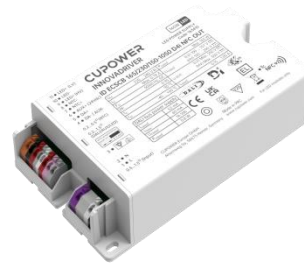


### Product features



- Built-in isolated adjustable power LED driver
- Supports DALI-2 D4i Parts 150 , 250 , 251 , 252 , 253
- For Zhaga Book18 Luminaires
- Current adjustment via NFC
- Flicker free LED driver
- Output current 150...1050 mA
- Max. output power 165 W
- Constant lumen output (CLO)
- DC emergency: Current output decreased to 15% (other values can be programmed)
- Current output default value 150 mA
- For luminaires with protection class I, II
- Auxiliary 24 V, 3 W power supply
- 5 years warranty
- Season Control, supports scheduled brightness control for lower energy consumption at midnight.



### Product specifications

#### 163410 ID ECSCB 165/230/150-1050 D4i NFC OUT

Output current	Input voltage	Output voltage	Efficiency Max	Current accuracy	Power factor	Dimension L X W X H (mm)
150...1050 mA	220...240 Vac 220...240 Vdc	LV 100...157 Vdc	93% ( @ 157 Vdc 1050 mA )	± 5%	> 0.95 @ full load	150.0 x 85.0 x 37.5
		HV 150...290 Vdc	94% ( @ 180 Vdc 700 mA )			

### Electrical specifications

#### Mains voltage supply

Rated input voltage range	220...240 Vac; performance range
Max. input voltage range	198...264 Vac; operational safety range
Rated frequency range	0/50/60 Hz
Max. input current	0.78 A @ 230 Vac

#### Battery operation

DC voltage range	220...240 Vdc; performance range
Max. DC voltage range	176...276 Vdc; operational safety range

#### Protection against voltage peaks

Withstand voltage	I/p-O/p: 3 kVac, < 5 mA 60 sec, I/p-Da: 1.5 kVac, < 5 mA 60 sec, O/p-Da: 1.5 kVac, < 5 mA 60 sec
Mains surge immunity	L-N 6 kV, L-FG 10 kV, N-FG 10 kV

### Total harmonic distortion (THD)

At rated input voltage range @ full load	< 10%
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### Output data

Output current tolerance	± 5% at rated input voltage range
No load output voltage	250 Vdc (LV) , 350 Vdc (HV)
Ripple output current	3% (ripple = peak/average total 100 Hz)
Output PstLM	≤ 1 at full load @ rated input voltage
Output SVM	≤ 0.4 at full load @ rated input voltage
DC emergency level	DALI current output decreased to 15% (programmable)

### Protection functions output side

Overvoltage protection	The output voltage is less than or equal to 250 Vdc (LV) , 350 Vdc (HV)
Overpower protection	The output power is less than or equal to 170 W
Short circuit protection	<p>Short circuit protection is designed to turn off the output and cannot be automatically restored. After removing the short circuit, the output can be restored by one of the following two operations:</p> <ul style="list-style-type: none"> <li>• After receiving DALI instruction Off, turn on the light by dimming instruction.</li> <li>• Restart the driver: Power on the driver five seconds after the power failure.</li> </ul>
No load output voltage	<p>Open circuit protection is designed to turn off the output and cannot be automatically restored. After removing the open circuit, the output can be restored by one of the following two operations:</p> <ul style="list-style-type: none"> <li>• After receiving DALI instruction Off, turn on the light by dimming instruction.</li> <li>• Restart the driver: Power on the driver five seconds after the power failure.</li> </ul>

### Dimming operation and interface

Standby power consumption	< 0.3 W ( @ DALI BUS OFF)
Dimming mode	DALI-2
Dimming method	Amplitude dimming
Dimming current range	1%...100% (min. 15 mA)

### Integrated DALI bus power supply

Maximum allowed DALI bus supply current:	Max 250 mA (@All D4i DALI bus current combine)
Typical output current	55 mA
Output voltage	13.6 ... 18.4 V

### AUX power supply

Typical output voltage	24 V (voltage accuracy ± 5%)
Output current	Nor 125 mA , Peak 250 mA

### Connection terminals

Connection terminal type	45° push in terminal
Wire cross section	Input wire: 0.5...1.5 mm <sup>2</sup> ; Output wire: 0.2...1.5 mm <sup>2</sup> (0.2...0.5 mm <sup>2</sup> For NTC)

Wire stripping length	8...9 mm
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### Degree of protection

Protection rating	IP20
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### Operating data

Output current range	NFC control adjusts the current: 150...1050 mA
Default current	150 mA
Output voltage range	100...157 Vdc(LV),150...290 Vdc(HV)
Noise level	< 24 dB, at full load @ 100 cm distance

### Circuit breaker / Inrush current

MCB loading quantity	Inrush current I <sub>peak</sub> : 92 A			Inrush current T <sub>width</sub> : 210 µs	
	MCB type	B10	C10	B16	C16
	Units	5	9	8	14

### Supplementary instructions

- The luminaire manufacturer is responsible for measuring and verifying the EMI compliance of the complete luminaire, as the level of radio interference will vary depending on the luminaire construction. Especially primary and secondary cable lengths and their routing may have a significant effect on radio interference.
- External NTC are supported for temperature protection of the LED module or luminaire.
- Mind the polarity of the DALI lines. DA+ to DA+, DA- to DA- only.
- If you operate several operating devices in a luminaire/installation on the DALI bus, make sure that the permissible DALI bus current is not exceeded, as this can lead to functional problems and possibly damage to the bus devices.
- The luminaire manufacturer must ensure that condensation water cannot be created within the fixture.
- LEDset and NTC functionality share the same connection terminal; both features are not simultaneously available.
- LEDset functionalities are limited only to the current setting, via codified resistor.

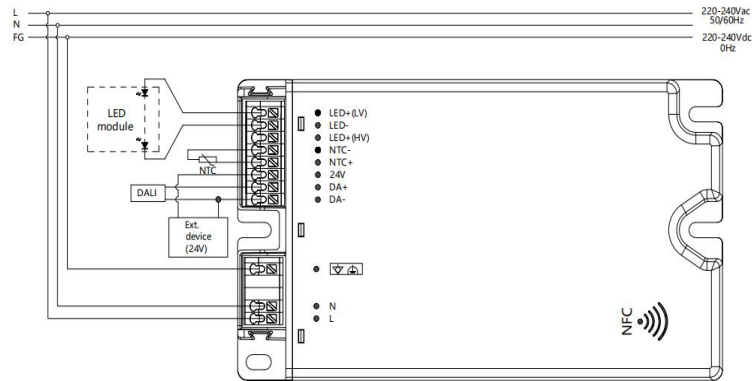
### Environmental specifications

Operating temperature	-40...+60°C
Storage temperature	-40...+85°C
Working humidity	5%...85%
Store humidity	5%...95%
Lifetime	HV at T <sub>c</sub> 90°C: 50,000 hrs; at T <sub>c</sub> 80°C: 100,000 hrs; LV at T <sub>c</sub> 85°C: 50,000 hrs ; at T <sub>c</sub> 75°C: 100,000 hrs @ 230 Vac
Maximum T <sub>c</sub> temperature	90°C

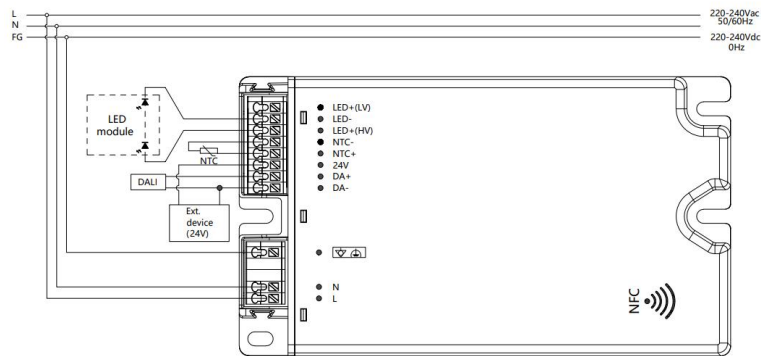


### Wiring diagram

#### Low Voltage output (LV)

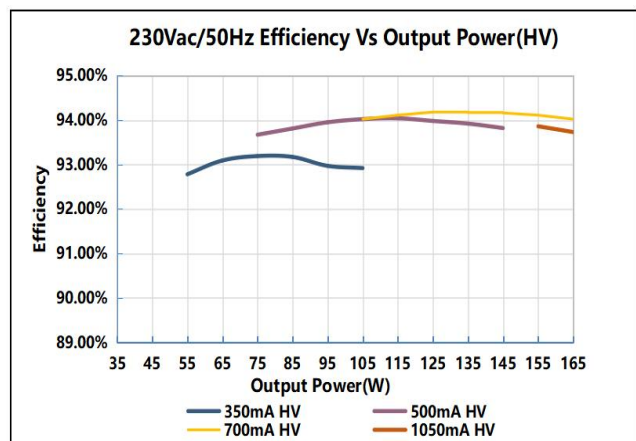
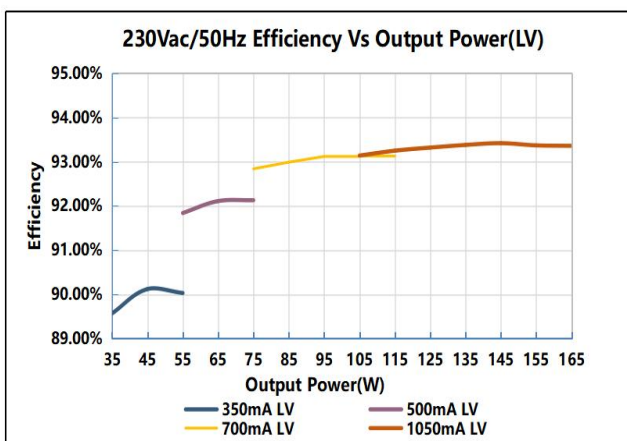
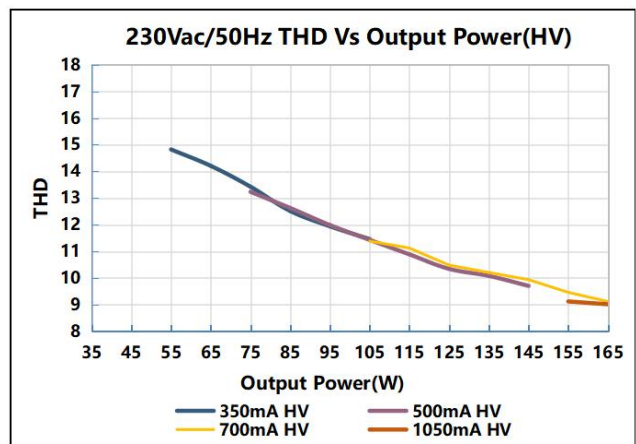
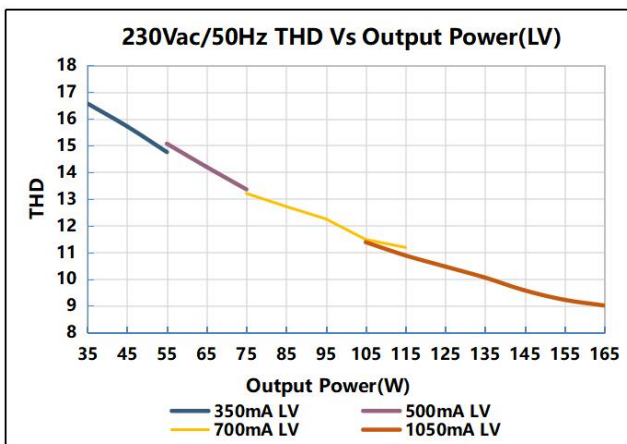
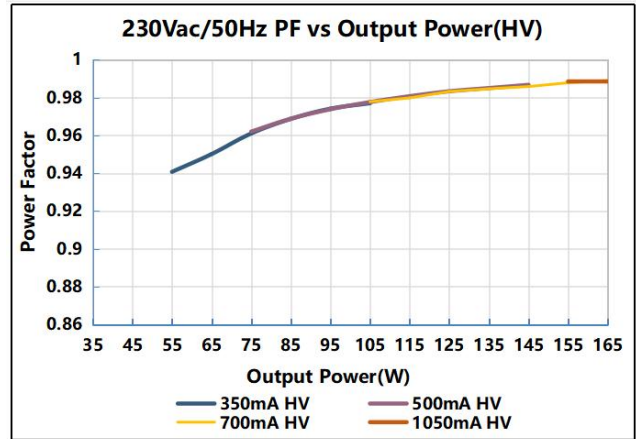
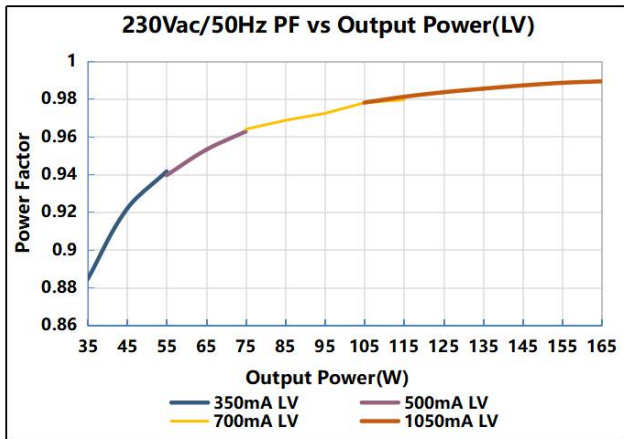


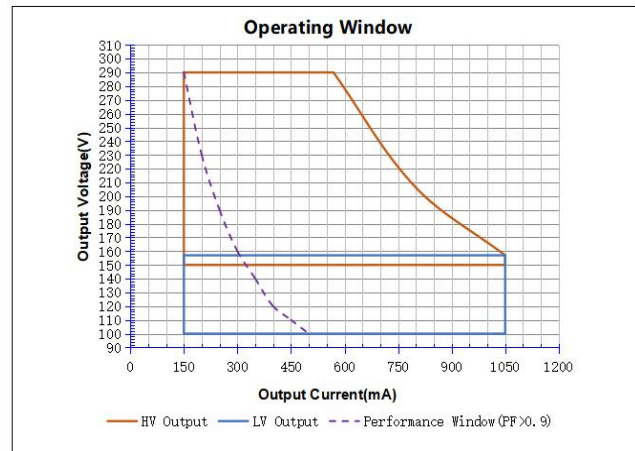
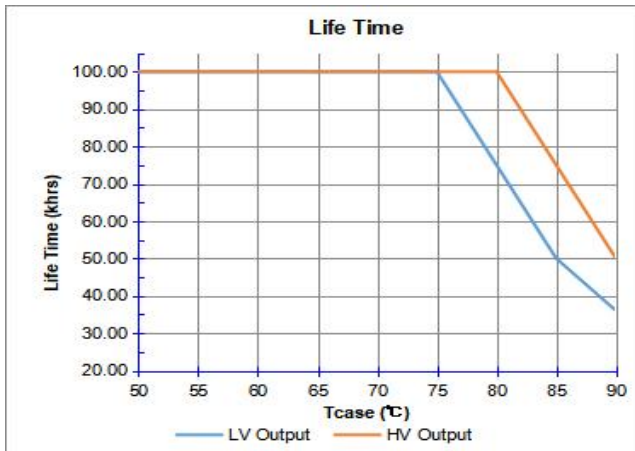
#### High Voltage output (HV)



- All connections must be as short as possible to ensure good EMI performance.
- The luminaire wire should keep a certain distance from the LED power supply and other wires (5...10 cm is preferred).
- No secondary switches are allowed.
- LV and HV outputs are selective and cannot be connected to both LV and HV at the same time. Incorrect wiring can damage the LED.
- The wire must be well protected against short circuit.

Technical information (DALI bus power supply deactivated. No-load on AUX power supply.)





1. It's important to set the output current (AOC value) according to the LED voltage and make sure the power is within 165 W + 5%.
2. Make sure that the LED driver is operated within the given window under all operating conditions. Special attention needs to be paid at dimming and DC emergency operation as the forward voltage of the connected LED modules varies with the dimming level, due to the implemented amplitude dimming technology. Coming below the specified minimum output voltage of the LED driver may cause the device to shut-down.

### Example of AOC settings

V LED (Vdc)	AOC max	Pout (W)
290	150 mA	43.5
290	569 mA	165
206	800 mA	165
157	1050 mA	165