ATX LED

P023R6 LED Fixtures
Low Voltage 660 mA / 1000mA
dimmable Direct Current

P023R6 series, CC

ETL 5005242 (UL 1598 std)

Bright LEDs, Cool Operation

Product Description - low profile long life LED fixture

The P023R series of LED fixtures are **ETL listed** and IC rated for direct contact with insulation – recognizing it's cool operating temperatures and distributed heat (no hot spots).   **Closet Rated** under NEC codes. **JA8 / Title 24** listed.

Technical specifications

|	
Wattage	6 watts operating
Operating current	0 to 660 mA total of current in both channels, can mix for color control
Dimming Range	0 to 100%, flicker free, no artifacts
Lumens / CRI	600 lumens, CRI 90
Color Temperature	6 fixed options available plus tunable white
Operating Voltage	7.5 to 9.0 volts
Recommended wiring	Series, 1 to 4 fixtures in series sharing one driver
Constant Voltage	Not Recommended – current driver required
Operating Temperature	Ceiling mount, -20 to 50 Deg C non condensing
IP Rating	Suitable for Damp environments
IC Rated	Yes, with our without the AL-CBOX4
LM-80 tested	10,000 hours
LED type	2835 long life
Closet Rated	Suitable for use within Closet storage spaces when installed per NEC requirements. See https://atxled.com/Closets for more info

Panel Style LED Wafers – Low Voltage Dimmable
Direct to Sheetrock / wood Option

Side springs shown in main photo
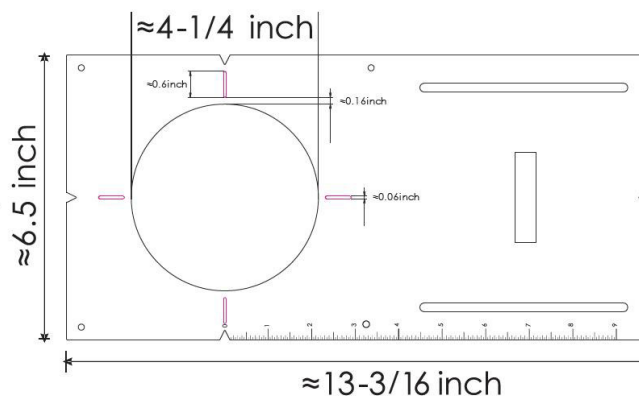
4 3/4" 120 mm

18mm

23mm

4" 100 mm
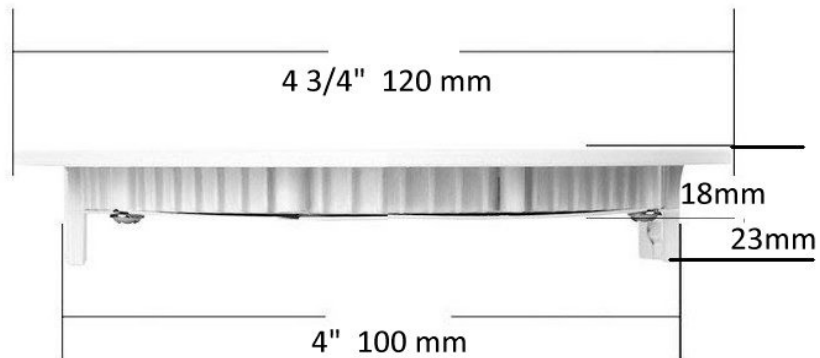
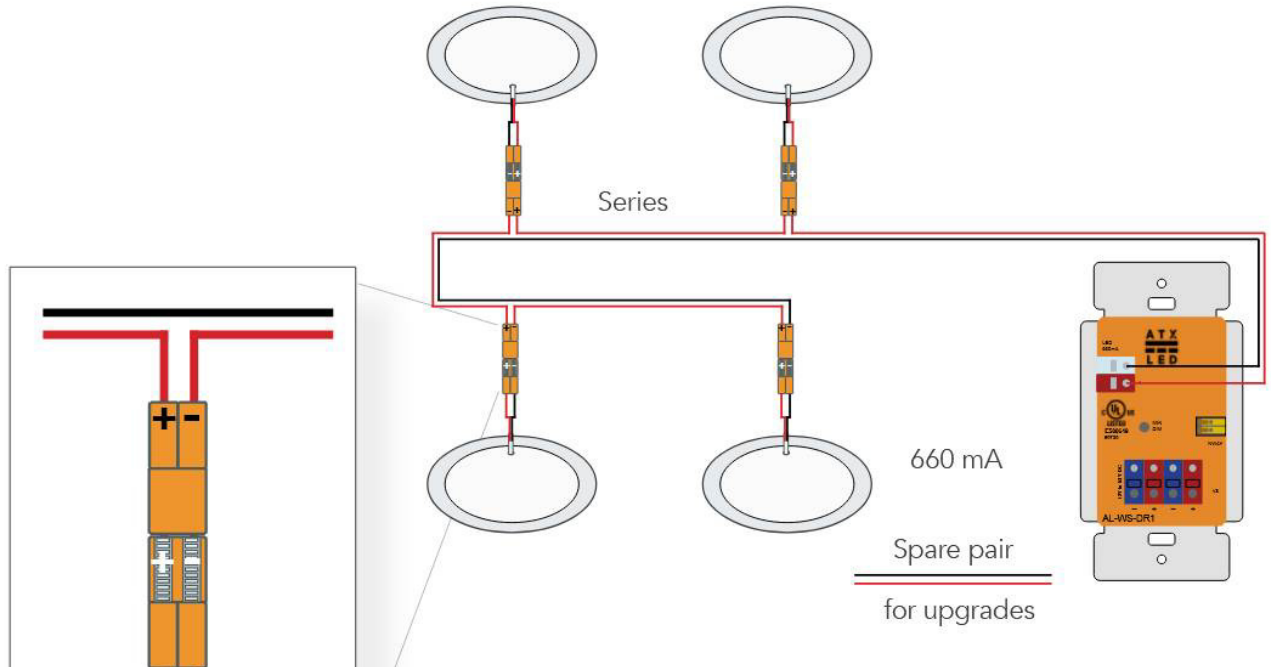## AL-CBOX4 ceiling mount Option
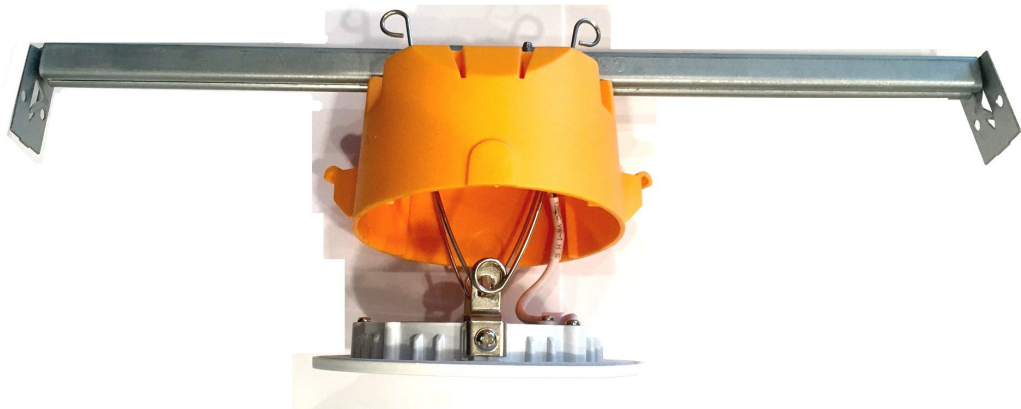
AL-CBOX4 mounting hanger bar

16 to 24 inch joist spacing   Supports up to 20 lbs
Flat or vertical truss attachment See **AL-CBOX4.pdf**

Metal Plate mount Option

≈4-1/4 inch

≈0.6inch

≈0.16inch

≈0.06inch

≈6.5 inch

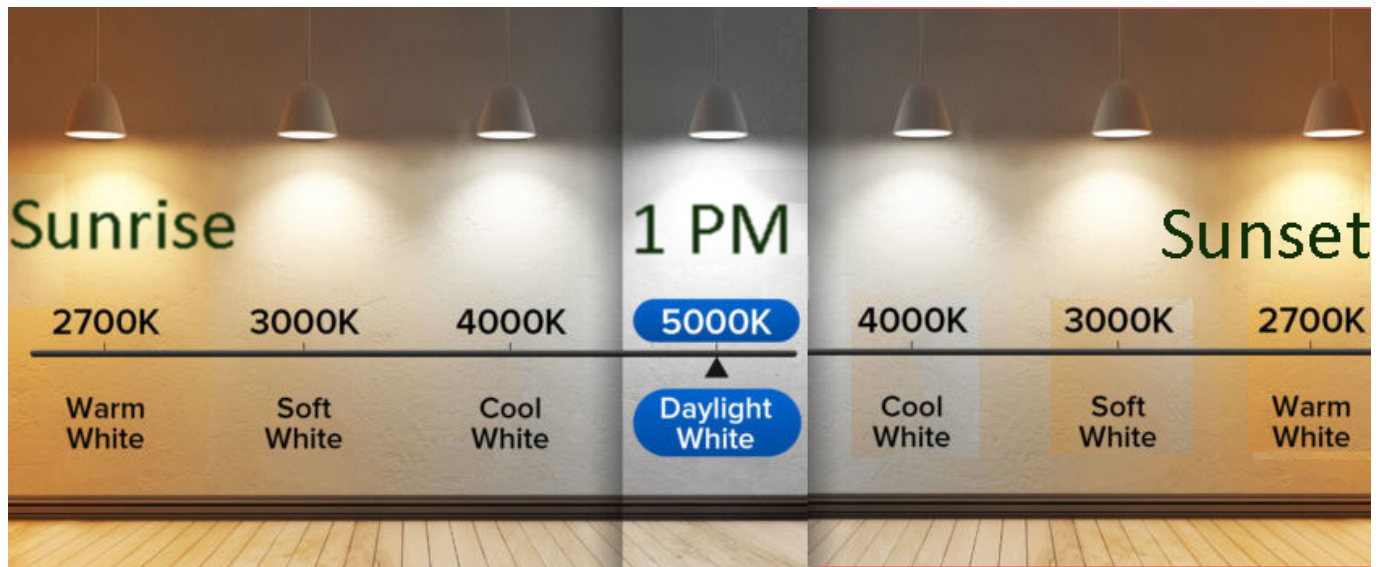≈13-3/16 inch

Fixed CCT Dimming Wiring

Color Temperature options

Available in 6 different color temperatures, these fixtures can be operated as a fixed color, or tunable white fixture.   Any 660 mA current source can be used.   Up to 5 fixtures can be wired in series to share one driver.   That driver can be located up to 150 ft from the LEDs – since constant current eliminates the concerns about voltage drop.   This 6 watt device can be installed as either tunable white or fixed color.   Connecting both inputs in parallel will generate the 3850K color. .

Model	2700	3000	3500	3850	4000	5000
CCT	X --> X					
Fixed	X^2	X	X	X^2	*	X^2

X= Stock, * = on request, X^2 = wiring option of CCT

Sunrise — 2700K Warm White, 3000K Soft White, 4000K Cool White

1 PM — 5000K Daylight White

Sunset — 4000K Cool White, 3000K Soft White, 2700K Warm White

Optional Time of Day lighting rhythm

Tunable White (CCT) Wiring Details

These fixtures offer a novel wiring method.   The OJ-606 connectors provided, are paired to allow a single AWG-18/2 pair to enable tunable white.   This means, that both connectors are required, to provide the current to the LEDs.   The same wiring is used for 1 or 5 fixtures.
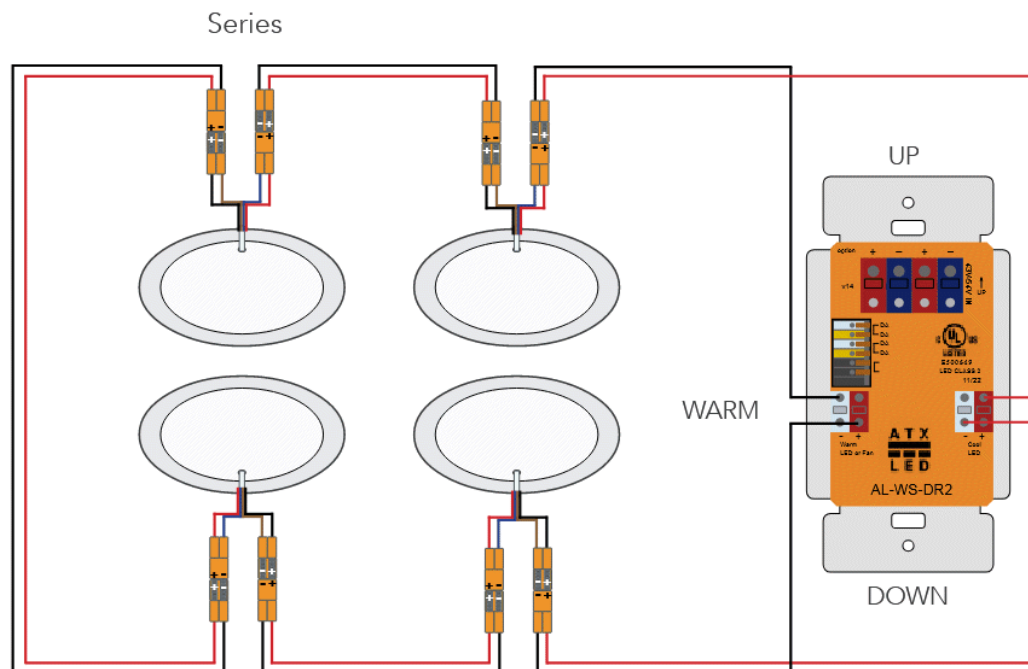
Tunable White (CCT) Connector Pinout

To DR2

C+
W-

Brown

Black

To next LED

Blue

Red

C-
W+
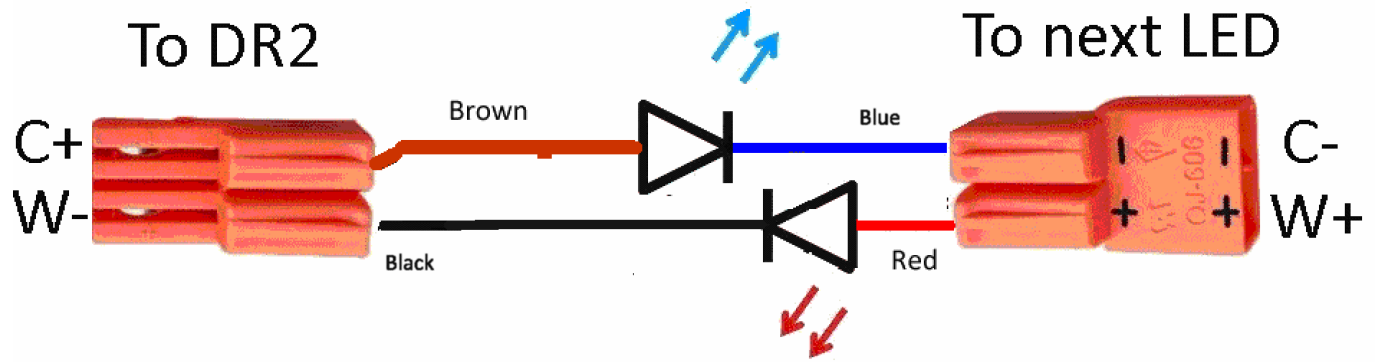
OJ-606

Notice: the left OJ-606 appears reversed

the + and – on the connectors is not to be followed !!!

C+
W-

Next LED
'next'

+ -

+

- +

+

C-
W+

DR2
'up'

C+

W−

Next LED
'next'

C−

W+

DR2
'up'

+ −

+ +

− −

− +
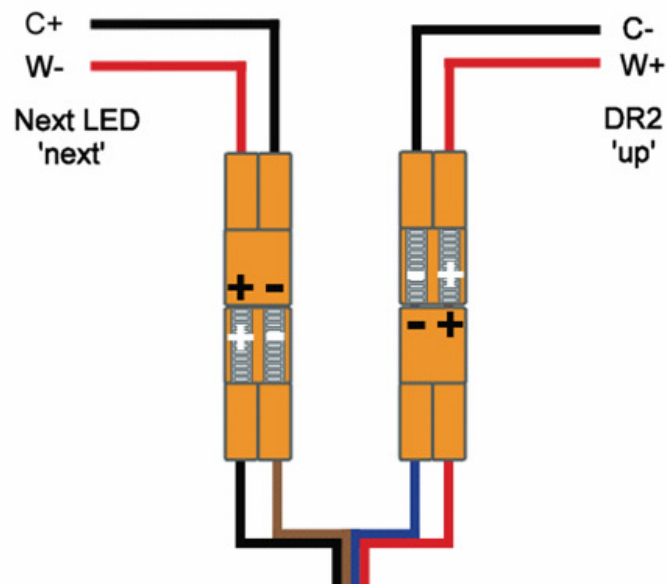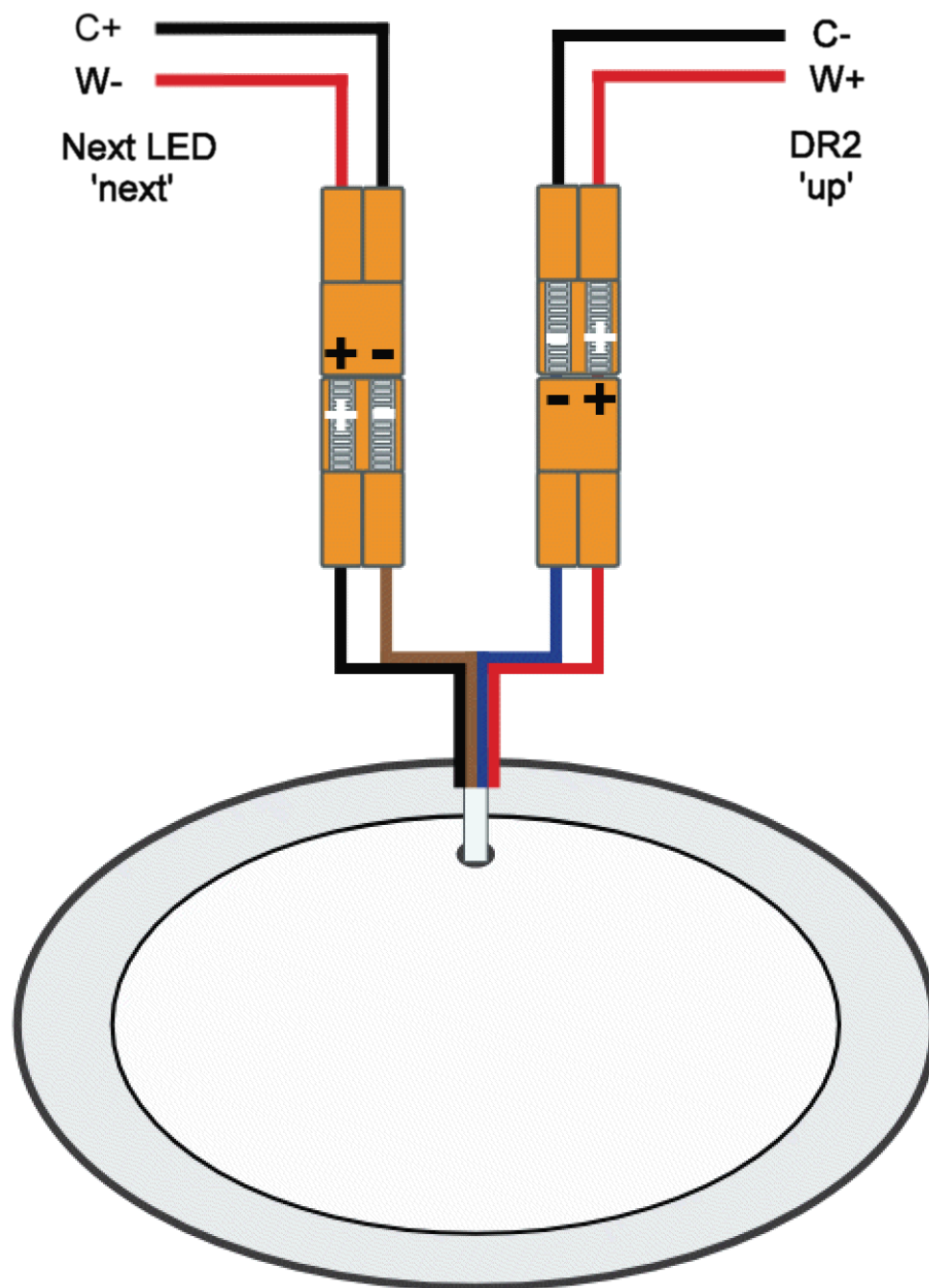
Physical examples
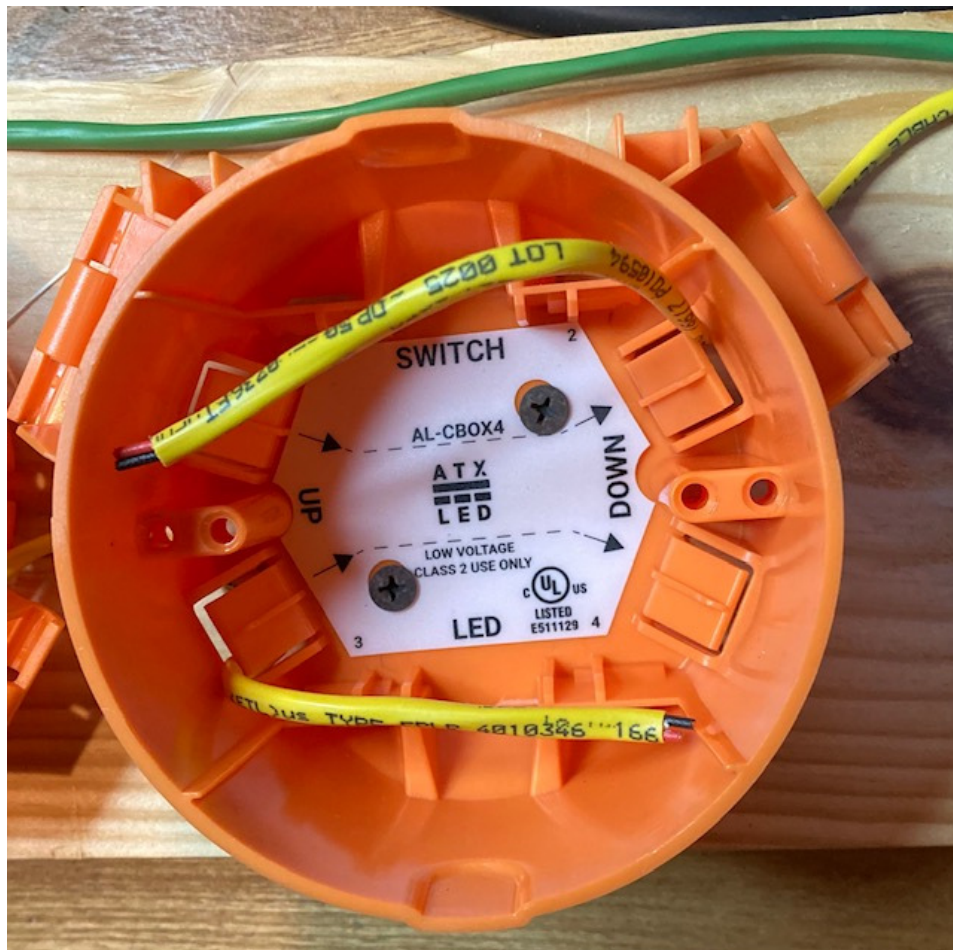
To AL-WS-DR2
V

Recommended DC Drivers with dimming*

Q = total of the Q values of all attached fixtures

DC drivers *	Fixed Color	660mA / 51v Tunable White	660mA / 54v Tunable White	WiFi	DALI
AL-WS-DR1	Q=14				
AL-WS-DR1P/D	Q=14				
AL-WS-DR2	Q=14 x2	Q=14	Q=15		X
AL-WS-DR2C	Q=14 x2	Q=14	Q=15		X
AL-WS-DR2W	Q=14 x2	Q=14	Q=15	X	

Examples of AC Drivers with Dimming

Q = total of the Q values of all attached fixtures

AC drivers from 120 / 240 vac to DC currents	990/1320mA Fixed	990/1320mA Tunable White	DALI
AL-SML-DR2-70CCT	Q=16	Q=16	X
SRP-2305-75	Q=16		X
SRP-2309-75CCT		Q=16	X

Ordering part numbers

Model	Voltage	Current	Watts	Q	CCT	CRI	Lumens	Note
P023R6-660mA-3000K	7.5-8.5	0-660mA	5.6	3	3000K	90	540	
P023R6-660mA-3500K	7.5-8.5	0-660mA	5.6	3	3500K	90	540	
P023R6-660mA-4000K	7.5-8.5	0-660mA	5.6	3	4000K	90	540	
P023R6-660mA-27/50K	7.5-8.5	0-660mA	5.6	3	Tunable 2700 to 5000	90	540	Tunable White
P023R6-Q2D-27/50K	5-5.7 5-6.2 5-6.6	0-660mA 0-990mA 0-1320mA	3.8 6.2 8.7	2	Tunable 2700 to 5000	90	500 740 1000	Tunable White
P023R6-Q4D-3500K	10-10.4 10-10.6 10-10.8	0-660mA 0-990mA 0-1320mA	7 10.5 14	4	3500K	90	800 1100 1400	
P023R6-Q4B-27/50K	10-10.7 10-11	0-660mA 0-990mA	7 11	4	Tunable 2700 to 5000	90	810 1200	Tunable White
P023R6-Q4B-22/50K	10-10.7 10-11	0-660mA 0-990mA	7 11	4	Tunable 2200 to 5000	90	810 1200	Tunable White

Other LED Products from ATX LED

*S is serial   *P is parallel

Model	Hole in Ceiling mm	Drill Size Inch	Finished Outside Diameter mm	Watts	Volts	Lm/W	mA	Wiring*
P023R6-660	102	4"	120	6	9	90	660	S
P023R6-48v6w	102	4"	120	6	48	90	120	P
P023R11-1440	169	6 5/8"	188	12	9	100	1440	S
P023R11-48v12W	169	6 5/8"	188	12	48	100	240	P
DL-98B/127	68	2 ¾"	88	6	9	130	600	S
DL-120/125	102	4"	120	6	9	130	660	S
E26-A60-660	Bulb	-	-	6	9	80	660	S
E26-A60-48v6w	Bulb	-	-	6	48	80	120	P
E12-C35-660	Bulb	-	-	4	6	80	660	S
E12-C35-48v6w	Bulb	-	-	4	48	80	120	P
GU10	Bulb			5	48	120	100	P
P023S2	Strip	¾"		2/ft	45	120	660	S
P023S4	Strip	¾"		4/ft	45	120	660	S
P023S8	Strip	¾"		8/ft	45	120	1440	S
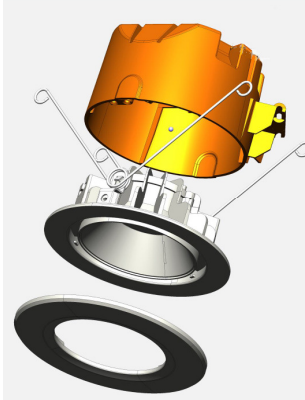
DL-120

Trimless

DL-98B

DL-125

E12

E26
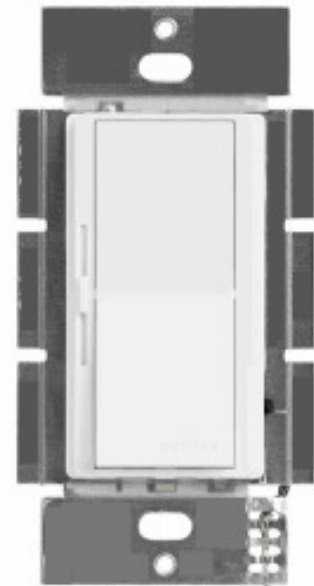
Meet the AL-WS-DR2 – DALI wall switch

ATX
LED

AL-WS-DR2 44-54vdc

DALI   DT8 Switch / Driver

Dual output Constant Current,
CV and CL driver
12v and 48v Fan driver

28 Watt Tunable CCT
56 Watt Fixed

Product Description - AL-WS-DR2 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 56 watts of LED 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.

It supports fixed color temperature or tunable white LED fixtures for time of day light controls. With tunable white, it supports dim to warm.

Stand alone it operates as a simple switch for 2 strings of LED's with up to 660mA to 30 watts per channel. For example, with a 54v supply, 10 x 6 Watt LEDs can connected, 5 in series to each of the 2 outputs on this switch / dimmer device. Use AWG 16 or 18 to bring 51v or 54v from a central power supply over to the switches, then use AWG 20 to connect to your LEDs – no crimping tools are required to wire this device.

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 the AL-WS-M momentary switch can be used for unlimited 3-Way connections.

A proven mechanical switch and brightness slider leverages mass production of Decorator switches, now for low voltage applications – a casual user requires no training, no App to use this switch. Perfect, flicker free dimming from off to 0.1% to 100%. No network setup is required.

To enable Home / BUSiness automation – the AL-WS-DR2 includes a IEC 62386 opto isolated serial bidirectional port for remote and voice control. Use the ATX LED Hub to connect to Alexa or Google home voice control. The 62386 protocol is supported, with automatic addressing. Use low cost wire in uncomplicated topology to implement remote management. Power and BUS have in and out connectors to avoid wire nuts.