SEVADIS
POWERING ELECTRIC VEHICLES

MONTA

CLOUD LOAD BALANCING EXPLAINED

MONTA CLOUD LOAD BALANCING BENEFITS

Monta's load balancing system is a cloud-based, smart solution to ensure a property's primary electrical load is not disrupted whilst electric vehicles are charging on-site.

This system allows multiple chargers to be added to a charging group and the total power consumed by the group is limited to the preset power supply available.

Diversity can then be applied, reducing the cost of infrastructure, while always protecting the supply. Typically, a diversity factor can be applied of 0.5 for residential and between 0.6 and 0.7 for commercial. This works well, based on the likely duration of the charging sessions in different scenarios.

The power available at each charge point is dependant on the number of vehicles calling for charge at any given time. Static load balancing modulates up and down to suit varying vehicle charging speeds and number of cars asking for charge. This provides all vehicles a good charge spread over the likely time stay period.

The system can operate with both AC and DC chargers, fed with single and three phase supplies.

Eliminates risk of overloading electrical load, therefore protecting the grid.

Reduces infrastructure and cabling costs.

Cloud-based, requiring no additional equipment.

Application of a diversity factor allows more EVCPs per system.

HOW MONTA'S CLOUD LOAD BALANCING SYSTEM WORKS

The load balancing system is set up on the password protected installer App.

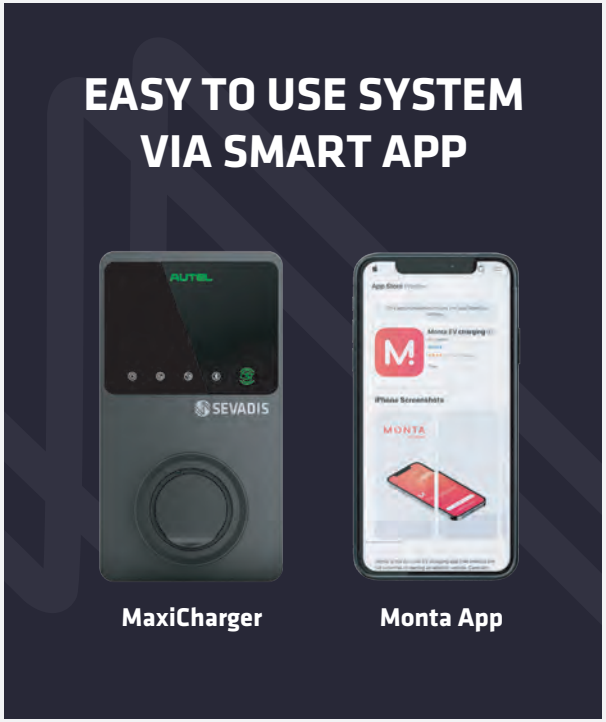
A datalink is required via hardwired, Wi-Fi or 4G to connect to the cloud subscription service.

One charger in the group is designated as the Master and the others as Secondary units.

The Master is programmed with the preset power available at the supply for the charging group.

After initial set up and commissioning there is no ongoing charge for the load balancing function as it is included in the subscription cost.

You can select between sharing the power equally to all active charge points or prioritising charging cars in order of arrival. You can set additional prioritisation settings once you add the charge points to the Group.



EXAMPLE BATTERY SIZES & CHARGING RATES

The time it takes to charge an EV/PHEV depends on the battery size and the maximum charge rate. The varying charging times of EVs/PHEVs are also a result of the interplay between infrastructure compatibility, technology, charging speed and environmental factors.

Battery size / rates of charge		
Model	**Battery size**	**Max charge rate (AC)**
BMW330e PHEV	12kWh	3.6kW
Volvo XC90 PHEV	11.6kWh	3.6kW
Peugeot Expert Van	50kWh	7kW
Honda e	35kWh	7kW
Jaguar iPace	90kWh	22kW
Tesla Model 3	55kWh	22kW

THE BENEFITS OF STATIC LOAD BALANCING

Static balancing ensures efficient energy resource allocation, reduced charging times, grid stability, cost optimisation, enhanced user experience, and scalability for properties requiring EV charging infrastructure at scale. The implementation of static load balancing enables EVs to recharge simultaneously without disrupting the property's overall electrical supply.

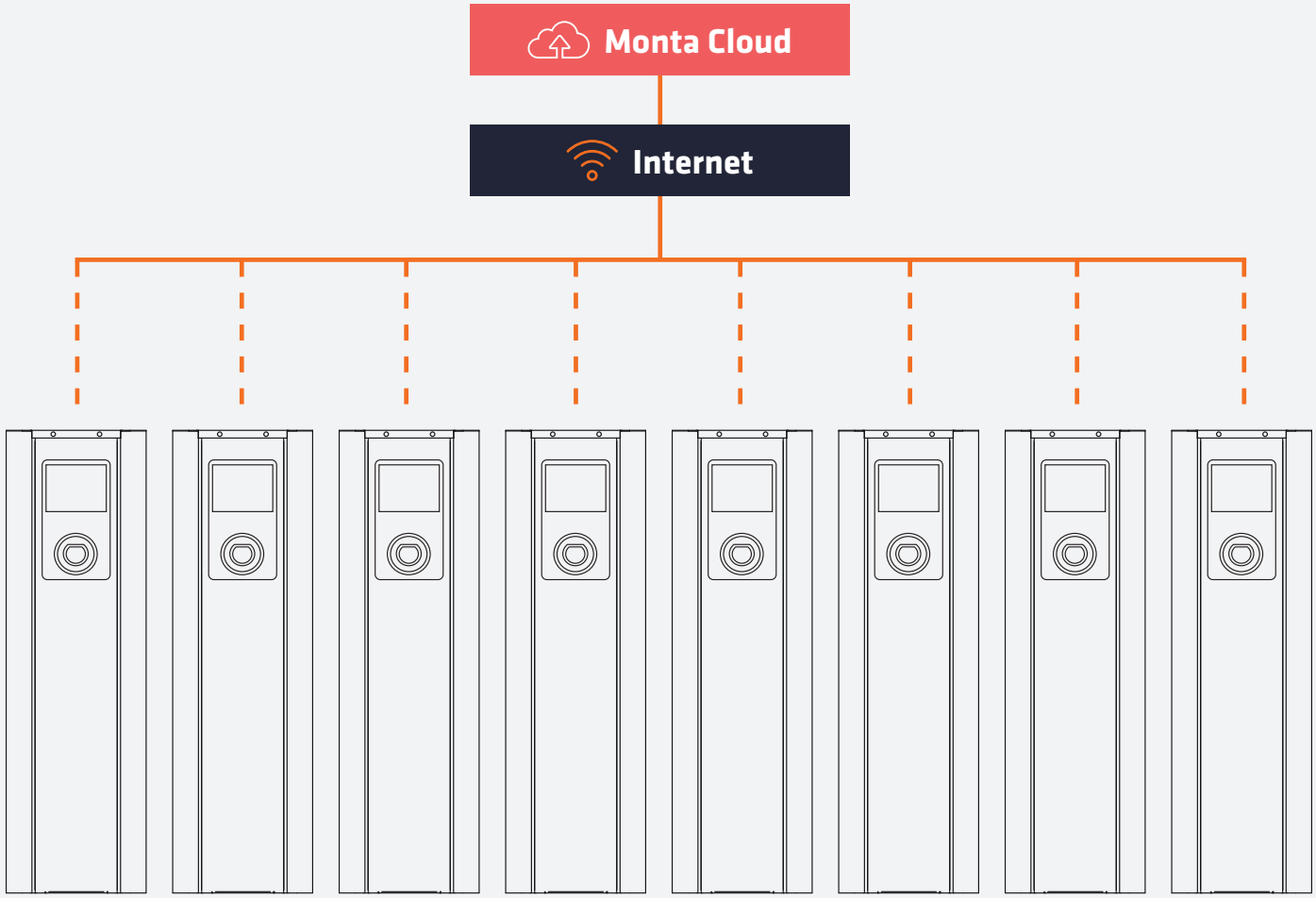
EXAMPLE 1 - NO LOAD BALANCING OR DIVERSITY

40 KW SUPPLY	CHARGE POINT	VEHICLE TYPE	CHARGING RATE
1	7.4 kW	FULLY ELECTRIC	7 kW
2	7.4 kW	FULLY ELECTRIC	7 kW
3	7.4 kW	FULLY ELECTRIC	7 kW
4	7.4 kW	HYBRID	7 kW
5	7.4 kW	HYBRID	3 kW
SPARE CAPACITY			13 kW

EXAMPLE 2 - WITH LOAD BALANCING & DIVERSITY

40 KW SUPPLY	CHARGE POINT	VEHICLE TYPE	CHARGING RATE
1	7.4 kW	FULLY ELECTRIC	7 kW
2	7.4 kW	FULLY ELECTRIC	7 kW
3	7.4 kW	FULLY ELECTRIC	7 kW
4	7.4 kW	HYBRID	3 kW
5	7.4 kW	HYBRID	3 kW
6	7.4 kW	HYBRID	3 kW
7	7.4 kW	HYBRID	3 kW
8	7.4 kW	> 80% CHARGED	3 kW
9	7.4 kW	> 80% CHARGED	3 kW
10	7.4 kW	FULL CHARGE	0 kW
SPARE CAPACITY			1 kW

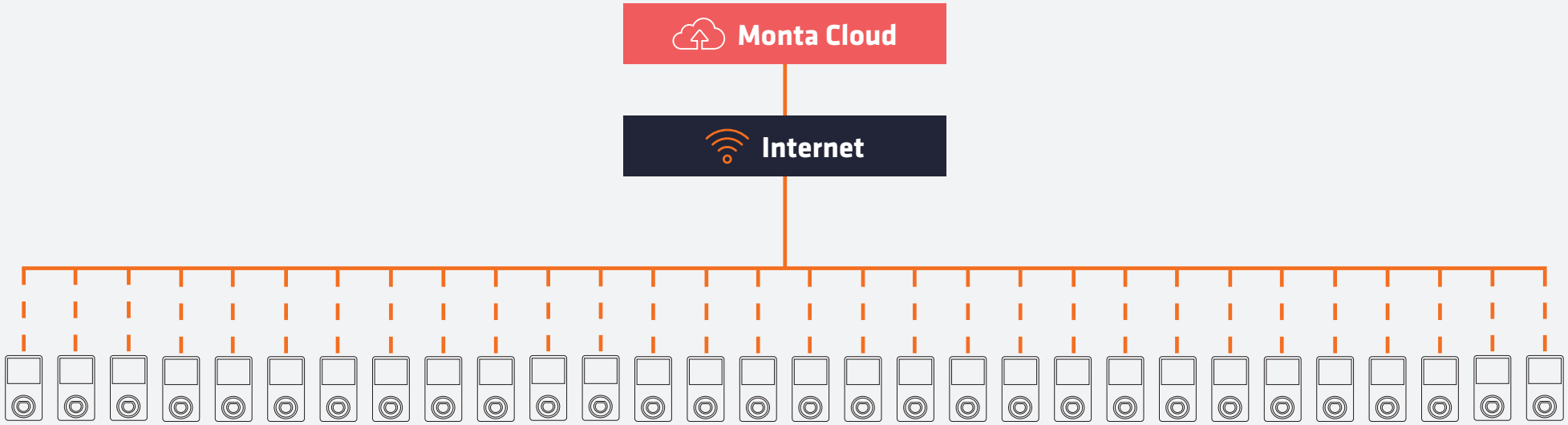
TYPICAL MONTA CLOUD LOAD BALANCING SYSTEM EXAMPLE



Data link between units hard-wired or Wi-Fi - refer to connectivity datasheet

Can be used for both wall mounted and floor standing chargers in groups starting with 2 units. Additional units can be added on to the group in the future.

AT-SCALE MONTA CLOUD LOAD BALANCING SYSTEM EXAMPLE



Data link between units hard-wired or Wi-Fi - refer to connectivity datasheet

Large numbers of charge points can be added to a charging group, this is usually dictated by the size of the supply at the distribution board feeding the charging group.

SEVADIS
POWERING ELECTRIC VEHICLES

LEARN MORE ABOUT THE MAXICHARGER RANGE

VISIT SEVADIS.COM/BUILT-ENVIRONMENT-RESOURCE-LIBRARY

0330 058 7144 | builtenvironment@sevadis.com