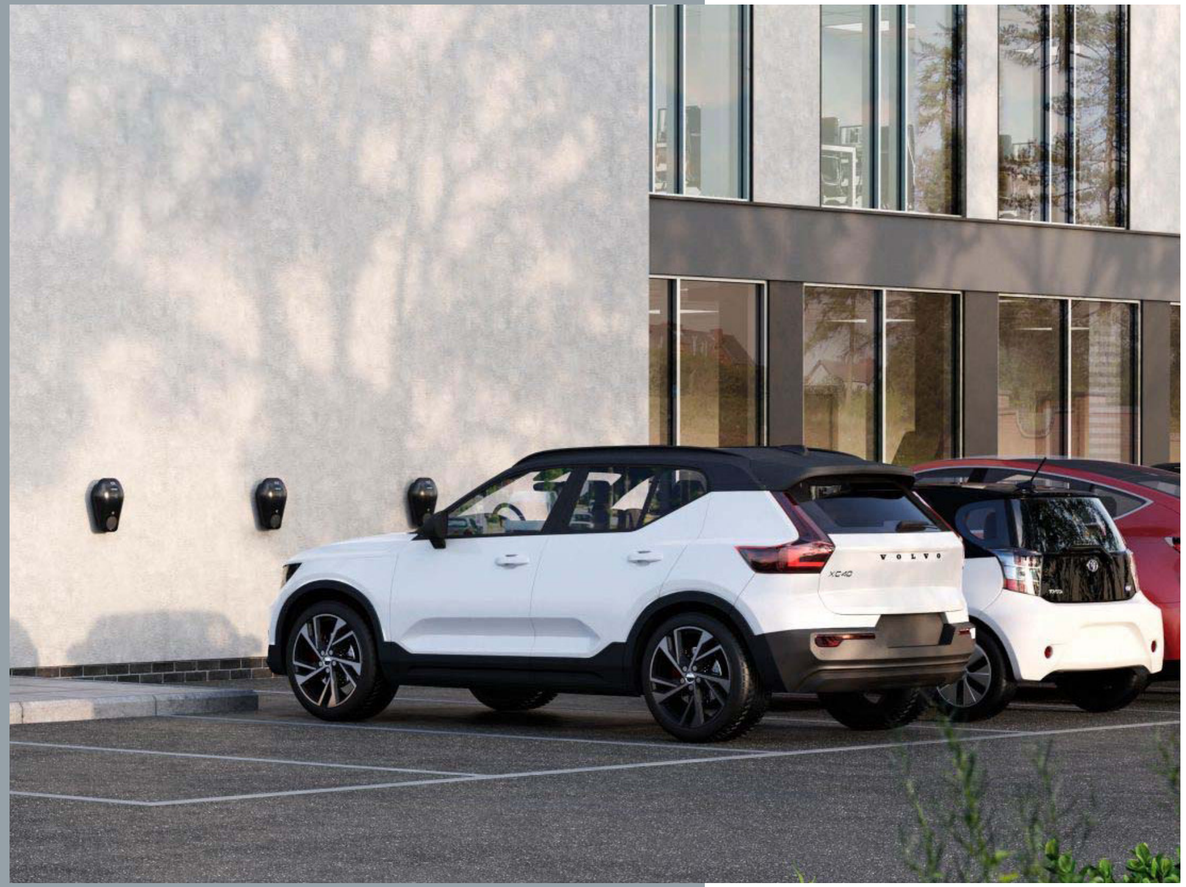
OCULAR

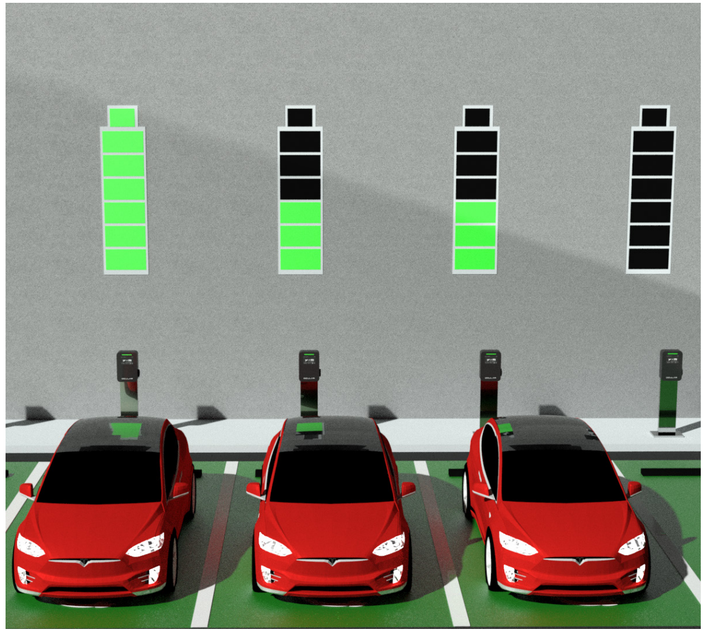
CHARGE WITH VISION.

Load Management Overview

Invest in a Greener Future



Introduction



EV charging stations consume a large amount of power in a long period of time when in use. Load Management is therefore a critical safety feature protect the properties' electrical infrastructure whilst maintaining efficient and optimal operation of the charging infrastructure.

Our EV charging solution supports **2** forms of Load Management:

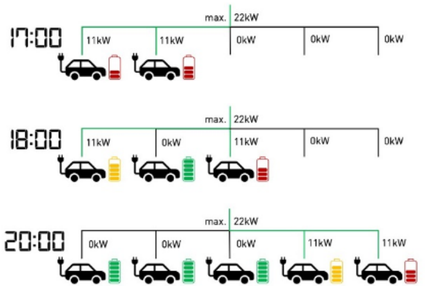
- Static Load Management
- Active Load Management

Details of all Load Management forms will be discussed in the following pages:

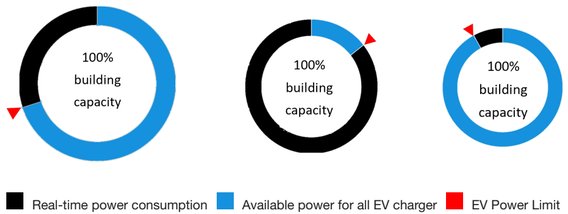
Load Management Overview

Static Load Management

- Basic form of Load Management.
- A hard power limit is set up for all the chargers.
- The Ocular Controller will then distribute this power limit evenly between the chargers



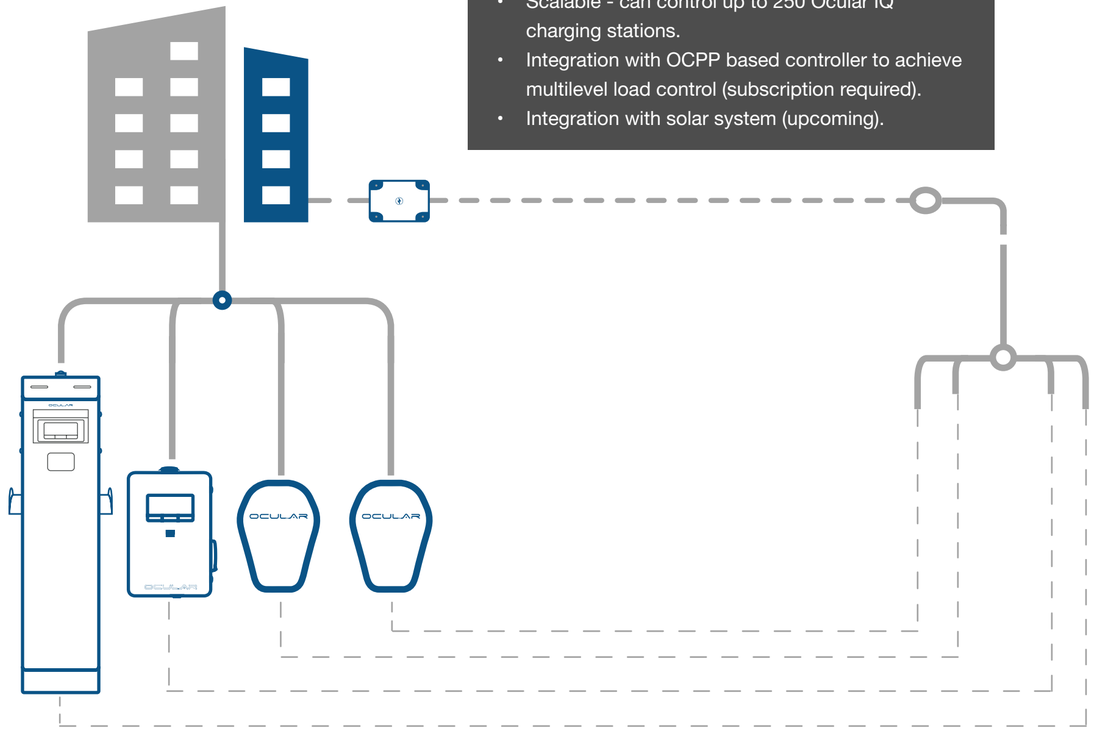
Active Load Management



- The master controller is required to monitor real time consumption of the building and dynamically modify the power limit for all the chargers accordingly to accommodate the building's power capacity.
- If the site's consumption increases then the power available to the charging station decreases and vice versa. The threshold, therefore, changes actively.

Offline Load Management Solution (Built-in)

- Offline solution does not require internet.
- Scalable - can control up to 250 Ocular IQ charging stations.
- Integration with OCPP based controller to achieve multilevel load control (subscription required).
- Integration with solar system (upcoming).



In-depth Info

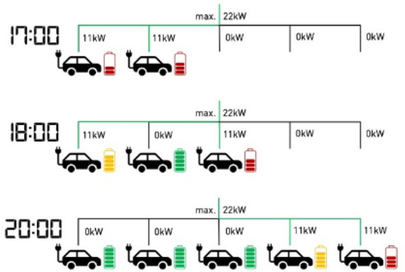
Static Load Management

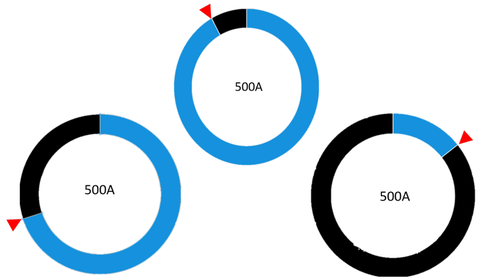
This is the most basic Load Management form. In this option, the site's administrator / installer sets up the maximum power capacity that he wants to spare for the whole EV charging system. The controller will then distribute this amount of power evenly to all the connected chargers and make sure that all the chargers will not exceed the power limit while operating simultaneously

Example:

Tim installed 4 x 7.2kW, 32A, single phase smart chargers at his home. He sets up the power limit of all 4 chargers at 40A

- If 1 charger is used, it can charge the car at 32A
- If 2 chargers are used, each charger will charge each car at 20 A
- If 3 chargers are used, each charger will charge each car at 13.33 A
- If all 4 chargers are used, each charger will charge each car at 10 A
- If 2 charger finish charging, the 2 other chargers will charge each car at 20 A





Real-time power consumption

Available power for all EV charger

EV Power Limit

Active Load Management

This is the next innovation of Load Management. By employing an additional master controller, the system can monitor the other appliances' consumption and adjust the power limit for all the chargers accordingly to accommodate the building's power capacity. If the site's consumption increases then the power available to the charging station decreases and vice versa. The threshold, therefore, changes dynamically.

Example:

Richard wants to install 15 x 22kW, 32A, three-phases chargers at his apartment. However, his building only has 500A per phase. In this case, Active Load Management ensures that the EV chargers will not overload his building. The system will operate as follows

- If other appliances consume a total of 350 A, the master controller will automatically set up the power limit of the system to 150A. When all 15 chargers operate simultaneously, each charger uses 10A
- If other appliances consume a total of 50 A , the master controller will automatically set up the power limit of the system to 450A. When all 15 chargers operate simultaneously , each charger uses 30A
- If other appliances consume more than 430 A, the master controller will pause all the charging sessions and wait until the site has more available power

Be apart of the clean tech future

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