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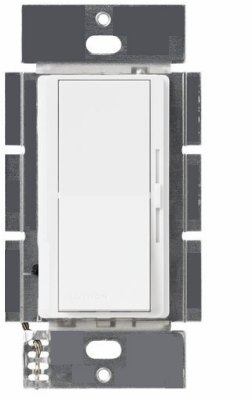
AL-WS-DR1

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



Product Description - AL-WS-DR1 wall switch

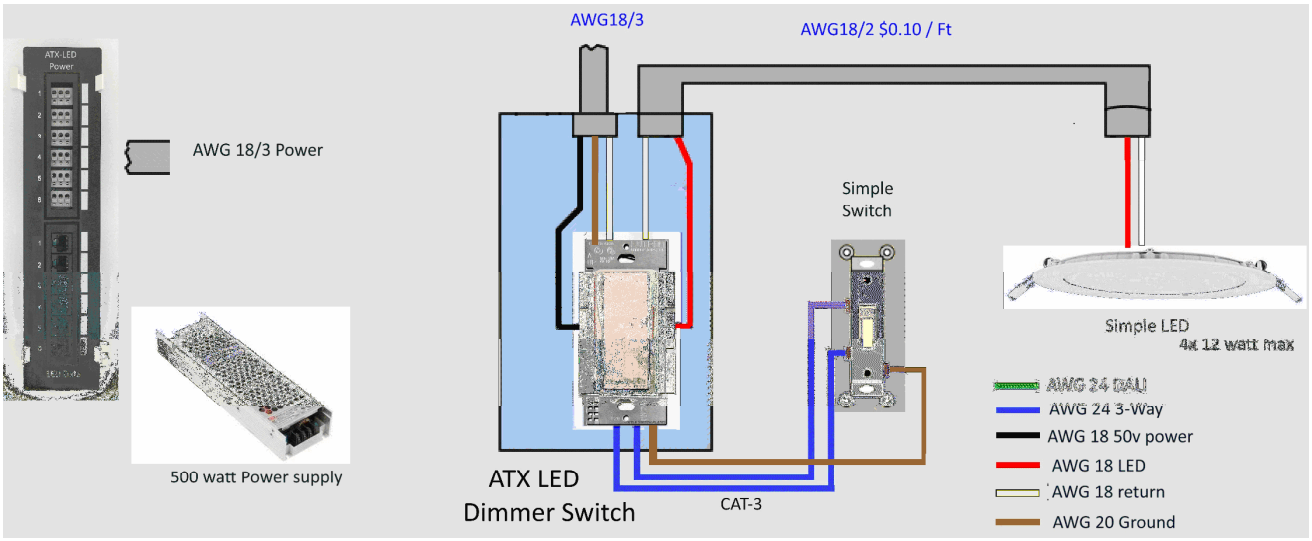
This switch operates just like any standard residential light switch – however it takes 24-54v DC instead of 120VAC, and directly drives up to 24 watts of driverless LED fixtures and bulbs. This Decorator style switch in a standard residential style outline fits into any home, looks like any switch yet 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 54 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.

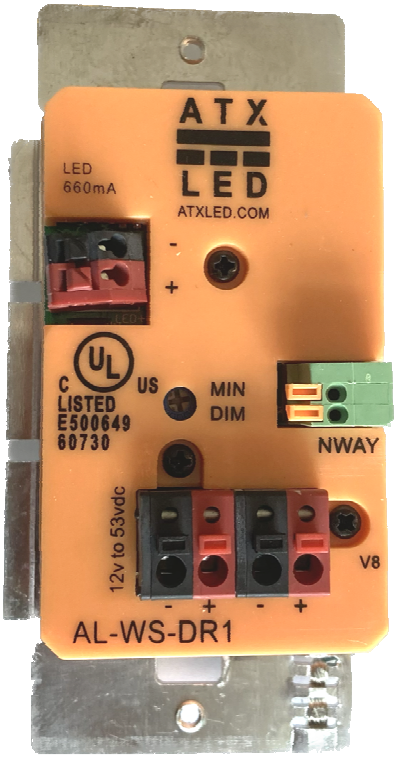
A proven rocker switch and brightness slider leverages mass production of decorator switches, now for low voltage applications – any casual user requires no training, no App to use this switch. Perfect, flicker free dimming from off to 10% to 100%.

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.



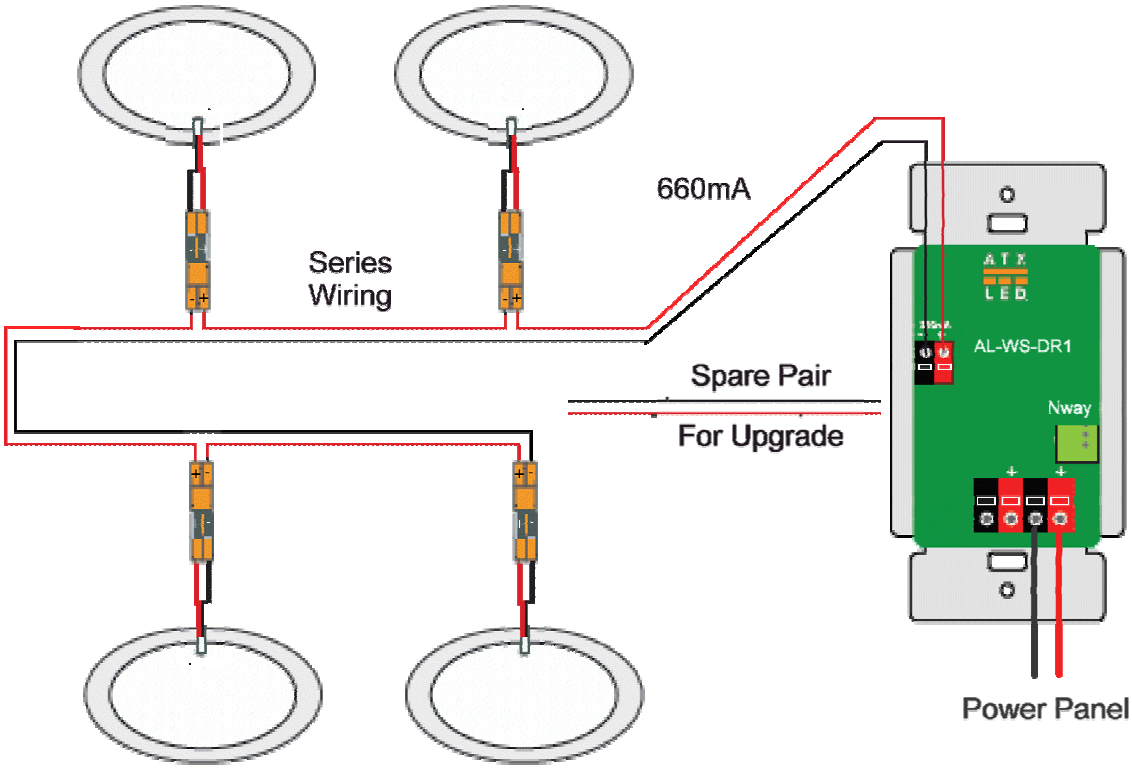
Specifications

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	See the AL-WS-PWM2 for CV LEDs
Input voltage range	24v to 54 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-DR1 for up to 4 LEDs

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



Powering the AL-WS-DR1

Power the switch via the Power input connectors, 48 to 54vdc 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/UL listed LED's

LED rated watts	Type	Model	Hole Size inch	LED rating mA	Max Count @54v	Max Count @51v	Total power output Watts	Note
6	Flat Ceiling	P023R6	4	660	5	4	30	5 in series
12	Flat Ceiling	P023R11	6	1440	5	4	32***	5 in series
6	Recessed	DL-120	4	660	5	4	30	5 in series
6	Gimbal Spot	MS31008	2.75	660	5	4	30	5 in series
6	Bulb	ATX-A60	E26	660	5	4	30	5 in series
3	Bulb	ATX-C35	E12	65	10	8	30	Use AL-WS-DR1P
6	Bulb	E26-48v6w	E26	120	5	5	36	use AL-WS-DR1P
14	Closet	FMMCL 18 840 S1 M4	18	360 *	2*	2	28	2x Parallel
7	Closet	FMMCL 840 S1 M4	7	360 *	4*	4	28	2x Parallel 2x in series
4 / ft	linear	P023S12	18	1440	7.5 ft	6 ft	30	
2 / ft	linear	P023S6	7,9,12	660	15 ft	14 ft	30	
35	Strip	GL-24-LH99A DC48v	195	700	15 ft	15 ft	35	use AL-WS-DR1P
6	Outdoor Small	ODB6	5	660	5	4	30	5 in series