

# ATX LED

100% DC low voltage

ATX LED Consultants Inc  
815-A Brazos #326  
Austin TX, 78701  
512 377 6052  
<http://atx-led.com>

## AL-WS-DR1

**Decorator style  
Constant Current LED  
Dimmer / Driver  
with integrated switch  
24 watts 3-Way**



### Product Description - AL-WS-DR1 wall switch

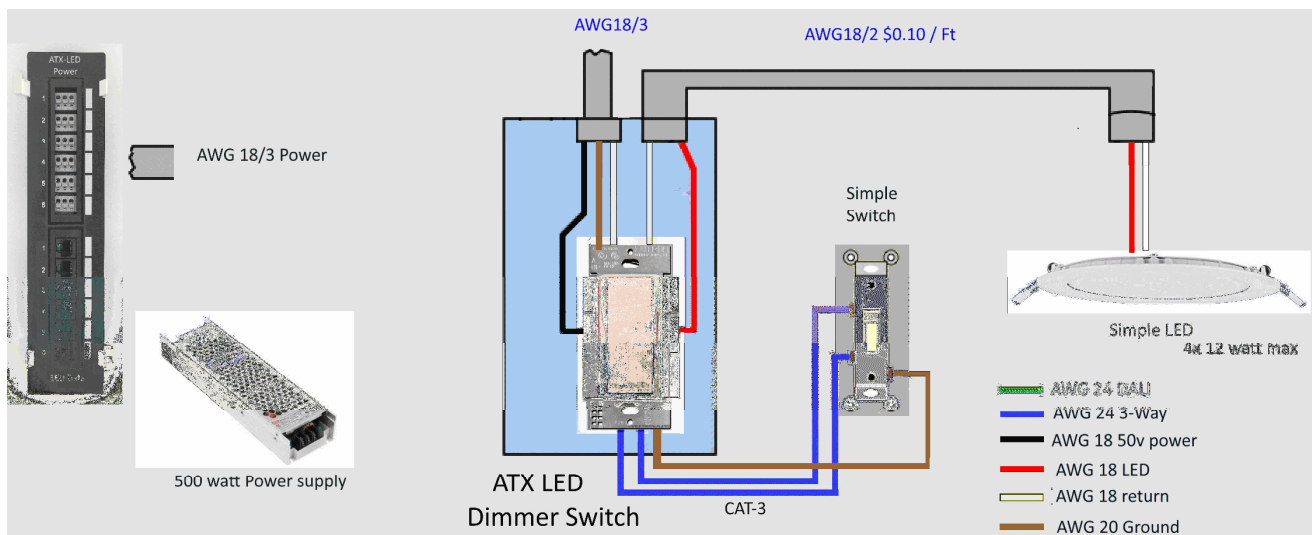
This switch operates just like any standard residential light switch – however it takes 24-50v DC instead of 120VAC, and directly drives up to 24 watts of driverless LED fixtures and bulbs. This Decorator style switch in a standard residential style outline fits into any home, looks like any switch yet meets NEC article 411 for low voltage lighting.

For 3-way operation – a simple 2 wire link with AWG24 or better allows 2, 3, or an unlimited numbers of switches to control one set of LED's. Any single pole switch found at Home Depot can be used to add a 3-Way remote switch, or dual pole switch for an unlimited number of switch points.

Stand alone it operates as a simple switch for a string of LED's. Typically 1 to 4 LEDs with 660 mA ( 6 watts) each are connected for 24 watts total. Use AWG 16 or 18 to bring 48v ( or 24 to 50 volts ) from a central power supply over to the switches, then use AWG 18 to connect to your LEDs – no tools are required to wire this device.

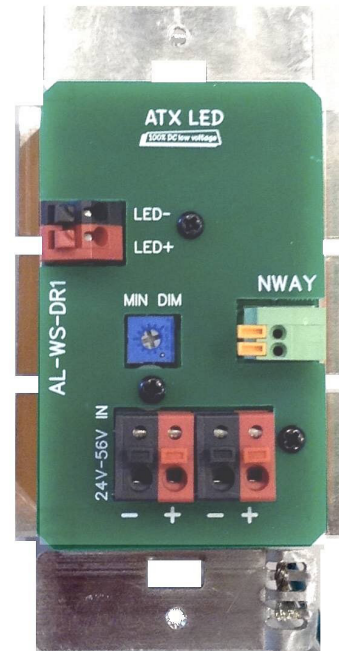
A proven rocker switch and brightness slider leverages mass production of decorator switches, now for low voltage applications – any casual user requires no training, no App to use this switch. Perfect, flicker free dimming from off to 10% to 100%.

To enable Home / Business automation – the AL-WS-DR1 can be replaced by a AL-WS-DR2 which uses the DALI protocol, or the AL-WS-DR2W which uses WiFi – the wiring to the power panel and LEDs is the same.



### Specifications

Power source and load	Spring loaded connectors ( 2 pairs ) for AWG 16-20 wire
LED constant current output	660 mA max current – one channel Spring loaded connectors Connect 4 LEDs with 660mA each
300 mA option	Contact us for a 300 mA current option
Constant Voltage Option	Contact us for a 24 or 48v Voltage option
Input voltage range	24v to 50 volts DC
Standby power consumption	10 milliwatts
Conversion efficiency	Over 95%
Protection	Reverse protection and static protection
Operating Temperature	0°C ~ 50°C
Size	108H (metal) 70H x 34 D x 42 W mm
Dimming	10 to 100 % , , Current control with temperature tracking
FCC and interference	All outputs are RF filtered for minimal interference
Maximum output voltage	Input minus 4 volts
Minimum output voltage	6 volts
Hot Swap	Yes - can unplug and connect LEDs with power applied.
External Switch	Use with simple contact to turn the light on closed contact is ON



## Wiring the AL-WS-DR2 for up to 8 LEDs

See <http://atxled.com/How2> for more examples

## Powering the AL-WS-DR1

Power the switch via the Power input connectors, 48 to 56vdc is recommended. You can feed from the input to the output up to 2 amps. The output connectors allow multiple switches to share one home run.

## External switch input connection (N-Way)

This input is used to turn the light on from a remote switch. A simple closed contact will turn the light on.

## Door Jam Operation

A simple Normally Closed door alarm switch can be wired to the N-way input. Then – when the door opens – the light will go on.

## Recommended ETL listed LED's

LED rated watts	Type	Model	Size inches **	LED rating	Max Count @51v	Total power output Watts	Note
6	Flat Ceiling	P023R6	3 / 5	660 mA	5	30	2x 4 series
12	Flat Ceiling	P023R11	6 / 7.5	1440 mA	5	32***	2x 5 in series
6	Recessed	DL-120	1 / 5	660 mA	5	30	2x 4 in series
6	Gimbal Spot	MS31008	3	660 mA	5	30	2x 4 in series
6	Bulb	ATX-A60	E26	660 mA	5	30	2x 4 series
6	Bulb	ATX-C35	E12	660 mA	5	30	2x 4 series
6	Bulb	E26-48v6w	E26	120 mA	6	36	2x Parallel
14	Closet	FMMCL 18 840 S1 M4	18	360 Ma*	2*	28	2x Parallel
7	Closet	FMMCL 840 S1 M4	7	360 mA*	4*	28	2x 2 in series
12	linear	P023S12	18	1440mA	6 ft	32***	2x 4 series
35	Strip	GL-24-LH99A DC48v	195	700 mA	15 ft	35	2x Parallel
6	Outdoor Small	ODB6	5	660 mA	5	30	2x 4 series

\* 360 mA fixtures can be supported using the AL-Doubler

\*\* size 3 / 5 means 3 inch light source and 5 inch trim diameter

\*\*\* these 12 watt LEDs will operate at 6.5 watts each when used with the DR2 at 720 mA.