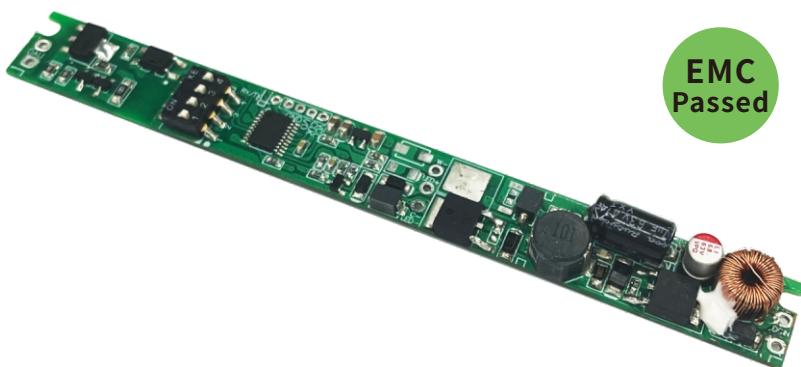


DC track light dimmable driver
DET Series suffix d(DALI-2 DT6)



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)

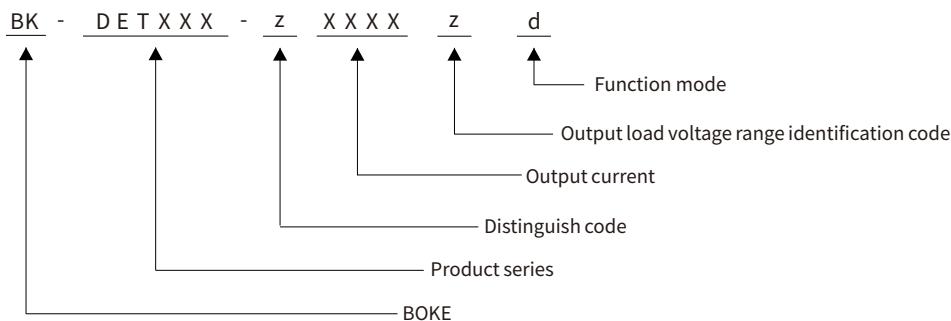
Suitable for lights

- 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.)	$\pm 2\%$ (160kHz)	
Output current accuracy	$\pm 2\%$	
Linear regulation	N/A	
Load regulation	$\pm 3\%$	
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 $\pm 5\%$	
Input voltage range	N/A	
Input voltage 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	>10G Ω	
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 voltage 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	

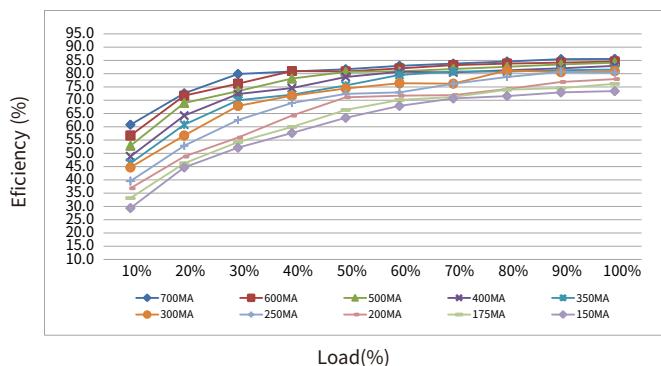
Remarks

- 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

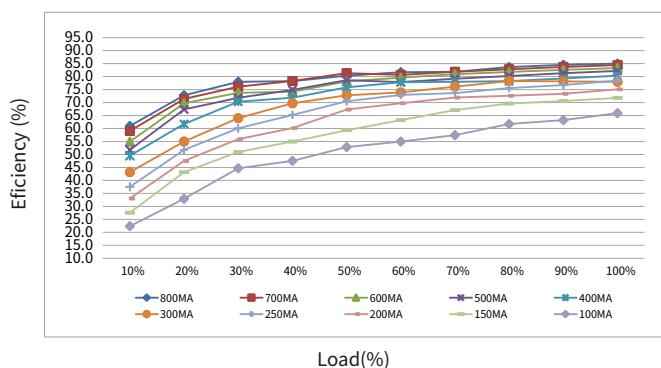
BK-DET012-A0700Ad

Efficiency vs load



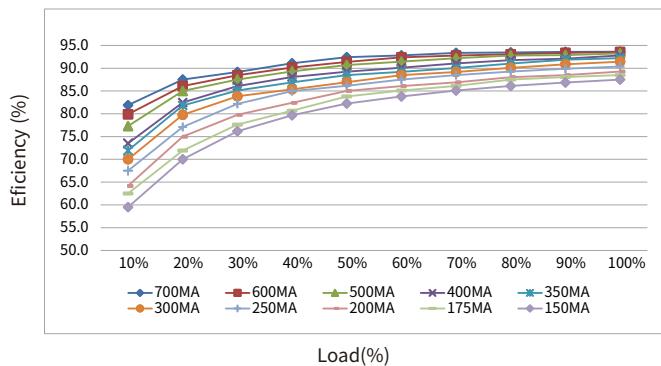
BK-DET012-A0800Ad

Efficiency vs load



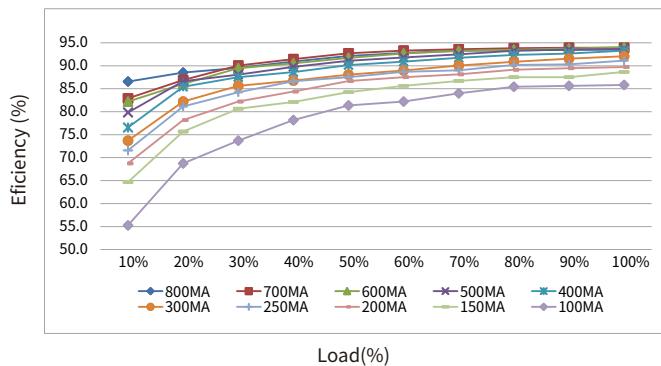
BK-DET030-C0700Ad

Efficiency vs load



BK-DET030-C0800Ad

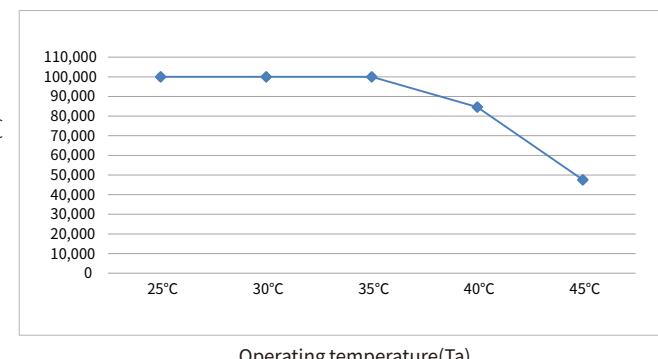
Efficiency vs load



Expected life-time

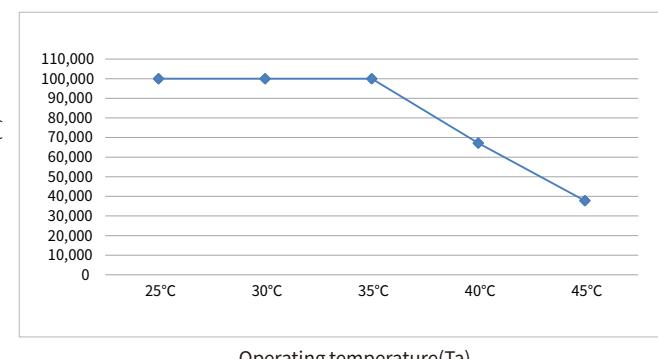
BK-DET012-A0700Ad

Life-time vs. Operating temperature



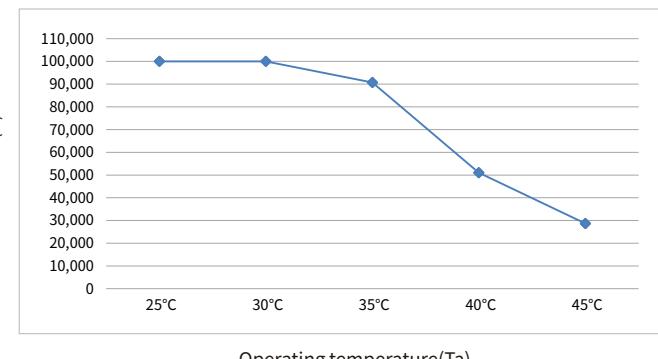
BK-DET012-A0800Ad

Life-time vs. Operating temperature



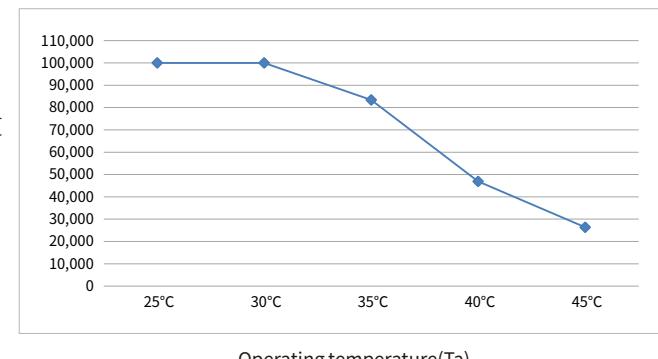
BK-DET030-C0700Ad

Life-time vs. Operating temperature



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		I/P:48Vdc ~ 0.27A Max.	
Model:BK-DET012-A0700Ad		O/P:3-15Vdc 0.15-0.7A	
Switching selection sheet			
Io(mA)	Uo(V)	1	2
150	3-15	ON	ON
175	3-15	ON	ON
200	3-15	—	ON
250	3-15	ON	ON
300	3-15	—	ON
		3	4
150	350	3-15	ON
175	400	3-15	—
200	500	3-15	ON
250	600	3-15	—
300	700	3-15	—

BK-DET030-C0700Ad

PN:B-DET030-CLC1002Ad		I/P:48Vdc	
Model:BK-DET030-C0700Ad		O/P:12-42Vdc 0.15-0.7A	
Switching selection sheet			
Io(mA)	Uo(V)	1	2
12-42	12-42	ON	ON
175	12-42	ON	ON
200	12-42	—	ON
250	12-42	ON	ON
300	12-42	—	ON
		3	4
12-42	350	12-42	ON
175	400	12-42	—
200	500	12-42	ON
250	600	12-42	ON
300	700	12-42	—

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.

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	
Switching selection sheet			
Io(mA)	Uo(V)	1	2
100	3-15	ON	ON
150	3-15	ON	ON
200	3-15	—	ON
250	3-15	ON	ON
300	3-15	—	ON
		3	4
100	400	3-15	ON
150	500	3-15	—
200	600	3-15	—
250	700	3-15	ON
300	800	3-15	—

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
100	12-42	ON	ON
150	12-42	ON	ON
200	12-42	—	ON
250	12-42	ON	ON
300	12-42	—	ON
		3	4
100	400	12-42	ON
150	500	12-42	—
200	600	12-42	—
250	700	12-42	ON
300	800	12-42	—

BK-DET012-A0800Ad

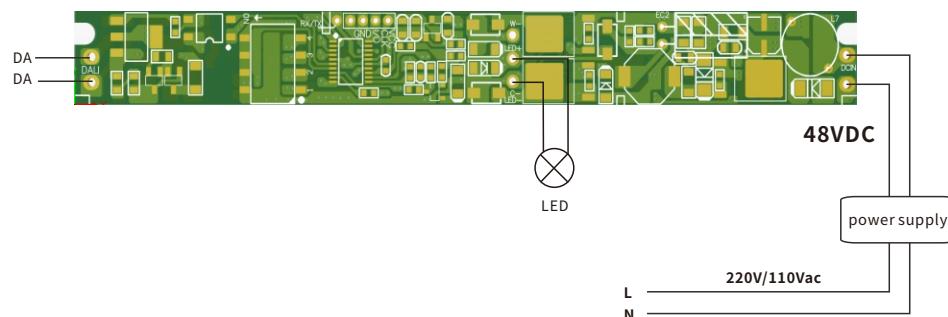
Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
1.50	100	3-15	--	ON	ON	ON
2.25	150	3-15	ON	--	ON	ON
3.00	200	3-15	--	--	ON	ON
3.75	250	3-15	--	ON	--	ON
4.50	300	3-15	--	--	--	ON
6.00	400	3-15	--	--	ON	--
7.50	500	3-15	--	--	ON	--
9.00	600	3-15	--	ON	--	--
10.50	700	3-15	--	ON	--	--
	★					

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	--
21.00	500	12-42	--	--	ON	--
25.20	600	12-42	--	ON	--	--
29.40	700	12-42	--	ON	--	--
30.40	800	12-42	--	--	--	--
	★					

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

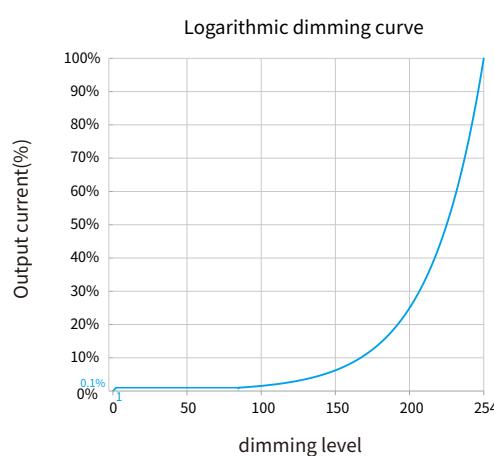
Power-on level :

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

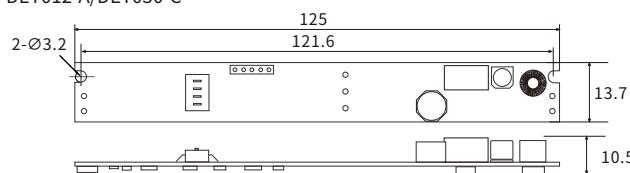


Remarks: The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

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

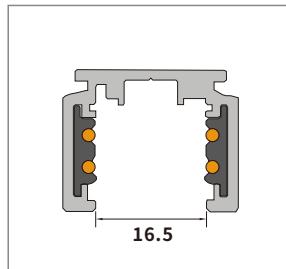
- The driver should be installed in a dry, acid-free, oil-free, fat-free environment.
- The installation ambient temperature of the driver shall not exceed the value of Ta at any time.
- **The temperature of the rod for welding should be $390 \pm 10^\circ\text{C}$.**
- Please be careful not to damage the electronics during assembly.
- All electronic components shall not be squeezed after assembly.

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 x 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.