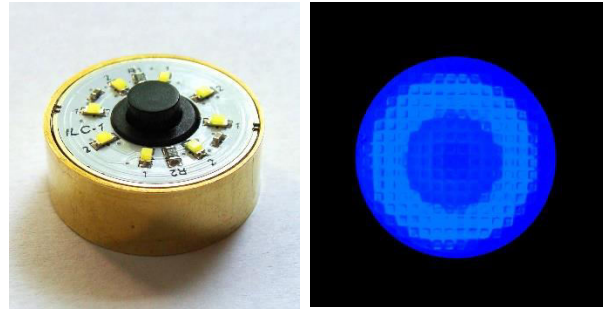


ILC-1 series

8xLED 16x8mm illuminated tailcap module/drop-in



ILC-1 illuminated tailcap modules are devices with integrated reverse clicky switch and tailcap LED illumination with control electronics in one, easy to use case. Depending on LEDs current and color, flashlights equipped with ILC-1 module can be visible not just in dark, but even under normal light conditions, which makes them easy to find and differentiate. LED tailcap illumination is usually much brighter compared to tritium vials, costs less and colors are more saturated.

With ILC-1 and 8 LED colors available, every light looks exotic!

ILC-1 is designed for small Convoy flashlight hosts with 16x8mm silicone tailcap buttons, in combination with LD-x4 driver series.

Ultra-low power 2-channel circuitry drives 8 LEDs with *constant current*, which ensures constant tailcap brightness, completely independent on battery voltage, LED's forward voltage/color, bleeder resistance, and temperature variations. LEDs current can be easily set up to 600uA with two 0603 resistors. All LEDs are closely matched by their V_f , to ensure equal current distribution through each LED.

Also, very important feature is built-in 2-step low voltage protection which shuts down LEDs when battery voltage drops below 3.0V and protects battery from over-discharge.

Features:

- 8x LED (2x4) for maximum light uniformity
- Constant current LED drive (2 separate channels) – stable tailcap brightness over voltage and temperature range
- Closely matched LEDs by their V_f
- Reverse polarity protection
- Low voltage protection
- Easy constant current set via single 0603 resistor on top PCB (per channel)
- 8 basic LED colors available
- Integrated OMTEN 1288 switch
- 10mm diameter spring pad
- Gold plated PCBs
- Translucent tailcap button and spring included
- Lead free

LED Color options:

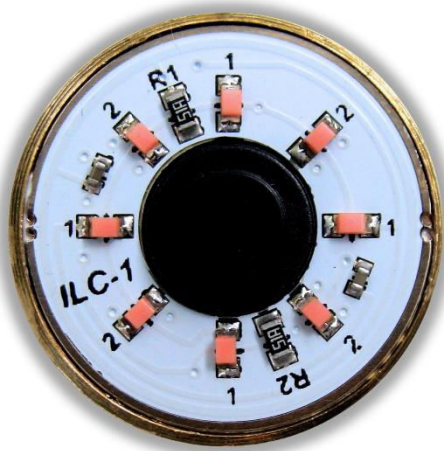
- Red
- Green
- Blue
- Orange
- Cool white
- Warm white/Gold
- Purple/pink
- Ice blue/aqua

Electrical characteristics:

- Input voltage: 2.8V-4.35V
- Switch type: OMTEN 1288, reverse clicky switch
- Switch rated current: 3A* (tested up to 15A)
- Active state (operating) current: 4uA typ.
- Sleep/off current: 1.5uA typ.
- Step 1 LVP (reducing current) threshold: $3.0V + 350 \times I_{total}$
- Step 2 LVP (shutdown) threshold: 3.0V typ.
- Number of constant current outputs/channels: 2
- Max. recommended current: 600uA total (channel1 + channel2)
- Operating temperature: -20C - +60C

Mechanical characteristics:

- Diameter: 18.00±0.1mm
- Height (brass ring only): 6.9±0.1mm
- Height (total): 9.4±0.1mm
- Spring pad diameter: 10mm



$$I_{chx} = \frac{100}{R_x} \text{ [mA]}$$

$$I_{total} = I_{ch1} + I_{ch2} \text{ [mA]}$$

$$I_{LEDx} = \frac{1}{4} I_{chx} \text{ [mA]}$$

R1 – channel 1 current set resistor

R2 – channel 2 current set resistor

“1” – channel 1 LEDs

“2” – channel 2 LEDs

