



AL-Splitter

**dimmable, equal current
for 2 LEDs from one driver**



Product Description - AL-Splitter

This device connects one 0 to 700 ma LED driver to two 350 mA LEDs. Dimming is supported from 1% to 100%.

Without this device – parallel LEDs would have an imbalance in the current flowing – the imbalance can be as high as 50% - reducing the lifetime significantly. The AL-Splitter is effectively a microprocessor controlled current mirror.

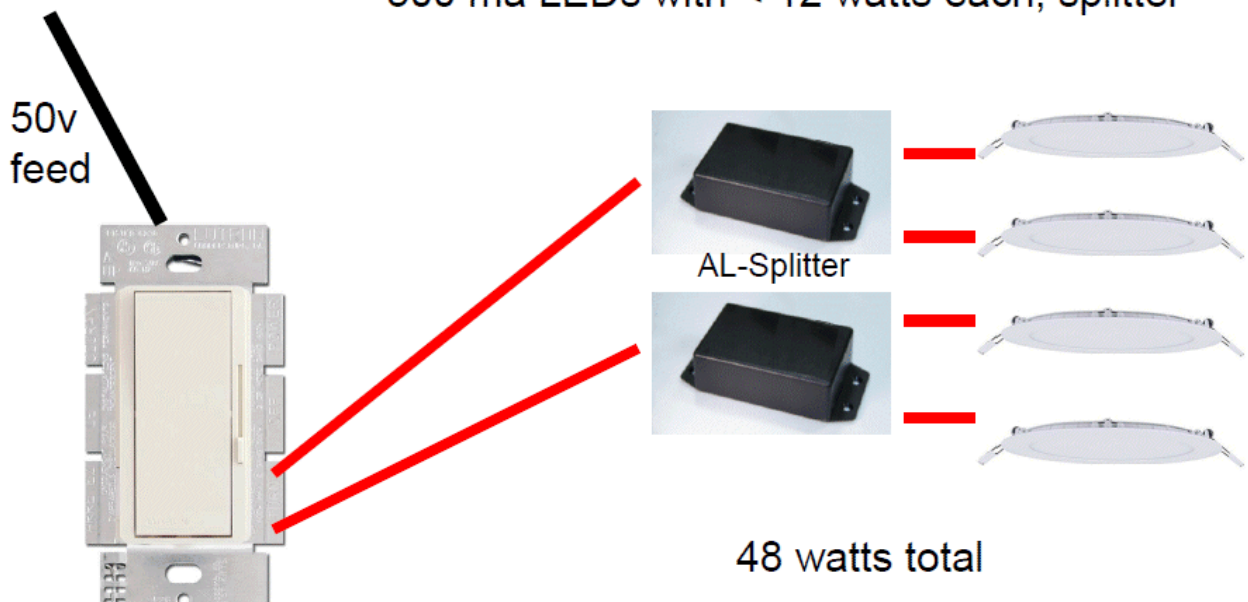
With this device – the current flowing in each of 2 attached LEDs will be in balance within 2%. It is a current splitter that automatically balances the load and allows dimming.

In addition, overcurrent protection is included in case one string fails, or if the 2 LEDs are different wattages. Temperature changes are tracked automatically. If one string fails – the other string will be limited to 350ma max, then fallback in case of overload to operate at 10 ma – 400 milliwatts in most LED's. This provides enough light for people to find exits and to identify bad LEDs.

Specifications

Power source	Spring loaded connectors
Power to LED1 and 2	Spring loaded connectors
Power to LED 1	2.1mm x 5.5mm DC connector, female
Automatic failure management and user assistance	LED failure short or open LED mistake – mismatched LEDs Wiring fault open or short or reverse
Input voltage range	10v to 57 volts
Input current	0 to 700 mA
Internal Power consumption	.3 watts at 700 mA
Protection	Reverse protection and static protection
Operating Temperature	0°C ~ 50°C
Size	55 mm x 50mm x 20 mm
CCT mode	A PWM signal on the Control input allows the current in each leg to be varied from 50/50 to 90/10

300 ma LEDs with < 12 watts each, splitter



Operation Modes

If one LED is open, the other operates at 0-350 mA normally,

Open LED detection

If currents above 350 mA are attempted, then good led is then limited to 10 mA until the next power cycle

If the two LEDs are not the same wattage, the higher power will operate normally from 0-350 mA, the lower power LED will be limited to 10 mA

Mis Match detection

If currents above 350 mA are attempted - both LEDs will be limited to 10 mA each until the next power cycled

If a PWM signal is applied to the Control input – the current in each LED can be offset. The default is 50/50% if there is no signal (or open). If a signal is detected – then the two LEDs attached can be offset up to 90/10.

Color Temperature Mode

there is a non-zero insertion loss in the mode – the maximum loss is about 3% which occurs at 33/67 ratios

Current / Mode	No-LED	One LED	Mis-Match	Normal two matched LEDs
Power On				Full On 300 ms test
0-25 mA	5 mA each	Full On	Higher Power full on other 10 mA	Full On
24-350 mA	5 mA each	Full On	Higher Power full on other 10 mA ch	50% of current each
> 350 mA	5 mA each	10 mA each	Higher Power – 10 mA lower power – 5 mA	50% of current each
Retry method 10 seconds	Turn ON for 300ms select mode	Measure LED minus select mode	No retest	Check for errors change mode if needed