Lumin Smart Panel

INSTALLATION MANUAL

WWW.LUMINSMART.COM

V3.6

TABLE OF CONTENTS

INTRODUCTION

Welcome! The Lumin Smart Panel (LSP) is a standalone product that extends the capability of an existing circuit breaker panel (or "electrical panel") by providing measurement and remote control of up to twelve (12) circuits in a home or building. The function of the circuit breaker panel remains the same and is not impacted. The LSP securely and safely transmits real-time consumption information to the cloud via Ethernet connection or customer Wi-Fi.

Data and system controls can be accessed via the Lumin mobile app or the web-based Lumin dashboard (app.luminsmart.com). The Lumin app gives customers insights into their energy consumption and energy costs, as well as providing the user with the ability to control or automate their energy use remotely.

NOTE: A Lumin Smart Panel will not function as designed until it is fully commissioned. It is generally the responsibility of the installer to perform both the physical installation and the online setup/commissioning process. Refer to page 29 or visit https://luminsmart.com/accountsetup to begin the setup process. All personnel installing this product should complete Lumin Certified Installer Training prior to installation. Scan below to register for training.

TRAINING

Need help? For installation assistance please contact Lumin by e-mail at support@luminsmart.com or by phone at 1-888-421-0616 (North America).

WARNING: HIGH VOLTAGE.
THE LUMIN SMART PANEL MUST BE INSTALLED BY QUALIFIED PERSONNEL. SEE PAGE 2 WARNINGS.

READ BEFORE USE

The LSP is compatible with both flush-mounted (i.e., set within drywall) existing electrical panels and surface-mounted electrical panels. Please determine which electrical panel type the LSP will be connecting to and follow the corresponding installation steps outlined in this manual. The LSP-DC+ model must be installed indoors. Please review the product's technical ratings and specifications (pg. 31) to confirm it is suitable for your application prior to installation.

NOTE: The *LSP Circuit Label & CT Table* (provided with the LSP) must be completed and delivered to the home/building owner upon the successful installation of the LSP. A completed *LSP Circuit Label & CT Table* is required in order to complete LSP setup.

Warnings

The LSP connects to dangerous voltages. The improper use or installation of the device can lead to serious or fatal injuries. Please observe the following safety precautions when installing the LSP:

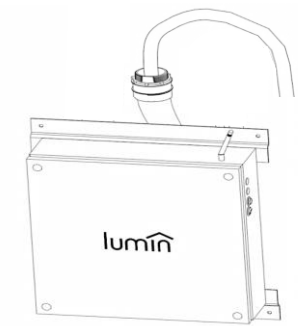
- The product must be installed by qualified personnel. Electrical safety is your responsibility
- Review all the instructions before you start the installation
- Lumin Certified Installer training is required for installation and servicing
- Personal protective equipment should be worn when installing the product
- Do not use the product in any way other than its intended use
- Do not install or operate the product outdoors or in damp/wet conditions
- Do not install or operate the product in extreme temperatures
- Do not open, attempt to access, modify, or touch any internal product parts without specific guidance from Lumin staff
- Do not use the product if it is damaged or appears to be damaged
- Use only the wires and cables supplied with the product
- Do not connect the product to circuit breakers rated higher than 60 amps
- Switching relays are evaluated for 100,000 cycles at a 1.5 HP inductive load (e.g., motors) — larger loads of this type may result in premature relay failure
- Adhere to all local and national safety regulations for installation and use

SYSTEM DESIGN CONSIDERATIONS

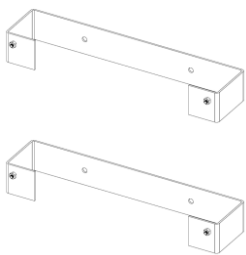
- The LSP should be mounted so that the connected electrical panel is within reach of the LSP's flexible conduit nipple. Depending on orientation, the nipple extends between 7" and 17" beyond the edge of the LSP enclosure.
- An LSP requires an always-on internet connection, either via Ethernet (preferred) or 2.4 GHz Wi-Fi.
- Lumin conductors will occupy space inside the load center. Ensure that the load center has adequate wiring space to satisfy code requirements.
- When used for energy management, the LSP will be most effective when used to shed heavy discretionary loads. These are loads greater than 15 Amps that *may* be desired during grid outages or other energy-constrained situations. Lumin can shed such loads automatically while permitting a user to manually re-enable them at their discretion. More information about circuit selection is provided in the required Lumin Certified Installer Training.
- The LSP does not replace the need for standard circuit breakers. Lumin does not provide overcurrent protection, ground fault protection, arc fault detection, or other safety functionality that circuit breakers provide.

PRE-INSTALLATION CHECKLIST

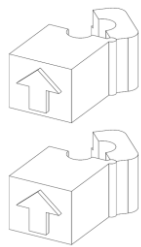
Items in the Box



1 LSP with Conduit, Conduit Bushings & Wire Whips Attached



2 Mounting Brackets (Surface-mounted Installation)



1 Pair of 200A Current Transformers (A second pair is optional)

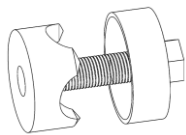
NOTE: Additional items include an antenna, installation hardware, a *LSP Circuit Label & CT Table,* and this *Installation Manual.*

PRE-INSTALLATION CHECKLIST

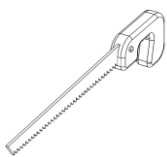
Tools You'll Need

Drill

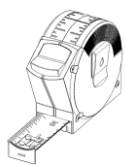
Wire nuts or other approved splice connectors



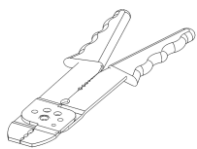
2" Knockout punch (2 3/8" hole size)



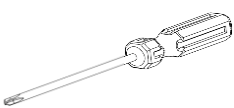
Drywall Saw (optional)



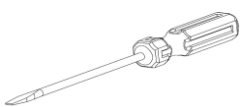
Tape measure



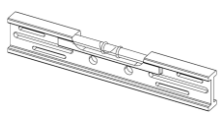
Wire stripper



Phillips screwdriver



Flathead screwdriver

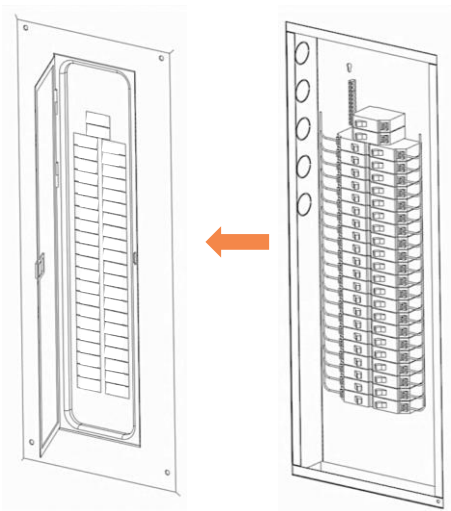


Level (optional)

NOTE: A multimeter may be required for current transformer installation (pg. 23). A supply-side connection (line-side tap) may be required for the LSP's Grid Detection Circuit (pg. 27).

Installation Steps

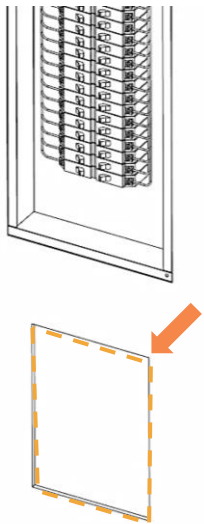
STEP 1. Turn Off Main Feed and Remove Electrical Panel Cover



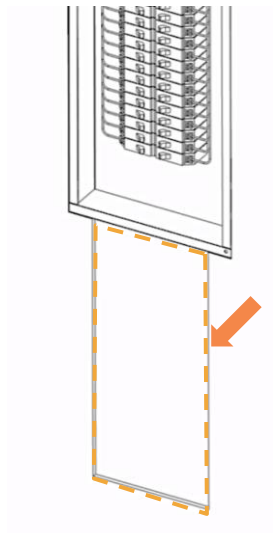
WARNING:
HIGH VOLTAGE.

Tools: Screwdriver

STEP 2. (Flush-Mount Only) Cut and Remove Drywall



Drywall Cutout Option A

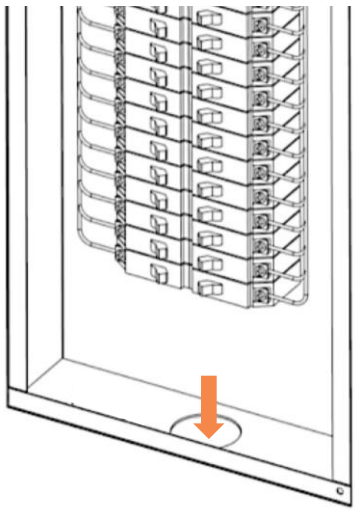


Drywall Cutout Option B

Tools: Tape measure, level (optional) and drywall saw or suitable alternative

NOTE: Cut and remove enough drywall to accommodate the LSP's wire whips. Consider drywall cutout "Option B" if additional space is required to accommodate the LSP's wire whips and to properly access the electrical panel to complete Step 3.

STEP 3. Knock Out One 2-3/8" Hole in Electrical Panel for 2" Conduit

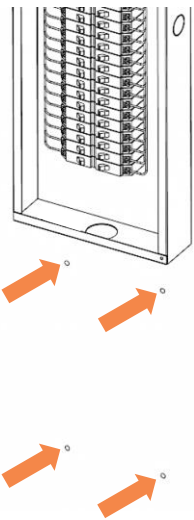


WARNING:
HIGH VOLTAGE.

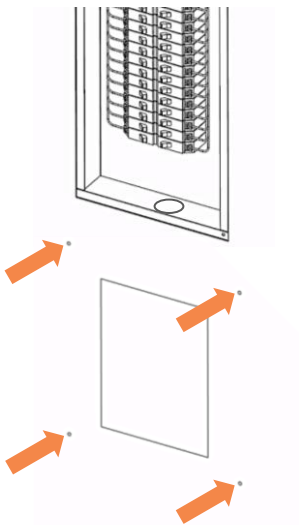
Tools: 2" trade size knockout punch or suitable alternative

NOTE: Exact hole location in electrical panel may very depending on spacing constraints; place the hole location below, above or to either side of the electrical panel as needed to avoid any existing obstructions.

STEP 4. Measure and Mark Hole Locations for Mounting the LSP



Surface-mounted installation

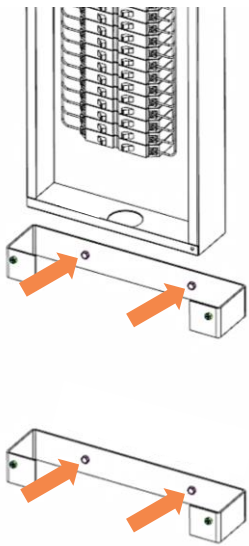


Flush-mounted installation

Tools: Tape measure and level (optional)

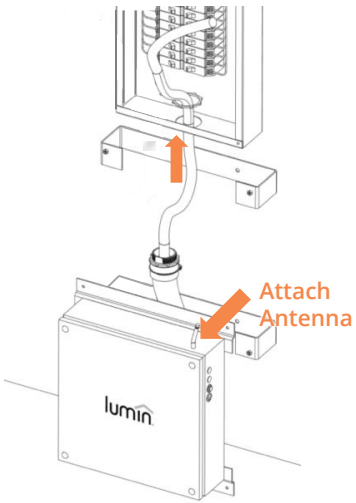
NOTE: Ensure to mark the applicable hole locations for your installation type (flush-mount vs. surface-mount mounting brackets). Exact hole locations may vary depending on existing conditions.

STEP 5. (Surface-Mount Only) Secure Mounting Brackets to Wall

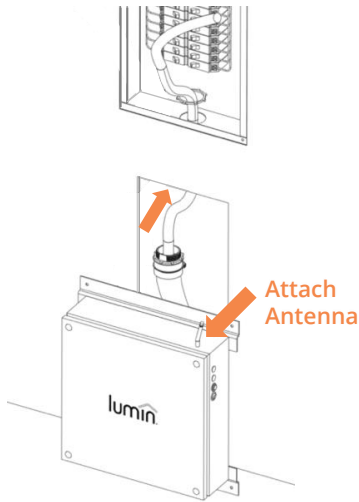


Tools: Drill, screws (x4) and washers (x4)

STEP 6. Attach the LSP's Antenna and Guide the LSP's Wire Whip Through the Electrical Panel



Surface-mounted installation

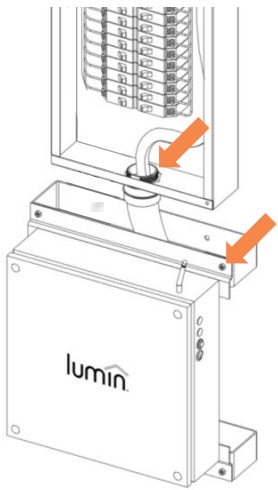


Flush-mounted installation

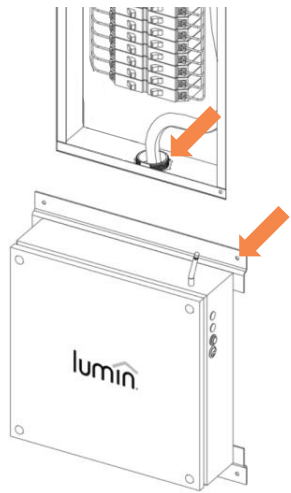
WARNING:
HIGH VOLTAGE.

NOTE: Attach the LSP's antenna (provided with your LSP) and then guide the wire whip through the hole in the electrical panel. Remove the conduit bushing before guiding the wire whip through the hole.

STEP 7. Secure the LSP to the Wall/Bracket and Electrical Panel



Surface-mounted installation



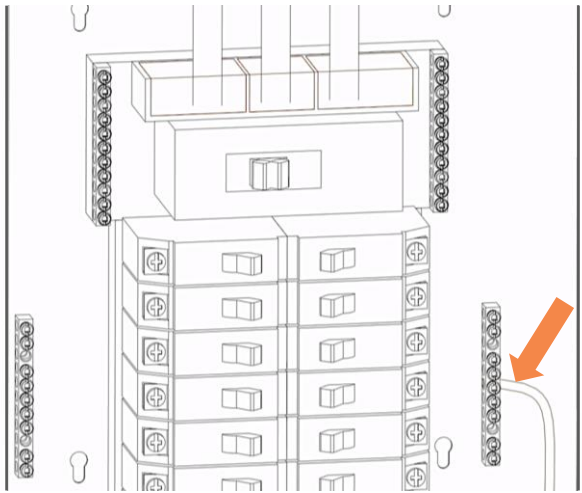
Flush-mounted installation

WARNING:
HIGH VOLTAGE.

Tools: Drill, screws (x4), washers (x4), and nuts (x4: surface-mount only)

NOTE: Lift the LSP to align with the mounting holes and secure it directly to the wall (flush-mount installation) or mounting brackets (surface-mount installation) utilizing the hardware provided. Secure the LSP to the electrical panel with the 2" conduit bushing provided.

STEP 8. Connect the LSP Equipment Grounding Conductor to the Ground Bar

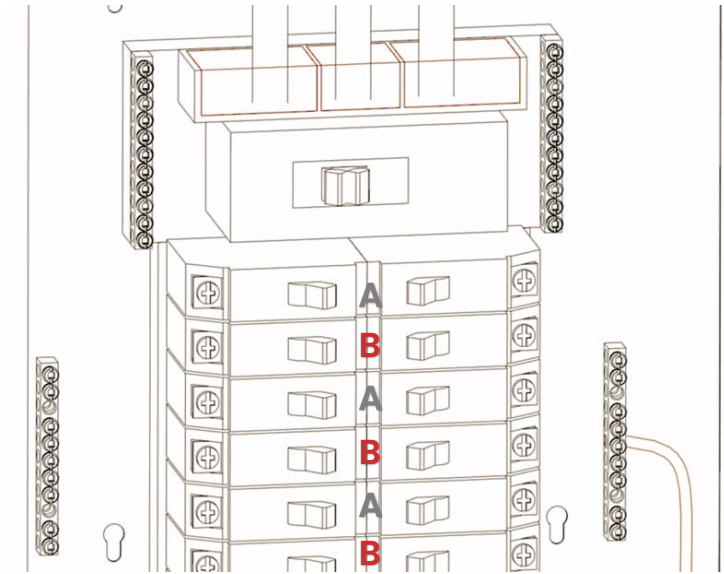


WARNING: HIGH VOLTAGE.

Tools: Screwdriver

NOTE: Connect the bare copper equipment grounding conductor (EGC) from the LSP to the existing ground bar in the electrical panel (exact location of ground bar may vary).

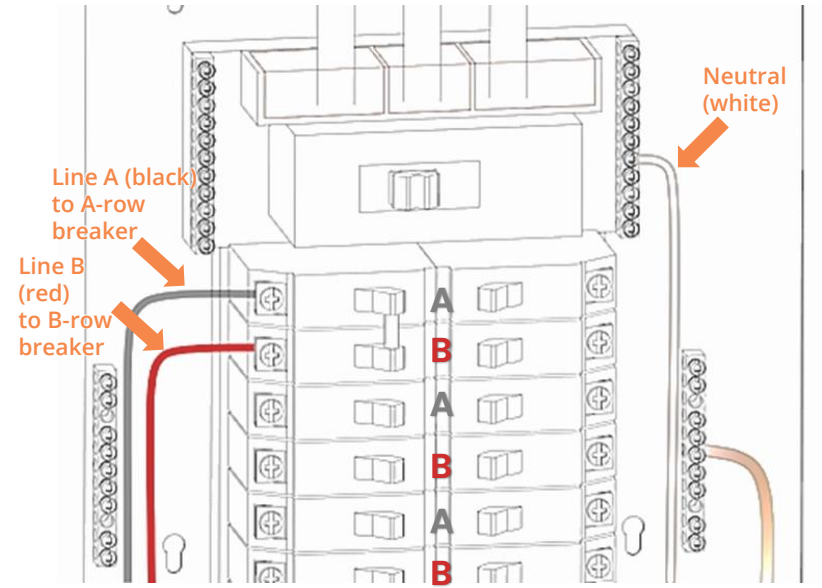
STEP 9. Identify A-Row and B-Row Breakers



NOTE: For purposes of Lumin installation, the top row of breakers will ***always*** be classified as "A". The second row of standard breakers will be "B". The alternating A-B-A-B pattern continues down the rows of breakers.

NOTE: If the load center contains tandem or "skinny" breakers, there will be two breakers in a standard breaker space. Thus, the top-to-bottom breaker panel will be A-A-B-B-A-A-B-B.

STEP 10. Install LSP Power Circuit. Label Breaker

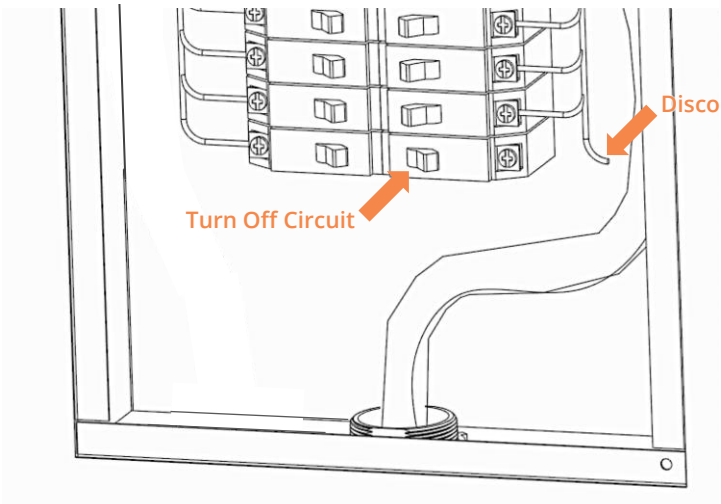


WARNING:
HIGH VOLTAGE.

Tools: Screwdriver and wire stripper

NOTE: Connect the LSP wire labeled "Neutral" to the existing neutral bar in the electrical panel. Connect LSP wires labeled "Line A" and "Line B" to a double-pole 15- or 20-amp breaker, landing Line A on an A-row breaker terminal and Line B on a B-row breaker terminal. Mark the breaker with a clearly identifying label (e.g., "Lumin Smart Panel Power"). **DO NOT CONNECT THESE CONDUCTORS TO GFCI BREAKERS. DO NOT DOUBLE-TAP BREAKERS UNLESS THEY ARE APPROPRIATELY RATED.**

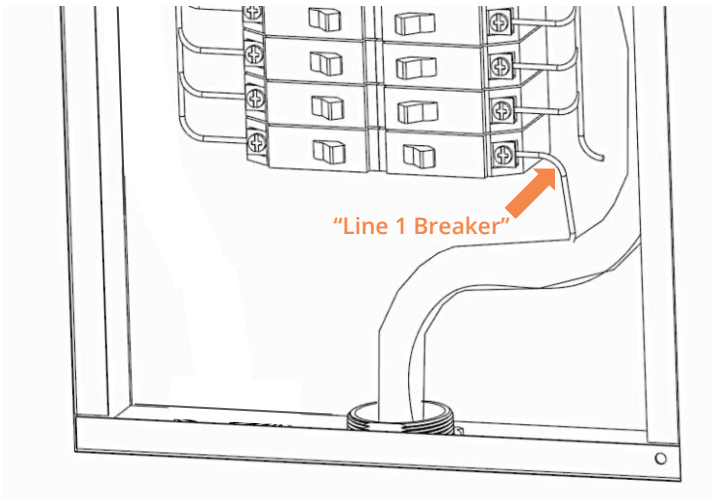
STEP 11. Select a Circuit Breaker to Connect to the LSP, Turn it Off and Disconnect Load



WARNING:
HIGH VOLTAGE.

Tools: Screwdriver

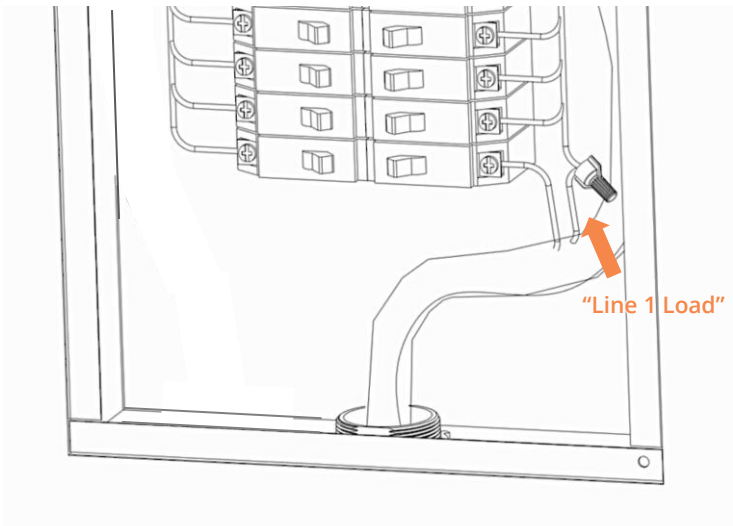
STEP 12. Connect the Blue Wire Labeled “Line 1 Breaker” to the Circuit Breaker



WARNING:
HIGH VOLTAGE.

Tools: Screwdriver and wire stripper

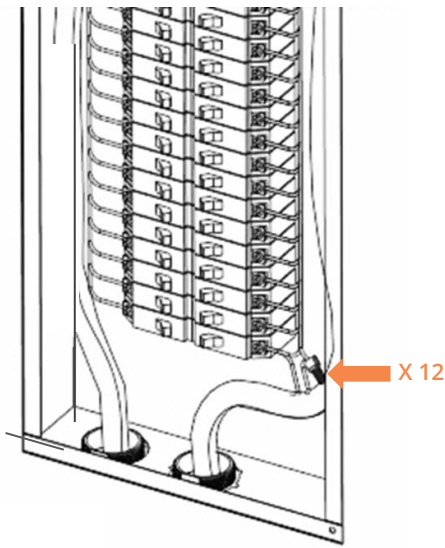
STEP 13. Connect the Blue Wire Labeled “Line 1 Load” to the Load and Then Turn the Circuit Breaker Back On



WARNING:
HIGH VOLTAGE.

Tools: Wire stripper and wire nuts or other approved splice connectors

STEP 14. Repeat Steps 11-13 Until All LSP Line # Wires Are Connected



WARNING:
HIGH VOLTAGE.

Tools: Screwdriver, wire stripper, and wire nuts or other approved splice connectors

NOTE: All LSP wires labeled “Breaker” must connect to a breaker. Lines 1-6 (6 AWG wire) can connect to circuit breakers rated up to 60 amps and lines 7-12 (10 AWG wire) can connect to circuit breakers rated up to 30 amps.

NOTE: The LSP can connect to up to 12 single-pole (or six double-pole) circuit breakers. Each hot leg of a double-pole circuit must be connected to its own numbered Lumin wireset. Example: *Lumin controls a clothes dryer. Dryer Leg "A" is connected to Lumin Line 3. Dryer Leg "B" is connected to Lumin Line 4.*

STEP 15. Record Circuit Label/Name and Breaker Row (A/B) With the Corresponding LSP Wire Number

LSP LINE #	BREAKER ROW (circle one)	CIRCUIT BREAKER LABEL/NAME	LSP LINE #	BREAKER ROW (circle one)	CIRCUIT BREAKER LABEL/NAME
1	A (B)	*Refrigerator* Single-pole circuit	7	A B	
2	(A) B	*Range* Double-pole circuit	8	A B	
3	A (B)	*Range*	9	A B	
4	A B		10	A B	
5	A B		11	A B	
6	A B		12	A B	
		CURRENT TRANSFORMER (CT)			CURRENT TRANSFORMER (CT)
Line A/B CTs			Aux. A/B CTs (Optional)		

NOTE: Record the circuit label/name and breaker row (A or B) with the corresponding LSP line number in the *LSP Circuit Label & CT Table* provided with the LSP (e.g., record "Refrigerator" next to LSP Line 1 and circle Breaker Row "B" if the circuit labeled "Refrigerator" is connected to a B-row breaker and is connected to Lumin Line 1). Double-pole circuit breakers will require two LSP wiresets, and thus two LSP line numbers.

STEP 16. Determine Placement of Current Transformers

CAUTION: DO NOT INSTALL CTS UNTIL PROPER LOCATION AND PHASING HAVE BEEN DETERMINED.

Each Lumin Smart Panel is supplied with one set of two (2) 200-A current transformers (CTs). The LSP is equipped with leads for these main CTs as well as leads for an optional set of auxiliary CTs which is available for purchase from Lumin. Most LSP installations do not utilize auxiliary CTs and use the main CTs to measure the total consumption of the electrical panel(s) backed up by the battery. In this typical installation, the CTs are placed on the feeders from the Microgrid Interconnect Device (MID) or Automatic Transfer Switch (ATS) to the electrical panel, as shown in Figure A.

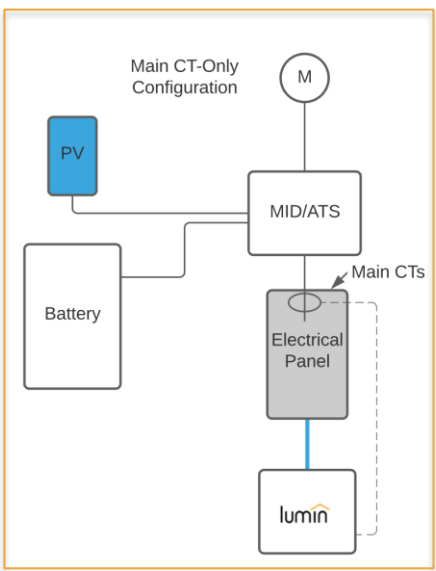


Figure A – Typical CT Configuration

If your installation is configured differently than shown in Figure A or if your installation will utilize auxiliary CTs, consult the Lumin CT configuration guide for CT placement information.

CT CONFIGURATION

STEP 17. Phase Conductors Monitored by Current Transformers

REMINDER: For the purpose of a Lumin installation, the top* row of breakers in an electrical panel is ***always*** designated “A”. Whichever feeder leg supplies breaker Row A will be designated “A.”

NOTE: Lumin CTs are designated either “A” or “B”. Placing them on the incorrect leg of a circuit will result in erroneous consumption data.

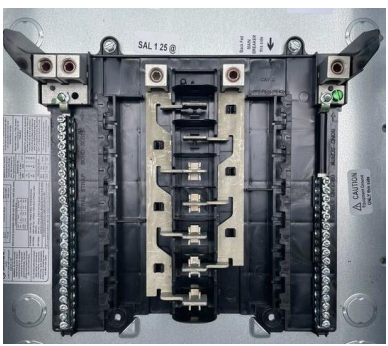


Figure B – Typical Main-Lug-Only Electrical Panel Busing

If the panel is a main-lug-only type as shown in Figure B (no main circuit breaker) then the feeder on the left will be Lumin Leg “A”.

If the panel includes a main circuit breaker, note that the main breaker may contain crossover busing, with the result that the feeder on the left feeds the right-side bus bar and the feeder on the right feeds the left-side bus bar. To identify A/B feeders when a main breaker is present, consult the following page.

* All descriptions assume a top-fed electrical panel.

STEP 18. Phase Conductors Monitored by Current Transformers (continued)

To determine A and B feeders when a main circuit breaker is present, test for AC voltage between the left lug and the left bus bar*. If the bus bar is not accessible, test between the left lug and the terminal on the top left circuit breaker. See Figure C.

If V between these points ≈ 240, the main breaker is a crossover type. Place CT A on the right and CT B on the left.

If V between these points ≈ 0, the main breaker is a standard type. Place CT A on the left and CT B on the right.

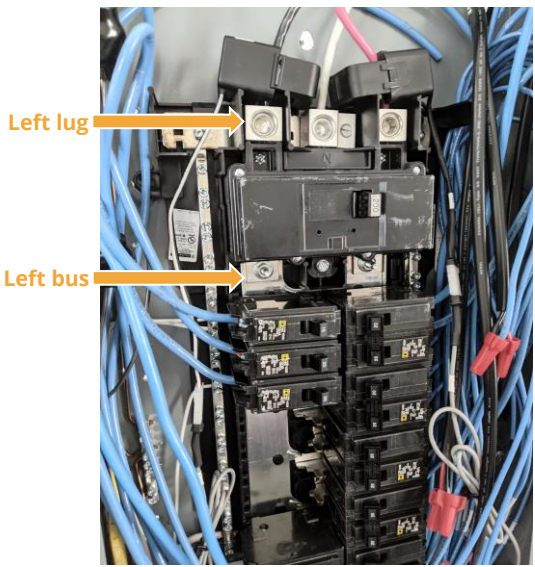


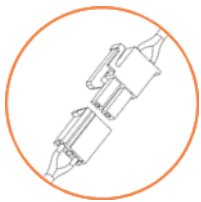
Figure C – Typical Main Breaker Electrical Panel

WARNING: HIGH VOLTAGE.

Tools: Multimeter

* All descriptions assume a top-fed electrical panel.

STEP 19. Connect Current Transformers



Connect CTs labeled “Line A/B CT” to the 2-pin connector on the corresponding LSP lead. Then clamp the CT around the corresponding feeder leg as determined in the previous step. The CT marked with “A” should attach to Leg A and the CT marked with “B” should attach to Leg B. Ensure the sticker on the CT reading “This side toward grid” is facing toward the grid/utility meter.

If the provided leads are not long enough, fashion CT wire extensions in the field. Refer to the following documentation for proper extension procedures:

CT EXTENSIONS

**WARNING:
HIGH VOLTAGE.**

CAUTION: A CT SHOULD NEVER BE LEFT CLAMPED ON A CONDUCTOR WHEN THE CT WIRING IS DISCONNECTED. SATURATION AND DESTRUCTION OF THE CT CORE MAY RESULT. CONNECT CT WIRING BEFORE CLAMPING. UNCLAMP BEFORE DISCONNECTING CT WIRING.

STEP 20. Record The Line Name of the Corresponding Current Transformers (CTs)

LSP LINE #	BREAKER ROW (circle one)	CIRCUIT BREAKER LABEL/NAME	LSP LINE #	BREAKER ROW (circle one)	CIRCUIT BREAKER LABEL/NAME
1	A		7	A	
	B			B	
2	A		8	A	
	B			B	
3	A		9	A	
	B			B	
4	A		10	A	
	B			B	
5	A		11	A	
	B			B	
6	A		12	A	
	B			B	
		CURRENT TRANSFORMER (CT)			CURRENT TRANSFORMER (CT)
Line A/B CTs		*Main Service Lines*	Aux. A/B CTs (Optional)		*Solar Output*

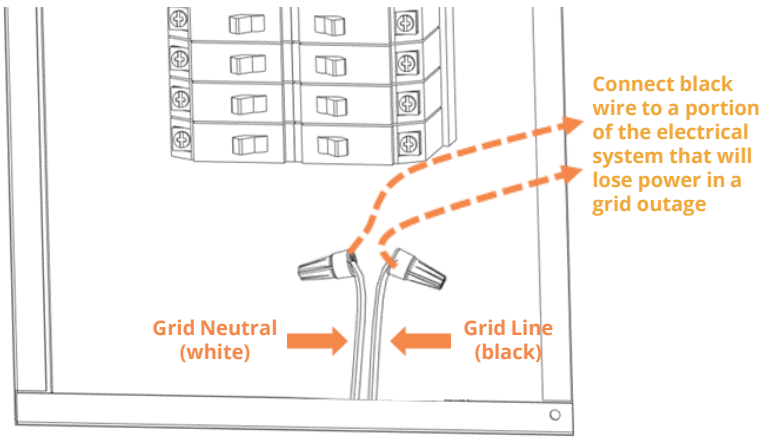
NOTE: Record the line name of the corresponding attached CTs. For example, record "Solar Output" in the cell next to Line A/B CTs if the auxiliary CTs were attached to the PV output lines.

STEP 21. Ensure Proper Wiring Configuration if Multiple Lumin Smart Panels Will Be Installed in a Single Location

An unlimited number of Lumin Smart Panels can be installed at a single location. Optionally, they can all be configured during commissioning to appear as a single system with all circuits visible on one screen of the mobile app.

Certain wiring configurations may be slightly different for multi-LSP locations. Refer to the following documentation for best practices regarding these installations:

STEP 22. Connect the LSP's Grid Detection Circuit (GDC) Wires to the Grid/Line Side of an Automatic Transfer Switch (ATS) or Microgrid Interconnect Device (MID)

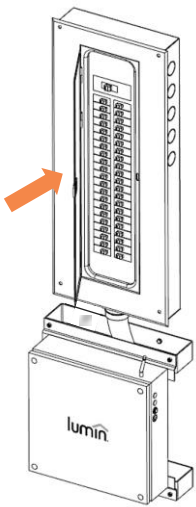


WARNING: HIGH VOLTAGE.

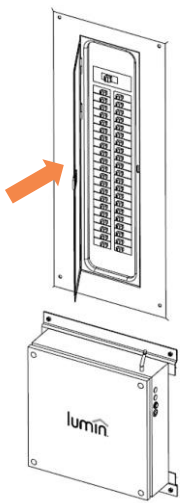
Tools: Wire stripper and wire nuts or other approved splice connectors

NOTE: The GDC monitors the presence of grid power. The GDC must be installed so that it is not backed up by storage. Land the "GRID" Neutral wire at the most upstream neutral bar or terminal possible. Extend the "GRID" Line wire via suitable splice connector and land it on non-backed-up circuit breaker or perform a supply-side connection (or "line-side tap") on a wire that will lose power in a grid outage. **THE 12 AWG WIRES IN THIS CIRCUIT MUST BE PROTECTED AGAINST OVERCURRENT PER LOCAL ELECTRICAL CODE.**

STEP 23. Replace the Electrical Panel Cover



Surface-mounted installation



Flush-mounted installation

WARNING:
HIGH VOLTAGE.

Tools: Screwdriver

NOTE: Please make any necessary drywall repairs (if applicable) and clean up the area around the circuit breaker panel once the LSP installation is completed. Make sure the LSP's antenna is securely attached prior to powering on the device.

CONFIGURATION & ACCOUNT SETUP

1. Once the installation of your LSP is completed, flip the power rocker switch to the on position (“I”). The two LED indicator lights will begin blinking in unison, indicating that the LSP is ready for commissioning.

2. If feasible, make an Ethernet connection between the Lumin Smart Panel’s Ethernet port and a LAN port on the location’s wireless router. This Ethernet connection is more reliable than a Wi-Fi connection and is not affected by replacing the router or resetting the Wi-Fi network password.

3. Download the Lumin mobile app. In the Apple App Store or Google Play Store, search for "Lumin Smart".

4. Register an account.

5. Log in to the app, expand the menu (upper left of screen) and select "Set up a new Lumin Smart Panel".

6. Follow the in-app instructions to set up your Lumin Smart Panel.

For account setup assistance or troubleshooting, please call 1-888-421-0616 (North America) or e-mail support@luminsmart.com.

TROUBLESHOOTING AND OPERATIONAL INFORMATION

LED Indicators	Off	Both Blinking	Just One Blinking	Both Solid
Green	Lumin Server Disconnected	Setup Mode. Wi-Fi connectivity is disabled. Press and release Wi-Fi button to exit	(When blue is solid) Lumin server error	Fully connected via Wi-Fi
Blue	No Internet Connection via Wi-Fi		Attempting to connect to the internet	

NOTE: Simultaneous blue and green blinking lights indicate that the LSP is in Setup Mode. This is the required mode for initial setup and commissioning, however the LSP does not connect to the internet via Wi-Fi in this mode. If both lights are seen blinking during normal operation, it is likely that the Wi-Fi button was pushed, taking the LSP offline. In most instances, an additional press-and-release of the Wi-Fi button will bring the LSP back online. Note that it may take about 45 seconds to restore the connection and display two solid unblinking indicator lights.

NOTE: During an internet outage local connection can be made between an LSP and user's mobile device as long as the device and the LSP are connected to the same network. Ensure that the LSP is not in Setup Mode and that Wi-Fi connectivity is enabled on the mobile device.

NOTE: To manually enable all circuits controlled by Lumin, turn LSP power off, then on, then off once again. Leave the LSP off and all controlled circuits will function normally.

TIP: For additional support documentation, visit http://luminsmart.freshdesk.com/a/forums or scan the code at right.

SOLUTIONS

lumin

PRODUCT SPECIFICATIONS

INSTALLATION	
Type	Wall-Mount; Indoor Only
Installer Qualification	Local Electrical Code and Lumin Certified Installer
Typical Time Required	2-4 Hours
Temperature	0°C to 60°C (32°F to 140°F)
Humidity	< 80% RH
Altitude	< 3000 m
Pollution Level	Degree 2
Dimensions	44.6 cm × 44.6 cm × 10.1 cm (17.5 in × 17.5 in × 4.0 in)
Weight	12 kg (27 lb)
Conductor Length	All Extend 76 cm (30 in) Beyond Conduit End
Additional Units	Combinations of Lumin Smart Panels Supported

CONNECTIVITY & SECURITY	
Connection Options	Wi-Fi or Ethernet
Internet Bandwidth	–0.02 Mbps
Wi-Fi Protocols	802.11 b/g/n, 2.4 GHz
Wi-Fi Encryption	WEP64, WEP128, WPA, WPA2
Ethernet Port	1×RJ-45 (10/100/1000 Mbps)
IP Addressing	Dynamic (DHCP)
Cryptographic System	TLS 1.2 (Minimum)
Firewall Outbound Access Required	Ports 53, 123, 443–444, and 50050–50059

USER ACCESS	
Applications	iOS, Android, and Web
Data	1-Second Granularity
Load Controls	Direct, Schedules, and Modes

MANAGED LOADS	
Max. Load Breaker Ratings	60 A Per Line × 6 Lines and 30 A Per Line × 6 Lines
Load Breaker Ratings for Ambient > 50 °C	50 A Per Line x 6 Lines and 20 A Per Line x 6 Lines
Breaker Types	Single Pole (1 Line) and Dual Pole (2 Lines)
Max. Main Breaker	400 A (or 2 × 200 A, etc.)

MEASUREMENT	
Accuracy	± 0.5% of Actual Load
Monitoring Type	Separate Measurement of Lines (Including Dual-Pole)
Split-Phase Voltage	Separate Line-to-Neutral Potential Measurement
Current Transformers	2 Split-Core 200 A Included; Up to 2 Additional Available
Measurement Category	Loads: CAT III (Mains Distr.) GVD: CAT IV (Mains Source)

ELECTRICAL SYSTEM	
AC Voltage	120/240 V, 50–60 Hz
Supply Breaker Rating	15–20 A
Voltage Fluctuations	+/- 10% from Nominal
Overvoltage	Category III (Building Wiring)

SUPPORT & COMPLIANCE	
Warranty	10-Year Limited
Compatible Equipment	Any Load Panel and Breaker Combination
Safety Compliance	NFPA 70, UL 61010, UL 916
Radiofrequency Compliance	47 CFR 15 (FCC) RSS-Gen and RSP-100 (ISED)

LIMITED WARRANTY FOR LUMIN SMART PANEL

This Limited Warranty gives you specific legal rights and you may also have other rights, which vary from state to state. We warrant that during the warranty period, the product will be free from defects in materials and workmanship. We limit the duration and remedies of all implied warranties, including without limitation the warranties of merchantability and fitness for a particular purpose to the duration of this express limited warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Our responsibility for defective goods is limited to repair, replacement, or refund as described below in this warranty statement.

Who May Use This Warranty? Coulomb Inc. (d/b/a Lumin), a Delaware corporation located at address 212 East Main Street, Suite 202, Charlottesville, VA 22902 ("we") extends this limited warranty only to the consumer who originally activated the product and connected it to a Lumin Account (through https://www.luminsmart.com/) and to any subsequent owner or other transferee of the product ("you").

What Does This Warranty Cover? This limited warranty covers defects in materials and workmanship of the Lumin Smart Panel (the "product") for the Warranty Period as defined below.

What Does This Warranty Not Cover? This limited warranty does not cover any damage due to: (a) transportation; (b) storage; (c) improper installation; (d) improper use; (e) failure to follow the product instructions; (f) failure to adhere to the product's technical specifications, including the product's environmental and electrical ratings; (g) modifications; (h) unauthorized opening of the product's cover; (i) tampering with the product's internal components; (j) unauthorized repair; (k) normal wear and tear; or (l) external causes such as accidents, abuse, flooding, lightning strikes, storms, or other actions or events beyond our reasonable control. This limited warranty also does not apply to the software, mobile applications, technology and services provided by Lumin which enable you to remotely access and view data that is collected, stored and transmitted by the product concerning electricity consumption and/or to remotely control electrical circuits which the product is connected to (the "Lumin Service"). Use of the Lumin Service is subject to and governed by the terms of the Lumin Service User Agreement, a copy of which can be accessed at https://www.luminsmart.com/consent-documentation/. Any warranties provided by Lumin with respect to the Lumin Service are only those warranties expressly set forth in the Lumin Service User Agreement.

What Is The Period Of Coverage? The "Warranty Period" for this limited warranty starts on the date the product is first activated and connected to a Lumin Account through https://www.luminsmart.com/) and lasts (a) for two years for the product's sensor boards and the processor board, including the individual components that makeup the sensor boards and processor board, and (b) for ten years for all other components of the product. The Warranty Period is not extended if we repair or replace the product. We may change the availability of this limited warranty at our discretion, but any changes will not be retroactive.

What Are Your Remedies Under This Warranty? With respect to any defective product during the applicable Warranty Period, we will, in our sole discretion, either: (a) repair or replace such product (or the defective part) free of charge or (b) refund the purchase price of such product. We will also pay for shipping and handling fees to return the repaired or replacement product to you if we elect to repair or replace the defective product.

How Do You Obtain Warranty Service? To obtain warranty service, you must call 1-888-421-0616 or e-mail support@luminsmart.com during the Warranty Period to obtain a Defective Merchandise Authorization ("DMA") number. No warranty service will be provided without a DMA number.

Limitation of Liability. The remedies descried above are your sole and exclusive remedies and our entire liability for any breach of this limited warranty. Our liability shall under no circumstances exceed the actual amount paid by you for the defective product, nor shall we under any circumstances be liable for any consequential, incidental, special or punitive damages or losses, whether direct or indirect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

RADIO FREQUENCY STATEMENT

This device complies with Part 15 of the FCC rules and with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme à la partie 15 des règles de la FCC et aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

There is no guarantee that interference will not occur in a particular installation. If it does cause interference, we recommend reorienting the receiving antenna, increasing the separation between the device and the receiver, or consulting an experienced radio/TV technician for help.

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SUPPORT@LUMINSMART.COM

1-888-421-0616

WWW.LUMINSMART.COM