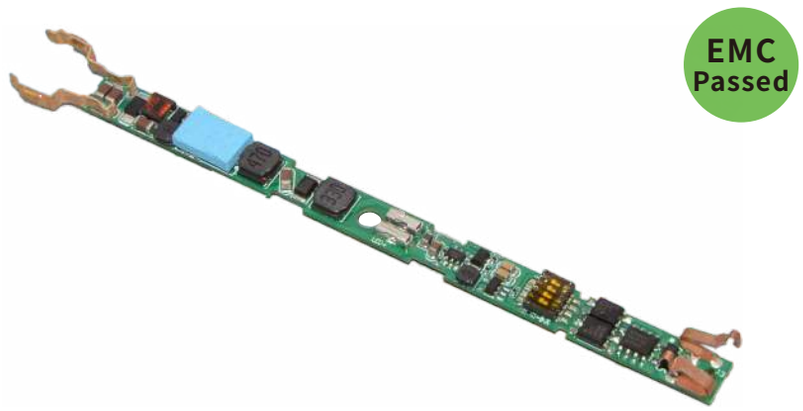
DC track light dimmable driver
DDET(S) Series suffix D(DALI-2 DT6)



EMC Passed

Features

- Support DALI-2 DT6 control
- Not polarity
- 16-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
- Dimming range 0.1~100%, output current accuracy 2%
- Standby power input < 0.5W, meets the requirements of ErP certification
- Intelligent LED hot-plug protection function (No more than 5 sets at the same time)
- Suitable for STUCCHI standard housing
- SELV and Class III design, suitable for use outside of the luminare
- 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 DDET(S) series

BK - DDETXXXS - ACE XXXX A D

- D: Function mode(D: DALI-2 DT6)
- A: Output load voltage range identification code
- XXXX: Output current
- ACE: Distinguish code
- DDETXXXS: Product series
- BK: BOKE

Technical data

Product model	BK-DDET024S-ACE0700AD
Output parameters	
Regulation method	Constant Current
Rated output current range	0.1-0.7A,see the DIP-switch for details
Rated output voltage range	8-40VDC,see the DIP-switch for details
Rated output power	25.2W Max,see the DIP-switch for details
Output current adjustment	DIP S.W(16 levels)
Output current ripple(typ.)	±2%(130kHz)
Output current accuracy	±2%
Linear regulation	N/A
Load regulation	±3%
No load output voltage	48VDC
Flicker-free(typ.)	Flickering percent(IEEE 1789)=0.116%(100Hz),Flicker index(IEEE 1789)=0.000(100Hz), Pst LM = 0.007, SVM = 0.001, (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	<0.58A (Rated input voltage)
Input frequency	N/A
Input power factor	N/A
Input THD	N/A
Efficiency(typ.)	92%,see the electrical values below for details
In-rush current	N/A
Start/Switchover/Turn off	<0.6s(DC start),<0.5s(Turn off)
Switching cycles	> 100,000 switching cycles
Power consumption(typ.)	Full load(Pin):27.4W, No load(Pno): N/A, On stand-by(Psb) : <0.5W, Network stand-by(Pnet) : N/A
Safety	
Withstand voltage	I/P-DALI: 1500V AC, O/P-DALI: 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	0.1%-100%(minimum current:0.8mA)
Dimming drive mode	AM(amplitude modulation)(Iout≥100mA)+PWM(pulse width modulation)(Iout<100mA)
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	N/A
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, Normaloperation)
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

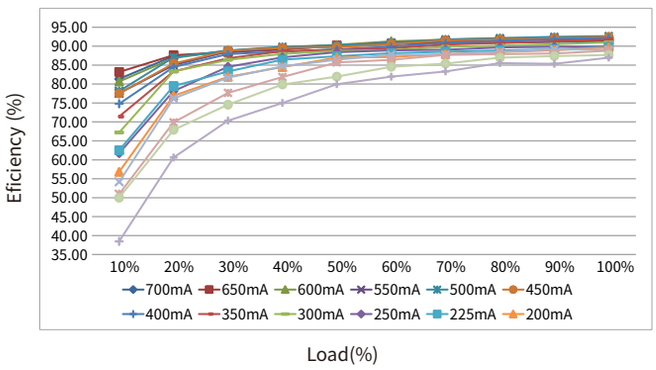
Remarks

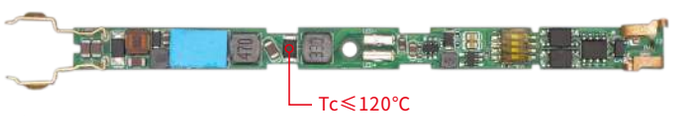
1.By default, all parameter are measured at 48VDC input, 50Hz, full load and 25°C of ambient temperature.
2.when the driver is used with the luminare, the EMC of the whole luminare needs to be tested.

Electrical values

BK-DDET024S-ACE0700AD

Efficiency vs load





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 .

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.

Output hot plug-in

- 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.

DIP-switch & output current

BK-DDET024S-ACE0700AD

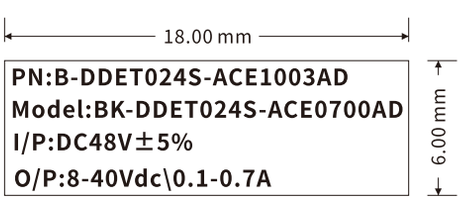
Output			1	2	3	4
Prated(W)	Irated(mA)	Voltage(Vdc)				
4.00	100	8-40	ON	ON	ON	ON
5.00	125	8-40	--	ON	ON	ON
6.00	150	8-40	ON	--	ON	ON
7.00	175	8-40	--	--	ON	ON
8.00	200	8-40	ON	ON	--	ON
9.00	225	8-40	--	ON	--	ON
10.00	250	8-40	ON	--	--	ON
12.00	300	8-40	--	--	--	ON
14.00	350	8-40	ON	ON	ON	--
16.00	400	8-40	--	ON	ON	--
18.00	450	8-40	ON	--	ON	--
20.00	500	8-40	--	--	ON	--
20.90	550	8-38	ON	ON	--	--
22.80	600	8-38	--	ON	--	--
23.40	650	8-36	ON	--	--	--
25.20	700 ★	8-36	--	--	--	--

Remarks:

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

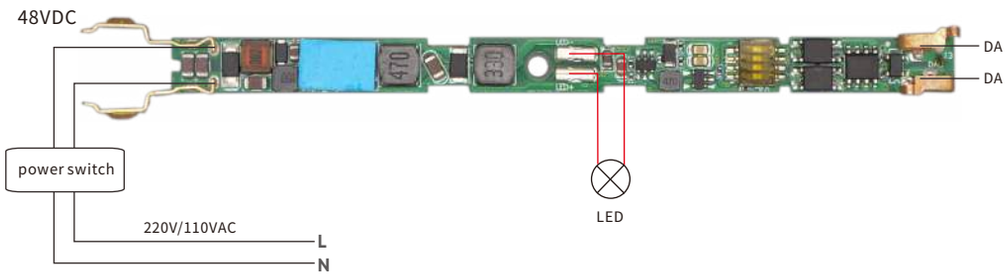
label

BK-DDET024S-ACE0700AD



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 2×1.5mm^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
2×0.50mm^2	max.100m
2×0.75mm^2	max.150m
2×1.00mm^2	max.200m
⩾2×1.50mm^2	max.300m

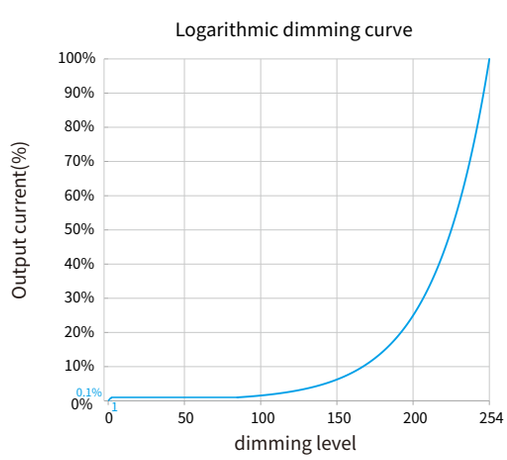
Power-on level :

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

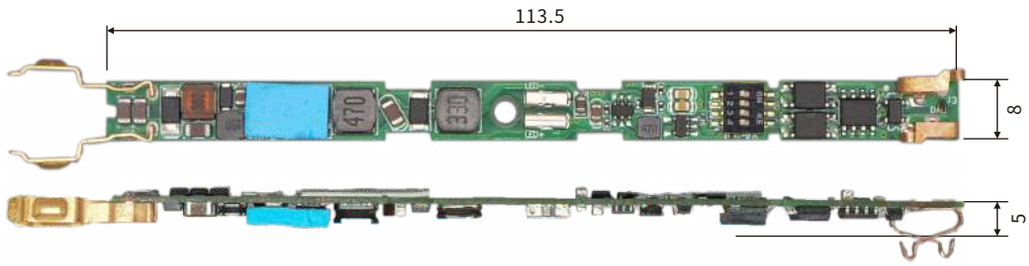


Remarks: The dimming curve can be selected by DALI configuration. The default is logarithmic dimming curve.

Installation

Unit:mm

DDET024S-ACE

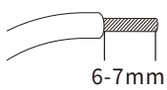


OUTPUT

Numbering	function
1	LED-
2	LED+

Output wire

0.2-0.5mm²



Installation note

LED 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.
- 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.
- **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. lenght of output wires is 0.5 m.
- Incorrect wiring can damage LED modules.

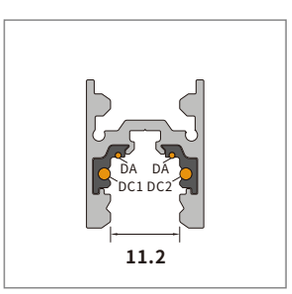
Replace LED module

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	9619-M1/B, 9619-M/B, 9619-M22/B	9600-x/B-ST1(x=1,2,3),9600-x/W2-ST1(x=1,2,3) 9600-x/B-ST5(x=1,2,3),9600-x/W2-ST5(x=1,2,3) 9600-x/B-ST15(x=1,2,3),9600-x/W2-ST15(x=1,2,3) 9600-x/B-ST16(x=1,2,3),9600-x/W2-ST16(x=1,2,3)
2	JBD	JB-15-01, JB15-02	JB-15A, JB-15B, JB-15C, JB-15D

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
DDET024S-ACE	L113.5*W8*H5mm	5.5g	L390*W280*H50mm	L370*W270*H20mm	L410*W300*H230mm	400pcs	2.2KG	3.7KG

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.