

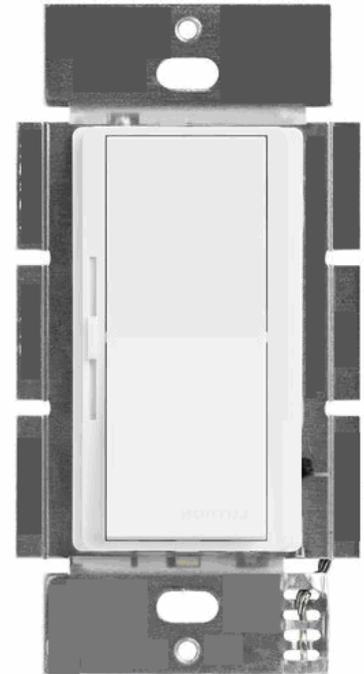


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## **AL-WS-DR1-P**

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

**Left slider**



### [Product Description - AL-WS-DR1-P wall switch](#)

This switch operates just like any standard residential light switch – however it takes 24-56v DC instead of 120VAC, and directly drives up to 48 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.

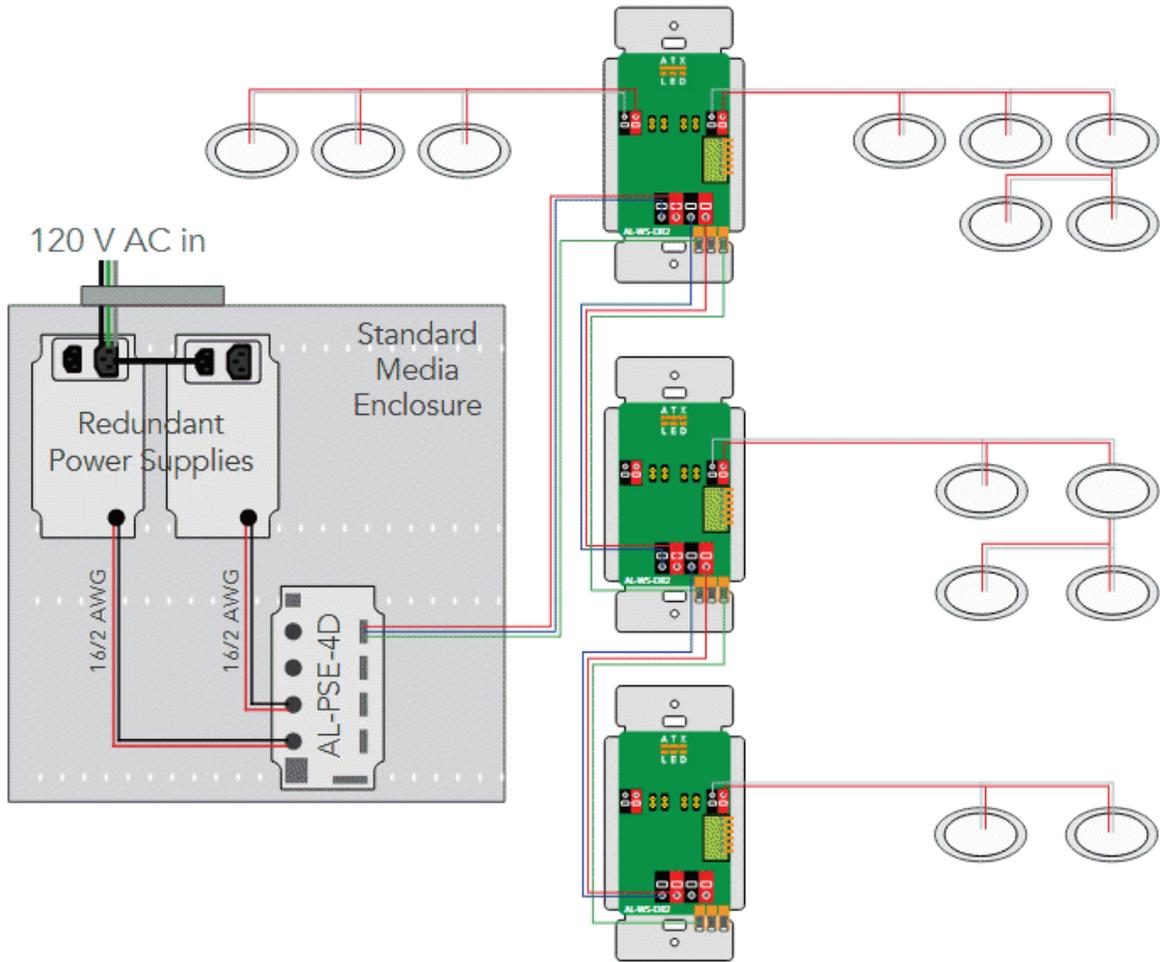
Stand alone it operates as a simple switch for a string of LED's. Typically 1 to 4 LEDs with 660 mA ( 6 watts) each are connected for 24 watts total. Use AWG 16 or 18 to bring 48v ( or 24 to 56 volts ) from a central power supply over to the switches, then use AWG 18 to connect to your LEDs – no tools are required to wire this device.

AL-WS-DR1P also supports up to 48 watts of ATX 48v fixtures wired in parallel.

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.

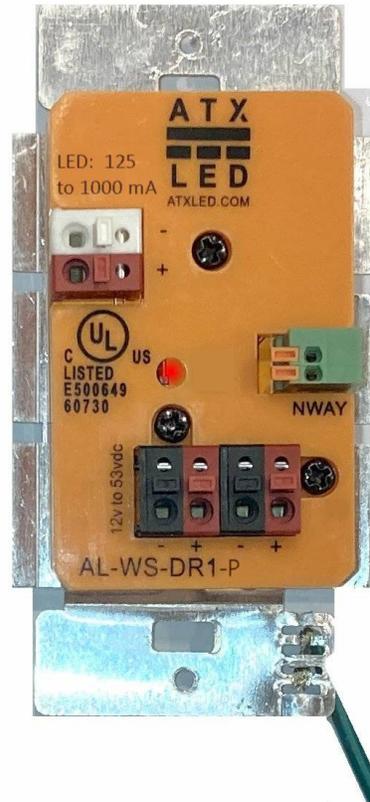
A proven rocker switch and brightness slider leverages mass production of decorator switches, now for low voltage applications – any casual user requires no training, no App to use this switch. Perfect, flicker free dimming from off to 10% to 100%.

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.



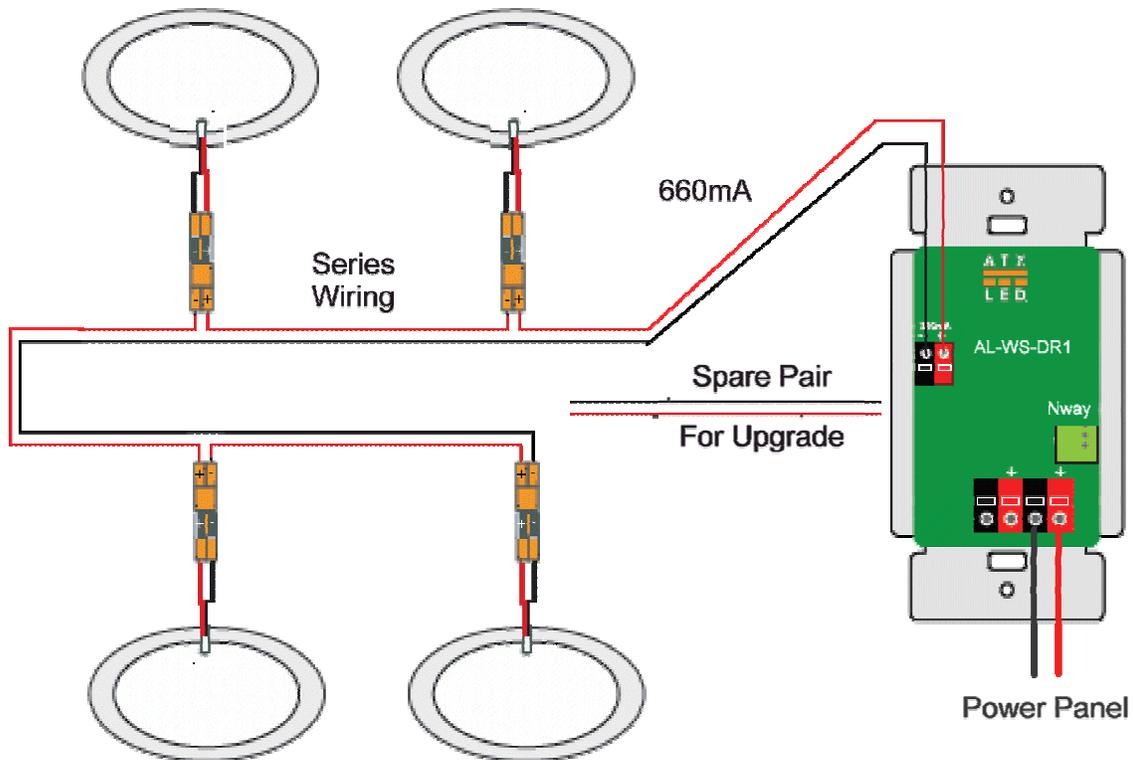
**Specifications**

|                             |   |
|-----------------------------|---|
| Power source and feed thru  | Spring loaded connectors ( 2 pairs )<br>for AWG 16-20 wire<br>Red / Black |
| LED power out               | Red / White for awg 16 to 22  |
| LED constant current output | 1000 mA max current – one channel<br>Spring loaded connectors             |
| 125 to 1000 mA output       | Internal Jumpers for 8 current options                                    |
| Constant Voltage            | See the AL-WS-PWM2 for CV LEDs  |
| Input voltage range         | 24v to 56 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 % ,<br>Current control with temperature tracking                |
| FCC and interference        | All outputs are RF filtered for minimal<br>interference                   |
| Maximum output voltage      | Input minus 4 volts   |
| Minimum output voltage      | 6 volts   |
| Hot Swap                    | Yes - can unplug and connect LEDs with<br>power applied.                  |
| External Switch             | Use with simple contact to turn the light on<br>closed contact is ON      |



# Example of the AL-WS-DR1 and 4 series LEDs - 24 watts

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



## Powering the AL-WS-DR1

Power the switch via the Power input connectors, 48 to 52vdc 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              | Hole Size inch | LED rating | Max Count @51v | Total power output Watts | Note                        |
|-----------------|---------------|--------------------|----------------|------------|----------------|--------------------------|-----------------------------|
| 6               | Flat Ceiling  | P023R6-660mA       | 4              | 660 mA     | 5              | 30                       | 5 in series                 |
| 6               | Flat Ceiling  | P023R6-48v6w       | 4              | 125 mA     | 8              | 48w                      | 8 in Parallel               |
| 12              | Flat Ceiling  | P023R11            | 6              | 1440 mA    | 5              | 32***                    | 5 in series                 |
| 6               | Recessed      | DL-120             | 4              | 660 mA     | 5              | 30                       | 5 in series                 |
| 6               | Gimbal Spot   | DL-125             | 2.75           | 660 mA     | 5              | 30                       | 5 in series                 |
| 6               | Bulb          | E26-660mA          | E26            | 660 mA     | 5              | 30                       | 5 in series                 |
| 3               | Bulb          | E12-48v6w          | E12            | 65 mA      | 10             | 30                       | 16 in Parallel              |
| 6               | Bulb          | E26-48v6w          | E26            | 120 mA     | 6              | 36                       | 8 in 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 Parallel<br>2x in series |
| 4 / ft          | linear        | P023S12            | 18             | 1440mA     | 7.5 ft         | 30                       |                             |
| 2 / ft          | linear        | P023S6             | 7,9,12         | 660mA      | 15 ft          | 30                       |                             |
| 35              | Strip         | GL-24-LH99A DC48v  | 195            | 700 mA     | 15 ft          | 35                       | 2x Parallel                 |
| 6               | Outdoor Small | ODB6               | 5              | 660 mA     | 5              | 30                       | 5 in series                 |