

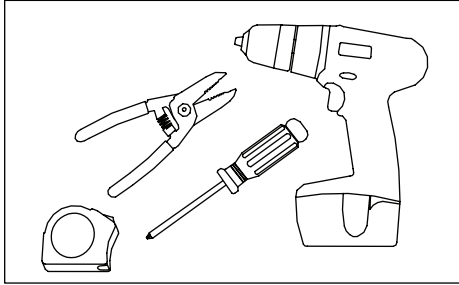
VL Plus 2

Installation Guide for 701269-(XXX)A2-MB, 701269-(X)WAH1-MB

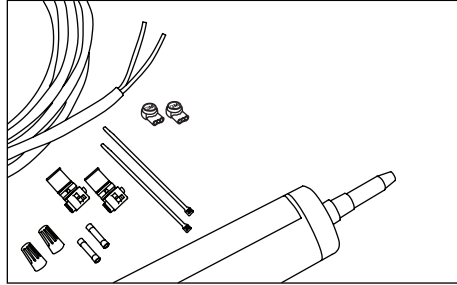
WARNING: Risk of electrical shock. New installation and LED Retrofit Kit installation requires knowledge of sign electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician. Follow all NEC and local codes. VL Plus 2 is not suitable for submersion or direct exposure to water for extended periods of time.

For New Installation, proceed with Step 1 below. For Retrofit Installations, begin with Retrofit Instructions on page 2.

New Installation



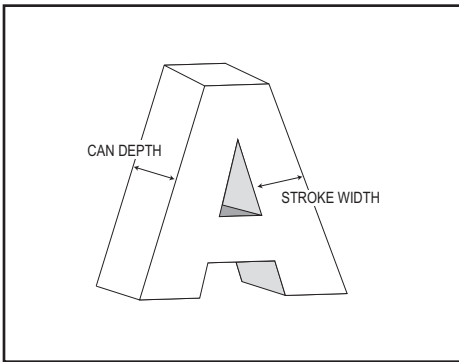
1. **Tools required:** Measuring tape, wire strippers. **Optional:** drill, screwdriver.



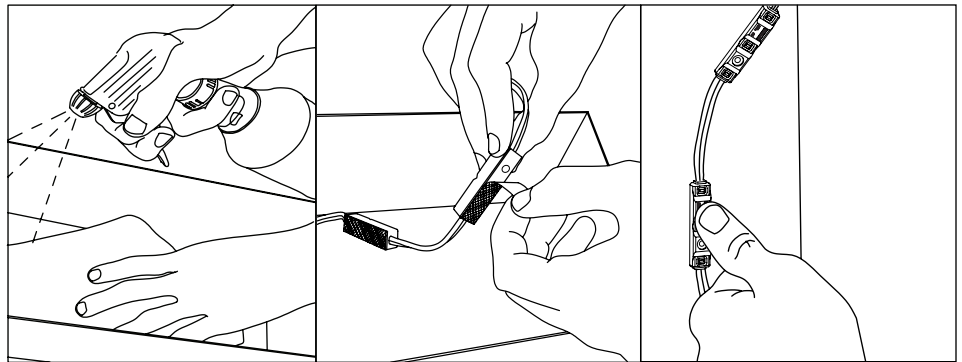
NOTE: Modules must be mounted in an enclosed sign. This product is not suitable for immersion or direct exposure to water for extended periods of time.

2. Components list:

- VL Plus 2 modules, model numbers 701269-(XXX)A2-MB and 701269-(X)WAH1-MB
- SloanLED 12 V Class 2 output power supply (refer to "12 VDC Power Supply Capacity Chart" for appropriate model numbers)
- UL approved 18 AWG or larger diameter supply wire
- UL approved wire connectors appropriate for wire gauge used
- Optional for mounting: Electrical grade silicone, #6 (M3) sheet metal screws, or 1/8" (3 mm) aluminum rivets

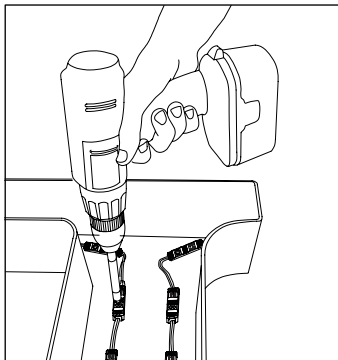


3. **Layout:** To populate sign, refer to VL Plus 2 density guidelines as well as power supply loading chart below to determine appropriate number of modules and power supplies.

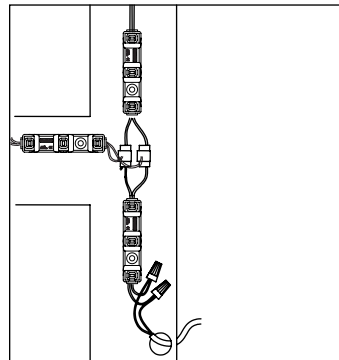


4. **Peel and stick:** Clean inside sign with rubbing alcohol and allow to dry. Using predetermined layout and LED placement from Step 3, remove tape backing and stick modules into place. Ensure modules are firmly attached. **CAUTION:** When handling modules, avoid pressing down directly on top of LEDs.

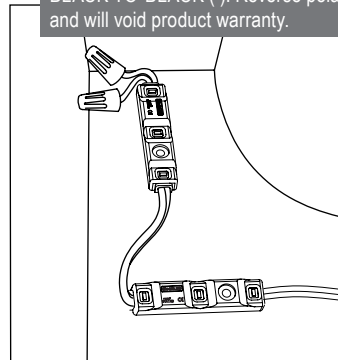
WARNING check polarity: All connections must be RED-TO-RED (+) and BLACK-TO-BLACK (-). Reverse polarity connections may damage the LEDs and will void product warranty.



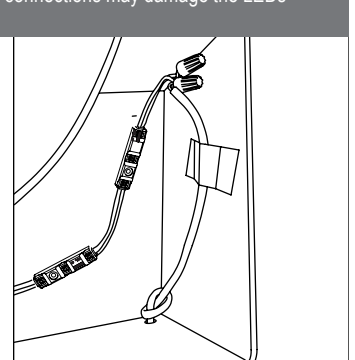
5. **Fasteners:** If desired, modules can be secured with #6 (3.5 mm) pan head sheet metal screws or 1/8" (3 mm) aluminum rivets.



6. **Connections:** Modules may be connected in series or parallel.



7. **Cap all unused wires:** Strand of modules should not be looped to create a closed circuit.



8. **Connect power supply to first module on string:** See Power Supply Install Guide for more information regarding power supply installation.

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Retrofit Instructions for Existing Signs



GENERAL PURPOSE
RETROFIT SIGN CONVERSION.

FOR USE ONLY IN ACCORDANCE
WITH KIT INSTRUCTIONS.

KIT IS COMPLETE ONLY WHEN ALL PARTS
REQUIRED BY THE INSTRUCTIONS ARE PRESENT.

WARNING: Risk of fire or electric shock. Install this kit only in host signs that have been identified in the installation instructions, and where the input rating of the retrofit kit does not exceed the input rating of the sign. Installation of this LED retrofit kit may involve drilling or punching of holes into the structure of the sign. Check for enclosed wiring and components to avoid damage to wiring and electrical parts.

1. Identify sign to be retrofit and ensure branch circuit supplying existing sign are within voltage range for LED power supply. Refer to components list (page 1) and "12 VDC Power Supply Capacity Chart" (page 3).
2. Remove existing lighting equipment intended to be replaced, such as neon or fluorescent, and all power supplies, transformers, or ballasts. Remove existing neon and all standoffs to leave an empty channel letter can. **NOTE:** All materials removed must be disposed of in accordance with applicable local, state, and federal laws.
3. If required by local, state, or national electrical code, install a new disconnect switch.
4. Determine suitability and structural integrity of existing sign after removal of existing lighting equipment. If retrofit does not require the making of any new holes, do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation. If existing holes are present in a wet or outdoor location sign, repair and seal any unused openings in the electrical enclosure. Openings greater than 0.5" (12.7 mm) diameter require a metal patch secured by screws or rivets and caulked with non-hardening caulk. Smaller openings may be sealed with non-hardening caulk.
5. Clean inside of sign using non-oil based cleaner. Follow all manufacturer's instructions and ensure inside of sign is dry before proceeding with installation. This is an important step for good adhesion of SloanLED channel letter module mounting tape.
6. To populate sign, refer to VL Plus 2 density guidelines as well as power supply loading chart (page 1) to determine appropriate number of modules and power supplies. A list of acceptable power supply models is shown in the "12 VDC Power Supply Capacity Chart" (page 3).
7. Follow all instructions on pages 1 and 2 under "New Installations" to properly install LED modules.
8. Connect modules to power supply output as shown on page 1 under "New Installations"
9. Connect power supply input as outlined in power supply installation guide in accordance with local, state and national electrical codes by qualified personnel. Refer to power supply install guide included with power supply for details.
10. If required, install disconnect switch in accordance with local, state and national electrical codes by qualified personnel.

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12 VDC Power Supply capacity table for VL Plus 2

Power Supply	Part Number	Retrofit Certified	Input		Output		Maximum feet (meter)/Modules		
			Nominal Input Voltage	Input Current	Power Output	Output Current	White Long	White Short/HB	White Mini
Self-Contained 20 W	701680	●	100-240 V	0.55 A	20 W	1.67 A	16.7 (5.1)/33	13.3 (4.1)/33	10.7 (3.3)/43
Compact 12/25 W*	410174		100-277 V	0.40 A	25 W	1.9 A	21 (6.4)/42	17 (5.2)/42	13 (4.0)/54
60C1 60 W	701507-60C1	●	100-277 V	0.70 A	60 W	5.0 A	50 (15.2)/100	40 (12.2)/100	32 (9.8)/128
60W2(E) 60 W	701507-60W2(E)	●	100-277 V	0.70 A					
60W3 60 W	701507-60W3	●	100-277 V	0.80 A					
120D1 120 W	701507-120D1	●	100-277 V	1.70 A	2 × 60 W	2 × 5.0 A	2 × 50 (15.2)/100	2 × 40 (12.2)/100	2 × 32 (9.8)/128
Power used per foot (meter) in Watts							1.08 W (3.54)	1.35 W (4.43)	1.68 W (5.51)

* For sign applications, only certified for use outside of U.S. and Canada.

NOTE: Each 12 V circuit must be limited to 5 A (60 W) or less. For North American installations, a power supply that meets NEC Class 2 specifications is required.

Extension of Power Supply Leads

An extension can be used if longer lead wire from power supply to LED modules is needed. Extension should be kept as short as possible: under 15 ft for 18 AWG UL Listed PLTC or under 50 ft for 14 AWG UL Listed PLTC (4,6 m for 1 mm² or under 15,2 m for 2,5 mm²).

Troubleshooting

Entire sign or leg does not light after complete installation.	Check connection from power supply lead to first module. Make sure polarity of connections made at power supply lead and any jumper wire is correct. Power supply outputs should be connected RED-TO-RED and BLACK-TO-BLACK.
Still does not light.	Check output voltage of power supply using a voltmeter. The output voltage should be DC 12.0 V ± 0.5 V. If there is no output voltage, have a licensed electrician check input voltage. Make sure power supply is connected correctly and getting primary power. If power supply is connected properly and getting primary power and there is still no output voltage, try a different power supply.
Still does not light.	If power supply is getting primary power and modules don't light, there may be a short in the secondary wiring. Check all connections and cap all loose wires.
The beginning of a leg lights, but entire leg does not light or lights intermittently.	The primary cause of a portion of a VL Plus 2 leg not lighting or lighting intermittently is a bad connection or reverse polarity connection between modules that light and modules that don't light. Check this connection.
One module does not light, but all others in the leg light.	VL Plus 2 modules are designed that if one module fails, it will not cause the entire sign or leg to go out. If one module does not light, but all others in the leg do, replace this module with a new one.



Use the online SloanLED Layout Estimator to get a quick VL Plus 2 design and material estimate for your sign.
Visit [product page](#) for details.



Customer service and technical support

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P/N 401459 Rev H 2019-04-17

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