

# DLM SHADE SYSTEM WIRING COMPONENTS

## LMSH-SB & LMRJ

DLM Shade System has preconfigured wire solutions for plug and play wiring

Easy free topology wiring adapts to any building application

Preconfigured wiring on both the shade bus and DLM In-room bus (between power supplies and switches) eliminates wiring mistakes



LMSH-SB



LMRJ

Standard green color and markings for DLM provide easy identification of LMRJ cables in plenum

LMRJ Cables available in green or white colors for use in exposed locations

## DESCRIPTION

LMSH-SB series cables have four wires and are designed to connect DLM shades and power supplies together. There are a variety of lengths and accessories that make cable selection and system layout easy and intuitive. The DLM shade control system can be wired together without tools using the wiring and accessories in the LMSH-SB series.

LMRJ Series cables connect Digital Lighting Management (DLM) components without the need for tools or point-to-point discrete wiring. Cables are pre-terminated with industry standard RJ45 connectors compatible with any RJ45 port on DLM components.

## OPERATION

LMSH-SB cables are male-male that can be plugged directly into the PS610/602 shade controllers and shade motors. The LMSH-SBE4 is a shade bus extender that has four parallel female connections that allow the SB cables to extend the shade bus without regard to topology. The SBCA-S2 is a Y splitter cable designed to make wiring of dual shade configurations easier using one port on the SBE4 extender. There is also an option for installers to create their own custom

length cables using bulk wire with a crimper and connectors. Lastly, the LMSH-SBTEST allows the installer to test the shade bus for correct connection during installation.

LMRJ cables can be plugged into any available RJ45 port on a DLM device and connected to any other DLM device. These cables facilitate the creation of a local network of DLM components that automatically configure and function together. While LMRJ series cables are rated Cat 5e, they are not recommended for general data use in other than DLM network applications.

## APPLICATIONS

The DLM shade control system has been designed to be the easiest system in the industry to wire and avoids typical wiring errors by using preconfigured cables and accessories. The system is recommended for virtually all roller shade applications, including offices, conference rooms and classrooms. The system is ideal for any area where motorized shade control is desired. The distributed shade controller system allows for flexible installation and power distribution for shade motors and switches, eliminating multiple lengthy homerun cables while allowing shades to be controlled by occupants to reduce glare, increase comfort, and control light for presentations or privacy.

## FEATURES

- Easy to install system of pre-terminated cables
- SBCA-S2 allows for easy wiring with dual shades
- Tester allows the installer to test the shade network while installing
- Custom cable option with bulk cable, crimper, and crimp kit
- All shade bus wiring is UL/cUL and plenum rated (SBCA-S2 is not plenum)
- Color coded IRB wiring allows for easy identification
- Shade bus is open topology to allow for wiring with different room and building configurations

PROJECT

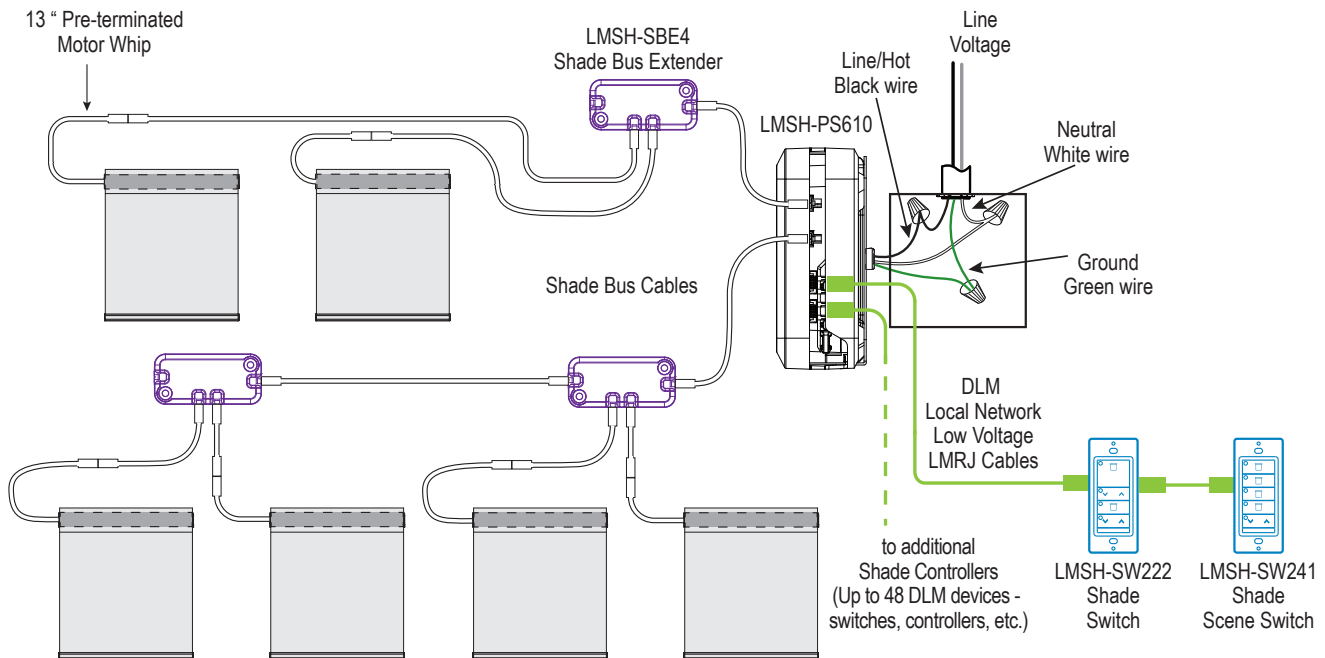
LOCATION/  
TYPE

## SPECIFICATIONS

- Local Network Characteristics when using shade controller:
  - Shade Network provides low voltage power to shade motors over Shade Bus cables, up to 1,000' (or 2 x 500') max
  - (DLM Local Network In-Room Bus (IRB) provides low voltage power to switches over Cat 5e cable LMRJ); max current 800mA. Free topology up 150' per device, up to 1,000' max.
- A full single shade room network supports up to 48 communicating devices on the IRB (powers supplies and switches) and up to 64 loads (shade motors) on the shade bus
- Shade Bus Extender: FT6; Plenum rated
- Shade Bus Plenum rated pre-configured cables (LMSH-SBCA) and bulk wire (LMSH-SBW): 16 and 22AWG; FT6;
- DLM Non-Plenum rated pre-configured cables (LMRJ): 4PR, 24AWG, FT4
- DLM Plenum rated pre-configured cables (LMRJ-P): 4PR, 24AWG, FT6
- Max. Operating Temperature: 167°F (75°C)
- UL/cUL listed
- Five year warranty

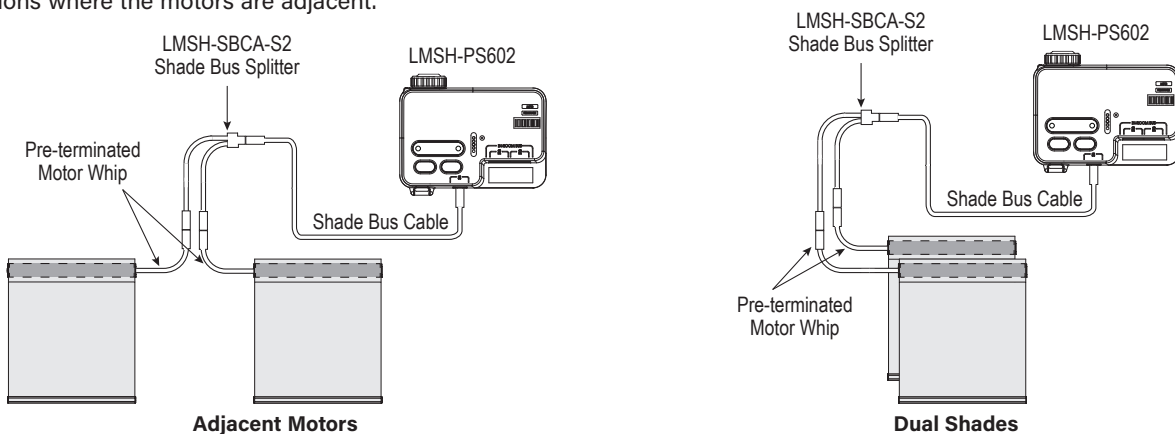
## EXAMPLE SYSTEM CONNECTION

In this example, an LMSH-PS610 is powering the shade motors. If using an LMSH-PS602, only two shades can be connected. Use the LMSH-SBE4 Shade Bus Extender to chain together multiple shades.



### Wiring Using the LMSH-SBCA-S2 Shade Bus Splitter

The shade splitter is designed to simplify wiring for dual shades where the motors are on the same side. It can also be used for applications where the motors are adjacent.



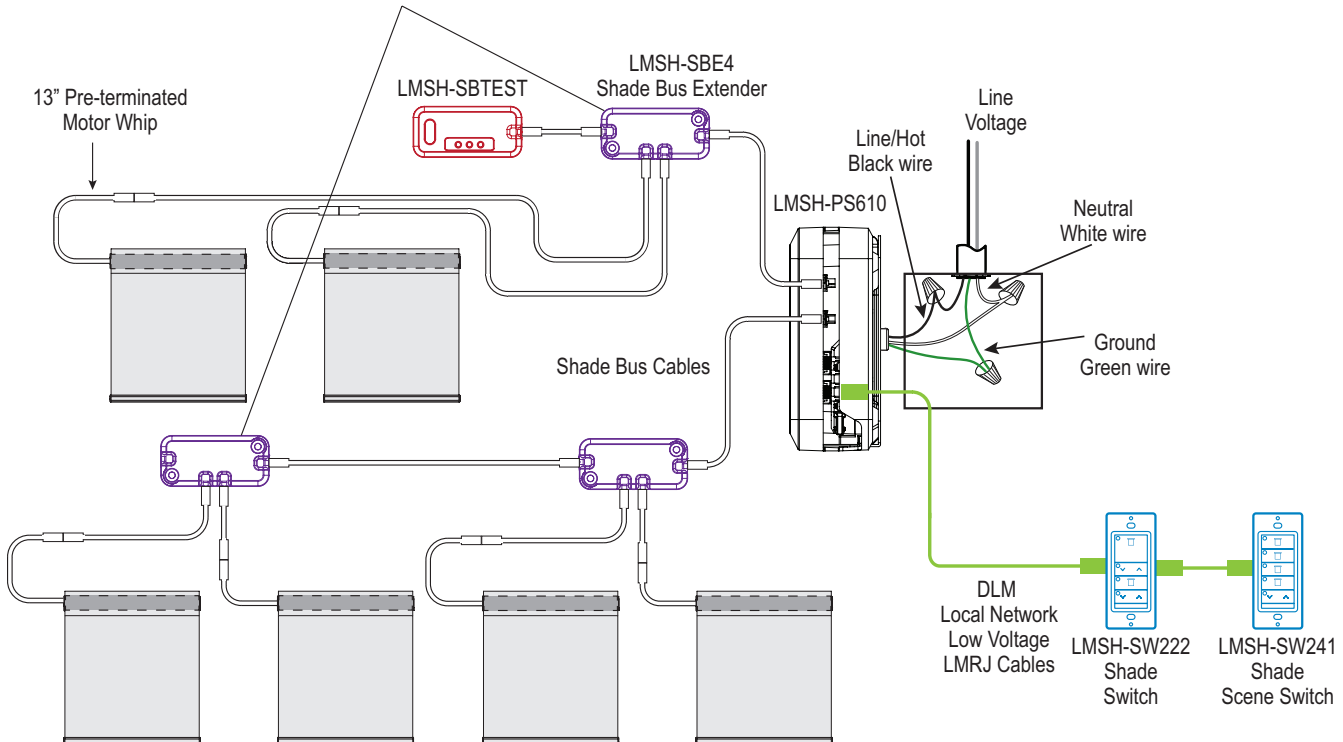
## TESTING THE SHADE BUS WIRING

The LMSH-SBTEST is used for testing wiring connections of DLM Shade bus. It has three LEDs, blue, green, and red. If the blue and green LEDs are lit, the cables are operating correctly; if there is any other combination, an error exists.

**NOTE: If using Legrand pre-configured shade bus cables** – Connect to the shade bus at the end-of-line to test entire bus. If an error exists, connect to devices moving inwards towards the power supply to determine where the wiring problem exists. Correct the wiring issue when found, and repeat the end-of-line test.

**NOTE: If using installer built shade bus cables** – Connect LMSH-SBTEST to each cable after it is connected to confirm there is no error with wiring before connecting another cable.

If using an LMSH-PS610 with Shade Bus Cable connected to both jacks, test the end-of-line for both connections



### Notice

LMRJ cables are UL-rated and listed as a CM or CMP cable, depending on the model and fall under NEC Article 800.

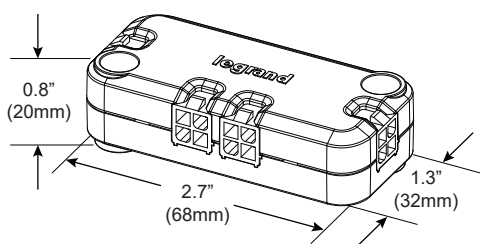
In NFPA 70, 2020 NEC, under Article 800 (General Requirements for Communications System), it states the following: "Informational Note No 3: Paint, plaster, cleaners, abrasives, corrosive residues, or other contaminants may result in an undetermined alteration of the wire and cable properties." (see Section 800.24).

All CM-rated cables have passed a very specific test which ensures they do not spread flames beyond what is permitted under the UL limit. You can install CM cables in the wall or ceiling.

CMP-rated cables are made from material that completely retards the spread of flames. These cables are specifically designed for plenum applications.

Per the NEC, the properties of these cables may change by coming in contact with, being covered by, or otherwise exposed to other products or substances.

## LMSH-SBE4 DIMENSIONS

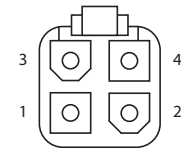


## ORDERING INFORMATION

### For Shade Bus Connection

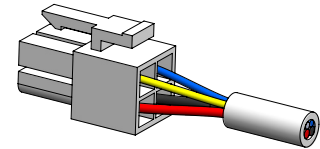
Catalog #	Description
<b>Pre-configured Cables</b>	
<input type="checkbox"/> LMSH-SBCA-P008	DLM Shade Bus Cable Assembly 8 Inch Plenum Rated White*
<input type="checkbox"/> LMSH-SBCA-P03	DLM Shade Bus Cable Assembly 3 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P05	DLM Shade Bus Cable Assembly 5 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P10	DLM Shade Bus Cable Assembly 10 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P15	DLM Shade Bus Cable Assembly 15 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P25	DLM Shade Bus Cable Assembly 25 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P35	DLM Shade Bus Cable Assembly 35 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P50	DLM Shade Bus Cable Assembly 50 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P75	DLM Shade Bus Cable Assembly 75 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-P100	DLM Shade Bus Cable Assembly 100 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBCA-S2	DLM Shade Bus Splitter Female to 2 Males, 4" Non-Plenum, White
<b>Wire and Tools for Customized Wiring</b>	
<input type="checkbox"/> LMSH-SBW-S1000	DLM Shade Bus Bulk Wire Spool 1000 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBW-S2000	DLM Shade Bus Bulk Wire Spool 2000 Feet Plenum Rated White
<input type="checkbox"/> LMSH-SBWC10	DLM Shade Bus Connector for Bulk Wire - 10 Pack
<input type="checkbox"/> LMSH-SBWCTOOL	Crimping Tool for DLM Shade Bus Wire and Connectors
<b>Shade Bus Extender and Tester</b>	
<input type="checkbox"/> LMSH-SBE4	DLM Shade Bus Extender, 4 Female Connectors, Plenum
<input type="checkbox"/> LMSH-SBTEST	DLM Shade Bus Tester, 1 Female Connector

Wire connection for bulk wire to shade bus connector



Male Connector Pinouts

- 1 Black (16AWG)
- 2 Red (16AWG)
- 3 Blue (22AWG)
- 4 Yellow (22AWG)



\* LMSH-SBCA-P008 is included with LMSH-MCA140 and LMSH-MCA173 DLM Shade Motors

### For DLM Connection

#### Non-Plenum Rated Local Network Cables

Catalog #	Green cable with white stripe
<input type="checkbox"/> LMRJ-01	Six-inch Jumper
<input type="checkbox"/> LMRJ-03	3' Cable
<input type="checkbox"/> LMRJ-10	10' Cable
<input type="checkbox"/> LMRJ-15	15' Cable
<input type="checkbox"/> LMRJ-25	25' Cable
<input type="checkbox"/> LMRJ-35	35' Cable
<input type="checkbox"/> LMRJ-50	50' Cable
<input type="checkbox"/> LMRJ-75	75' Cable
<input type="checkbox"/> LMRJ-100	100' Cable

#### Plenum Rated Local Network Cables

Catalog #	Green cable with black stripe	Catalog #	White cable
<input type="checkbox"/> LMRJ-P03	3' Cable	<input type="checkbox"/> LMRJ-P03-W	3' Cable
<input type="checkbox"/> LMRJ-P10	10' Cable	<input type="checkbox"/> LMRJ-P10-W	10' Cable
<input type="checkbox"/> LMRJ-P15	15' Cable	<input type="checkbox"/> LMRJ-P15-W	15' Cable
<input type="checkbox"/> LMRJ-P25	25' Cable	<input type="checkbox"/> LMRJ-P25-W	25' Cable
<input type="checkbox"/> LMRJ-P35	35' Cable	<input type="checkbox"/> LMRJ-P35-W	35' Cable
<input type="checkbox"/> LMRJ-P50	50' Cable	<input type="checkbox"/> LMRJ-P50-W	50' Cable
<input type="checkbox"/> LMRJ-P75	75' Cable	<input type="checkbox"/> LMRJ-P75-W	75' Cable
<input type="checkbox"/> LMRJ-P100	100' Cable	<input type="checkbox"/> LMRJ-P100-W	100' Cable