SAVANT

WRGB Indoor and Outdoor LED Strips (5 and 10 meter)

2 Year Warranty

CE   RoHS Compliant ✓

Description

Savant's WRGB LED Strips combine dazzling Red/Green/Blue and ultra-bright 4000 Kelvin tunable white LEDs to support billions of possible color variations. Available in both indoor and outdoor versions, these LED strips are the ideal solution for under-cabinets, cove lighting, accent lighting, and many more applications. The outdoor version is weather-resistant with a rating of IP65, allowing it to be used by the pool or other locations where water or harsh weather could be a factor. In addition to adding an elegant touch to the mood and decor of any environment, when used with a Savant system, these WRGB LED Strips enhance the full potential of unique Pro App features such as TrueImage and Daylight Mode.

DMX-WRGBKITW - Start Kit for DMX WRGB Strip Lighting (5M) - kit includes:

- 5 Meter Indoor WRGB LED Strip
- LED Driver (DMX-Driver1-xx)
- (2) 3-Way T-Couplers, (6) Straight Couplers, (2) jumpers

DMX-WRGBKITB - Start Kit for DMX WRGB Strip Lighting (10M) - kit includes:

- 10 meter Indoor WRGB LED Strip
- LED Driver (DMX-Driver3-xx)
- External 240W Power Supply
- (4) 3-Way T-Couplers, (12) Straight Couplers, (4) jumpers

STP-MOUNTID / STP-MOUNTOD - Mounting Rail for Indoor Lighting Strip (5M) - kit includes:

- (5) Aluminum Rails for mounting (1 meter each)
- (5) Aluminum Rail Diffuser Lens (1 meter each)
- (10) Flat Mounting Brackets, (10) Angle Brackets,
- (10) End Caps - Solid (10) End Cap - with hole for wire

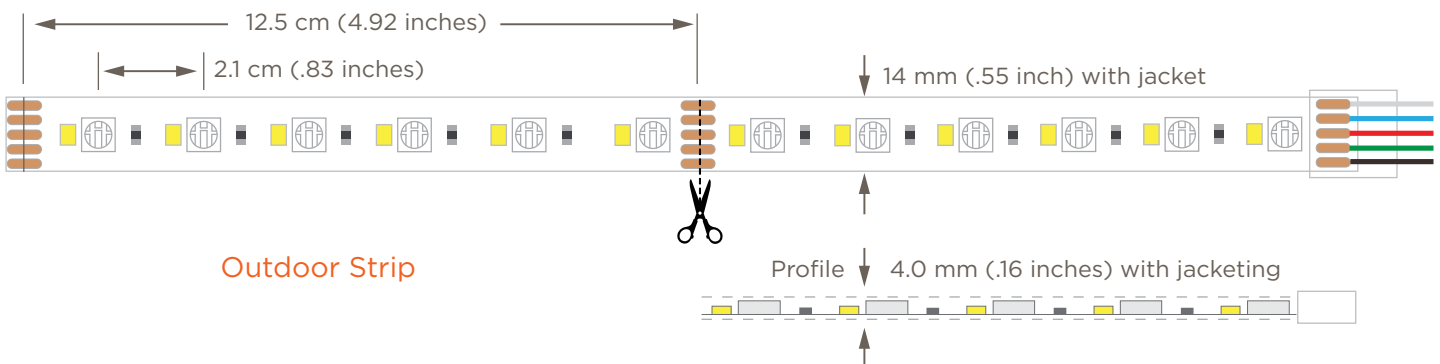**STP-WRGB10MID** - WRGB Light Strip - Indoor (10M Reel)

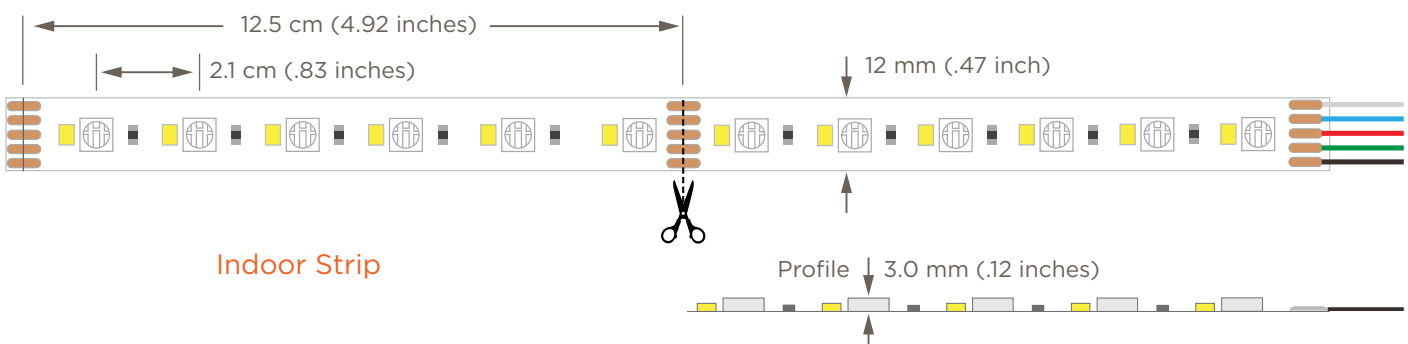**STP-WRGB10MOD** - WRGB Light Strip - Outdoor (10M Reel)

Key Features

- Color Rendering Index (CRI) = 80 +

- IP Rating (Indoor - IP20, Outdoor - IP65)

- Supports Daylight Mode

- Indoor Strip Brightness - 1000 Lumen / Meter

- Outdoor Strip Brightness - 700 Lumen / Meter

- Average Beam Angle of 120°

- Dimmable

- LEDs per meter (RGB - 48, White - 48)

- Narrow width and profile (see Dimensions below)

- Bend Radius - 10 cm (4 inch) diameter

- 24V DC Input

- Can be cut every 12.5 cm (4.92 inch)

- 10 Meter Maximum (~ 32.8 feet)

- Numerous Accessories Available

Dimensions

The dimensions for the outdoor and indoor type LED Strips are shown below. The difference in width and height between the two strips is due to the plastic weather resistant jacketing that gets added to the outdoor strips. Strips can be cut and spliced using any of the numerous accesories. For outdoor strips a sealant kit for weatherproofing is available (STP-WRGBSEAL).

12.5 cm (4.92 inches)
2.1 cm (.83 inches)
14 mm (.55 inch) with jacket

Outdoor Strip

Profile   4.0 mm (.16 inches) with jacketing

12.5 cm (4.92 inches)
2.1 cm (.83 inches)
12 mm (.47 inch)

Indoor Strip

Profile   3.0 mm (.12 inches)

Specifications

Product	Color	Wavelength	Lumens/Meter (Typical)	Temperature	Efficiency
STP-WRGB10MID STP-WRGB10MOD	Red	617 - 627 nm	54 Lumens (Indoor) 54 Lumens (Outdoor)	N/A	75 LM/watt
	Green	515 - 525 nm	144 Lumens (Indoor) 14.4 Lumens (Outdoor)	N/A	
	Blue	464 - 474 nm	28.8 Lumens (Indoor) 28.8 Lumens (Outdoor)	N/A	
	White	3800 - 4250 nm	530 Lumens (Outdoor) 1140 Lumens (Indoor)	4000 Kelvin	

Voltage and Current	
Input Voltage Range	23.5 - 24.5V DC
Current	Outdoor Strip (RGB = 20 mA/meter , White = 30 mA/meter)
	Indoor Strip (RGB = 20 mA / meter, White= 60 mA/meter)

Maximum Ratings	
Power Consumption	17.3 watts / meter (Outdoor Strips)
	23 watts / meter (Indoor Strips)
Operating Temperature	-15 to +40° C (+5 to 104° F)
Storage Temperature	-40 to +80° C (-40 to 176° F)

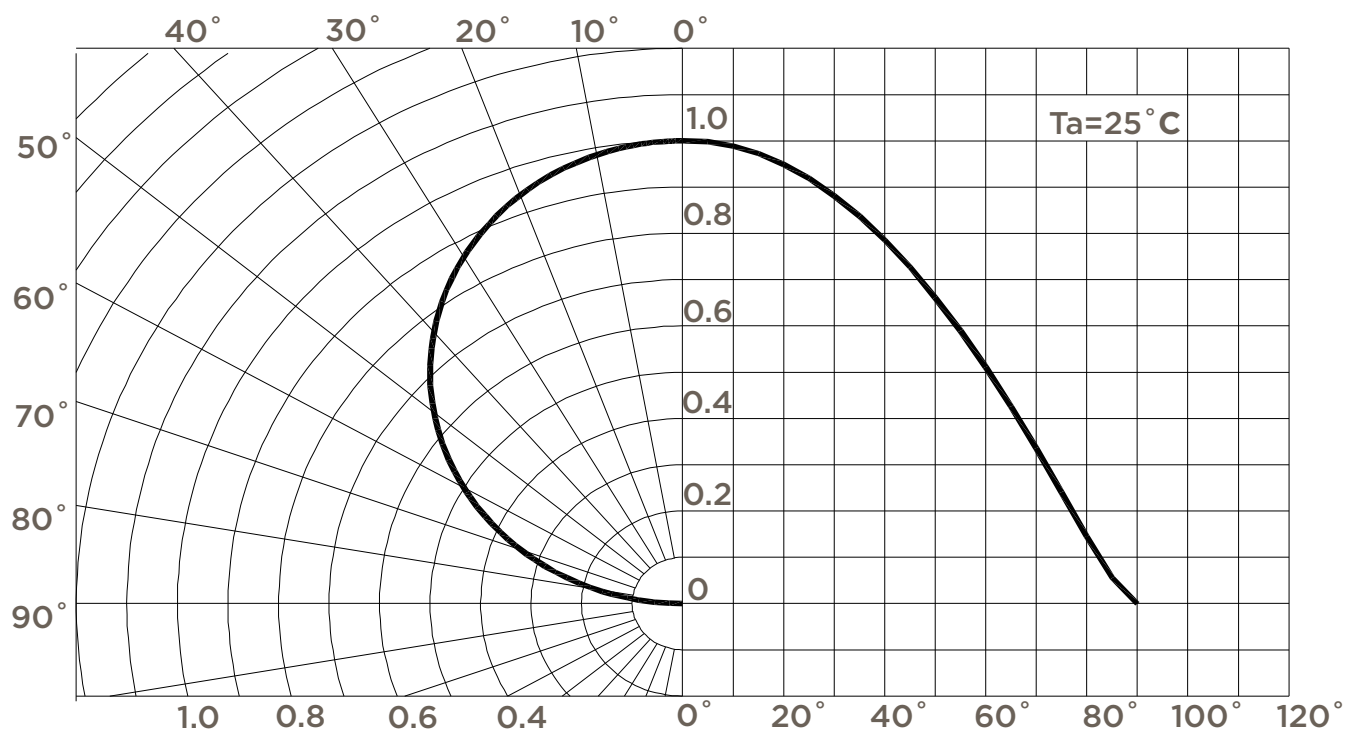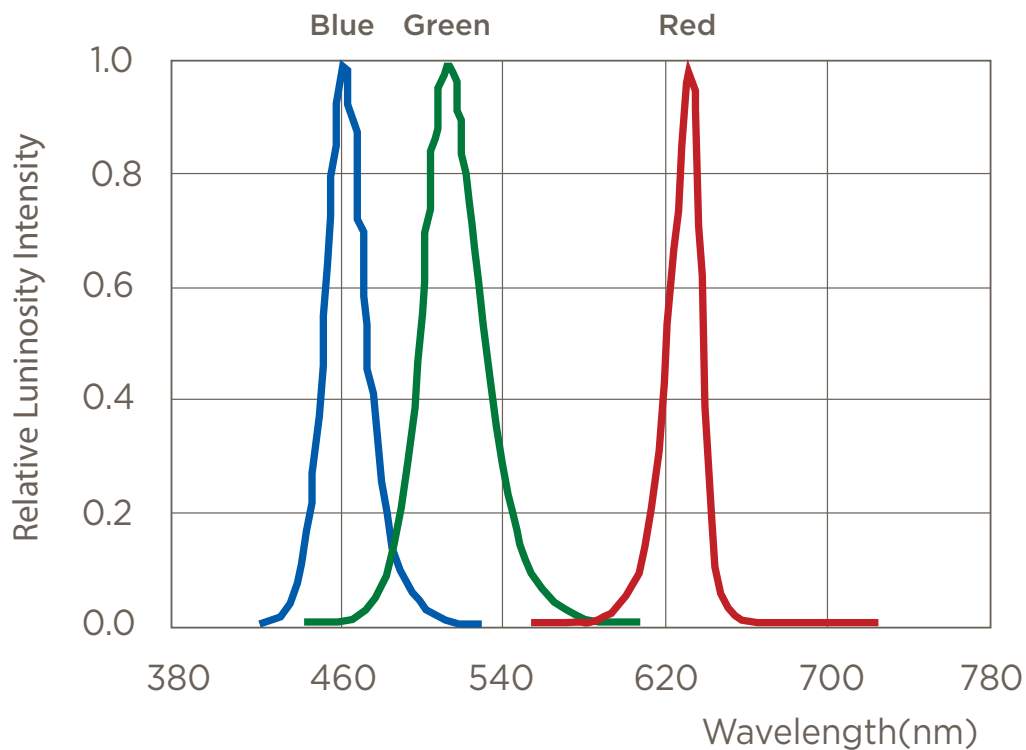| Miscellaneous	
Lead Wire	#20 AWG
Lead Wire Length	20 cm (7.87 inches)
LED Type	Color - 5060RGB White - 2835SMD
LED Chip Beam Angle	120°
Energy Efficiency Rating (EED)	A+
Number of Pins on Strip	5
Bend Diameter	10 cm (3.94 inches)
STP-WRGB10MOD STP-WRGB5MOD	Outdoor
STP-WRGB10MID	Indoor Use Only
Adhesive Backing	3M Tape (300LSE)

Minimum Supported Release
da Vinci 8.9

Spatial Distribution (White LED)
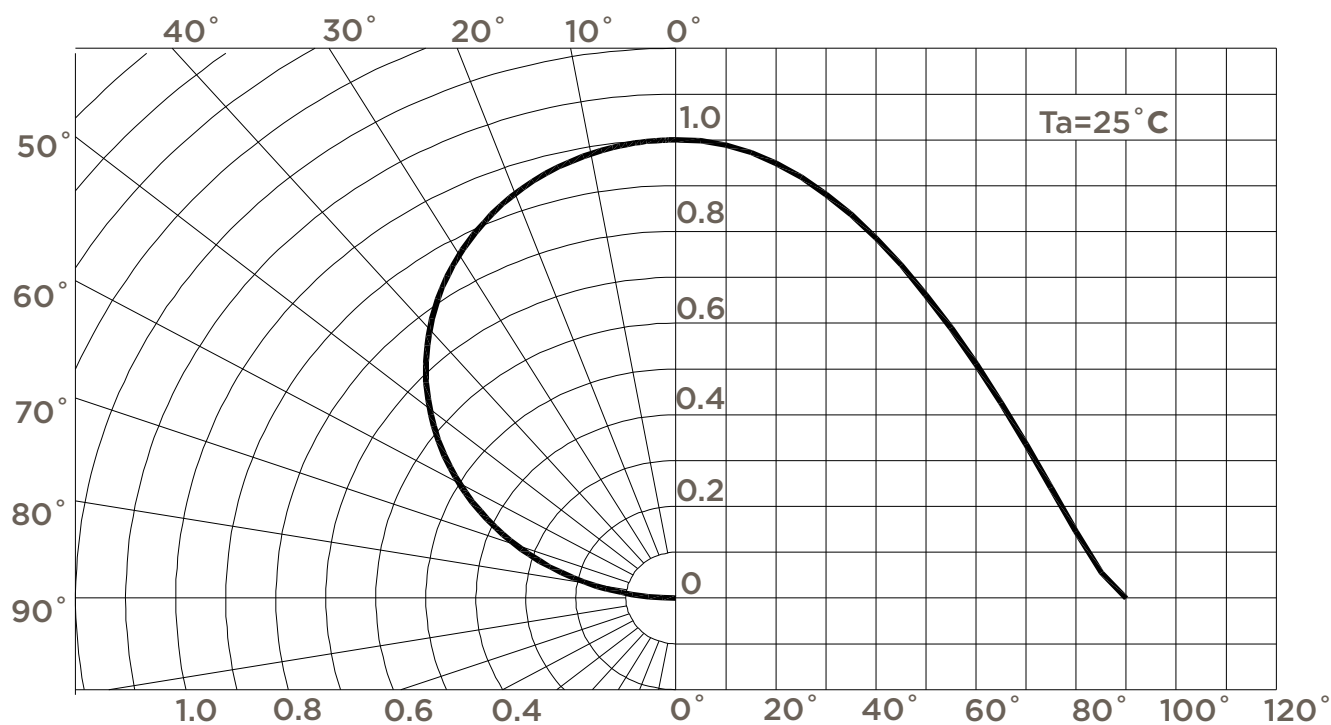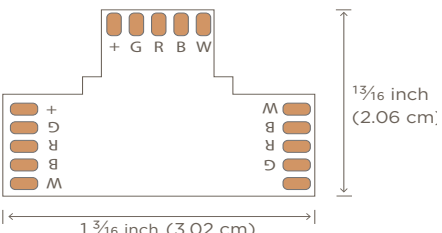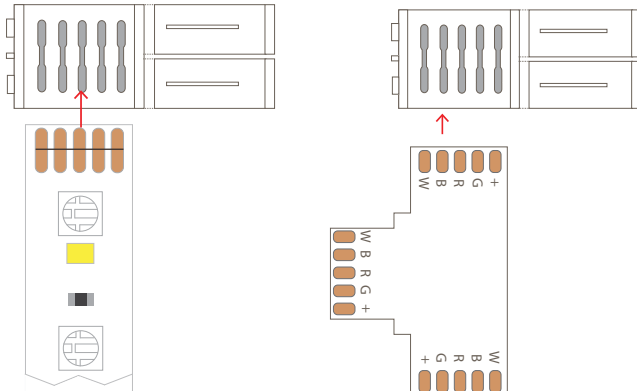

Relative Spectral Emission (White LED)
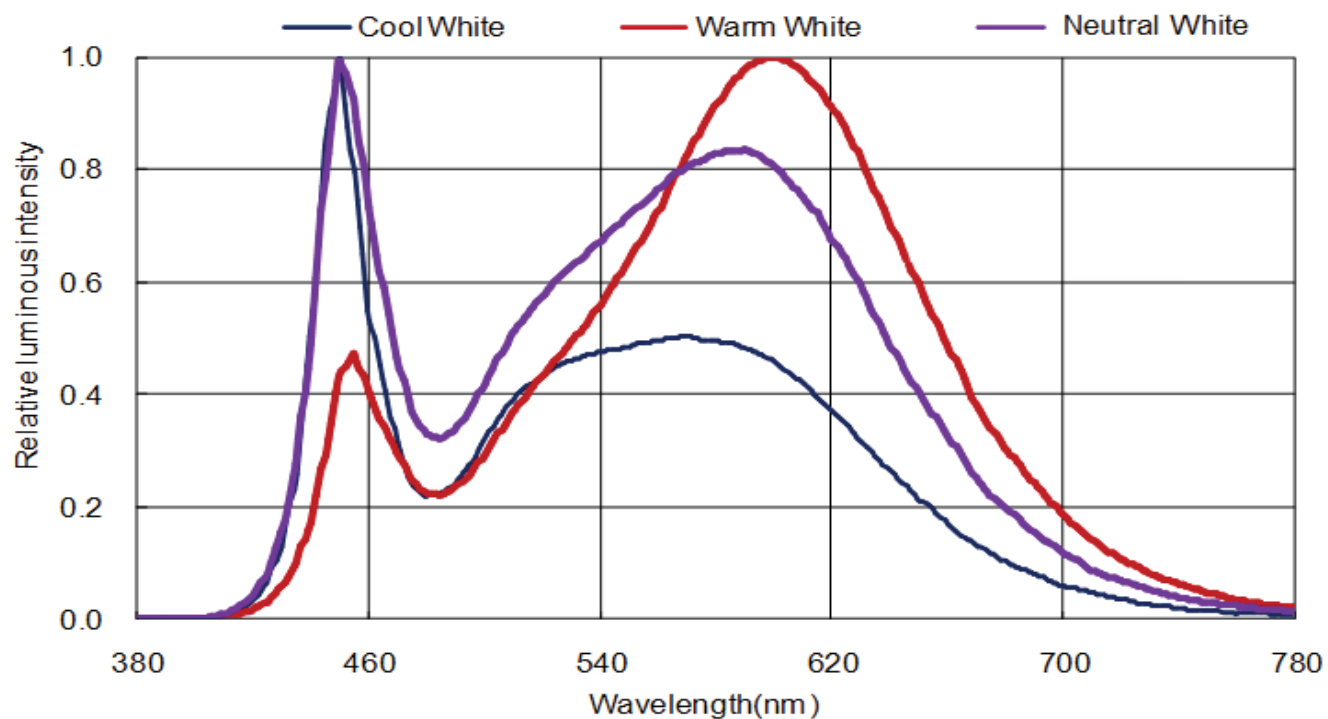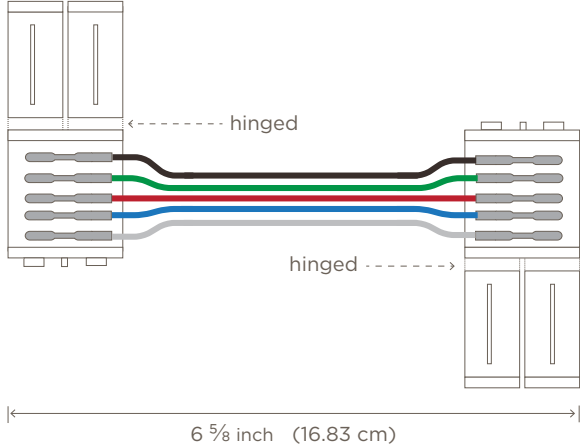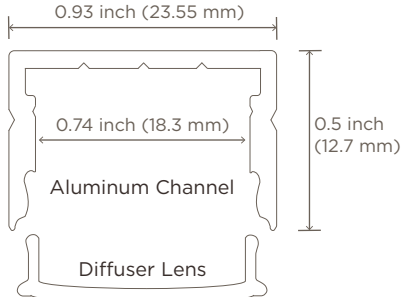
Spatial Distribution (RGB LED)

Relative Spectral Emission (RGB LED)

LED Strip Accessories

Product	Description	Wire Gauge	Image
STP-WRGBT-xx (10 pack)	T connector for joining LED strips. The strips can be joined to configure both an in-line and 90° connection.	N/A	
STP-WRGBCOUPLER (10 pack)	Use the coupler to join either two or three LED strips and make one continuous run. As shown in the image to the right, the coupler supports making tight 90° turns.	N/A	
STP-WRGBJUMPER (10 pack)	Attaches two sections of the LED strips to create one continuous run. This jumper wire assembly makes it easy to bend the strips around corners that have a tight radius.	#22 AWG	
STP-MOUNTID / STP-MOUNTOD (5 Pack)	1 meter aluminum channel for mounting the indoor tunable white LED strips. The kit comes complete with the following: (5) One meter alum channel (5) One meter diffuser lens. (10) Flat mounting brackets (10) Adjustable angle brackets (10) Solid end caps (10) End caps with hole for wire	N/A	

LED Drivers

DMX-DRIVER1-xx (Included with the WRGB Strip Lighting Starter Kit for 5 meter strips)

2.52 inch
(6.4 cm)

1.26 inch
(3.2 cm)

9.61 inch (24.4 cm)
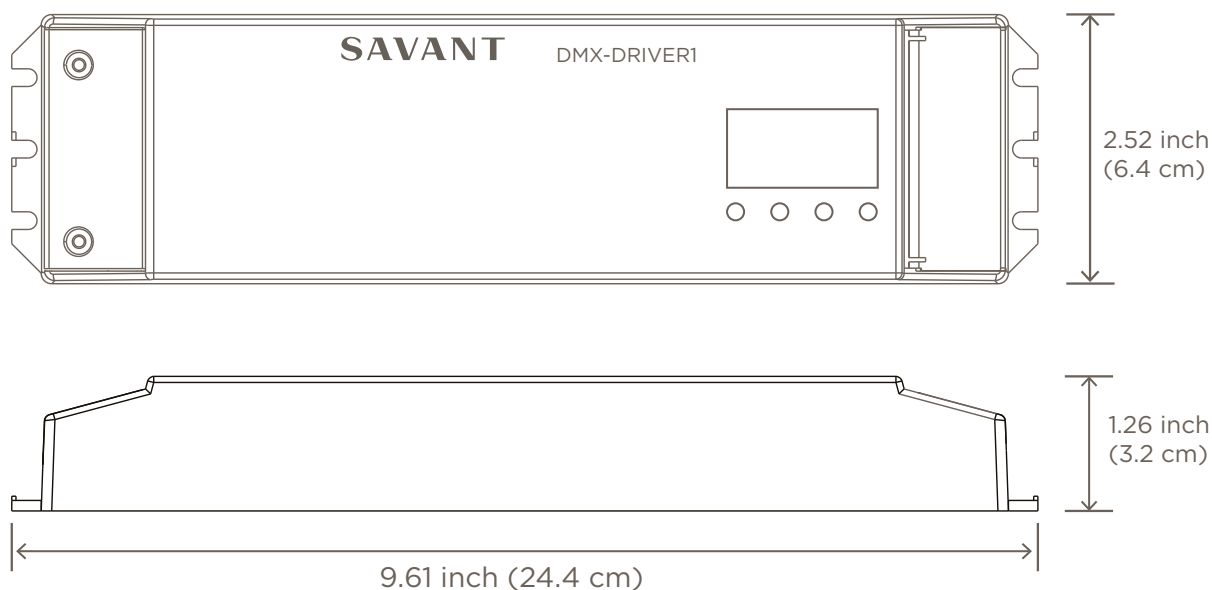
HELPFUL! To mount the driver to a wall or similar, choose any of the three fixing screw holes located on either end of the driver.

DMX-DRIVER3 (Included in the WRGB Strip Lighting Starter Kit for 10 meter strips)

2.87 inch
(7.3 cm)

5.94 inch (15.1 cm)

1.5 inch
(3.8 cm)

6.45 inch (16.4 cm)
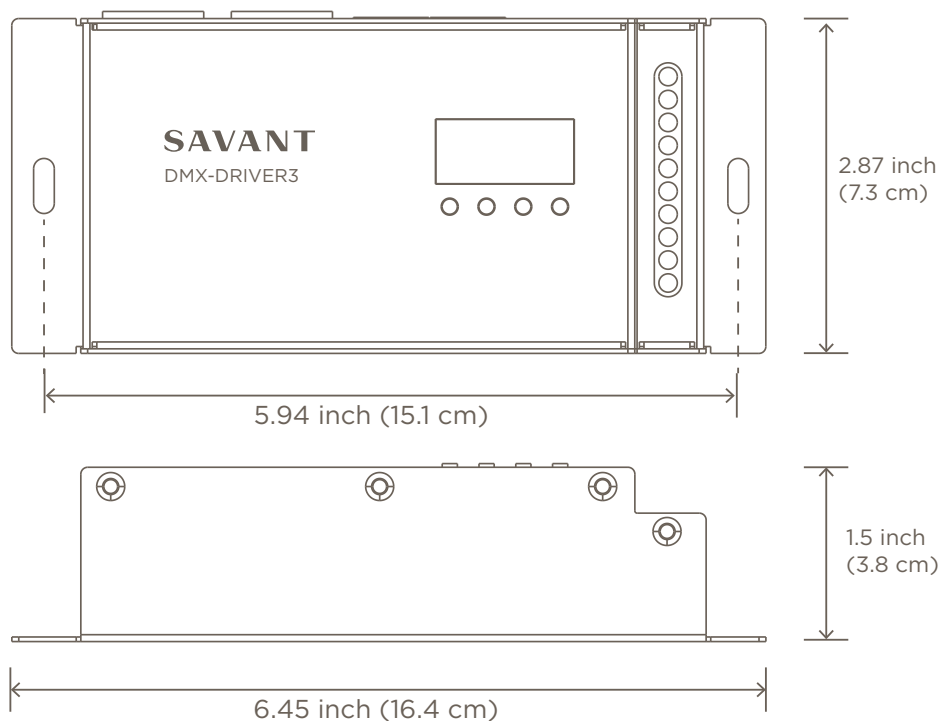
Wiring Diagrams

Five Meter LED Strip

120-277V AC

N = Neutral (White)
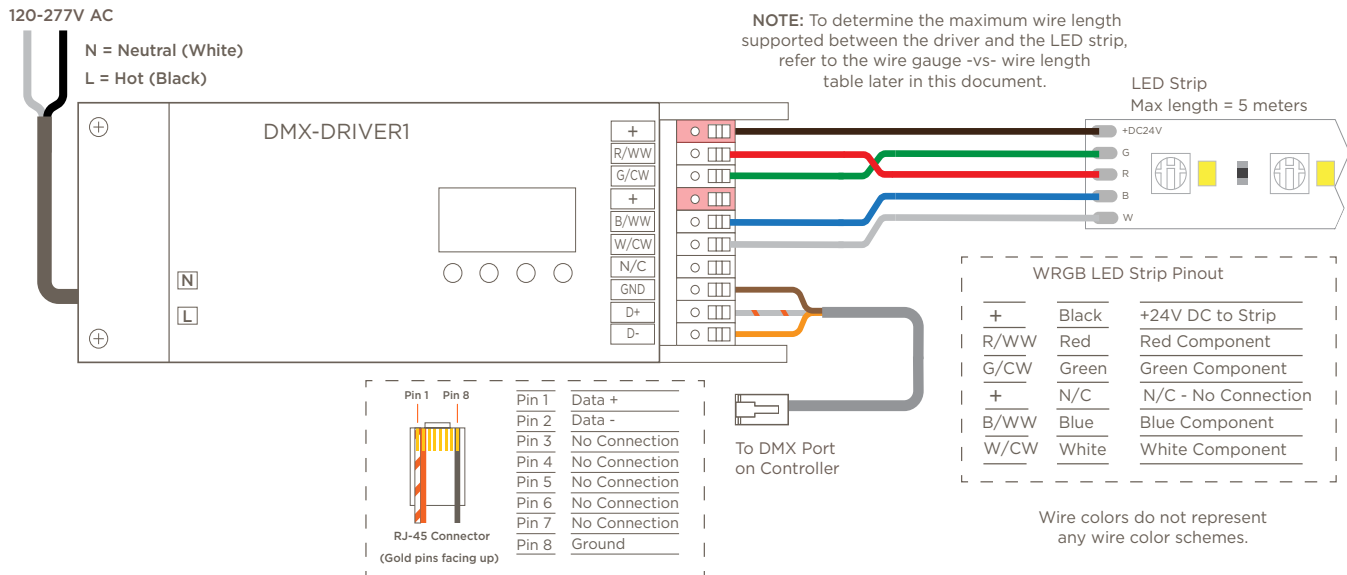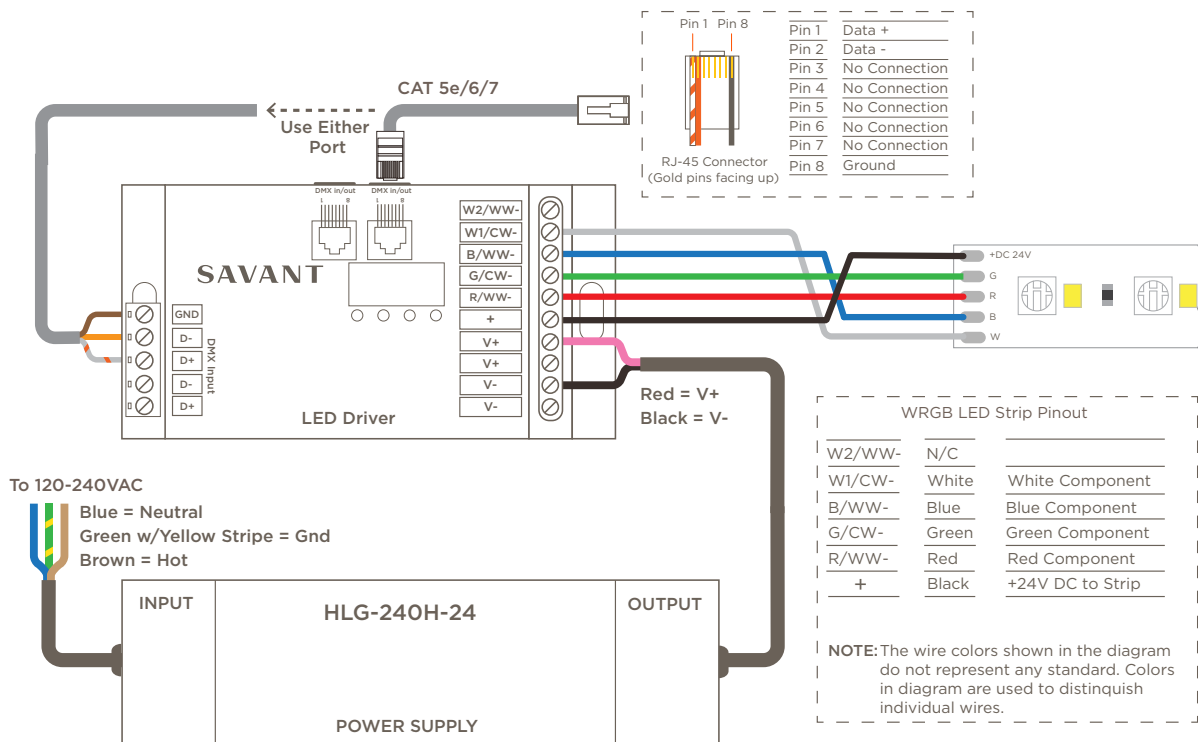L = Hot (Black)

NOTE: To determine the maximum wire length supported between the driver and the LED strip, refer to the wire gauge -vs- wire length table later in this document.

LED Strip
Max length = 5 meters

DMX-DRIVER1

+		+DC24V
R/WW		G
G/CW		R
+		B
B/WW		W
W/CW		
N/C		
GND		
D+		
D-		

N
L

Pin 1	Data +
Pin 2	Data -
Pin 3	No Connection
Pin 4	No Connection
Pin 5	No Connection
Pin 6	No Connection
Pin 7	No Connection
Pin 8	Ground

RJ-45 Connector
(Gold pins facing up)

To DMX Port
on Controller

WRGB LED Strip Pinout

+	Black	+24V DC to Strip
R/WW	Red	Red Component
G/CW	Green	Green Component
+	N/C	N/C - No Connection
B/WW	Blue	Blue Component
W/CW	White	White Component

Wire colors do not represent any wire color schemes.

Ten Meter LED Strip

CAT 5e/6/7

Use Either
Port

Pin 1	Data +
Pin 2	Data -
Pin 3	No Connection
Pin 4	No Connection
Pin 5	No Connection
Pin 6	No Connection
Pin 7	No Connection
Pin 8	Ground

RJ-45 Connector
(Gold pins facing up)

DMX in/out   DMX in/out

SAVANT

GND
D-
D+
D-
D+
DMX Input

W2/WW-		+DC 24V
W1/CW-		G
B/WW-		R
G/CW-		B
R/WW-		W
+		
V+		
V+		
V-		
V-		

LED Driver

Red = V+
Black = V-

To 120-240VAC

Blue = Neutral
Green w/Yellow Stripe = Gnd
Brown = Hot

INPUT   HLG-240H-24   OUTPUT

POWER SUPPLY

WRGB LED Strip Pinout

W2/WW-	N/C	
W1/CW-	White	White Component
B/WW-	Blue	Blue Component
G/CW-	Green	Green Component
R/WW-	Red	Red Component
+	Black	+24V DC to Strip

NOTE: The wire colors shown in the diagram do not represent any standard. Colors in diagram are used to distinguish individual wires.

- Choose the DMX-DRIVER1 when installing LED strips that are 5 meters and shorter.
- Choose the DMX-DRIVER3 when installing LED strips that are 10 meters and shorter.
- To take advantage of features such as Daylight Mode, a DMX controller is needed to bridge the communications between the LED strip and a Savant system.

HELPFUL: Additional wiring diagrams and connector pin-out information is available in the **DMX and O-10V Deployment Guide** located on the Savant Customer Community.

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Wire Gauge -vs- Wire Length

The table below provides a guideline for determining the wire gauge required to reduce the voltage drop between the LED driver and LED Strip. Using smaller gauged wires result in a loss of brightness and possible flickering of the LEDs.

Wire Gauge	10 W .42 A	20 W .83 A	30 W 1.3 A	40 W 1.7 A	50 W 2.1 A	60 W 2.5 A	70 W 2.9 A	80 W 3.3 A	90 W 3.75 A	100 W 4.2 A
20 AWG	85 feet (25.9 m)	43 feet (13.1 m)	27 feet (8.2 m)	21 feet (6.4 m)	17 feet (5.2 m)	14 feet (4.3 m)	12 feet (3.7 m)	11 feet (3.4 m)	9 feet (2.7 m)	8 feet (2.4 m)
18 AWG	134 ft (40.8 m)	68 feet (20.8 m)	45 feet (13.7 m)	33 feet (10.1 m)	27 feet (8.2 m)	22 feet (6.7 m)	19 feet (5.8 m)	17 feet (5.2 m)	15 feet (4.6 m)	14 feet (4.3 m)
16 AWG	215 feet (65.6 m)	109 feet (33.2 m)	72 feet (21.9 m)	54 feet (16.5 m)	43 feet (13.1 m)	36 feet (11 m)	31 feet (9.4 m)	27 feet (8.3 m)	24 feet (7.3 m)	22 feet (6.7 m)
14 AWG	345 feet (105.2 m)	174 feet (53 m)	115 feet (33.1 m)	86 feet (26.2 m)	69 feet (21 m)	57 feet (17.4 m)	49 feet (14.9 m)	43 feet (13.1 m)	39 feet (11.9 m)	36 feet (11 m)
12 AWG	539 feet (164.3 m)	272 feet (82.9 m)	181 feet (55.2 m)	135 feet (41.1 m)	108 feet (32.9 m)	90 feet (27.4 m)	77 feet (23.5 m)	68 feet (20.7 m)	61 feet (18.6 m)	56 feet (17.1 m)
10 AWG	784 feet (239 m)	397 feet (121 m)	263 feet (80.2 m)	197 feet (60.04	158 feet (48.2 m)	131 feet (40 m)	112 feet (34.1 m)	98 feet (29.9 m)	97 feet (29.6 m)	82 feet (25 m)

Wire Gauge	100 W 4.2 A	110 W 4.6 A	120 W 5.0 A	130 W 5.4 A	140 W 5.8 A	150 W 6.3 A	160 W 6.7 A	170 W 7.1 A	180 W 7.5 A	190 W 7.9 A
20 AWG	8.0 feet (2.4 m)	7.2 feet (2.2 m)	6.6 feet (2 m)	6.1 feet (1.9 m)	5.7 feet (1.7 m)	5.3 feet (1.6 m)	5.0 feet (1.5 m)	4.7 feet (1.4 m)	4.4 feet (1.3 m)	4.2 feet (1.3 m)
18 AWG	14 ft (4.3 m)	12.7 feet (3.9 m)	11.7 feet (3.6 m)	10.8 feet (3.3 m)	10 feet (3 m)	9.3 feet (2.8 m)	8.7 feet (2.7 m)	8.2 feet (2.5 m)	7.8 feet (2.4 m)	7.4 feet (2.3 m)
16 AWG	22 feet (6.7 m)	20.6 feet (6.3 m)	18.9 feet (5.8 m)	17.4 feet (5.3 m)	16.2 feet (4.9 m)	15.1 feet (4.6 m)	14.1 feet (4.3 m)	13.3 feet (4.1 m)	12.6 feet (3.8 m)	11.9 feet (3.6 m)
14 AWG	36 feet (11 m)	32.7 feet (10 m)	30 feet (9.1 m)	27.6 feet (8.4 m)	25.7 feet (7.8 m)	24 feet (7.3 m)	22.5 feet (6.9 m)	21.1 feet (6.4 m)	20 feet (6.1 m)	18.9 feet (5.8 m)
12 AWG	56 feet (17.1 m)	52 feet (15.8 m)	47.7 feet (14.5 m)	44 feet (13.4 m)	40.9 feet (12.5 m)	38.1 feet (11.6 m)	35.7 feet (10.9 m)	33.6 feet (10.2 m)	31.8 feet (9.7 m)	30.1 feet (9.2 m)
10 AWG	82 feet (25 m)	78.5 feet (24 m)	72 feet (22 m)	66.5 feet (20.3 m)	61.7 feet (18.8 m)	57.6 feet (17.6 m)	54 feet (16.5 m)	50.8 feet (15.5 m)	48 feet (14.6 m)	45.5 feet (13.9 m)

Wire Gauge	200 W 8.3 A	210 W 8.8 A	220 W 9.2 A	230 W 9.6 A	240 W 10 A
20 AWG	4.0 feet (1.2 m)	3.8 feet (1.16 m)	3.6 feet (1.1 m)	3.5 feet (1.07 m)	3.3 feet (1.0 m)
18 AWG	7.0 ft (2.1 m)	6.7 feet (2.0 m)	6.4 feet (1.95 m)	6.1 feet (1.9 m)	5.8 feet (1.8 m)
16 AWG	11.3 feet (3.4 m)	10.8 feet (3.3 m)	10.3 feet (3.1 m)	9.8 feet (3.0 m)	9.4 feet (2.9 m)
14 AWG	18.0 feet (5.5 m)	17.1 feet (5.2 m)	16.3 feet (5.0m)	15.6 feet (4.8 m)	15.0 feet (4.6 m)
12 AWG	28.6 feet (8.7 m)	27.2 feet (8.3 m)	26 feet (7.9 m)	24.9 feet (7.6 m)	23.8 feet (7.3 m)
10 AWG	43.2 feet (13.2 m)	41.1 feet (12.5 m)	39.3 feet (12.0 m)	37.6 feet (11.5 m)	36.0 feet (11.0 m)

Determine the correct wire gauge.

Use the tables above for reference.

1. **Calculate the Load** - A 5 meter indoor LED Strip is 115 Watts (5 * 23 watts/meter). Round up to the nearest wattage specification, which in this example is 120 watts.

2. **Measure the Distance** - Measure the distance from the LED driver to the start of the LED Strip. Lets assume the measurement is 15 feet. Round up to the nearest distance which is 18.9 feet.

3. **Select the Wire Gauge** - From these two values, the recommended wire gauge is a #16 AWG. See example in table above.

Safety and Handling

1. Savant recommends a qualified or licensed electrician install the LED strips and driver.

2. Observe all local and national electrical codes when installing.

3. Observe all electrostatic precautions when handling strips.

4. Use electrical specifications for the LED strip and driver when determining the correct gauge wire.

5. The STP-WRGB10MID LED strip are for indoor use only.

6. Bending the LED Strips beyond the maximum 10 cm (3.94 inches) diameter is not recommended and may cause damage.

7. Do not extend the strips beyond the 10 meter (approx 33 ft) maximum.

8. Remove power from the strip before making any cuts.

9. Be sure to cover or cap the end of any stripped or cut LED strips.

10. Excessive force on the LED can result in a deformation of the LED or possible wire breakage.

11. When handling, be careful not to touch the face of the LEDs. Oils on your hands can contaminate the emitting surface and affect its optical characteristics.