

EnergySync™ electric vehicle load management systems

EV load management systems are crucial for managing safe and efficient operation of a building's electrical infrastructure

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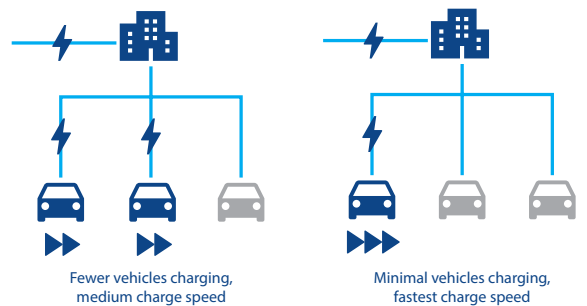
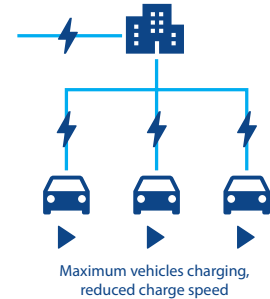


Why use an EV load management system?

The increasing demand for electric vehicle (EV) chargers in buildings has necessitated the integration of load management systems. An EV load management system dynamically regulates each charger’s power consumption, comparing it against the building’s electrical capacity.

In situations where the electrical supply is limited, an EV load management system restricts the power output of the EV chargers. It operates on a rapid cycle, constantly reassessing the available power data to swiftly respond to any fluctuations in demand, ensuring optimal power distribution and maintaining the building’s electrical integrity.

NHP’s EnergySync™ load management system limits the power drawn from the supply when it restricts the EV chargers, preventing potential power outages. It dynamically adjusts the power allocation to each charger based on total demand and available capacity, ensuring efficient and safe use of the power supply while maintaining EV charging services. This is crucial for managing the escalating demand for EV charging and for ensuring the safe and efficient operation of the building’s electrical infrastructure.



How the systems works

EnergySync™ from NHP can connect to up to 24 charging points using the Open Charge Point Protocol (OCPP 1.6J). This connection can be established through either a hardwired Ethernet or Wi-Fi, forming a local network. The system also interfaces with upstream energy meters via the Modbus TCP protocol. EnergySync™ is engineered to be integrated within the electrical distribution board of the building or facility that houses the electric vehicle supply equipment.

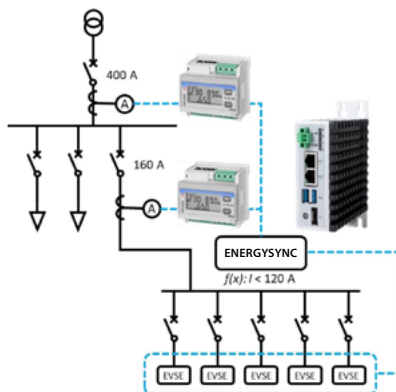
The configuration and monitoring of the EnergySync™ EV Load Management system are carried out using a web browser, offering straightforward configuration options without the need for specialised programming tools or knowledge. The EnergySync system can operate independently or in combination with other EV load management systems to manage a myriad of electric vehicle supply equipment distributed across multiple power distribution boards within a single site. For outdoor and remote sites, a 4G SIM card solution is recommended.

Modes of operation

There are two modes of operation which can be deployed with the EnergySync™ EV load management system, depending on the availability of the energy meter measurements.

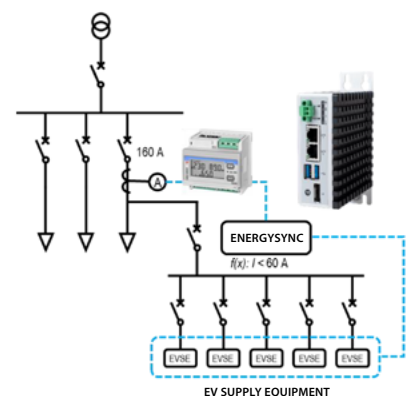
Dynamic mode

- The EnergySync™ EV load management system monitors both EV charger energy usage and building load.
- It adjusts EV charging during periods of peak demand.
- This adjustment prevents the building load from being exceeded.
- By managing demand contribution, it helps reduce infrastructure costs.



Static mode

- EnergySync™ monitors only the energy use of the EV charger.
- It adjusts the charge rates of the connected EV charger.
- This adjustment capacity of the distribution board prevents load from being exceeded.
- Charger board and the availability of charging.



Commission and monitor

EnergySync™ is configured using a web interface, which is accessed via a web browser on a computer or device connected to the same network and entering its IP address. Enter the EV load management system into the web browser address bar. The dashboard page provides a summary of the EnergySync™ system status, including the status of the electric vehicle supply equipment, energy meters and the current load management status.



Value

With a one-time cost of purchasing EnergySync™, everything required to manage 24 charge points will be at your fingertips with no subscription fee. NHP is constantly working on improvements and updates to our software. Therefore, as new features and updates become available, they can be downloaded from NHP website for free. This gives you the flexibility to choose the features that best suit your site.

For optimal performance and reliability, NHP's EnergySync™ connects to 24 EV charge points at any one time. Options are available for 6, 12 or 24 charging points which aligns perfectly with NHP EV distribution boards

as well as NCC section J 9D4 requirements. For large sites and future upgrades, EnergySync™ is easily scalable for a further 6, 12 or 24 charge points to be connected.

Charge point operator integration

NHP works closely with local charge point operators to ensure maximum compatibility EnergySync™ and their overarching systems. This means you can connect your favourite charge point operator concurrently with NHP's EnergySync™ load management system.

Installation and parts

EnergySync™ fits perfectly into NHP's EV distribution boards for a smart, compact and clean installation.

| EnergySync™ EV Load Manager PC & Software Only | | |
|--|-----------------------|---|
| Part Number | Charge Point Capacity | Product Description |
| EVLM2CP06* | 6 | EnergySync EVLM2 LOAD MGMT SYS FOR 6 CHARGE POINTS PC ONLY |
| EVLM2CP12* | 12 | EnergySync EVLM2 LOAD MGMT SYS FOR 12 CHARGE POINTS PC ONLY |
| EVLM2CP24* | 24 | EnergySync EVLM2 LOAD MGMT SYS FOR 24 CHARGE POINTS PC ONLY |

* Additional hardware is required to support load management

| EnergySync™ EV Load Management Kits | | | |
|-------------------------------------|--------------------------|-------------------|---------------|
| Allowed Charge Points | Available Ethernet Ports | EVDB Control Zone | Catalogue No |
| 6 | 4 | Single | EVLM2CP06DBA* |
| 12 | 4 | Single | EVLM2CP12DBA* |
| 24 | 4 | Single | EVLM2CP24DBA* |
| 6 | 12 | Double | EVLM2CP06DBB |
| 12 | 12 | Double | EVLM2CP12DBB |
| 24 | 24 | Double | EVLM2CP24DBC |

* Additional ethernet switch may be required to connect more charge points



Which EV chargers work with NHP's EnergySync™

EnergySync™ is EV charger brand agnostic, however NHP recommends Delta branded AC and DC chargers due to their exceptionally robust operation and reliability.

NHP maintains a list of supported EV charger brands and models that are already tested with EnergySync™. Get in touch with our team to know more about integrating third party EV chargers.

All Delta EV chargers with OCPP are already tested with NHP EnergySync™ EV Load Management System.

| Delta EV Charger Type | Part Numbers Compatible |
|-----------------------------|-----------------------------------|
| AC Max Smart – Plug Type | EIAWE22KTSE5A04 & EIAWE7KSSE5A04 |
| AC Max Smart – Socket Type | EIAWE22KTSH0A04 & EIAWE22KTSS0A04 |
| DC Wallbox 25kW – CCS & CHA | EVDE25D4DUM4G & EVDE25D7DUM4G |
| DC Wallbox 25kW – CCS Only | EVDE25E4DUM |
| DC Wallbox 50kW – CCS & CCS | EIDWE50TSEE02 & EIDWS50TSEE06 |
| DC Wallbox 50kW – CCS & CHA | EIDWS50TSEJA02 & EIDWS50TSEJA06 |
| DC City Charger – CCS & CCS | EVHE104EFCA05 & EIDSE200TSEE01 |
| DC City Charger – CCS & CHA | EVHE104EKCA05 & EVHE104ENCA05 |

To learn more about any of the above chargers, please visit:
 Australia: nhp.com.au/ev
 New Zealand: nhpnz.co.nz/ev





The NHP logo consists of the letters 'NHP' in a bold, white, sans-serif font, centered within a solid blue square.

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NHP ELECTRICAL ENGINEERING PRODUCTS

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