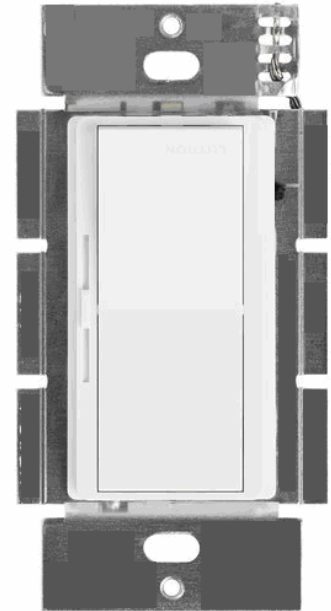


<http://atx-led.com>

## AL-WS-DR1-CV

Universal LED Dimmer / Driver  
Left Side Slider  
with Rocker switch  
32 / 65 watts 3-Way

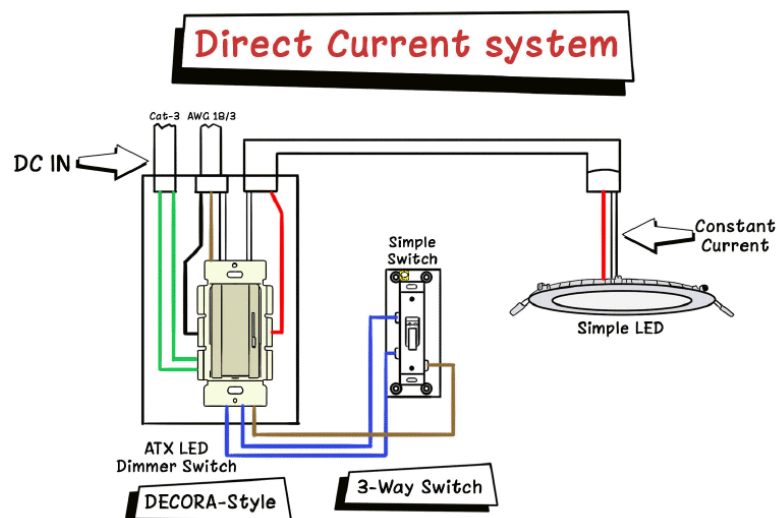
Works with CC, CV and CL Fixtures/Strips



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

This switch operates just like any standard residential light switch – however it takes 24-54v DC instead of 120VAC, and directly drives up to 65 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.

Stand alone it operates as a simple switch for a string of LED's. Compatible with CV, CL or CC LED fixtures. Best usages is using AWG 18 to bring 51v from a central power supply over to daisy chained switches, then use AWG 18 to connect to your LEDs. For 3-way operation – one pair of AWG20/w allows a simple 3-way switch from Home Depot to control the attached LED's.

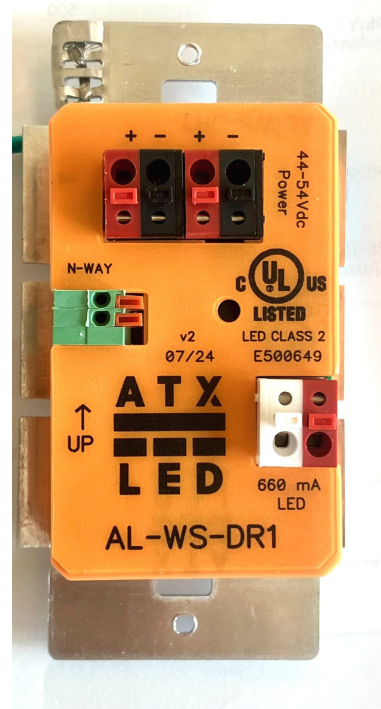


A proven rocker switch and brightness slider leverages mass production of decorator switches, now for low voltage applications – any casual user requires no training, no App to use this switch. Perfect, flicker free dimming from off to 1% to 100%.

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.

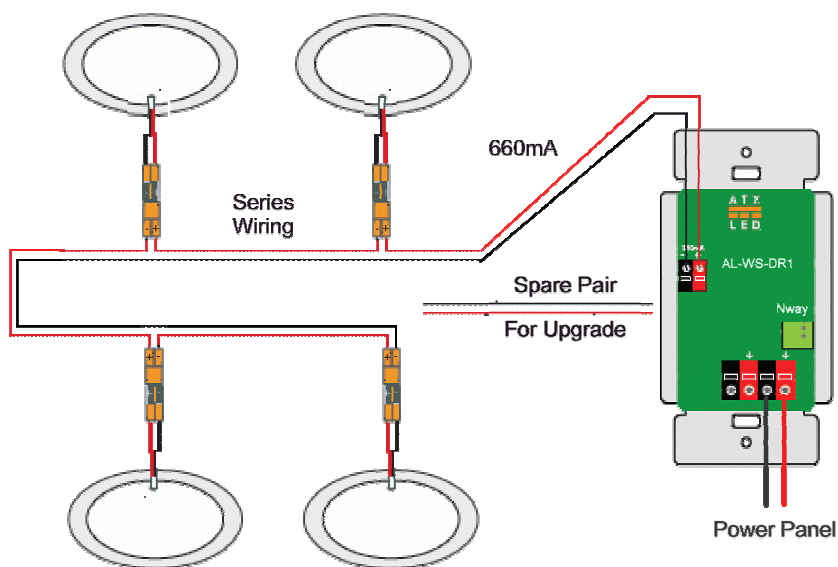
#### Specifications

Power source and load	Spring loaded connectors ( 2 pairs ) for AWG 16-20 wire
LED constant current output	1320 mA max current – one channel adjustable from 660mA to 1320 mA Spring loaded connectors
Dimming Range	100% to 1%
CC Fixtures	Set the current to 660 mA, 990 mA or 1320mA
CV or CL Fixtures	Adjustment to set full dimming range
24 or 51v Strips	Up to 65 Watts @ 51v ( fixed color )
Input voltage range	24v to 52 volts DC
Standby power consumption	20 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
FCC and interference	All outputs are RF filtered for minimal interference
Maximum output voltage	95% of Input voltage
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-DR1 for CC LEDs

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



## Powering the AL-WS-DR1-CV

Power the switch via either Red/Black Power input connectors, 51 to 54vdc is recommended. The Dual connectors allow multiple switches to share one home run without wire nuts.

## Overload Protection

You cannot overload the AL-WS-DR1-CV. Internal current limiting and other protections eliminate service problems

## 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.

## Slider Orientation

The brightness slider is on the left side of the switch – this matches the AL-WS-DR2 and other products.

## CC Fixtures

There is a potentiometer to adjust the max current. Full Counterclockwise is 660mA, middle is 990 mA, full clockwise is 1320 mA. These are wired in series. See table for max count.

## CV and CL Fixtures and Strips

There is a potentiometer to adjust dimming range. Set the slider to full, adjust the Potentiometer until a small change in brightness occurs. This will set the dimming range to full. There is no limit to the number of fixtures attached, there is a limit of 65 watts. So if there are 15 fixtures, they will get max 4.2 watts each. You cannot damage the device with overload. You cannot disrupt the home run power budget – the max wattage is 65 watts.

## Minimum Dimming

When the slider is set to the lowest level, the watts supplied will be 400 mW, this is about 1% of the max

## Fewer than 4 CL fixtures, 24 watts

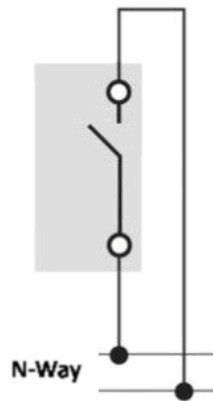
If there are fewer than 32 watts of CL loading, then the dimming range will be reduced. For precise dimming of 6 to 18 watts of load, Ask for the lower wattage option.

## 24 Volt operation

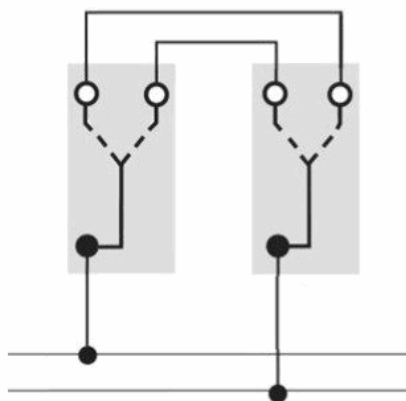
When using a 24v strip, please use a 24v power supply .

## 3-Way diagrams

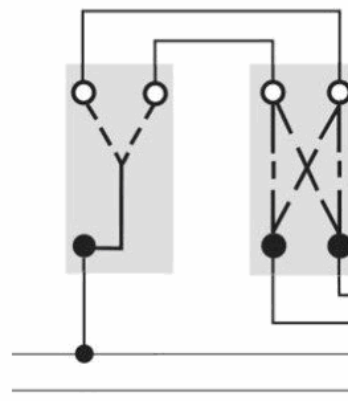
Single-Pole



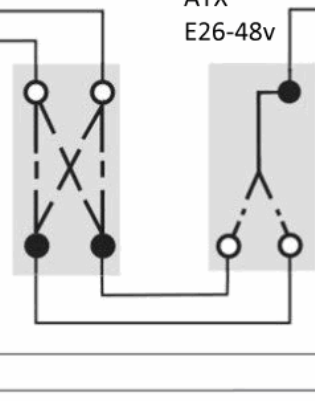
3-Way to 3-Way



3-Way

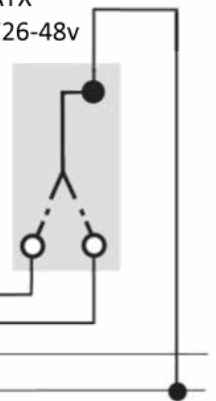


4-Way



3-Way

ATX  
E26-48v



## Recommended ETL/UL listed LED's

LED rated watts	Type	Model	Hole Size inch	LED rating mA	Max Count @51v	Total power output Watts	Type
6	Flat Ceiling	P023R6-660	4	660	5	30	CC
6	Flat Ceiling	P023R6-Q2	4	990	8	48	CC
6	Flat Ceiling	P023R6-Q4	4	660	4	48	CC
6	Flat Ceiling	P023R6-51v	4	120	11	65	CV
12	Flat Ceiling	P023R11-1320	6	1320	5	65	CC
6	Flat Ceiling	P02106-Q2	6	1320	8	65	CC
6	Recessed	DL-120	4	660	5	30	CC
6	Trimless	TI-60	2.75	660	5	30	CC
6	Pendant	PEN-60	2.75	660	5	30	CC
6	Gimbal Spot	DL-125	2.75	660	5	30	CC
6	Bulb	AL-E26-660mA	E26	660	5	30	CC
3	Bulb	AL-E12-330mA	E12	65	-	-	Use AL-WS-DR2
6	Bulb	AL-E26-48v6w	E26	120	11	65	CV
3	Bulb	AL-E12-48v6w	E12	80	20	60	CV
5	Bulb	G4, G9, GU10-48v5w	GU10	120	11	65	CV
65	Strip	AL-GL-48v30w		2w/ft	32 ft	65	CV
32	Strip	Generic 24v		2w/ft	16 ft	32	CV
6	Outdoor Small	ODB6	5	660	5	30	Use AL-CM-CVCC