Wattstopper®

DLM-based Low Voltage Shade Switches

No: 29698 – 04/21 rev. 4

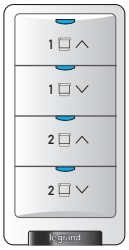
Installation Instructions • Instructions d'Installation • Instrucciones de Instalación

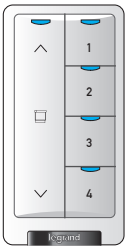
Catalog Numbers • Les Numéros de Catalogue • Los Números de Catálogo:
LMSH-SW101, LMSH-SW102, LMSH-SW104, LMSH-SW105

Country of Origin: Made in China • Pays d'origine: Fabriqué en Chine • País de origen: Hecho en China

LMSH-SW101

LMSH-SW102


LMSH-SW104


LMSH-SW105

This unit is pre-set for Plug n' Go™ operation, adjustment is optional.

Installation shall be in accordance with all applicable regulations, local and NEC codes. Wire connections shall be rated suitable for the wire size (lead and building wiring) employed.
For Class 2 DLM devices and device wiring: To be connected to a Class 2 power source only. Do not reclassify and install as Class 1, or Power and Lighting Wiring.
Do not apply cleaning solvent directly onto unit. Apply cleaning solvent onto a cloth, then wipe the unit to clean it.

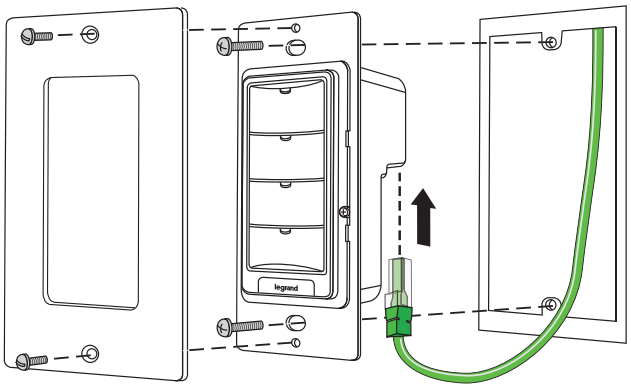
SPECIFICATIONS

Voltage 24VDC
Current Consumption 5mA
Power Supply: ..... Legrand Shade Controller (LMSH-PS610/602)
Connection to the DLM Local Network..... 2 RJ-45 ports
DLM Local Network (IRB) characteristics:
- Low voltage power provided over Cat 5e cable (LMRJ)
- Max. IRB current is 800mA
- Up to 48 communicating devices (switches and shade controllers)
- Up to 64 loads addresses (shade motors)
- Free topology wiring with Cat 5e/LMRJ cable up to 1,000' max.

Environment ..... For Indoor Use Only
- Operating Temperature .....32° to 131°F (0° to 55°C)
- Storage Temperature .....23° to 176°F (-5° to 80°C)
- Relative Humidity .....5 to 95% (non condensing)

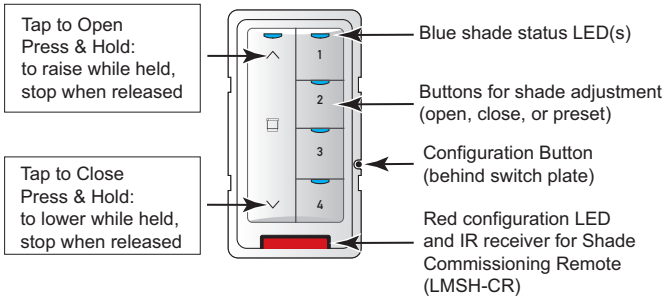
Patent Pending

MOUNTING THE SWITCH



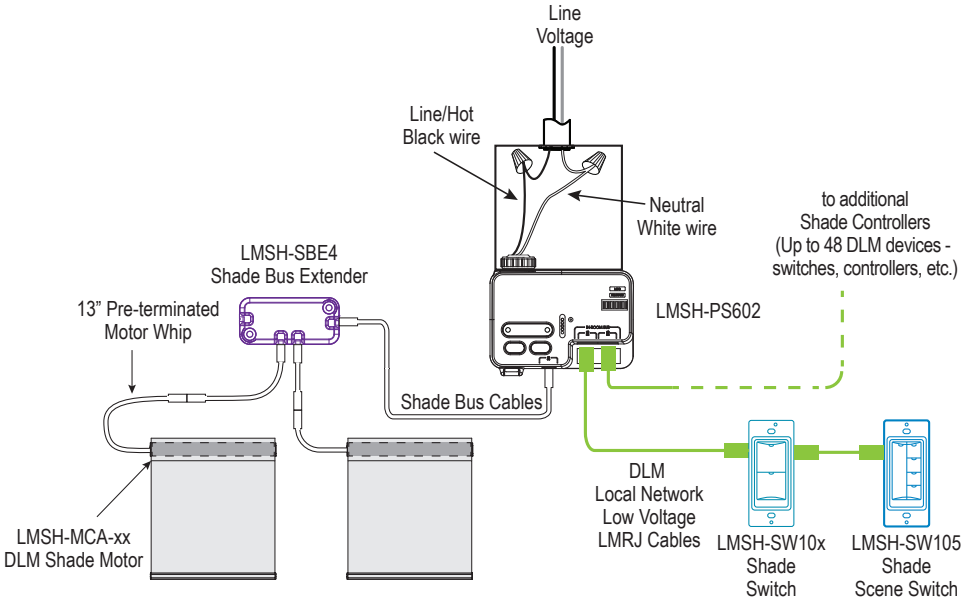
WARNING: Do not install to cover a junction box having Class 1, 3 or Power and Lighting Circuits.

BUTTONS AND INDICATORS



CONNECTIVITY

The illustrations below show examples of free-topology wiring. The LMSW switches communicate to all DLM Shading devices connected to the low voltage DLM Local Network, regardless of their position on the DLM Local Network.



PLUG N' GO (PNG) BUTTON OPERATION

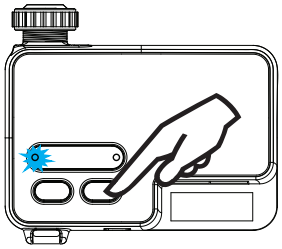
Four different shade switches are offered. The LMSH-SW101 and 105 are recommended for single zone or single fabric applications. The LMSH-SW102 and 104 are recommended for dual shade applications where one shade is a Blackout shade. They can also be used for dual zone applications, but will require using the LMSH-CR or LMCS software to edit the default PnG parameter values. The switches are shipped with engraved buttons that indicate their function. The engraving can be customized.

When connected to an LMSH-PS602 or LMSH-PS610, the switches will be will automatically configured for default operation depending on the type of shade fabric that was ordered and the type of installed switches. During testing, the factory will assign a value to the shade motor indicating the opacity of the installed shade fabric. This will be used to determine the shade button assignments.

By using Push n' Learn (described later in this document) or the LMSH-CR configuration tool, you can assign individual buttons to control one or more specific shades

See the configuration charts on the following pages to understand how default PnG will configure the switches on the project. For testing purposes, you can control the shades by pressing the shade control button on the LMSH-PS602 or LMSH-PS610, as shown in the diagram.

Shade Control toggle



Press and hold the button to ramp shade up or down. Release to stop shade and press again to reverse direction.

If you press and release immediately, shade will toggle between moving to the upper and lower limit.

NOTE: All switches come with standard button engraving shown in the following illustrations. The engraving corresponds to the switch PnG indicated below.

LMSH-SW101

Ideal Application:

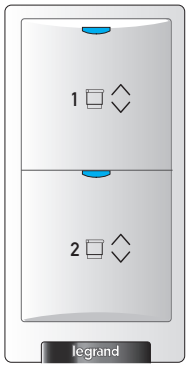
- For spaces with only one type of shade
- When only basic raise lower functionality is required

Function	Single Shade and Dual Shade
Top of Button	Open
Bottom of Button	Close
Shade Button Operation	Top button Tap – All shades open to upper limit Top button Press and Hold – All shades raise, stop when released Bottom button Tap – All shades close to lower limit Bottom button Press and Hold – All shades lower, stop when released While shade is moving, pressing the previously pressed button will stop the shade.

LMSH-SW102

Ideal Applications:

- Recommended for Dual Shade applications, where one shade is a Blackout shade. Standard button engraving and PnG applies to Dual Shade use



Function	Recommended Dual Shade (with Blackout Shade) Use
Button 1	Toggle Sheer Shade
Button 2	Toggle Blackout Shade
Shade Button Operation	For both buttons, each tap toggles between open/stop/close/stop behavior for the associated shades

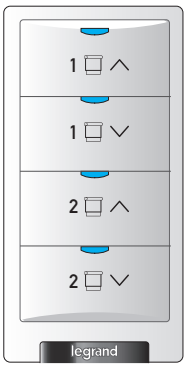
Function	If used with Single Shade
Button 1	Open
Button 2	Close
Shade Button Operation	Same as LMSH-SW101

LMSH-SW104

Ideal Applications:

- Recommended for Dual Shade applications, where one shade is a Blackout shade. Standard engraving applies to Dual Shade use.

NOTE: Standard engraving applies to recommended dual shade use.



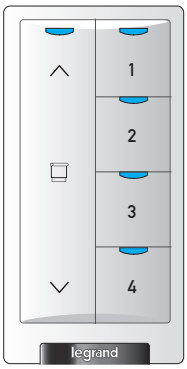
Function	Recommended Dual Shade (with Blackout Shade) Use
Button 1	Open Sheer Shade
Button 2	Close Sheer Shade
Button 3	Open Blackout Shade
Button 4	Close Blackout Shade
Shade Button Operation	Tap the button to move shade to upper or lower limit (depending on which button you tap) Press and hold button to move shade in appropriate direction. Release button to stop While shade is moving, pressing the previously pressed button will stop the shade.

Function	If used with Single Shade
Button 1	Open
Button 2	Move to 66% (100% = Open to upper limit)
Button 3	Move to 33% (100% = Open to upper limit)
Button 4	Close
Shade Button Operation	Tap the button to move shade to upper limit, lower limit, or preset level (depending on which button you tap) Press and hold button to move shade in associated direction, or towards preset level. Release button to stop While shade is moving, pressing the previously pressed button will stop the shade.

LMSH-SW105

Ideal Application:

- For spaces with where preset levels are required to control shades.
- Where fixed presets and rocker control are both needed



Function	Single Shade and Dual Shade
Rocker	Open/Close
Button 1	Recall Shade Level = 80%
Button 2	Recall Shade Level = 60%
Button 3	Recall Shade Level = 40%
Button 4	Recall Shade Level = 20%
Shade Button Operation	Rocker Top Tap – All shades open to upper limit Rocker Top Press and Hold – All shades raise, stop when released Rocker, Bottom Tap – All shades close to lower limit Rocker, Bottom Press and Hold – All shades lower, stop when released Button 1 Tap – Move shade to 80% preset level Button 2 Tap – Move shade to 60% preset level Button 3 Tap – Move shade to 40% preset level Button 4 Tap – Move shade to 20% preset level While shade is moving, pressing the previously pressed button will stop the shade.

BUTTON BINDING ADJUSTMENT - PUSH N' LEARN (PNL)

A configuration button allows access to our patented Push n' Learn™ technology to change the binding relationship between switch buttons and shades.

Step 1 Enter Push n' Learn

1. Press and hold the configuration button on the shade power supply or a switch for 3 seconds, until the Red LED on the red LED begins to blink. When you release the configuration button, the red LED on other communicating DLM Local Network devices begins to blink.
2. The red configuration LED on all devices will blink once per second to indicate the system is in PnL mode. The Red LEDs continue to blink until you exit PnL mode.
3. All shades in the room go to 100% (open) after entering PnL, except for Shade #1 which will move to 50%. Default bindings are described in the previous section. The Blue LED will be ON for all switch buttons that are bound to this shade.

   NOTE: Shade order is determined by the system based on motor serial numbers. Installers should note the location and number of the shade for future programming or troubleshooting.

Step 2 Shade Selection

1. Press and release the configuration button to step through the shades connected to the DLM Local Network. As each shade goes to 50% note which switch buttons are showing the blue LED. These buttons are currently bound to the shade at the 50% level.
2. To unbind a switch button from a shade, press the switch button while its blue LED is ON. The blue LED turns OFF to indicate the button no longer controls the shade that is currently at the 50% level.
3. Pressing the switch button again while the shade load is at 50% rebinds the shade load to the button and the blue LED illuminates.

   NOTE: If you are trying to bind a specific shade and don't want to step through selecting each one ,instead of pressing and releasing the configuration button, you can tug on the specific shade you want to bind and it will become the active shade.

Step 3 Exit Push n' Learn

1. Press and hold the configuration button until the red LED turns off, approximately 3 seconds.

TROUBLESHOOTING

LEDs on a shade switch or motorized shade don't light	1. Check to see that the device is connected to the DLM Local Network. 2. Check for 24/36VDC input to the device: Plug in a different DLM device at the device location. If the device does not power up, 24/36VDC is not present. The LMSH-602 provides 24V input. The LMSH-PS610 provides 36V input. • Check the high voltage connections to the shade controller. • If high voltage connections are good and high voltage is present, recheck DLM Local Network connections between the device and the room controller(s).
LEDs turn ON and OFF but shade doesn't move	1. Make sure the DLM local network is not in PnL or PnS programming mode. 2. Check shade bus connections between shade controller and DLM motorized shades.

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