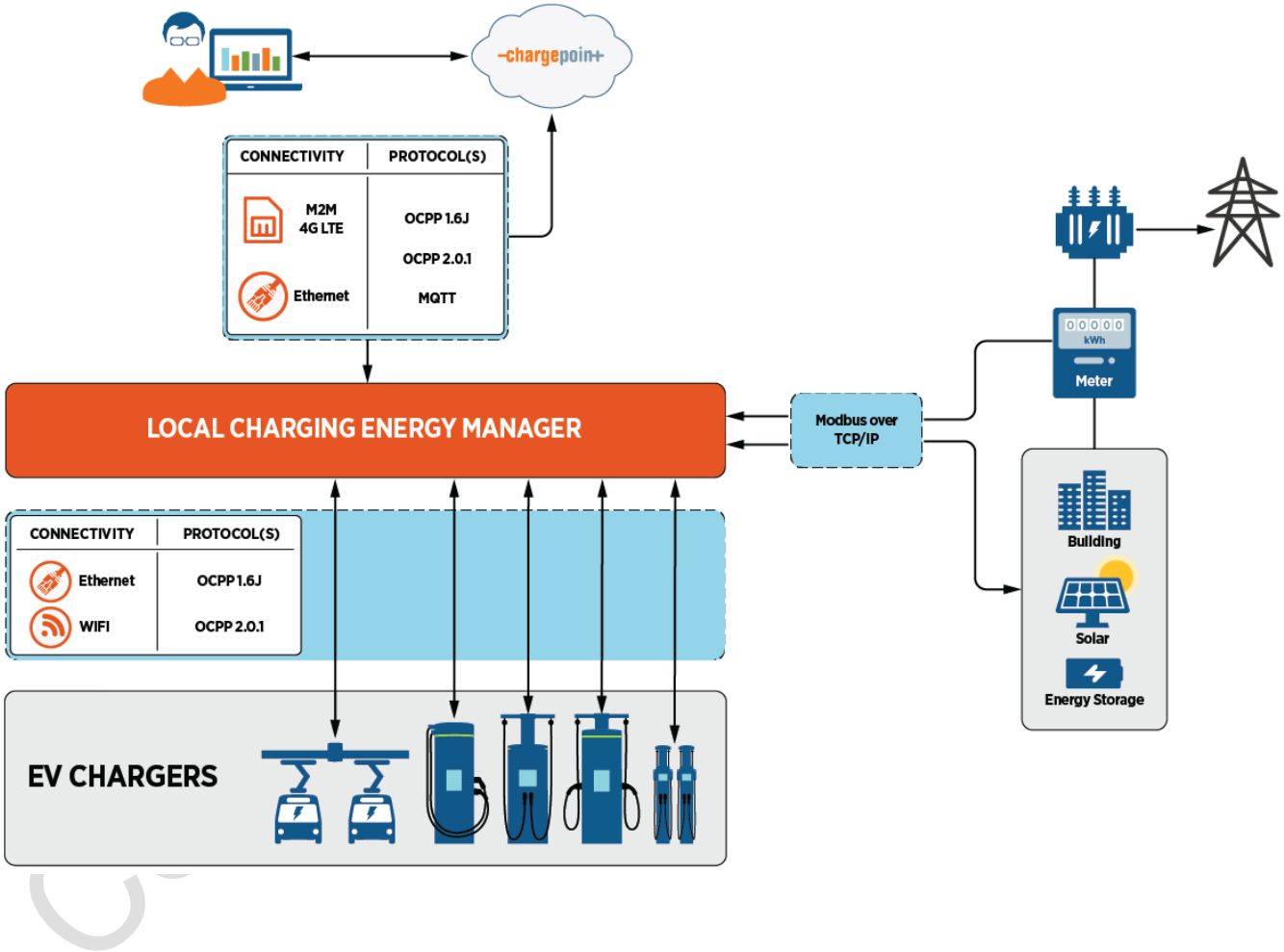
ChargePoint® Local Charging Energy Manager

Charger Energy Management Locally On-Site

Local Charging Energy Manager Overview

The ChargePoint Local Charging Energy Manager (LCEM) is an advanced locally deployed hardware and software system that manages charging loads based on real-time building load, also known as Dynamic Load Management (DLM), preventing overloads at the transformer, panel, or circuit level while reducing peak demand charges. The LCEM supports local power optimization without cloud dependency, provides breaker overload protection, and integrates with microgrids and on-site generation such as solar or battery storage. Acting as a communication proxy, it ensures energy management during outages, saving installation costs by avoiding electrical upgrades and cutting expenses through demand charge mitigation and load shifting to off-peak rates. With local power sharing and DLM, the LCEM enhances reliability for EV charging sites with limited power or cost-saving goals. The following diagram illustrates the system architecture, showing the interaction between local energy management, EVSE, and on-site generation.



Energy Management Features

Static Load Management (SLM)	A power limit is set for a group of charging stations. Power is distributed across all active charging sessions and will stay under the static limit at circuit, panel, and site levels. SLM is "charger centric" and is unaware of other site loads.
Dynamic Load Management (DLM)	DLM is an extension to SLM and allows the consideration of other site loads (non-EV-charger loads). Local meter readings are taken to read the total power into the site and power distributed to the charging stations is adjusted dynamically, factoring in total site load, and staying below the site power limit.
Group Hierarchy	Allows the creation of energy group hierarchies to mirror the electrical distribution on a site. Ensures that the limits on different levels are not exceeded.
Time-variant Limits	Applied limits can be applied based on a time schedule.
Solar Charging	On site solar power generation can be factored into DLM.
Connectivity to site masters EMS	The LCEM can be integrated with a site level master EMS via Modbus TCP.
Quantities	One LCEM supports up to 100 stations. For larger installations please contact us.

Versions

LCEM with Meter and 480Y/277 - 600Y/347 VAC accepted Power Supply	Larger Commercial and Fleet sites in USA and Canada
LCEM with Meter and 208 VAC accepted Power Supply	Smaller Commercial and Multifamily sites in USA and Canada
LCEM without Meter and 480Y/277 - 600Y/347 VAC accepted Power Supply	For sites that do not require DLM or have a supported meter on site using Modbus over Ethernet.

Electrical input

Input voltage	LCEM with METER: 480Y/277 - 600Y/347 VAC, 3 phase, 4 wire, 50/60 Hz Neutral required LCEM with METER and 208V Version: 208Y/120 VAC, 3 phase, 4 wire, 50/60 Hz Neutral required 100-240 VAC, 1 phase (Non metered version)
Connections	G, N, L1, L2, L3
Overcurrent protection req'd	15A or 20A circuit breaker
Power consumption	10W
Input terminal block wire gauge	4mm2 / 12 AWG Max
Input terminal block temperature range	-60 - 105 °C
Current measurement input	Rogowski Coil 360mV Max

Rogowski Coil Specifications for versions with meter

Coil Length	600 mm (23.6"); allows for a 7.5" diameter wire window
Coil Thickness	Coil diameter 11.3 mm (0.44")
Output	100mV/1000A (50Hz) 120mV/1000A (60Hz)
Output Waveform	AC voltage proportional to derivative of input current. Requires integrator for measurement of AC current.
Outer sheath	Thermoplastic polyurethane UL94-V0
Lead wires	Shielded pair AWG22, AWM style 21223, 1000V, 80°C, 3 m (9ft 8") long
Insulation Class	1000V; 50-60 Hz, Cat III, 600V, 50-60Hz, CAT IV
Test Voltage	7400 Vrms for 1 min
Maximum measured current	6,000A @50/60Hz
Ratio error	<0.5% of reading
Phase shift error	< 0.3%
Linearity	0.1 %
Positioning error	One Loop: < 1% of reading with a 15 mm wire Two loops: < 0.3%
Certification	UL Recognized (Canada/USA)

Connectivity

Cloud Connection	The LCEM connects back to the cloud using cellular or ethernet connectivity.
Network Connection to Managed Stations	A connection from the LCEM to each of the chargers to be managed is required. Ethernet or WiFi can be used, dependent on the station capabilities. Ethernet is recommended for new sites, while WiFi is more convenient for existing installations. The LCEM has an integrated Ethernet switch that can be used to connect to either other Ethernet switches or a WIFI Access Point to connect to the charges on site.

Safety and Operational Ratings

Station Enclosure Rating	**Type 3R per UL 50E**
Safety and Compliance	**UL and cUL listed; complies with UL 2594, UL 2231-1, UL 2231-2, and NEC Article 625** **Energy Star** **NTEP/CTEP**
Station Surge Protection	**6 kV @ 3,000 A. In geographic areas subject to frequent thunderstorms, suppLCEMental surge protection at the service panel is recommended.**
Short Circuit Current Rating	**5 kA**
EMC Compliance	**FCC Part 15 Class B**
Operating Temperature	**-40°C to 50°C (-40°F to 122°F)**
Non-Operating Temperature	**-40°C to 60°C (-40°F to 140°F)**
Terminal Block Temperature Rating	**105°C (221°F)**
Operating Humidity	**Up to 85% @ 50°C (122°F) non-condensing**
Non-Operating Humidity	**Up to 95% @ 50°C (122°F) non-condensing**

Ordering Information

Hardware

Item Name/Number	Display Name/Code	Description
99-013301-01	**CP-LCEM-LTE-ETH8-WIFI-NA**	**Local Charging Energy Manager, NA, Meter, LTE, Ethernet WAN, WiFi, Ethernet LAN x 8 Ports, UL, 2 YR Parts Warranty, 480Y/277 - 600Y/347 VAC, 3 phase, 4 wire, 50/60 Hz 208Y/120 VAC, 3 phase, 4 wire, 50/60 Hz**
99-013302-01	**CP-LCEM-METER-LTE-ETH8-WIFI-NA**	**Local Charging Energy Manager, NA, Meter, 3 x Rogowski Coils, 4G Cellular/Ethernet WAN, WiFi/Ethernet LAN x 5, UL, 2 YR Parts Warranty 480Y/277 - 600Y/347 VAC, 3 phase, 4 wire, 50/60 Hz 208Y/120 VAC, 3 phase, 4 wire, 50/60 Hz**
99-013308-01	**CP-LCEM-METER-LTE-ETH8-WIFI-NA-208VAC**	**Local Charging Energy Manager, NA, Meter, 3 x Rogowski Coils, 4G Cellular/Ethernet WAN, WiFi/Ethernet LAN x 5, UL, 2 YR Parts Warranty 208VAC w MTR 100-240 VAC, 1 phase**

Software

Item Name/Number	Display Name/Code	Description
00-EX2148-00	**CP-LCEM-STD-AC-1**	**1-year standard subscription to a Local Charging Energy Manager for a single AC port, providing static and dynamic energy management, hierarchical energy management groups, solar charging integration and time-variable limits. Includes operational support, integration into the ChargePoint Platforms user interface and 24/7 service. Additional hardware is required.**
00-EX2158-00	**CP-LCEM-STD-DC-1**	**1-year standard subscription to a Local Charging Energy Manager for a single DC port, providing static and dynamic energy management, hierarchical energy management groups, solar charging integration and time-variable limits. Includes operational support, integration into the ChargePoint Platforms user interface and 24/7 service. Additional hardware is required.**

Longer subscriptions with up to 10 years at discounted rates are available as well

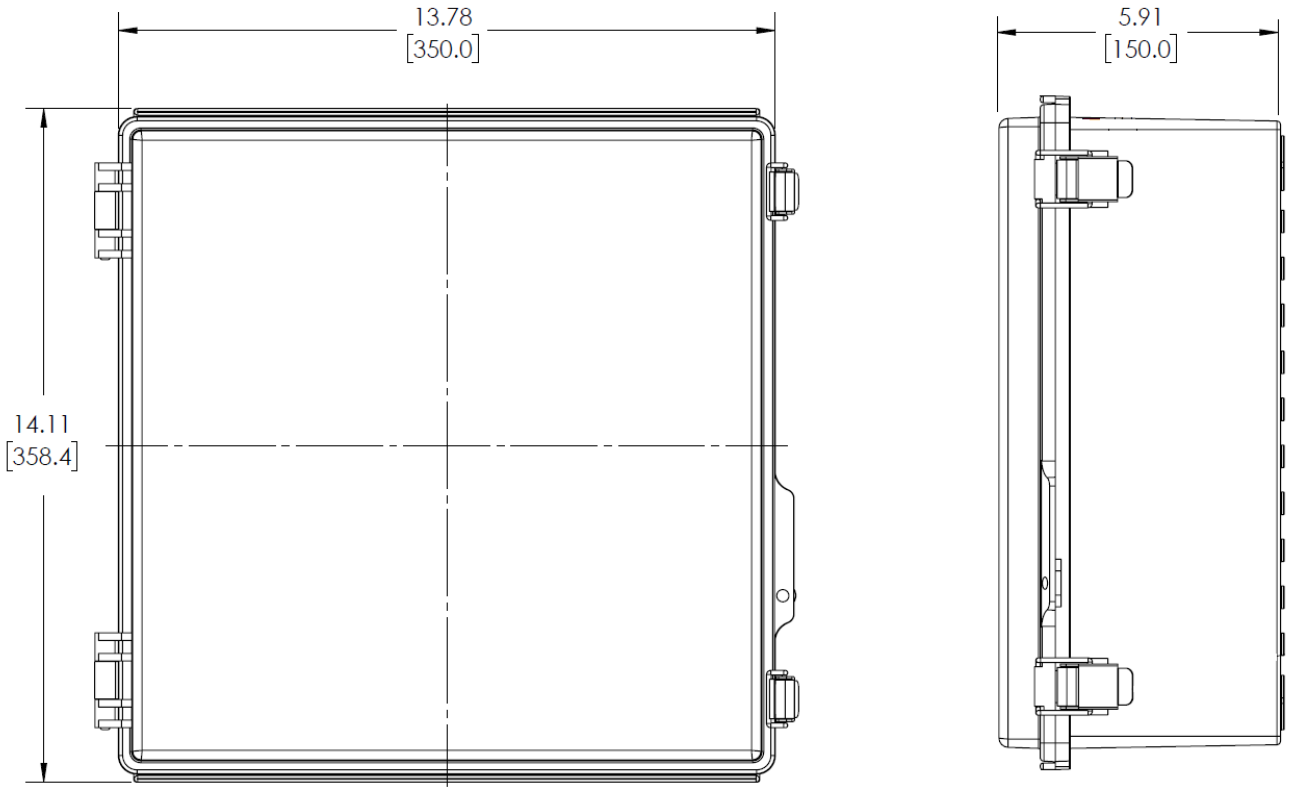
Services

Item Name/Number	Display Name/Code	Description
00-EX2123-00	**CP-LCEM-INSTALL**	**Installation of Local Charging Energy Manager hardware (LCEM). Includes labor to install the LCEM. Priced per LCEM.**
00-EX2124-00	**CP-LCEM-ACTIVATION**	**One-time configuration and provisioning of Local Charging Energy Manager hardware (LCEM). Priced per LCEM.**

The site and network for the stations must be prepared in accordance with the corresponding site design guide. This preparation is not included in any of the services mentioned above.

Architectural Drawings

Note: Images are not to scale. Measurements appear in metric units (mm), followed by imperial equivalents (inches).



Contact Us

ChargePoint, Inc.
240 East Hacienda Avenue
Campbell, CA 95008-6617 USA

+1.408.841.4500 or
+1.877.370.3802 US and Canada toll-free

Visit chargepoint.com

Call +1.408.705.1992

Email sales@chargepoint.com