ON	ON
35.8	31.50	750	6-42	ON	ON	--	ON
38.1	33.60	800	6-42	--	ON	--	ON
40.5	35.70	850	6-42	ON	--	--	ON
42.9	37.80	900	6-42	--	--	--	ON
45.3	39.90	950	6-42	ON	ON	ON	--
47.7	42.00	1000	6-42	--	ON	ON	--
50.1	44.10	1050	6-42	ON	--	ON	--
52.5	46.20	1100	6-42	--	--	ON	--
53.8	48.30	1150	6-42	ON	ON	--	--
57.2	50.40	1200	6-42	--	ON	--	--
56.8	50.00	1250	6-40	ON	--	--	--
56.1	49.40	1300 ★	6-38	--	--	--	--

BK-DAL080-2000Ad

Pin(w) typ.	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
58.0	52.50	1250	6-42	ON	ON	ON	ON
60.3	54.60	1300	6-42	--	ON	ON	ON
62.6	56.70	1350	6-42	ON	--	ON	ON
64.9	58.80	1400	6-42	--	--	ON	ON
67.2	60.90	1450	6-42	ON	ON	--	ON
69.5	63.00	1500	6-42	--	ON	--	ON
71.8	65.10	1550	6-42	ON	--	--	ON
74.2	67.20	1600	6-42	--	--	--	ON
76.5	69.30	1650	6-42	ON	ON	ON	--
78.8	71.40	1700	6-42	--	ON	ON	--
81.5	73.50	1750	6-42	ON	--	ON	--
83.5	75.60	1800	6-42	--	--	ON	--
85.9	77.70	1850	6-42	ON	ON	--	--
88.4	79.80	1900	6-42	--	ON	--	--
89.0	80.00	1950	6-41	ON	--	--	--
89.5	80.00	2000 ★	6-40	--	--	--	--

BK-DAL040-1050Ad

Pin(w) typ.	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
19.3	16.80	400	6-42	ON	ON	ON	ON
20.5	17.85	425	6-42	--	ON	ON	ON
21.6	18.90	450	6-42	ON	--	ON	ON
22.8	19.95	475	6-42	--	--	ON	ON
23.9	21.00	500	6-42	ON	ON	--	ON
26.2	23.10	550	6-42	--	ON	--	ON
28.6	25.20	600	6-42	ON	--	--	ON
32.0	27.30	650	6-42	--	--	--	ON
34.0	29.40	700	6-42	ON	ON	ON	--
35.6	31.50	750	6-42	--	ON	ON	--
38.0	33.60	800	6-42	ON	--	ON	--
40.3	35.70	850	6-42	--	--	ON	--
42.7	37.80	900	6-42	ON	ON	--	--
45.1	39.90	950	6-42	--	ON	--	--
45.4	40.00	1000	6-40	ON	--	--	--
45.7	39.90	1050 ★	6-38	--	--	--	--

BK-DAL060-1650Ad

Pin(w) typ.	Output			1	2	3	4
	Prated(w)	Irated(mA)	Voltage(Vdc)				
42.0	37.80	900	6-42	ON	ON	ON	ON
44.3	39.90	950	6-42	--	ON	ON	ON
46.7	42.00	1000	6-42	ON	--	ON	ON
49.0	44.10	1050	6-42	--	--	ON	ON
51.3	46.20	1100	6-42	ON	ON	--	ON
53.7	48.30	1150	6-42	--	ON	--	ON
56.0	50.40	1200	6-42	ON	--	--	ON
58.3	52.50	1250	6-42	--	--	--	ON
60.6	54.60	1300	6-42	ON	ON	ON	--
63.0	56.70	1350	6-42	--	ON	ON	--
65.3	58.80	1400	6-42	ON	--	ON	--
67.6	60.90	1450	6-42	--	--	ON	--
70.2	63.00	1500	6-42	ON	ON	--	--
69.2	62.00	1550	6-40	--	ON	--	--
67.9	60.80	1600	6-38	ON	--	--	--
66.6	59.40	1650 ★	6-38	--	--	--	--

Remarks:

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

Label

INPUT
 ○ ACL/DC+ Do not energize the driver before connecting the LED.
 ○ ACN/DC-
 ○ DA push(DIM+) DA- (DALI)
 ○ DA PFI wire prep. 0.75-1.5mm! 18-3mm

BOKE Dimmable Constant Current LED Driver
MODEL: BK-DAL030-0800Ad
 INPUT: 200-240V \approx 0/50/60Hz 0.19A Max. λ : 0.95
 OUTPUT: 6-38V \approx 800mA 30-4W 50VDC Max.
 Other ratings see selection sheet
 For LED Modules use only
 www.bokedriver.com
 MADE IN CHINA

Switching selection sheet

Privil. typ.	Output				Switch			
	Privil. (mV)	Privil. (mA)	Voltage(V)	1	2	3	4	
14.1	22.68	300	6-42	ON	ON	ON	ON	
15.7	23.85	320	6-42	ON	ON	ON	ON	
16.52	24.70	350	6-42	ON	ON	ON	ON	
18.0	25.75	370	6-42	ON	ON	ON	ON	
19.44	26.64	400	6-42	ON	ON	ON	ON	
20.3	27.85	420	6-42	ON	ON	ON	ON	
21.2	28.50	450	6-42	ON	ON	ON	ON	
22.62	29.59	475	6-42	ON	ON	ON	ON	
23.8	31.00	500	6-42	ON	ON	ON	ON	

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

INPUT
 ○ ACL/DC+ Do not energize the driver before connecting the LED.
 ○ ACN/DC-
 ○ DA push(DIM+) DA- (DALI)
 ○ DA PFI wire prep. 0.75-1.5mm! 18-3mm

BOKE Dimmable Constant Current LED Driver
MODEL: BK-DAL040-1050Ad
 INPUT: 200-240V \approx 0/50/60Hz 0.24A Max. λ : 0.95
 OUTPUT: 6-38V \approx 1050mA 39.9W 50VDC Max.
 Other ratings see selection sheet
 For LED Modules use only
 www.bokedriver.com
 MADE IN CHINA

Switching selection sheet

Privil. typ.	Output				Switch			
	Privil. (mV)	Privil. (mA)	Voltage(V)	1	2	3	4	
14.1	36.81	400	6-42	ON	ON	ON	ON	
15.7	37.95	420	6-42	ON	ON	ON	ON	
16.52	38.85	450	6-42	ON	ON	ON	ON	
18.0	39.95	475	6-42	ON	ON	ON	ON	
19.44	41.00	500	6-42	ON	ON	ON	ON	
20.3	42.15	520	6-42	ON	ON	ON	ON	
21.2	43.50	550	6-42	ON	ON	ON	ON	
22.62	44.59	575	6-42	ON	ON	ON	ON	
23.8	46.00	600	6-42	ON	ON	ON	ON	

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

INPUT
 ○ ACL/DC+ Do not energize the driver before connecting the LED.
 ○ ACN/DC-
 ○ DA push(DIM+) DA- (DALI)
 ○ DA PFI wire prep. 0.75-1.5mm! 18-3mm

BOKE Dimmable Constant Current LED Driver
MODEL: BK-DAL050-1300Ad
 INPUT: 200-240V \approx 0/50/60Hz 0.3A Max. λ : 0.95
 OUTPUT: 6-38V \approx 1300mA 49.4W 50VDC Max.
 Other ratings see selection sheet
 For LED Modules use only
 www.bokedriver.com
 MADE IN CHINA

Switching selection sheet

Privil. typ.	Output				Switch			
	Privil. (mV)	Privil. (mA)	Voltage(V)	1	2	3	4	
14.1	49.20	300	6-42	ON	ON	ON	ON	
15.7	50.35	320	6-42	ON	ON	ON	ON	
16.52	51.45	350	6-42	ON	ON	ON	ON	
18.0	52.55	370	6-42	ON	ON	ON	ON	
19.44	53.64	400	6-42	ON	ON	ON	ON	
20.3	54.79	420	6-42	ON	ON	ON	ON	
21.2	55.95	450	6-42	ON	ON	ON	ON	
22.62	57.09	475	6-42	ON	ON	ON	ON	
23.8	58.20	500	6-42	ON	ON	ON	ON	

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

INPUT
 ○ ACL/DC+ Do not energize the driver before connecting the LED.
 ○ ACN/DC-
 ○ DA push(DIM+) DA- (DALI)
 ○ DA PFI wire prep. 0.75-1.5mm! 18-3mm

BOKE Dimmable Constant Current LED Driver
MODEL: BK-DAL060-1650Ad
 INPUT: 200-240V \approx 0/50/60Hz 0.38A Max. λ : 0.95
 OUTPUT: 6-38V \approx 1650mA 62.7W 50VDC Max.
 Other ratings see selection sheet
 For LED Modules use only
 www.bokedriver.com
 MADE IN CHINA

Switching selection sheet

Privil. typ.	Output				Switch			
	Privil. (mV)	Privil. (mA)	Voltage(V)	1	2	3	4	
14.1	62.88	300	6-42	ON	ON	ON	ON	
15.7	64.05	320	6-42	ON	ON	ON	ON	
16.52	65.15	350	6-42	ON	ON	ON	ON	
18.0	66.25	370	6-42	ON	ON	ON	ON	
19.44	67.34	400	6-42	ON	ON	ON	ON	
20.3	68.49	420	6-42	ON	ON	ON	ON	
21.2	69.65	450	6-42	ON	ON	ON	ON	
22.62	70.79	475	6-42	ON	ON	ON	ON	
23.8	71.90	500	6-42	ON	ON	ON	ON	

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

INPUT
 ○ ACL/DC+ Do not energize the driver before connecting the LED.
 ○ ACN/DC-
 ○ DA push(DIM+) DA- (DALI)
 ○ DA PFI wire prep. 0.75-1.5mm! 18-3mm

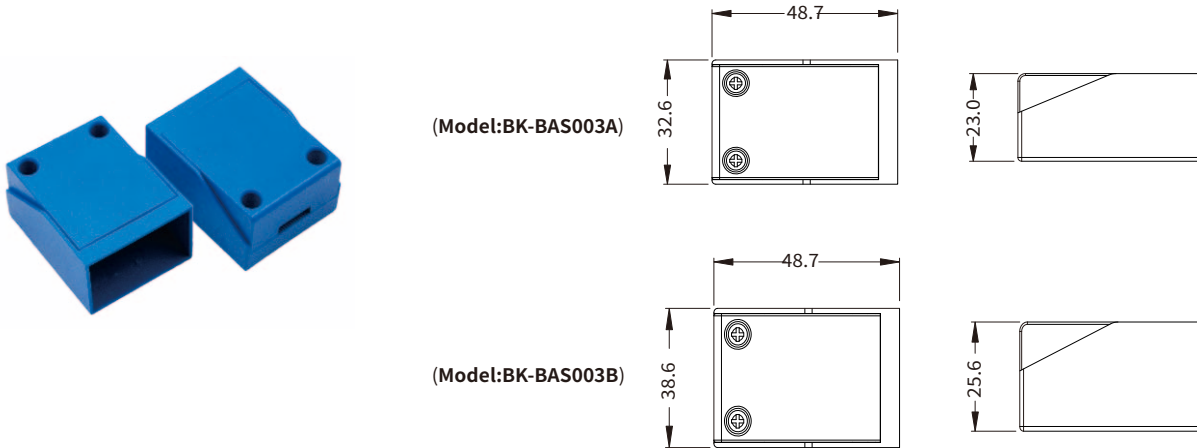
BOKE Dimmable Constant Current LED Driver
MODEL: BK-DAL080-2000Ad
 INPUT: 200-240V \approx 0/50/60Hz 0.47A Max. λ : 0.95
 OUTPUT: 6-40V \approx 2000mA 80W 50VDC Max.
 Other ratings see selection sheet
 For LED Modules use only
 www.bokedriver.com
 MADE IN CHINA

Switching selection sheet

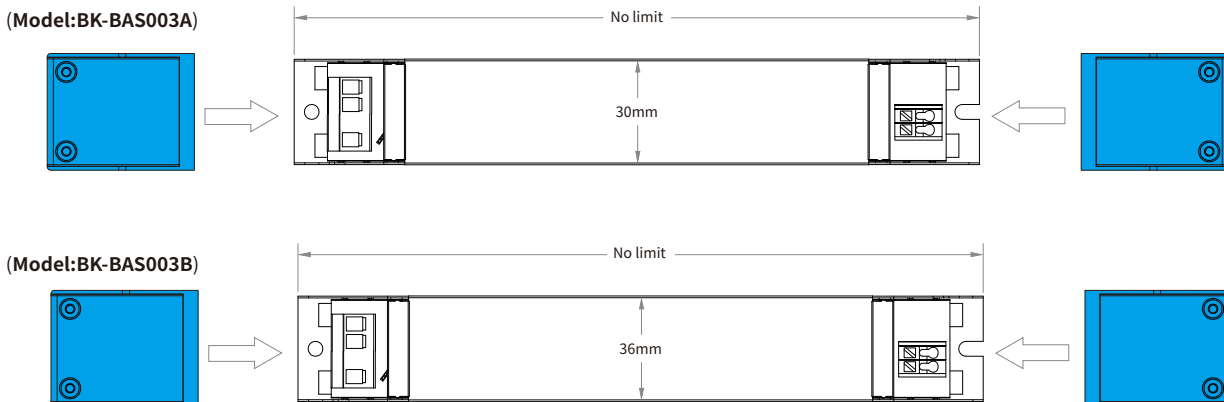
Privil. typ.	Output				Switch			
	Privil. (mV)	Privil. (mA)	Voltage(V)	1	2	3	4	
14.1	77.16	300	6-42	ON	ON	ON	ON	
15.7	78.35	320	6-42	ON	ON	ON	ON	
16.52	79.45	350	6-42	ON	ON	ON	ON	
18.0	80.55	370	6-42	ON	ON	ON	ON	
19.44	81.64	400	6-42	ON	ON	ON	ON	
20.3	82.79	420	6-42	ON	ON	ON	ON	
21.2	83.95	450	6-42	ON	ON	ON	ON	
22.62	85.09	475	6-42	ON	ON	ON	ON	
23.8	86.20	500	6-42	ON	ON	ON	ON	

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

Optional accessories



Installation diagram of accessories



DALI dimming application

Wiring diagram



Activating DALI dimming mode

- After installation according to the wiring diagram of DALI dimming application, the driver will automatically switch to the DALI control mode after receiving any DALI command.

Remarks:

- Standard DALI control line voltage range: 9.5V to 22.5V, type 16V.
- The two DALI control lines polarity-reversible.
- Max. 64 DALI drivers per DALI control line.
- The maximum distance length of the DALI control line is 300m at 2×1.5mm².
- DALI bus can be wired together with any mains voltage cables, but separate wiring is recommended.
- The configuration parameters of the driver can be set through the DALI configuration tool or DALI application controller during installation, such as setting device address, group address, power-on level, bus-failure level, scene level, fade time, dimming curve, etc.

Please refer to the table below

Cable size	Distance
2×0.50mm ²	max.100m
2×0.75mm ²	max.150m
2×1.00mm ²	max.200m
≥2×1.50mm ²	max.300m

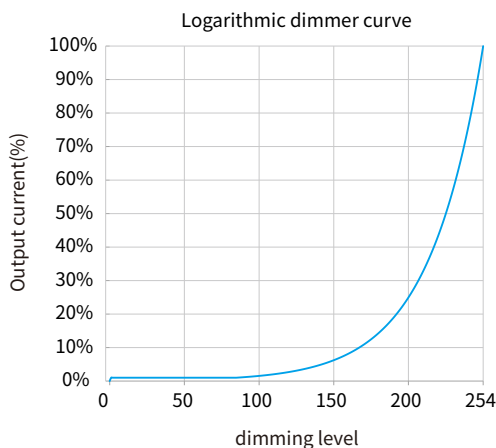
Power-on level :

When the driver is in DALI-2 dimming mode, the factory default level after each power-on is the brightest.

The power-on level can be set through the DALI configuration tool or DALI application controller during installation, and can be set to memory or fixed any brightness (such as off, darkest, 50%, etc.).

Note: The recommended setting for the default factory power-on level of the DALI-2 driver is the brightest in the DALI-2 standard.

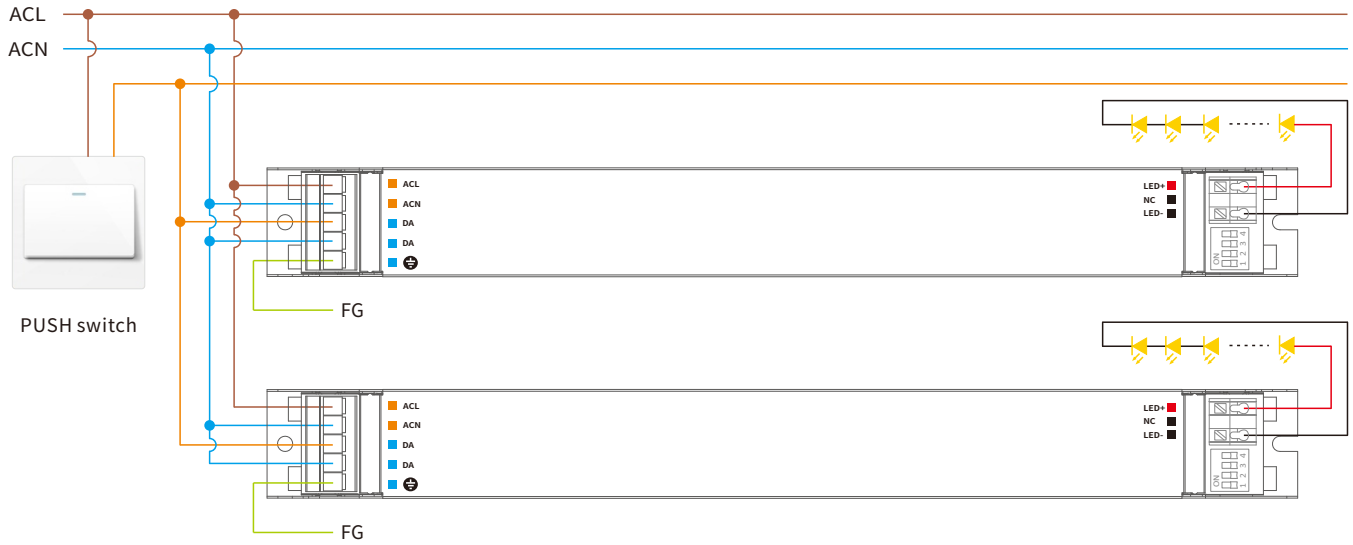
Dimming curve



Remarks: The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

pushDIM dimming application

Wiring diagram



Activating pushDIM dimming mode

After installation according to the wiring diagram of pushDIM dimming application, long press the pushbutton 3 seconds, the driver will automatically switch to pushDIM dimming mode.

Remarks:

Max. 50 drivers per pushDIM control line.

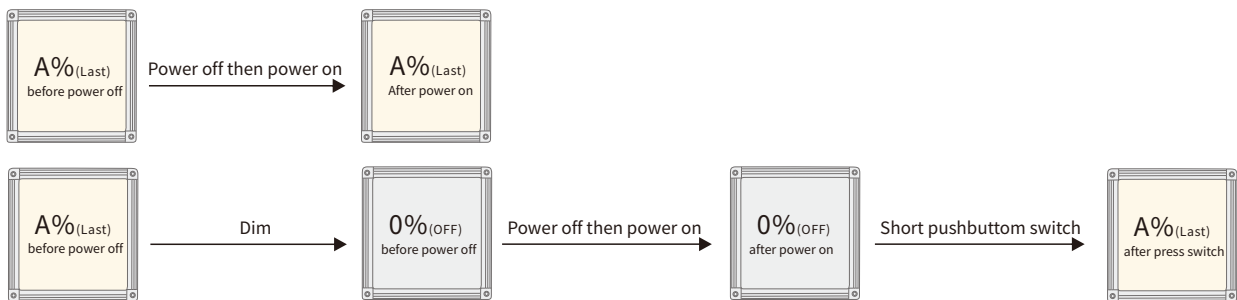
Turn on or turn off: short press pushbutton for 0.2-1s.

Dimming: long press pushbutton for 1-5s.

Power on status: after power on, the light state will be the same as the lighting on state.

If the light is on before power on, the light will be on after power on again, brightness will be the same as the last lighting on brightness.

If the light is off before power off, the light will be off after power on again, short press the pushbutton, then the light will be on, the brightness will be the same as the last brightness.



Multiple lights synchronize control operation

method 1:

Step 1: long press the pushbutton, confirm each light is on.

Step 2: short press the pushbutton, confirm each light is off.

Step 3: long press the pushbutton, confirm each light is from darkest to brightest and all the lights are synchronous.

method 2:

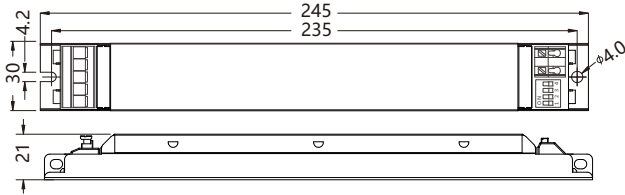
- Long press the pushbutton 15s, all lights output to the brightest state.

Installation

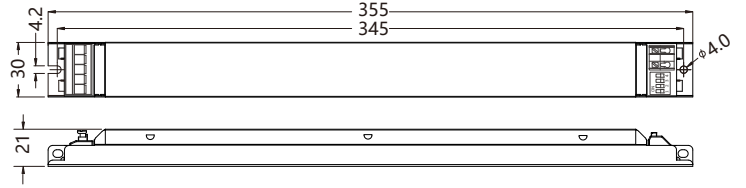
Mechanical dimensions

Unit:mm

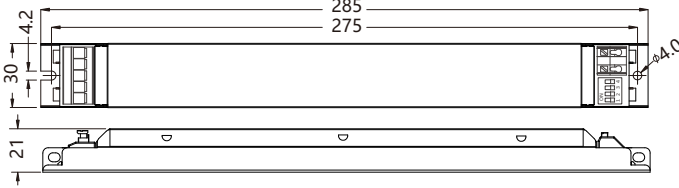
DAL030



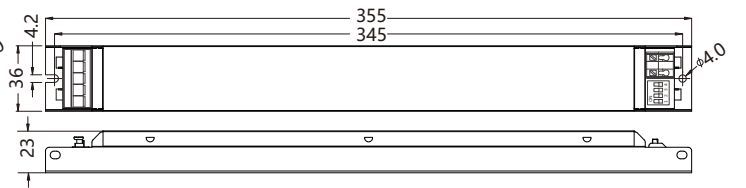
DAL060



DAL040 DAL050



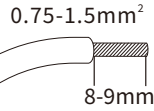
DAL080



INPUT

Pin Numbering	function	colour
1	ACL/DC+	orange
2	ACN/DC-	orange
3	DA	blue
4	DA	blue
5	FG	blue

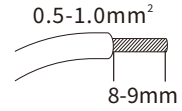
Input wire



OUTPUT

Pin 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.
- If a LED load is connected the device has to be restarted.
- This can be done via mains reset or via interface (DALI).

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Mains leads should be kept apart from LED Driver and other leads (ideally 5 – 10 cm distance)
- Max. length of output wires is 2 m.
- Incorrect wiring can damage LED modules.

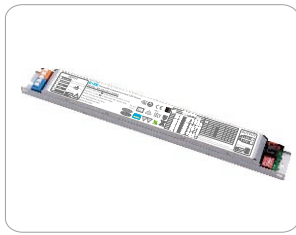
Mounting screw specifications and torque

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

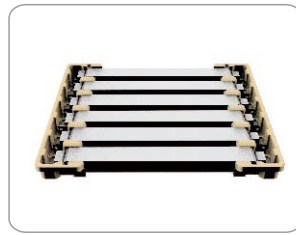
Replace LED module

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

Packaging



Product



Pearl wool



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

Model	Product size	Weight	Pearl wool	Carton size	Qty/carton	N.W	G.W
DAL030	L245*W30*H21mm	158g	L340*W75*H29mm	L355*W285*H205mm	42pcs	6.64KG	7.94KG
DAL040	L285*W30*H21mm	198g	L340*W75*H29mm	L355*W325*H170mm	35pcs	6.93KG	8.23KG
DAL050	L285*W30*H21mm	218g	L340*W75*H29mm	L355*W325*H170mm	35pcs	7..63KG	8.93KG
DAL060	L355*W30*H21mm	273g	L340*W75*H29mm	L395*W355*H140mm	28pcs	7.65KG	8.79KG
DAL080	L355*W36*H23mm	368g	L340*W75*H33mm	L395*W355*H160mm	24pcs	8.83KG	9.98KG

Additional information

1. The life and MTBF of the product are for reference only, and do not represent a warranty statement. If the drive has been turned on, there is no warranty.
2. For more information, please send an email to info@bokedriver.com.