

# *Driver*

- self made LED fixtures
- easy to use
- low cost
- dimming options
- battery supply
- CV supply



**Futuro  
Lighting**  
*design*

# LED Driver ISOE

96% efficiency typical

Build your own LED fixture



Specification:

Topology: Buck

Vcc = 4,5-60 V DC

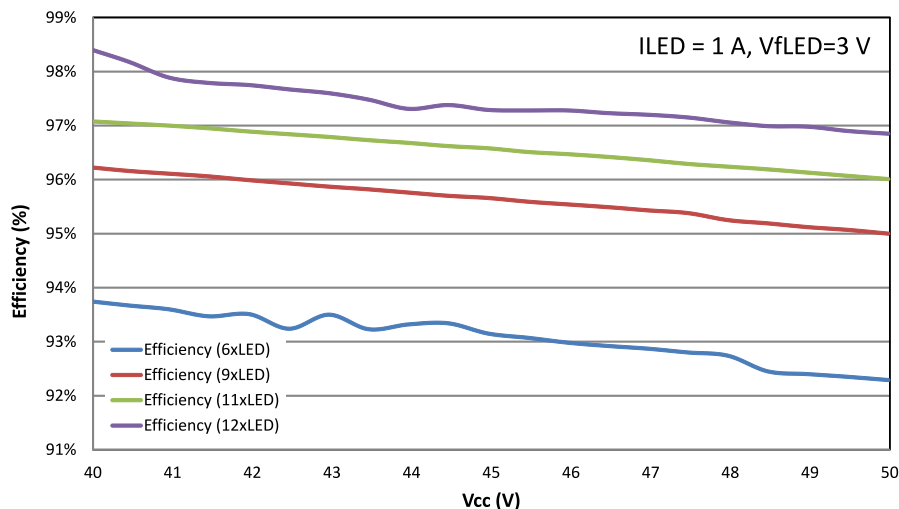
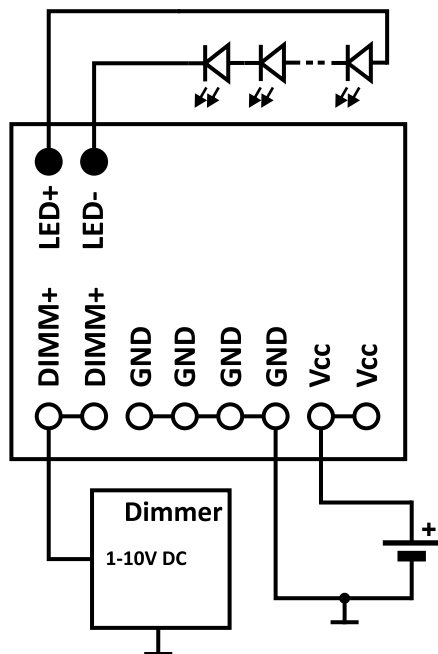
I LED = Adjustable  
see next page for  
settings

Switching freq: 1 MHz max

Dimensions: 50 x 33 x 17 mm

- Over temperature protection
- Over current protection
- Reverse protection
- Thermal foldback

- built in Varistor, TVS
- 1-10V dimming input
- built in connector
- implemented EMI filter
- built in bulk capacitor
- high reliable terminals



Note: if PWM is not connected max ILED generated  
Options: encapsulation, reverse protection, thermal  
foldback, MCPCB support

# LED Driver ISOE

*LED current setting*

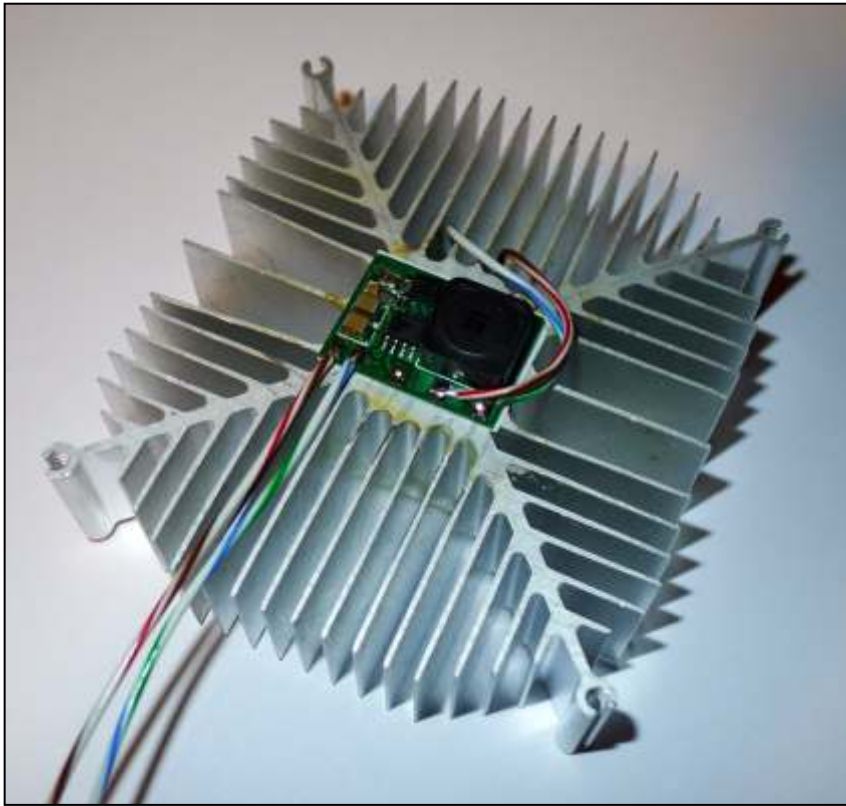


ILED	1	2	3
0,32 A	-	-	-
0,6 A	X	-	-
0,65 A	-	X	-
0,8 A	-	-	X
0,9 A	X	X	-
1A	X	-	X
1,1 A	-	X	X
1,4 A	X	X	X

X - linked by soldering iron

# LED Driver ISOE

*Thermal foldback*

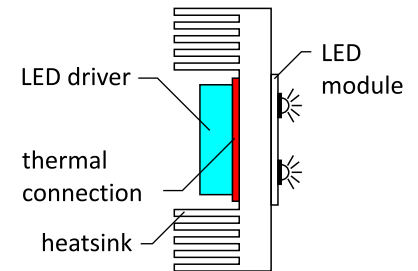


*Application Example*

Connecting back side of LED driver to fixture heatsink will protect LED fixture against overheating thus extending LED life time and provide safe fixture operation.

Thermal foldback is temperature of the module is set to  $\sim 80^{\circ}\text{C}$

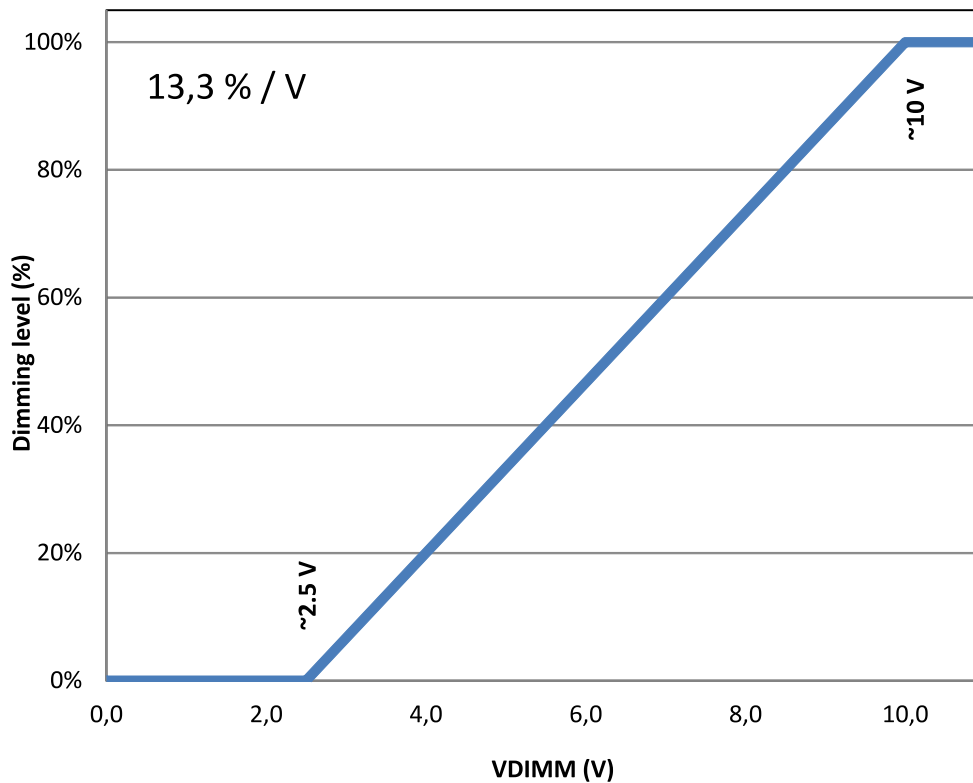
thermal connection can be done by appropriate thermo conductive both side tape or glue



# LED Driver I50E

*Analog Dimming example (remote)*

*Appropriate for remote dimming (1-10V dimmer)*



# 3-CH Digital dimmer for LED Driver 150 series

*Ready made solution for your lighting needs*



## **Specification:**

Supply voltage 30-60 V DC

Power consumption: 1,2 W max

Model: Custom for LED Driver 150

Output voltage 0,55 - 2,55 VDC

Output current: 20 mA / channel max

Number of dimm steps: 250

Illumination: Front - Side Blue LED

End of range indication: blink (Blue)

Power-up fade-in duration: 30 sec

Setting memory type: EEPROM

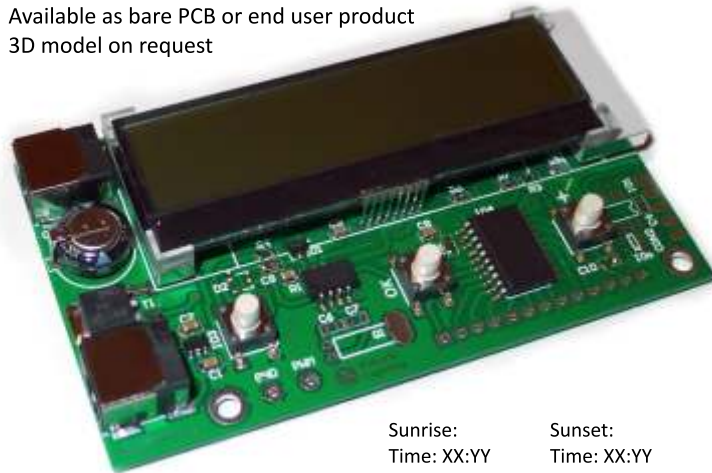
Dimensions: 85 x 85 x 30 mm



Note: Implemented non isolated buck driver  
may generate audible noise, this is regular behaving

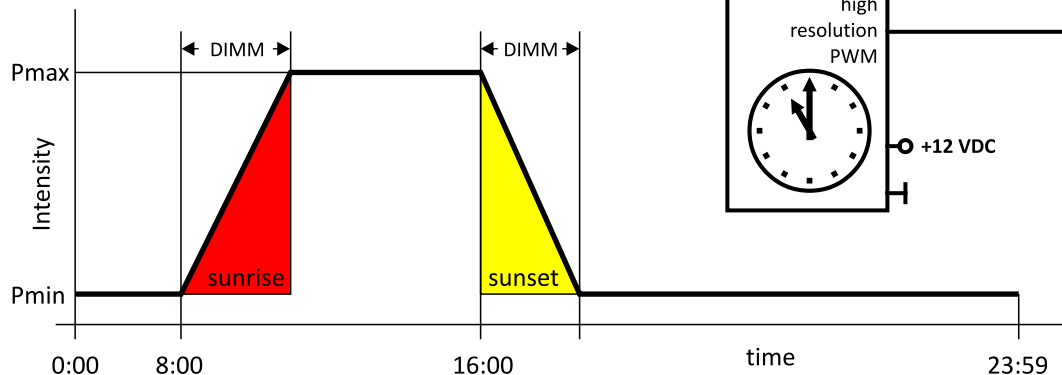
# AquaTimer & LED Driver 150

Available as bare PCB or end user product  
3D model on request



Sunrise:  
Time: XX:YY  
P = 10-100%  
Dimm = 5-99

Sunset:  
Time: XX:YY  
P = 0-90%  
Dimm = 5-99



## Specification:

Supply Voltage: 6-25 VDC

Supply current: <15 mA

Power consumption: 0,65 W max

Clock source: RTC 24h

Settings for sunset and sunrise:

Start time XX:YY

Intensity 0-100%

Dimm time: 5-99 minutes

PWM frequency: 2000 Hz

Resolution: 1000 steps

Output: 5V / 10mA

Output: CV, 4A max

Display: 2x16 lines

Actual time, status,

intensity, Menu

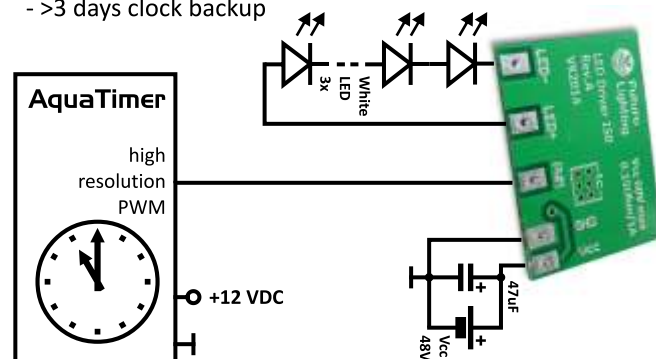
Illuminated (white)

## Others:

- Reverse protection

- >3 days clock backup

Dimensions: 87x50x10 mm



# TouchDIMM & LED Driver 150

*Just single push to adjust*  
*Application example*



Available as bare PCB  
3D model on request

Control:  
ON / OFF - short touch (<2sec)

## Specification:

Supply Voltage: 6-25 VDC

Supply current: <5 mA

Output: PWM / CV 4A max

PWM frequency: 2000 Hz

Resolution: 1000 steps

Output: 5V / 10mA

Dimm steps: 100

Dimming characteristic: Log

Dimensions:

50x13x10 mm

50x13x3.5 mm (wo DC con)

## Others:

- Reverse protection
- implemented soft fade in and fade out
- illumination of touch button
- built in N-MOS for CV LED strips



### Intensity increase

Touch and hold till reaching required intensity (initial status OFF)



### Intensity decrease

Touch and hold till reaching required intensity (initial status ON)



### Indicator status

Inactive when off or during fade in and out

