



## 3-Way Switching methods

The AL-DALI-DR2 and AL-DALI-010v support several methods for 3-Way switching – or unlimited points of control. 3-Way means two switches control one set of lights.

The “easy” method is very low cost since simple Home Depot switches are used – dimming is only supported at the master switch in the setup. The last methods allow dimming at any of the control points – the dim level is controlled by the last switch that moved.

Beyond the AL-DALI-DR2 or AL-DALI-0v01 - you will need one of these switch models

2 pole Decora <https://www.amazon.com/dp/B00QXOSTFU/> \$20 for 10

3 pole Decora <https://www.amazon.com/dp/B01N25GTMW/> \$23 for 10

4 pole Decora <https://www.amazon.com/dp/B0012DMB6A/> \$11 each

In this chapter - we describe:

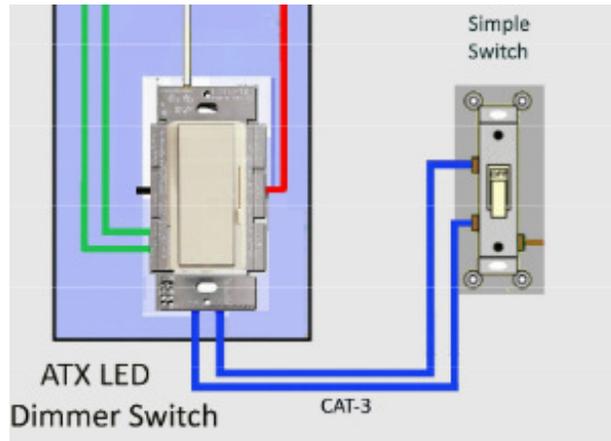
- A - easy 2 switch
- B - 3-Way via the Dali Bus Panel
- C - easy 3 switch
- D - easy 4 switch
- E - using AL-DALI-WS-010v - unlimited , multi dim operation
- F – using AL-DALI-DR2 in gang mode, multi dim operation

## DALI dimming influence

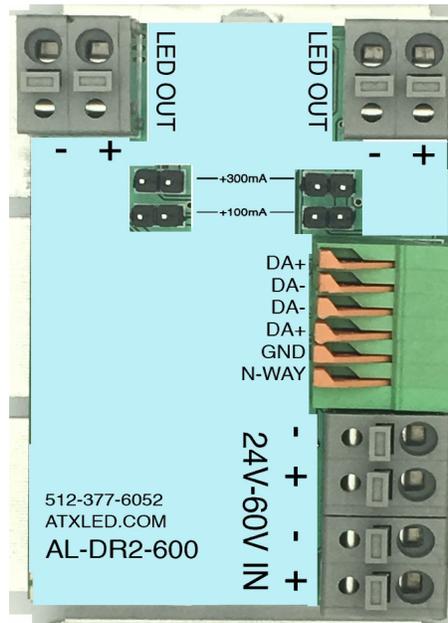
DALI provides a virtual 3-Way control of the LEDs. A command from the DALI interface will set the lights On/Off and the present switch setting ( Up/Down ) will be registered – so only one flip is required to change the light On/Off locally.

## Method A - 3-Way direct to AL-DALI-DR2

In this method - one pair of AWG24 wire ( like CAT-5e ) is connected from the remote 3-Way switch to the N-way input on the AL-DALI-DR2. When the house is being wired - run a CAT-5e line from where the AL-DALI-DR2 switch location to the 3-Way remote switch.



Use the green pair for the one ground screw, the blue pair for the 2 left side screws of the switch.



At the AL-DALI-DR2 connect the blue pair to n-way and gnd, connect the green pair to earth ground

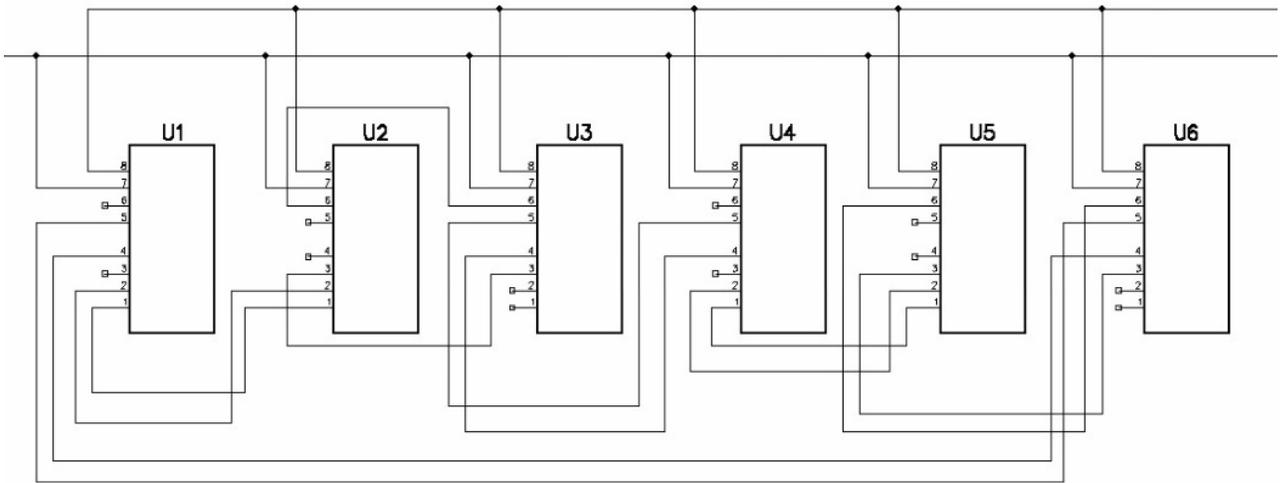
## Method B - 3-Way interconnected by AL-DALI-Bus

If the remote switch is not connected directly to the AL-DALI-DR2, but has a AWG24 run to the light power panel - then either the blue, green or orange pairs can be used. Pick a pair.

Ground the switch body by other means - don't use the brown pair at all - the brown pair if shorted would short the DALI bus. Use the same color pair at the AL-DALI-DR2

The AL-DALI-bus module connects adjacent RJ45 pairwise together ( the brown pair is the DALI bus). The sequence of the color pairs is as follows:

	<p>Connector 7 blue to 12</p> <p>Connector 7 orange to 8</p> <p>Connector 8 green to 9</p> <p>Connector 9 blue to 10</p> <p>Connector 10 orange to 11</p> <p>Connector 11 green to 12</p>
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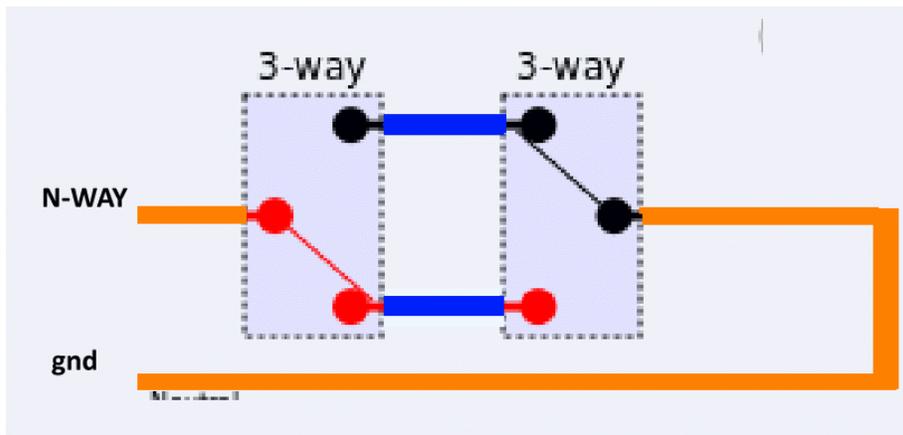


Plug the two RJ45 into the appropriate adjacent sockets to interconnect the remote switch and the AL-DALI-DR2 with matching colors.

## Method C 3 switch

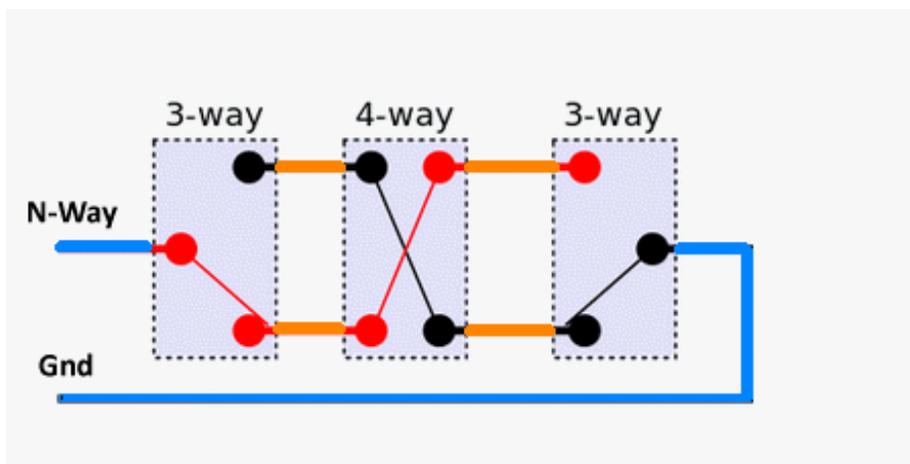
### three switches control one set of lights

Two 3 pole switches can be wired to implement 3 points of control using the AL-DALI-DR2 N-Way input. The common of the last 3 pole switch goes to the AL-DALI-DR2 ground and the opposing contacts are wired together- just like with 120 v wiring. The common of the closest 3 pole switch goes to the N-Way input. We will use the Blue pair for the contacts and orange for the screw post marked 'Common' or "CMN"



## Method D 4 switch control with AL-DALI-DR2

Here you need 2x 3 pole switches and a 4 pole switch between the 2 3 pole switches as shown in this diagram below



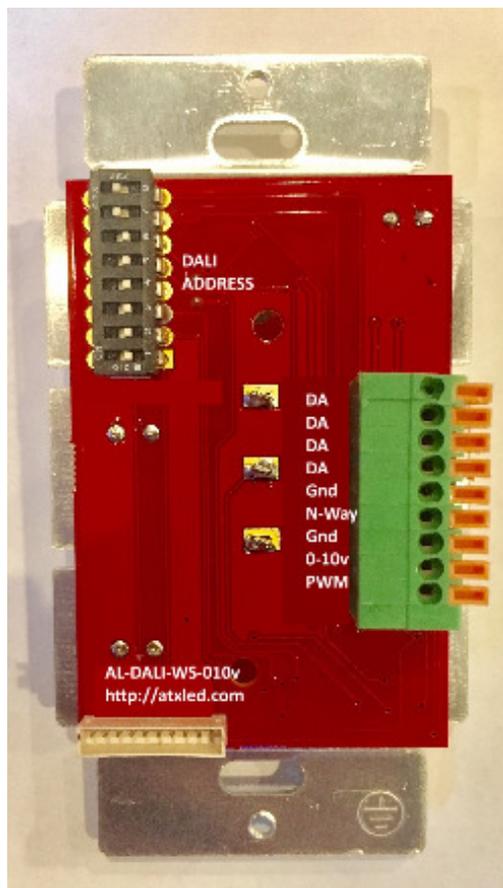
## Method E AL-DALI-WS-010v method

### for 2, 3, 4 Way or more

The AL-DALI-WS-010v can be used with its N-Way input to enable unlimited N-Way switching. Wire the power to the LEDs from the AL-DALI-DR2. We will use the DALI bus to connect the DR2 to the AL-DALI-WS-010v

Wire the AL-DALI-WS-010v to the DALI bus. Use a DALI configuration tool to assign the destination AL-DALI-DR2 with a short address. Set the AL-DALI-WS-010v to the same address. Both the DALI switches will operate the LED. This will implement 3-Way switching.

The N-Way inputs on both the AL-DALI-DR2 and AL-DALI-WS-010v continue to operate - allowing trivial 6-way control or greater. Use each N-Way input as shown in methods A-D above.



## Method F AL-DALI-DR2 in gang mode

### for 2, 3, 4 Way or more

The AL-DALI-DR2 can be used in a group via DALI with other AL-DALI-DR2 devices. Wire the power to the LEDs from each AL-DALI-DR2. We will use the DALI bus to connect the DR2 to other AL-DALI-DR2 devices

This way hundreds of watts of lights can be switched from one location

Wire the AL-DALI-WS-010v to the DALI bus. Use a DALI configuration tool to assign each AL-DALI-DR2 with a short address and group. Place all DR2 in the same Group. Both the DALI switches will operate the LED. This will implement 3-Way switching.

The N-Way inputs on both the AL-DALI-DR2 and AL-DALI-WS-010v continue to operate - allowing trivial 6-way control or greater. Use each N-Way input as shown in methods A-D above.