

LOW VOLTAGE SWITCHES
Cat. Nos. LVS-01W, LVS-02W, LVS-03W, LVS-04W,
LVS-05W, LVS-06W, LVS-08W, LVS-10W,
LVS-S1W, LVS-S2W, LVS-S3W, LVS-S4W & LVS-S5W



DI-00X-00LVS-00C

INSTALLATION

PRECAUTIONS AND REQUIREMENTS:

All standard precautions for wiring traditional low voltage control devices apply:

1. The cable should not pass near any source of electrical noise or interference such as fluorescent circuits or motor wiring.
2. Close proximity to any AC wiring should be avoided.
3. All analog wiring shall be in it's own conduit.
4. Any wire type capable of carrying the required voltage and current may be used.
5. Observe standard voltage drop calculations to ensure that no less than +10 volts are received by the station. Less than +10V and the LED's will not be bright enough to be seen or if voltage is quite low, may not light at all.

INTRODUCTION:

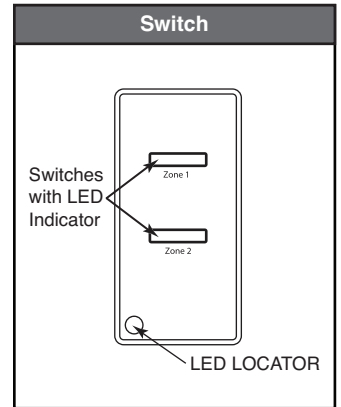
The Low Voltage Switches are a variant on the traditional low voltage switch. They provide a switched momentary contact which closes a low voltage circuit when the switch is depressed and provides optional feedback to the user through an LED contained within each button. Additionally, each station has a rear illuminated "locator" LED in the lower left hand corner.

INSTALLATION REQUIREMENTS:

- Minimum Back Box Dimensions:
NEMA (US) markets: 1 gang device back box, 1-1/2" deep
For IEC (3x3) markets: 1 gang device back box, min 35mm deep, 47mm preferred.
Minimum vertical clearance 69mm, minimum horizontal clearance 45mm.
Designed for horizontal screw mounting.
- The switches are wired using analog wiring, requiring 1 wire for each switch leg, 1 optional wire for each LED indicator within each switch (if desired), 1 optional wire for the locator LED and 1 wire for the device for common or +24V. As this is an analog system, any system topology is allowed. Additionally, the low voltage switch can provide connections to common or +V upon a switch closure.

Typical connections to the device are as follows:

- The "S_" terminals are connected to the +24V/CM terminal when the switch is depressed.
- The LED inside each switch illuminates when the "L~" terminal for the switch is connected to either +10 - 24V or Common (the opposite of that connected to the +24V/CM terminal).
- The "LOC"ator LED is illuminated when it is connected to either +10 - 24VDC or Common (the opposite of that connected to the +24V/CM terminal).



CURRENT DRAW:

At 24 VDC, each LED on the station, both those in the buttons and the locator Led requires approximately 7.5mA. Therefore the total load of each station is as shown in Current Draw chart below.

NOTE: Remember to verify that the source of the power for the low voltage stations is adequate in size for the number of buttons and stations you have connected to it.

TERMINAL CONNECTION TYPES:

Depending on the needs of your equipment, the low voltage switch will support either closed circuit connection to common, or closed circuit +v. The Terminal Connection Types chart below lists the options and requirements for the L_, LOC, and +24V/CM terminals.

CURRENT DRAW		
Station	Unit Load Consumption @ 24Vdc 1 Unit Load = 25mA	
	Without Locator LED Hooked Up	With Locator LED Hooked Up
1 Button	0.3	0.6
2 Button	0.6	0.9
3 Button	0.9	1.2
4 Button	1.2	1.5
5 Button	1.5	1.8
6 Button	1.8	2.1
8 Button	2.4	2.7
10 Button	3.0	3.3

TERMINAL CONNECTION TYPES				
Terminal Cable	Function	RECOMMENDED WIRING METHOD Expected connection at the "other end"	Z-MAX Terminal*	OPTIONAL WIRING METHOD Expected connection at the "other end"
+24V/CM	Input	+24Vdc	+24	Common
S1	Switch 1, Switch Output	+24Vdc, when switch pressed	SWx IN	Common, when switch pressed
L 1	Switch 1, LED Input	Common, when LED to be illuminated	SWx OUT	+24Vdc when LED to be illuminated
LOC	Locator LED	LED Lights when connected to Common	COM	LED Lights when connected to +24Vdc

NOTE: S1, L 1 terminals: Cross reference the "1" with the button number on the label.

NOTE: * If Connecting to a Z-MAX relay cabinet, connect to the terminal as indicated, using the recommended wiring method.

INSTALLATION FOR CAT. NOS. LVS-01W, -02W, -03W, -04W, -05W, -06W, -08W, -10W:

1. If using a Decora Plus screwless wall plate, remove the center tabs from the device as shown in **Figure A**.
2. Terminate the wiring to the appropriate terminals on your low voltage switch as is required for your application as shown in **Figure B**. See the Terminal Connection Types table.
3. When all wires have been terminated, gently stuff the wires back into the junction box in the wall.
4. Securely mount the station to the wall using the provided screws as shown in **Figure C**.
5. Mount the wall plate to the station as shown in **Figure C**.

Wiring and Installation

Figure A

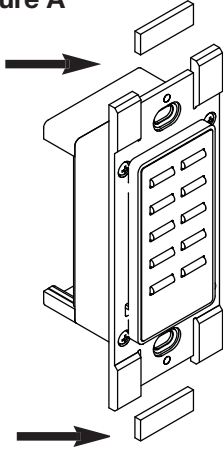


Figure B

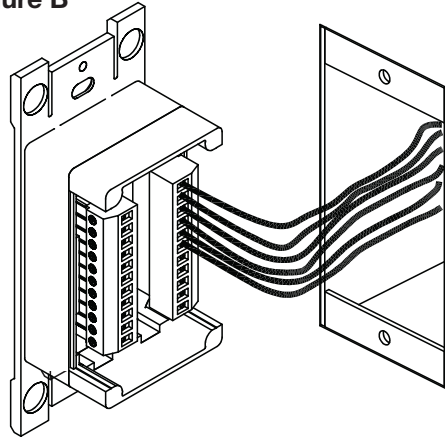
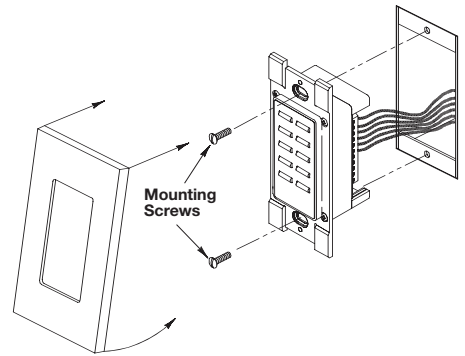


Figure C



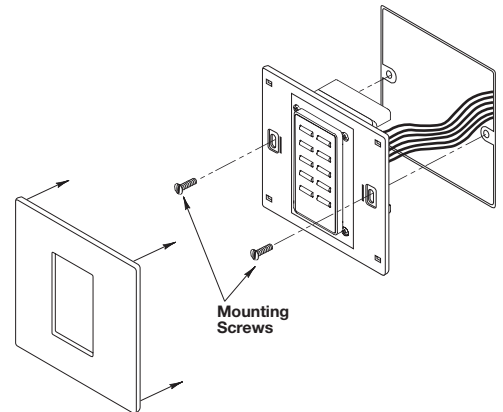
INSTALLATION FOR CAT. NOS. LVS-S1W, -S2W, -S3W, -S4W, -S5W:

NOTE: A 35mm or preferred 47mm deep 2-tab junction box is required for these devices.

1. Terminate the wiring to the appropriate terminals on your low voltage switch as is required for your application as shown in **Figure B**. See the Terminal Connection Types table.
2. When all wires have been terminated, gently stuff the wires back into the junction box in the wall.
3. Securely mount the station to the wall using the provided screws as shown in **Figure D**.
4. Mount the wall plate to the station as shown in **Figure D**.

Installation for 3" x 3" junction box

Figure D



PROGRAMMING / OPERATION:

All System Programming, individual switch configuration, and other device configuration options is performed at the device to which your switch is connected.

LIMITED 2 YEAR WARRANTY AND EXCLUSIONS

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship under normal and proper use for two years from the purchase date. Leviton's only obligation is to correct such defects by repair or replacement, at its option, if within such two year period the product is returned prepaid, with proof of purchase date, and a description of the problem to **Leviton Manufacturing Co., Inc., Att: Quality Assurance Department, 20497 S.W. Teton Ave, Tualatin OR 97062**. This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or is not used under normal operating conditions or not in accordance with any labels or instructions. **There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose**, but if any implied warranty is required by the applicable jurisdiction, the duration of any such implied warranty, including merchantability and fitness for a particular purpose, is limited to two years. **Leviton is not liable for incidental, indirect, special, or consequential damages, including without limitation, damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to perform this warranty obligation.** The remedies provided herein are the exclusive remedies under this warranty, whether based on contract, tort or otherwise.