GMLighting®

SwitchLD™ LED Driver + Dimmer in One

INSTALLATION GUIDE

SAFETY & WARNINGS

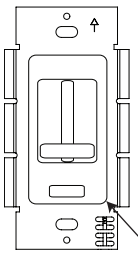
1. UNLIKE TRADITIONAL DIMMING CONTROLS, SWITCHLD REQUIRES UNIQUE WIRING STEPS. READ ALL WARNINGS AND INSTALLATION INSTRUCTIONS THOROUGHLY.
2. Install in accordance with national and local electrical code regulations.
3. This product is intended to be installed and serviced by a qualified, licensed electrician.
4. NEC Code 725.136: Class 1 and Class 2 circuits in same enclosure must be separated by a barrier unless Class 2 circuit conductors are installed in accordance with 725.41 Class 1 Circuits.
5. Only install compatible 12 V or 24 V Constant Voltage DC fixtures or warranty will be void.
6. Do not modify product beyond instructions or warranty will be void.

QUICK SPECS / MODELS

	Input	Output	Max Load
SWD-40W-12VDC-DIM	120VAC	12 VDC	40 W
SWD-60W-12VDC-DIM		12 VDC	60 W
SWD-60W-24VDC-DIM		24 VDC	60 W
SWD-100W-24VDC-DIM		24 VDC	100 W

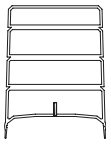
SUPPLIED ACCESSORIES

SwitchLD



Face Plate Included

Barrier

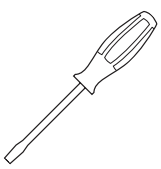


Twisted Wire Connector (4)

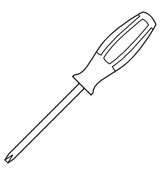
Mounting Screw (2)

TOOLS FOR INSTALL

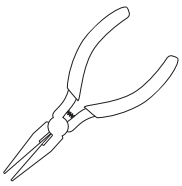
Flat-head screwdriver



Phillips-head screwdriver



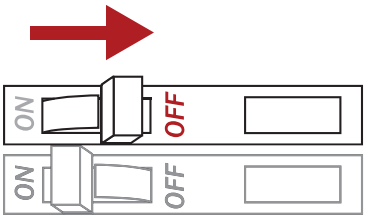
Pliers



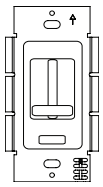
INSTALLATION

1 TURN POWER OFF AT CIRCUIT BREAKER

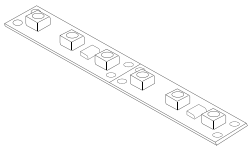
SHOCK HAZARD! May result in serious injury or death.
Turn power OFF at circuit breaker prior to installalation.



2 DETERMINE LOCATION TO INSTALL COMPONENTS



SwitchLD



Low Voltage Tape Light / Fixture

3 REMOVE EXISTING SWITCH (IF NECESSARY)

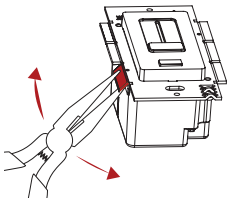
a. Remove trim plate and switch mounting screws.
b. Pull switch from wall.
c. Identify wires connected to switch and mark wires if necessary.
d. Disconnect wires from switch.

4 REMOVING FINS (IF NECESSARY)

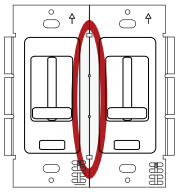
It's required to break off dimmer fins when ganging multiple dimmers in same wall box.

INSTALLATION CONT.

4 CONTINUED.

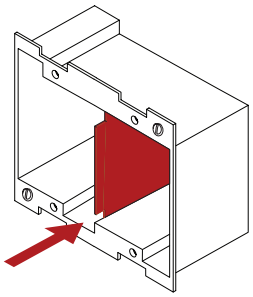


Grip with pliers. Bend back and forth until fin breaks off.



Fins have been removed.

ZERO LOAD DERATING
Unlike standard high voltage AC controls, removing SWITCHLD fins does not reduce the dimmer's maximum wattage rating.



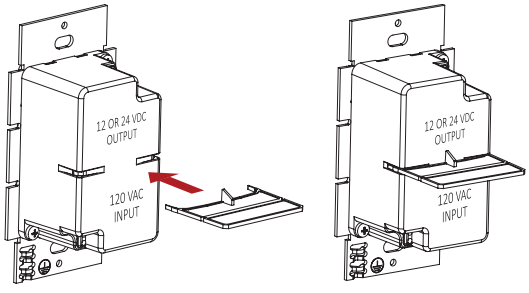
Removerable partition

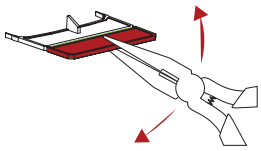
Install gang boxes that include vertical partitions (available at local electrical distributor) unless Class 2 circuit conductors are installed in accordance with 725.41 Class 1 Circuits.

5 ATTACH VOLTAGE PARTITION (BARRIER)

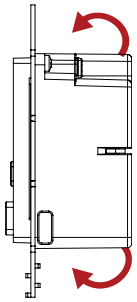
A voltage barrier is provided, which separates high voltage and low voltage wires in the wall box. Attach before mounting.

NEC CODE 725.136
Class 1 and Class 2 circuits in same enclosure must be separated by a barrier unless Class 2 circuit conductors are installed in accordance with 725.41 Class 1 Circuits. For example, Non-Metallic (NM) cable is considered a Class 1 circuit conductor. Therefore, if both high voltage and low voltage circuits are installed with NM cable then the voltage barrier is not required for installation.





For shallow boxes, barrier can be shortened. Grip with pliers. Bend back and forth until fin breaks off.

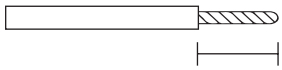


For extra shallow wall boxes it's acceptable to use the dimmer housing as a barrier. Tuck wires on top and bottom sides of dimmer housing.

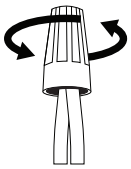
6 WIRE DIMMER

SPECIAL WIRING INSTRUCTIONS!
SWITCHLD requires unique wiring steps. Read thoroughly.

a. Strip wires on dimmer.

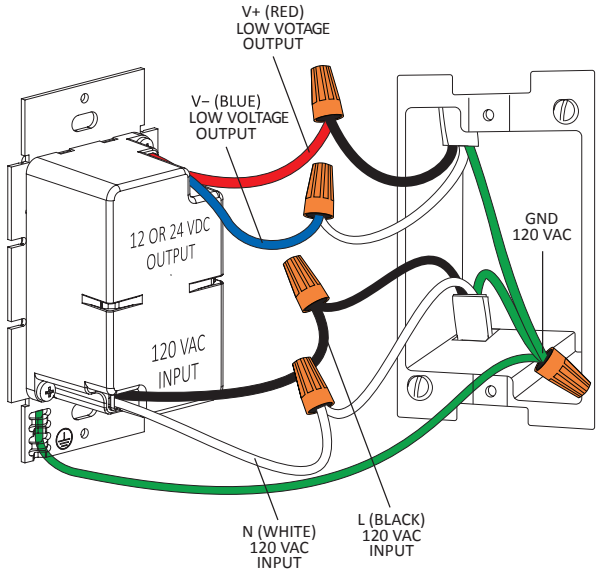


b. Wire dimmer. Ensure main power is OFF.



- GND (GREEN): To ground wire in box.
- V+ (RED): To low voltage V+.
- V– (BLUE): To low voltage V–.
- N (WHITE): To 120 V Neutral.
- H (BLACK): To 120 V Line Hot.

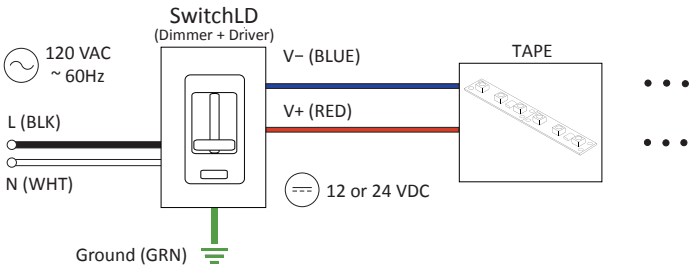
VOLTAGE DROP
See VOLTAGE DROP CHARTS at end of this guide for wire gauge recommendations installed between dimmer and fixture.



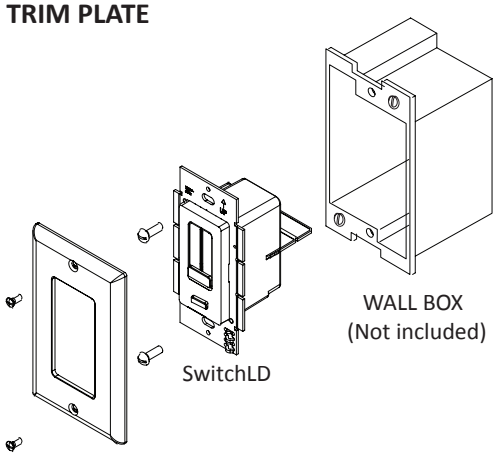
INSTALLATION CONT.

6 CONTINUED.

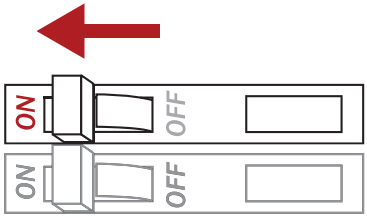
SYSTEM DIAGRAM



7 MOUNT DIMMER TO WALLBOX AND ATTACH TRIM PLATE



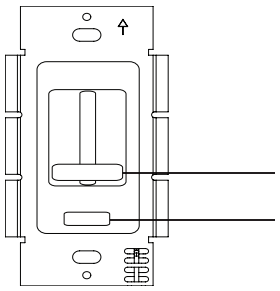
8 TURN POWER ON AT THE CIRCUIT BREAKER



SYSTEM WORKING IMPROPERLY?

Turn power OFF at circuit breaker and verify all connections. Review WIRING and TROUBLESHOOTING or call GM Lighting Technical Support at + 1 (866) 671-0811.

OPERATION



Slide to adjust brightness 100% - 1%.

Push to turn ON/OFF.

TROUBLESHOOTING

Symptom	Common Cause
Fixture does not illuminate	• Incorrect wiring. Polarity of Low Voltage V+ and V- are reversed. • Circuit breaker is OFF or tripped. • Incorrect voltage pairing of dimmer and fixture. 12 V dimmer models will not power a fixture with a higher voltage rating.
• Different fixtures do not dim in sync. • Fixture turns off at low dim level. • Fixture strobes/flickers at low dim level. • Dimmer buzzes excessively	• Only install 12 V or 24 VDC tape lights on the compatibility list.
Fixture heats up excessively	• Incorrect voltage pairing of dimmer and fixture. Do not attach a 12V fixture to a 24V dimmer. • Fixture is not compatible.

VOLTAGE DROP CHARTS

For best performance and lumen output, ensure proper wire gauge is installed to compensate for voltage drop of low voltage circuits.

Example: 12V Voltage Drop & Wire Length Distance Chart

Wire Gauge	10 W .83 A	20 W 1.7 A	30 W 2.5 A	40 W 3.3 A	50 W 2.1 A	60 W 4.2 A
18 AWG	34 ft/10.4 m	17 ft/5.2 m	11 ft/3.4 m	8 ft/2.4 m	6 ft/1.8 m	5 ft/ 5 m
16 AWG	54 ft/16.5 m	27 ft/8.2 m	18 ft/5.5 m	13 ft/4.0 m	10 ft/3.1 m	9 ft/ m
14 AWG	86 ft/26.2 m	43 ft/13.1 m	29 ft/8.9 m	21 ft/6.4 m	17 ft/5.2 m	m
12 AWG						22 ft/6.7 m
10 AWG	199 ft/60.7 m	99 ft/30.18 m	66 ft/20.1 m	49 ft/14.9 m	39 ft/11.9 m	.1 m

1. Determine load size. Let's assume load is 55 W. Round up to nearest load.
2. Determine distance from xDrive to load. Let's assume the distance is 20 ft.
3. It's recommended to install 12 AWG to eliminate excess voltage drop.

12V Voltage Drop & Wire Length Distance Chart

Wire Gauge	10 W .83 A	20 W 1.7 A	30 W 2.5 A	40 W 3.3 A	50 W 2.1 A	60 W 4.2 A
18 AWG	34 ft/10.4 m	17 ft/5.2 m	11 ft/3.4 m	8 ft/2.4 m	6 ft/1.8 m	5 ft/1.5 m
16 AWG	54 ft/16.5 m	27 ft/8.2 m	18 ft/5.5 m	13 ft/4.0 m	10 ft/3.1 m	9 ft/2.7 m
14 AWG	86 ft/26.2 m	43 ft/13.1 m	29 ft/8.9 m	21 ft/6.4 m	17 ft/5.2 m	14 ft/4.3 m
12 AWG	134 ft/40.8 m	68 ft/20.7 m	45 ft/13.7 m	34 ft/10.4 m	27 ft/8.2 m	22 ft/6.7 m
10 AWG	199 ft/60.7 m	99 ft/30.18 m	66 ft/20.1 m	49 ft/14.9 m	39 ft/11.9 m	33 ft/10.1 m

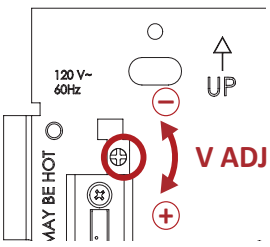
24V Voltage Drop & Wire Length Distance Chart

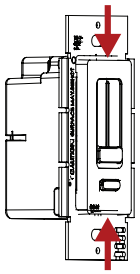
Wire Gauge	10 W .42 A	20 W .83 A	30 W 1.3 A	40 W 1.7 A	50 W 2.1 A	60 W 2.5 A	70 W 2.9 A	80 W 3.3 A	100 W 4. 2 A
18 AWG	134 ft/40.8 m	68 ft/20.7 m	45 ft/13.7 m	33 ft/10.1 m	27 ft/8.2 m	22 ft/6.7 m	19 ft/5.8 m	17 ft/5.2 m	14 ft/4.3 m
16 AWG	215 ft/65.5 m	109 ft/33.2 m	72 ft/22.0 m	54 ft/16.5 m	43 ft/13.1 m	36 ft/11.0 m	31 ft/9.5 m	27 ft/8.2 m	22 ft/6.7 m
14 AWG	345 ft/105.2 m	174 ft/53.0 m	115 ft/35.1 m	86 ft/26.2 m	69 ft/21.0 m	57 ft/17.4 m	49 ft/14.9 m	43 ft/13.1 m	36 ft/11.0 m
12 AWG	539 ft/164.3 m	272 ft/82.9 m	181 ft/55.2 m	135 ft/41.2 m	108 ft/32.9 m	90 ft/27.5 m	77 ft/23.5 m	68 ft/20.7 m	56 ft/17.1 m
10 AWG	784 ft/239.0 m	397 ft/121.0 m	263 ft/80.2 m	197 ft/60.1 m	158 ft/48.2 m	131 ft/39.9 m	112 ft/34.1 m	98 ft/29.9 m	82 ft/25.0 m

VOLTAGE ADJUSTMENT

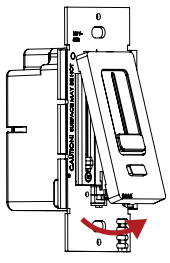
SwitchLD can provide a 1V boost if the fixture is receiving noticeable light degradation.

a. Pop off face plate as shown in the figure on the right.
b. Use a small screwdriver to adjust output voltage by turning adjustment dial clockwise.

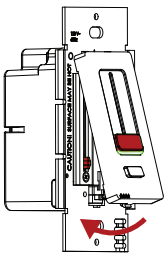




a. Gently squeeze top and bottom of face plate.



b. Lift face plate from housing.



c. Insert replacement face plate into top housing groove. Position housing slider and face plate slider at min brightness(bottom level) and pop on face plate.

Toll-Free: (866) 671-0811 | 18700 Ridgeland Ave., Tinley Park, IL 60477 | www.gmlighting.net | tech@gmlighting.net