

**ATX**  
**LED**  
**AL-WS-R3**

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**Decorator style on/off switch**

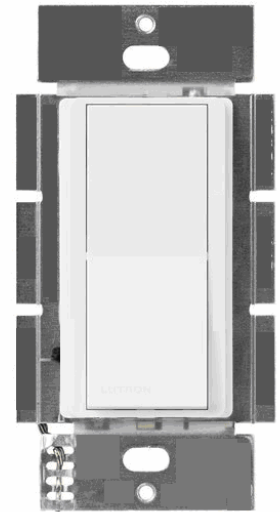
**Fireplace switch - Millivolt applications**

**Low Voltage 12v / 24v / 48v DC or AC**

**Break-away mounting tabs**

**3-Way switching supported**

**Self Cleaning,  
inrush current limiter**



**Product Description - AL-WS-R3 Wall Switch**

This switch operates just like any standard residential light switch – however it operates with low voltage DC. This Decorator style switch in a standard residential style outline fits into any home, looks like any switch yet meets NEC article 411 Class 2 for Low Voltage operation.

Designed for Low Voltage and millivolt applications such as fireplace switches – the contacts are protected and designed for long life at very low loads. Use two of them for 3-way switching. Installation options allow capacitive or inductive loads – see instructions.

For applications where the current is very low, and contact oxidation is likely, connect the built in “self cleaner” across the active contact. This will apply a non damaging current to the contact to remove oxidation for years of service. See example diagram.

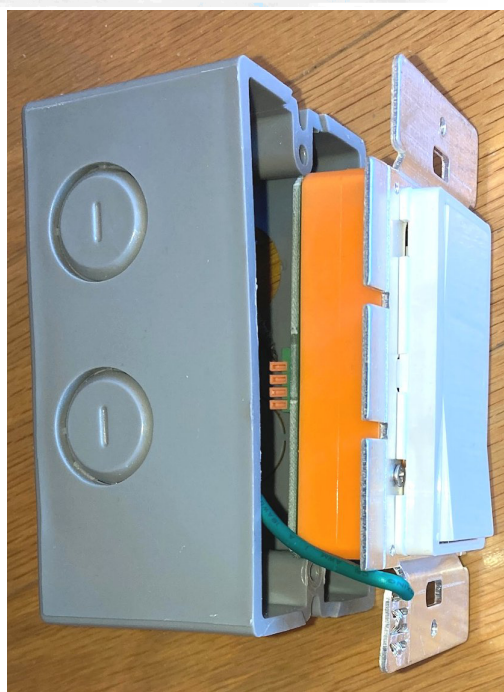
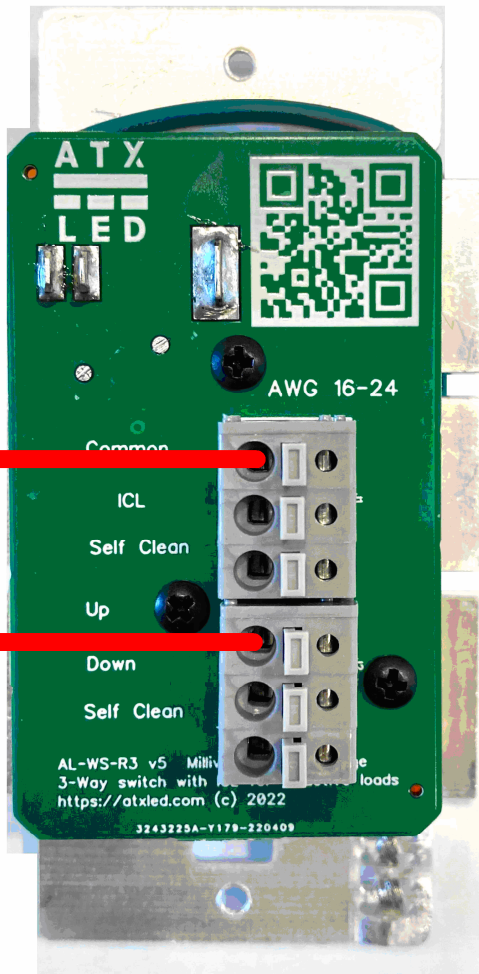
For applications with high inrush currents ( Capacitive loads) use the ICL option. For DC applications with Inductive loads ( relays) use the Self Clean option ( this is called a snubber).

## Easy to Wire

One Wire

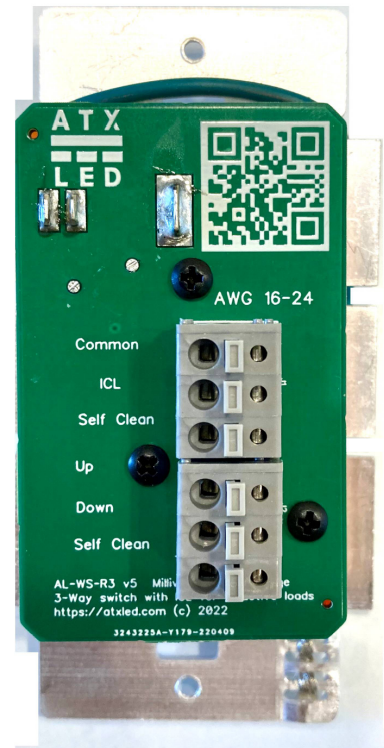


The Other Wire



## Specifications

Signal Contact	Spring loaded connectors for AWG 18-24 wire
Input voltage range	0 to 52 volts DC or AC
Contact current	Very low resistance, yet can handle 5 amps
Self Cleaning built-in	Use in corrosive environments to automatically ( DC Only ) clean the contacts during use.
Spark Prevention	Inrush current limiter ( ICL ) built in
Size	108H (metal) 70H x 34 D x 42 W mm
Reduced Width	Tabs break-away for to fit dual switch box
Wire size	16 to 24 AWG



Application	Example	Connect to
Simple On/Off	Fireplace	Common & UP
Self Cleaning	Millivolt Fireplace	See Diagram 1
Resistive load	24 v LED strips	Common & UP
Capacitive Load	12 V AC/DC bulb	See Diagram 2
Momentary Pulse	Starter	Use the AL-WS-M
Does it spark when you turn it on or off?	Most electronic devices	See Diagram 2
Inductive Loads DC Only	Contactors Coils	See Diagram 1
3-Way	2 switches, one load	See Diagram 3

[Ground Wire not needed \( ignore the Green grounding wire\)](#)

## Self Cleaning Contact option

Are you replacing an existing On/Off switch that failed? It is probably because the switch oxidized to the point of failure – millivolt loads do not provide enough load to remove oxide buildup. So we added a Self Cleaner to this design. In the diagram below, the jumper adds the cleaner to either the up or down contacts. This protects against corrosion. Do not use the self contact cleaner with AC projects. This also works for inductive loads that spark on disconnect.

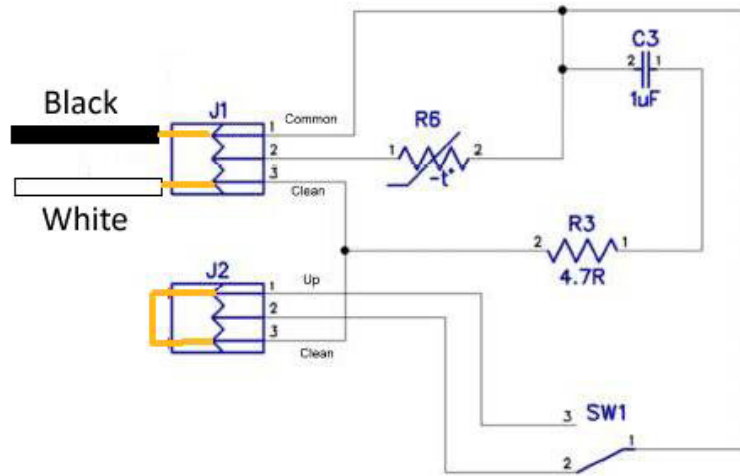


Diagram 1

## Capacitive loads (sparks on contact) – ICL – inrush current limiting

We offer a solution for the other problem with many low voltage switches - switch failure resulting from electronic loads that spark when DC power is applied. For example AC/DC LEDs and some motors – some of these have high inrush currents that cause sparks that result in early failure of the switch or contactor. A quick test will show if your load has an inrush current requirement - If you see sparks when connecting the DC wire to the load – you need the ICL option.

The AL-WS-R3 solves this problem – follow the wiring diagram below.

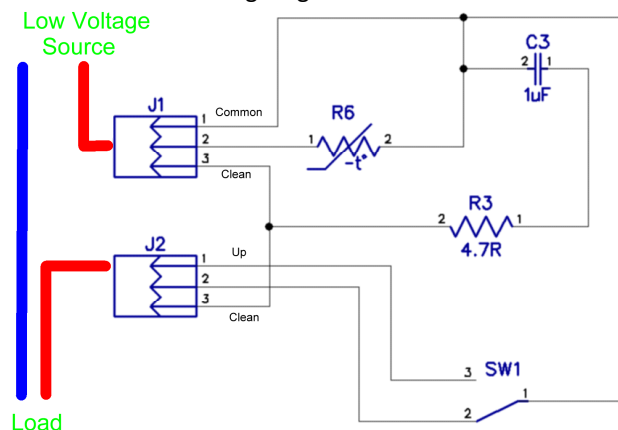


Diagram 2

## 3-Way Wiring Diagram

