



NEX-PLUG-50-H (Hard-Wired version) NEX-PLUG-50-H-TWIN (Hard-Wired version)

Electric Vehicle Energy Management System (EVEMS)



Nex-Plug-50 is a smart panel equipped with an Electric Vehicle Energy Management System (EVEMS) designed to support a plug-in EV charger. Featuring a single output(NEX-PLUG-50-H) or dual output up-to 40A(NEX-PLUG-50-H-TWIN), this smart panel helps reduce installation costs and enables seamless integration of an EV charger into the existing electrical panel—even when the panel does not have sufficient capacity for a direct connection.

The system operates either in a networked mode for townhomes or in a standalone mode for single-family homes.

* PRODUCT SPECIFICATION

INPUT: 208/240 VAC UP TO 100A
CONTROL VOLTAGE: 24 VDC 2A
DIMENSION : 16"x16"x8"
WORKING TEMPERATURE : -20°C to +40°C
STORAGE TEMPERATURE : -20°C TO +40°C
OUTPUT: 208/240 VAC UP TO 40A
ENCLOSURE TYPE: NEMA 3R
WEIGHT:28 lb

* Specifications are subject to change without prior notice.

THESE INSTRUCTIONS SHOULD BE KEPT FOR FUTURE REFERENCE.

This manual contains necessary safety precautions which should be read and understood before operating the product. Failure to do so could result in serious injury. This manual should remain with the product.

Specifications, descriptions and illustrations in this manual are as accurate as known at the time of publication but are subject to change without notice.

SAFETY DEFINITIONS

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols and their explanations deserve your careful attention and understanding. The safety warnings do not eliminate any danger by themselves. The instructions or warnings they give are not substitutes for proper accident prevention measures.

INSTALLATION, AND LIABILITY DISCLAIMER + WARRANTY REQUIREMENTS



The EVectriX Smart Panel IS NOT FOR “DO-IT-YOURSELF” INSTALLATION. It must be installed by a qualified and certified electrician who is thoroughly familiar with all applicable national and local, state, provincial and national electrical and building codes, including the local municipality permit application/inspection.

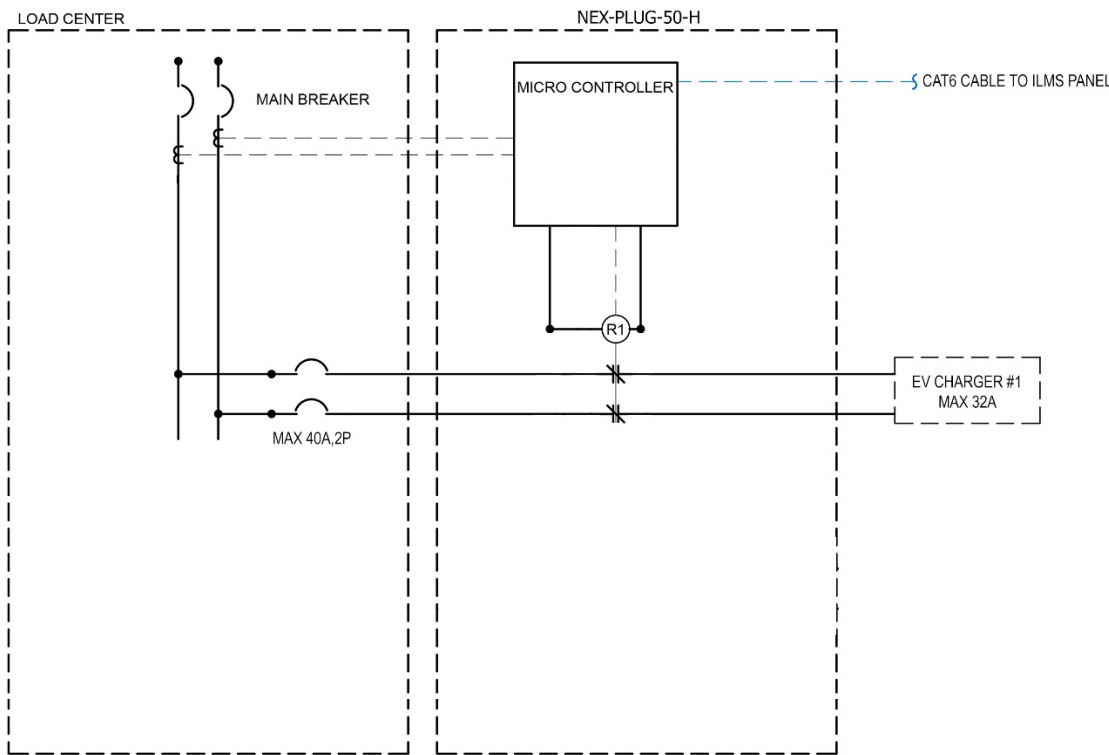
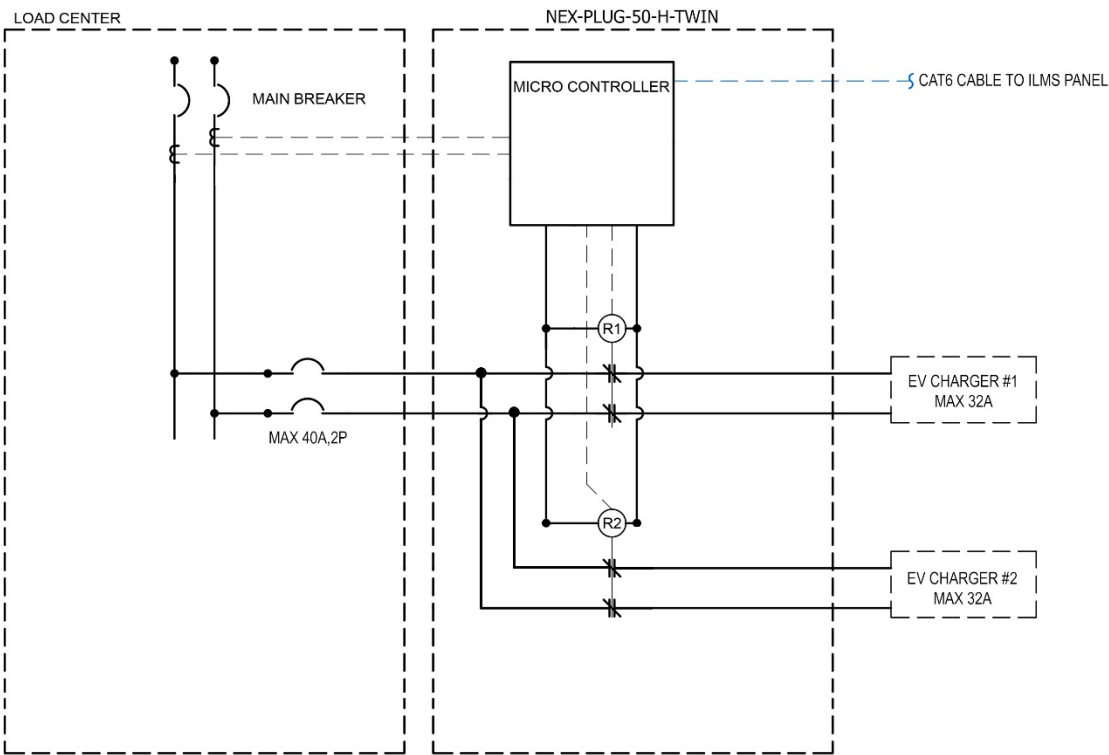
the design, application, installation, and servicing of the equipment. Read the manual carefully and comply with all instructions.

This manual or a copy of it should remain with the EVectriX Smart Panel. Every effort has been made to ensure that its contents are accurate and current.

The manufacturer reserves the right to change, alter or otherwise improve this literature and the product at any time without prior notice and without any obligation or liability whatsoever.

The manufacturer cannot anticipate every possible circumstance that might involve a hazard.

SYMBOL	MEANING
	Read Operator's Manual. To reduce the risk of injury, the installer and user must read and understand the operator's manual before using this product.
	Ground. Consult with local electrician to determine grounding requirements before operation.
	Electric Shock. Improper connections can create an electrocution hazard.
	



PANEL INSTALLATION STEPS:

Step 1: Preparing for Installation

1. **Shut Off Power:** Before beginning any work, turn off the primary power source feeding the installation area. Confirm de-energization using a certified voltage tester.
 2. **Select the Mounting Location:** Choose an appropriate, code-compliant location for the panel. Ensure adequate clearance for future maintenance, proper ventilation, and compliance with local electrical codes.
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Step 2: Mounting the Panel

- **Outdoor Installations:**
 - Ensure the mounting surface is level, structurally sound, and capable of supporting the panel's weight.
 - Provide **physical protection** for the panel using bollards, tire stoppers, or other barriers to prevent accidental impact from vehicles.
 - **Indoor Installations:**
 - Confirm the mounting area is dry, accessible, and free of obstructions.
 - Maintain required electrical clearances around the panel as specified by local codes.
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Step 3: Conductor Connections

- **Follow Internal Labeling:** Refer to the wiring label and schematic located inside the panel enclosure for connection guidance.
 - **CT Installation:**
 - Connect the **provided Current Transformers (CT)** to the designated CT terminals on the panel's control board.
 - Install the CT **around the service incoming conductor** of service (L1 and L2) , ensuring correct orientation (as indicated by the directional arrow on the CT).
 - Verify that conductors are fully seated and torque all terminals to manufacturer specifications.
 - Connect ILMS cable.
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Step 4: Secure and Power On

1. **Secure the Enclosure:** Reinstall the panel cover and lock or fasten all screws to ensure proper sealing and safety.
 2. **Energize the System:**
 - Restore power to the panel.
 - Observe system startup and monitor panel functionality for **at least one hour**.
 - Confirm proper operation of relays/contactors, CT readings, network/standalone mode behavior, and any EVEMS load-management features.
 - Check that all wiring, terminals, and mechanical connections are stable and operating without overheating or abnormal noise.
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HOW IT WORKS:

- **Continuous Monitoring:**
The system continuously measures the real-time power consumption of the connected EV charger.
- **Initial Activation:**
When the panel is energized, the contactor outputs are activated, allowing power to be supplied to the EV charger.
- **Load Detection & Temporary Disconnection:**
As soon as the system detects that the EV charger has started drawing current more than main panel threshold OR if ILMS sending disconnection command to this specific unit, it automatically disconnects the charger for **15 to 30 minutes**. This prevents excessive load during initial startup conditions.
- **Automatic Reconnection:**
After the delay period, the system reevaluates the total power usage of main panel and subpanel. If consumption is within a **safe and allowable threshold**, the EV charger is automatically reconnected and normal charging resumes.

WARNING :

- The EVETRIX panel MUST be installed and commissioned by a certified electrician based on National and Local Electrical codes otherwise the spare warranty will be voided.
- EvectriX panels operate at 208/240 VAC, which poses a significant electrical hazard. Always exercise extreme caution and follow proper safety protocols during installation. Hazard Voltage. Will cause severe injury or death.
- Before installation, ensure that the power supply to the charging system is completely shut off. Verify the absence of voltage using suitable testing equipment before starting any work.
- Cease utilization of the Panel promptly in the event of any defects, cracks, breakages, or damages.
Under no circumstances should you attempt to alter, repair, or disassemble the EVETRIX panel. Kindly reach out to the manufacturer in case of any malfunctions or issues.
- Avoid installing the EVETRIX panel near flammable materials, explosives, fuels, chemical products, and vapors.
Refrain from utilizing any cleaning solvents to clean the panel.
- Ensure that the control panel is properly grounded according to local electrical codes and regulations.
- Provide adequate ventilation for the control panel to prevent overheating. Avoid installing panels in enclosed spaces or near heat sources.
During operation, it is essential to keep the panel door securely closed.
- Adhere strictly to the manufacturer's installation guidelines for wiring, ensuring correct wire gauge, proper grounding, and appropriate circuit protection to handle the high voltage requirements.
- Implement appropriate isolation mechanisms, such as lockout/tagout procedures, to prevent accidental energization of the system during installation or maintenance.
- Encourage periodic inspections by qualified professionals to identify any potential issues or wear and tear, ensuring the safe and efficient operation of the EV charging system