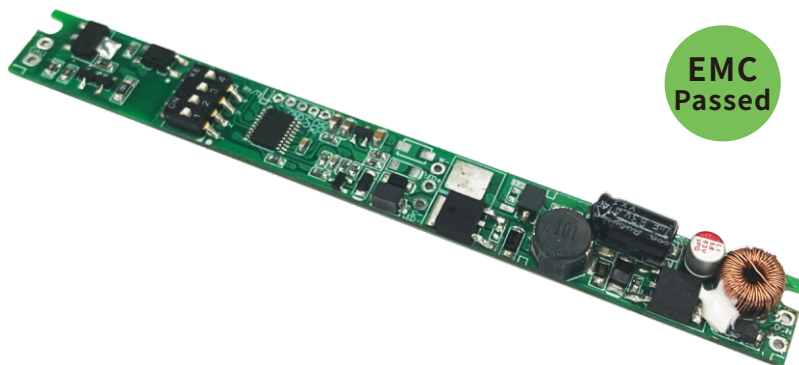


DC track light dimmable driver DET Series suffix d(DALI-2 DT6)



EMC
Passed

Features

- Support DALI-2 DT6 dimming mode
- No polarity of input
- 10-level current output can be realized by DIP-switch
- Soft dimming and flicker-free at any brightness, meets the new requirements of ErP certification
- Using HPC patented technology, at any dimming level, the brightness of the luminaries is the same
- Standby power input < 0.5W, meets the requirements of ErP certification
- Intelligent LED hot-plug protection function
- Suitable for STUCCHI standard housing
- SELV and Class III design, suitable for use inside of the luminaire
- Compliance with CE, DALI-2 and other certifications
- Nominal life-time up to 100,000 h
- 5.5-year guarantee

Interfaces

- DALI-2(DALI-2 DT6)

Functions

- Protective features
(short-circuit, overload, no-load, hot plug-in protection)

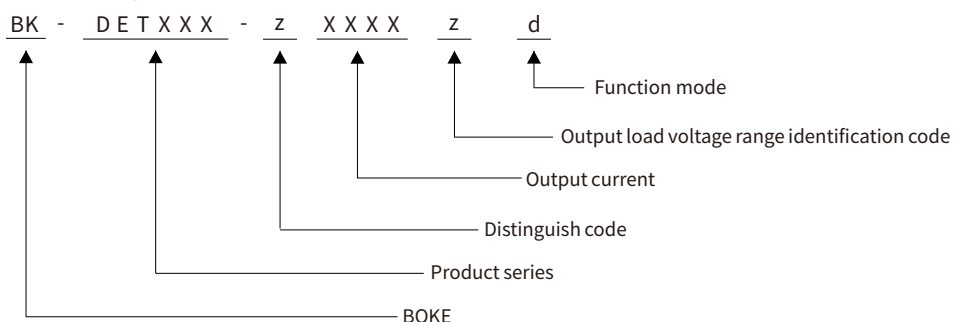
Suitable for lights

- Suitable for DC track light

Typical applications

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

Model coding rules of DET series



Model list

Model	Input voltage	Output power	Output voltage	Output current	Dimension
BK-DET012-A0700Ad	48VDC	10.5W MAX.	3-15VDC	0.15-0.7A	L125*W13.7*H10.5mm
BK-DET012-A0800Ad	48VDC	12W MAX.	3-15VDC	0.1-0.8A	L125*W13.7*H10.5mm
BK-DET030-C0700Ad	48VDC	29.4W MAX.	12-42VDC	0.15-0.7A	L125*W13.7*H10.5mm
BK-DET030-C0800Ad	48VDC	30.4W MAX.	12-42VDC	0.1-0.8A	L125*W13.7*H10.5mm



Technical data

Product model	BK-DET012-A0700Ad	BK-DET012-A0800Ad
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.15-0.7A,see the DIP-switch for details	0.1-0.8A,see the DIP-switch for details
Rated output voltage range	3-15VDC,see the DIP-switch for details	3-15VDC,see the DIP-switch for details
Rated output power	10.5W Max,see the DIP-switch for details	12W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(10 levels)	
Output current ripple(typ.)	±2%(160kHz)	
Output current accuracy	±2%	
Linear regulation	N/A	
Load regulation	±3%	
No load output voltage	25VDC	
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.85%(1.5kHz), Flicker index(IEEE 1789)=0.001, Pst LM = 0.01, SVM = 0.007, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	48VDC±5%	
Input voltage range	N/A	
Input votage shock	N/A	
Input current	<0.27A (Rated input voltage)	<0.3A (Rated input voltage)
Input frequency	N/A	
Input PF/Input DF(typ.)	N/A	
Input THD(typ.)	N/A	
Efficiency(typ.)	85% , see the electrical values below for details	
In-rush current(typ.)	N/A	
Start/Switchover/Turn off	<0.6s(AC start),<0.5s(Turn off)	
Switching cycles	> 100,000 switching cycles	
Power consumption	Full load(Pin):14.1W, No load(Pno):N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	DALI-LED: 1500V AC, DALI-DCIN: 1500V AC.	
Mains surge capability	N/A	
Isolation resistance	>10GΩ	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	N/A	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1-100%(300-800mA),minimum current:3mA(100-300mA)	
Dimming drive mode	PWM(pulse width modulation)	
Emergency support		
Central emergency system	N/A	
Self-contained emergency	N/A	
Environment & Life time		
Operating temperature	Ta=-20-45°C(With package)	
Case temperature	Tc<100°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	N/A	
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		
Compliance certification	CE, DALI-2	
Safety	EN61347-1, EN61347-2-11	
EMC	EN55015, EN61000-4-2	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	N/A	
RF	N/A	

Remarks

- 1.By default, all parameter are measured at 48VDC input, 50Hz, full load and 25°C of ambient temperature.
- 2.when the driver is used with the luminaire, the EMC of the whole luminaire needs to be tested.

Technical data

Product model	BK-DET030-C0700Ad	BK-DET030-C0800Ad
Output parameters		
Regulation method	Constant Current	
Rated output current range	0.15-0.7A,see the DIP-switch for details	0.1-0.8A,see the DIP-switch for details
Rated output voltage range	12-42VDC,see the DIP-switch for details	12-42VDC,see the DIP-switch for details
Rated output power	29.4W Max,see the DIP-switch for details	30.4W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(10 levels)	
Output current ripple(typ.)	± 2%(160kHz)	
Output current accuracy	± 2%	
Linear regulation	N/A	
Load regulation	± 3%	
No load output voltage	25VDC	
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.99%(1.5kHz), Flicker index(IEEE 1789)=0.000, Pst LM = 0.014, SVM = 0.009, (The above parameters are obtained from testing the panel lights)	
Input parameters		
Rated input voltage range	48VDC± 5%	
Input voltage range	N/A	
Input votage shock	N/A	
Input current	<0.67A (Rated input voltage)	<0.69A (Rated input voltage)
Input frequency	N/A	
Input PF/Input DF(typ.)	N/A	
Input THD(typ.)	N/A	
Efficiency(typ.)	92.5% , see the electrical values below for details	
In-rush current(typ.)	N/A	
Start/Switchover/Turn off	<0.7s(AC start),<0.5s(Turn off)	
Switching cycles	> 100,000 switching cycles	
Power consumption	Full load(Pin):32.9W, No load(Pno):N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A	
Safety		
Withstand voltage	DALI-LED: 1500V AC, DALI-DCIN: 1500V AC.	
Mains surge capability	N/A	
Isolation resistance	>10GΩ	
Control interface		
DALI dimming port	Voltage range: 9.5-22.5V, typical 16V, interface current consumption: 1.8mA	
pushDIM dimming port	N/A	
1-10V 3in1 dimming port	N/A	
Auxiliary power supply	N/A	
Dimming range	1-100%	
Dimming drive mode	PWM(pulse width modulation)	
Emergency support		
Central emergency system	N/A	
Self-contained emergency	N/A	
Environment & Life time		
Operating temperature	Ta=-20-45°C(With package)	
Case temperature	Tc=100°C	
Operating humidity	5-85% RH, non-condensing	
Storage temp./humidity	-40-80°C, 5-85% RH, non-condensing	
IP grade	N/A	
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		
Compliance certification	CE, DALI-2	
Safety	EN61347-1, EN61347-2-11	
EMC	EN55015, EN61000-4-2	
DALI-2	IEC 62386-101(DALI-2), IEC 62386-102(DALI-2), IEC 62386-207(DALI-2)	
EL	N/A	
RF	N/A	

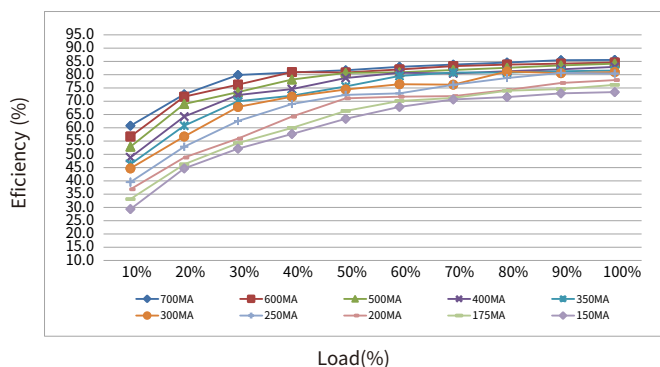
Remarks

- 1.By default, all parameter are measured at 48VDC input, 50Hz, full load and 25°C of ambient temperature.
- 2.when the driver is used with the luminaire, the EMC of the whole luminaire needs to be tested.

Electrical values

BK-DET012-A0700Ad

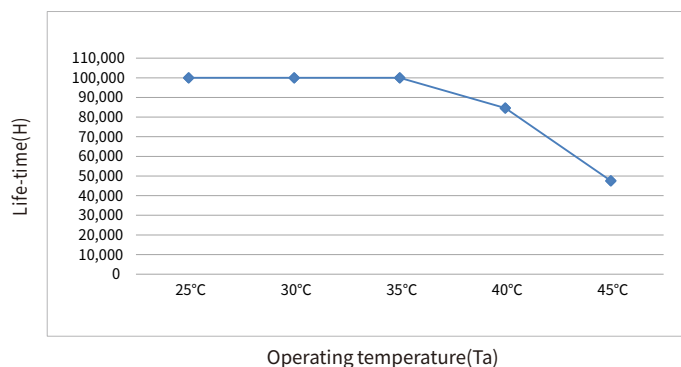
Efficiency vs load



Expected life-time

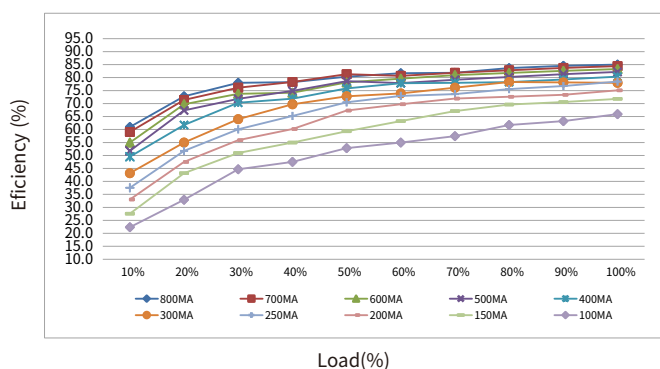
BK-DET012-A0700Ad

Life-time vs. Operating temperature



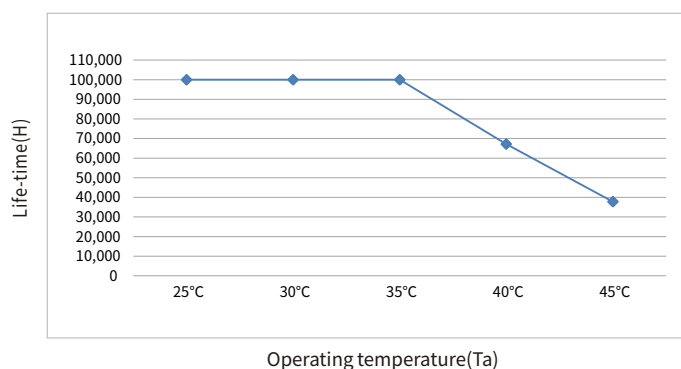
BK-DET012-A0800Ad

Efficiency vs load



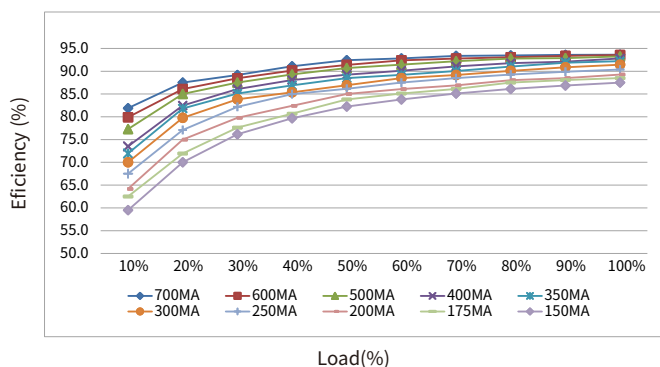
BK-DET012-A0800Ad

Life-time vs. Operating temperature



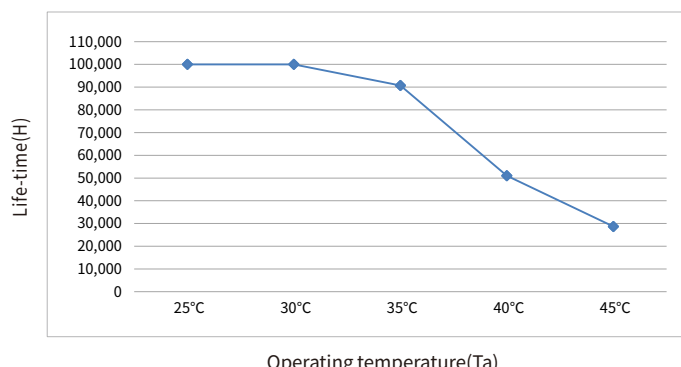
BK-DET030-C0700Ad

Efficiency vs load



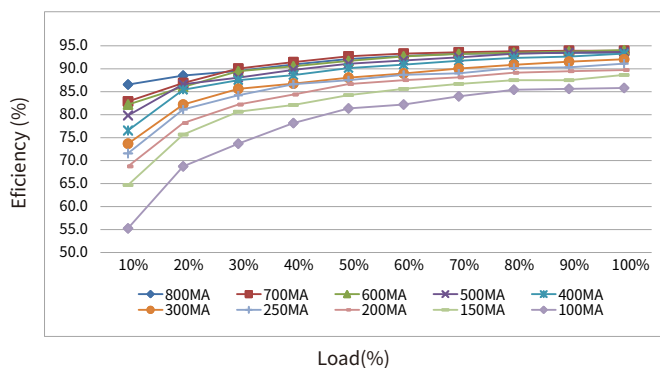
BK-DET030-C0700Ad

Life-time vs. Operating temperature



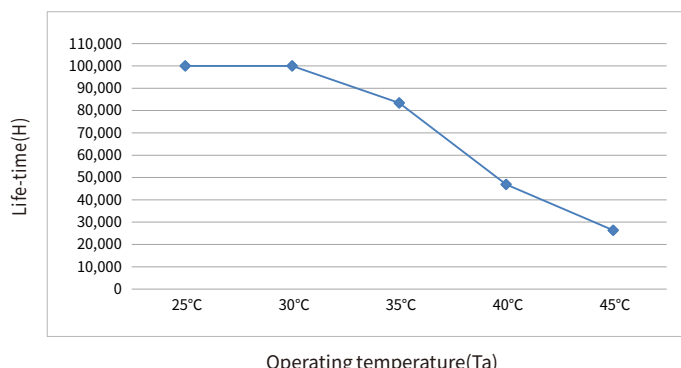
BK-DET030-C0800Ad

Efficiency vs load



BK-DET030-C0800Ad

Life-time vs. Operating temperature



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

Protection

Output hot plug-in protection

- This function is used to prevent LED light that are far below the driver's no-load voltage burnout when hot plugged into a powered driver output.
- This product comes with a default hot plug protection function at the factory and cannot be turned off.

- Note:

Due to the hot plug-in protection function of the driver, the following applications may not achieve the expected effect:

1. When the output of the driver is connected to the color temperature switch:
When the switch is used to change the color temperature, the hot plug-in protection of the driver will be triggered, and the LED will not be lit.
2. When the LED driver is used in conjunction with a self-contained (independent) emergency control device:
Use the self-check test switch of the emergency control device to test the emergency function and when exiting the emergency mode, the driver's hot plug-in protection will be triggered and the LED will not be lit.

The above two applications should use drivers without hot plug-in protection function to achieve the expected working effect.

It is recommended to choose our company's drivers without hot plug-in protection function or those that support configurable closing of hot plug-in function.

Label

BK-DET012-A0700Ad

PN:B-DET012-ALC1001Ad

Model:BK-DET012-A0700Ad

Switching selection sheet

Io(mA)	Uo(V)	1	2	3	4
150	3-15	--	ON	ON	ON
175	3-15	ON	--	ON	ON
200	3-15	--	ON	ON	ON
250	3-15	--	ON	ON	ON
300	3-15	--	ON	ON	ON

I/P:48Vdc~0.27A Max.

O/P:3-15Vdc(0.15-0.7A

10.5W Max. 48VDC Max.

Switching selection sheet

Io(mA)	Uo(V)	1	2	3	4
350	3-15	ON	ON	ON	--
400	3-15	ON	ON	--	ON
500	3-15	--	ON	--	ON
600	3-15	ON	--	--	ON
700	3-15	--	--	--	ON

BK-DET030-C0700Ad

PN:B-DET030-CLC1002Ad

I/P:48Vdc

Model:BK-DET030-C0700Ad

O/P:12-42Vdc(0.15-0.7A

10.5W Max. 48VDC Max.

Switching selection sheet

Switching selection sheet

Io(mA)	Uo(V)	1	2	3	4
150	12-42	--	ON	ON	ON
175	12-42	ON	--	ON	ON
200	12-42	--	ON	ON	ON
250	12-42	--	ON	ON	ON
300	12-42	--	ON	ON	ON

Io(mA)	Uo(V)	1	2	3	4
350	12-42	ON	ON	ON	--
400	12-42	--	--	ON	ON
500	12-42	ON	--	ON	--
600	12-42	ON	--	ON	--
700	12-42	--	--	ON	--

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 .

Driver restart method

There are two ways to restart the driver:

- Through the AC input:disconnect the AC of the driver and power it again.
- Through dimming interface.
DALI:send "OFF" command first,then send "MAX" command.

BK-DET012-A0800Ad

PN:B-DET012-ALC1002Ad						I/P:48Vdc~0.3A Max.										
Model:BK-DET012-A0800Ad						O/P:3-15Vdc(0.1-0.8A										
						12W Max. 48VDC Max.										
Switching selection sheet																
Io(mA)		Uo(V)		1	2	3	4	Io(mA)		Uo(V)		1	2	3	4	
100		3-15		--		ON	ON	ON	400		3-15		ON	ON	ON	ON
150		3-15		ON	--	ON	ON	ON	500		3-15		ON	--	ON	ON
200		3-15		--		ON	ON	ON	600		3-15		ON	--	ON	ON
250		3-15		--		ON	ON	ON	700		3-15		ON	--	ON	ON
300		3-15		--		ON	ON	ON	800		3-15		ON	--	ON	ON

BK-DET030-C0800Ad

PN:B-DET030-CLC1003Ad

I/P:48Vdc

Model:BK-DET030-C0800Ad

O/P:12-42Vdc(0.1-0.8A

Switching selection sheet

Io(mA)	Uo(V)	1	2	3	4
100	12-42	--	ON	ON	ON
150	12-42	ON	--	ON	ON
200	12-42	--	ON	ON	ON
250	12-42	--	ON	ON	ON
300	12-42	--	ON	ON	ON

Switching selection sheet

Io(mA)	Uo(V)	1	2	3	4
400	12-42	ON	ON	ON	--
500	12-42	--	--	ON	--
600	12-42	--	--	ON	--
700	12-42	ON	--	--	--
800	12-38	--	--	--	--

DIP-switch & output current

BK-DET012-A0700Ad

Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
2.25	150	3-15	--	ON	ON	ON
2.265	175	3-15	ON	--	ON	ON
3.00	200	3-15	--	--	ON	ON
3.75	250	3-15	--	ON	--	ON
4.50	300	3-15	--	--	--	ON
5.25	350	3-15	ON	ON	ON	--
6.00	400	3-15	--	--	ON	--
7.50	500	3-15	--	ON	--	--
9.00	600	3-15	ON	--	--	--
10.50	700	★ 3-15	--	--	--	--

BK-DET030-C0700Ad

Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
6.30	150	12-42	--	ON	ON	ON
7.35	175	12-42	ON	--	ON	ON
8.40	200	12-42	--	--	ON	ON
10.50	250	12-42	--	ON	--	ON
12.60	300	12-42	--	--	--	ON
14.70	350	12-42	ON	ON	ON	--
16.80	400	12-42	--	--	ON	--
21.00	500	12-42	--	ON	--	--
25.20	600	12-42	ON	--	--	--
29.40	700	★ 12-42	--	--	--	--

Remarks:

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

BK-DET012-A0800Ad

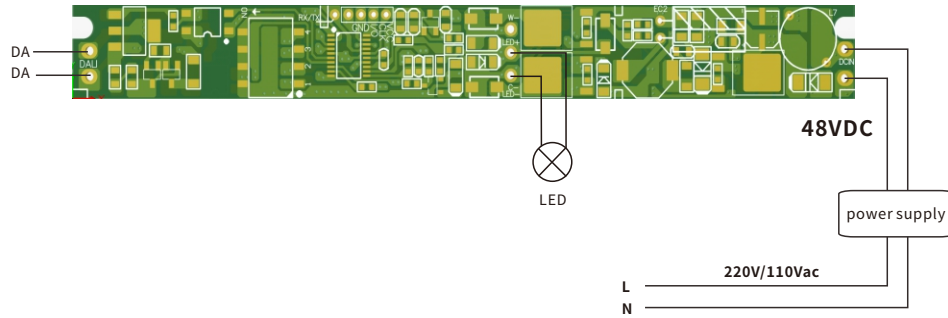
Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
1.50	100	3-15	--	ON	ON	ON
2.25	150	3-15	ON	--	ON	ON
3.00	200	3-15	--	--	ON	ON
3.75	250	3-15	--	ON	--	ON
4.50	300	3-15	--	--	--	ON
6.00	400	3-15	ON	ON	ON	--
7.50	500	3-15	--	--	ON	--
9.00	600	3-15	--	ON	--	--
10.50	700	3-15	ON	--	--	--
12.00	800	★ 3-15	--	--	--	--

BK-DET030-C0800Ad

Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
4.20	100	12-42	--	ON	ON	ON
6.30	150	12-42	ON	--	ON	ON
8.40	200	12-42	--	--	ON	ON
10.50	250	12-42	--	ON	--	ON
12.60	300	12-42	--	--	--	ON
16.80	400	12-42	ON	ON	ON	--
21.00	500	12-42	--	--	ON	--
25.20	600	12-42	--	ON	--	--
29.40	700	12-42	ON	--	--	--
30.40	800	★ 12-38	--	--	--	--

DALI dimming application

Wiring diagram



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 $2 \times 1.5\text{mm}^2$.
- 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
$2 \times 0.50\text{mm}^2$	max.100m
$2 \times 0.75\text{mm}^2$	max.150m
$2 \times 1.00\text{mm}^2$	max.200m
$\geq 2 \times 1.50\text{mm}^2$	max.300m

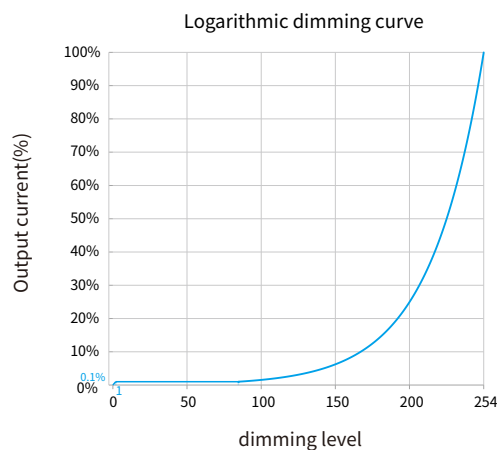
Power-on level :

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

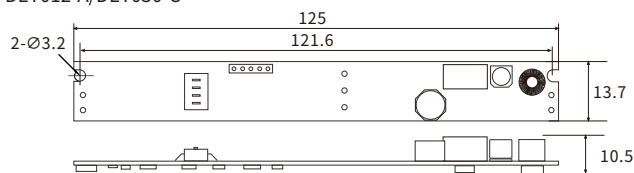


Remarks: The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

Installation

Unit:mm

DET012-A/DET030-C



Installation note

Hot plug-in

- When the function is not enabled, 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.
- Restart can be achieved by re-powering the driver or executing a on/off command (action) through the control interface.

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 rod for welding should be $390 \pm 10^{\circ}\text{C}$.
- Please be careful not to damage the electronics during assembly.
- All electronic components shall not be squeezed after assembly.

Wiring guidelines

- All connections must be kept as short as possible to ensure good EMI behaviour.
- Max. length of output wires is 0.5m.
- Incorrect wiring can damage LED modules.

Replace LED module

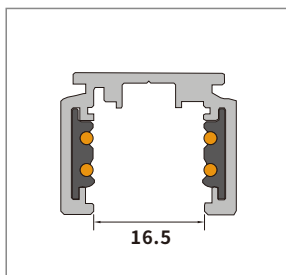
1. Mains off
2. Wait more than 5 seconds
3. Remove LED module
4. Connect LED module again

Compatible with the following guide rails

Number	Manufacturer	Housing model	Guide model
1	STUCCHI	9519-166,9519-166-M 9519-166-K,9519-166-M-K	9500-x/B-ST1-E(x=1,2,3) 9500-x/W2-ST1-E(x=1,2,3)
2	JBD	JB-01,JB-06	JB-M-x(x=X1,W1,W2,D2,2,4,5,C-2)

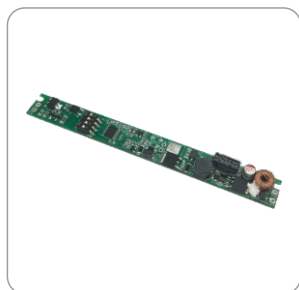


Track



dimensions and layout(Unit:mm)

Packaging



Product



EPE+Packaging



100pcs×4boxes=400pcs/CTN

Model	Product size	Weight	Packaging size	EPE size	Carton size	Qty/carton	N.W	G.W
DET012-A	L125*W13.7*H10.5mm	11g	L390*W280*H50mm	L370*W270*H20mm	L410*W300*H230mm	400pcs	4.4KG	5.85KG
DET030-A	L125*W13.7*H10.5mm	12g	L390*W280*H50mm	L370*W270*H20mm	L410*W300*H230mm	400pcs	4.8KG	6.25KG

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.