



CHARGING SOLUTIONS
RANGE OF ELECTRIC VEHICLE
CHARGING STATIONS

Ingeteam

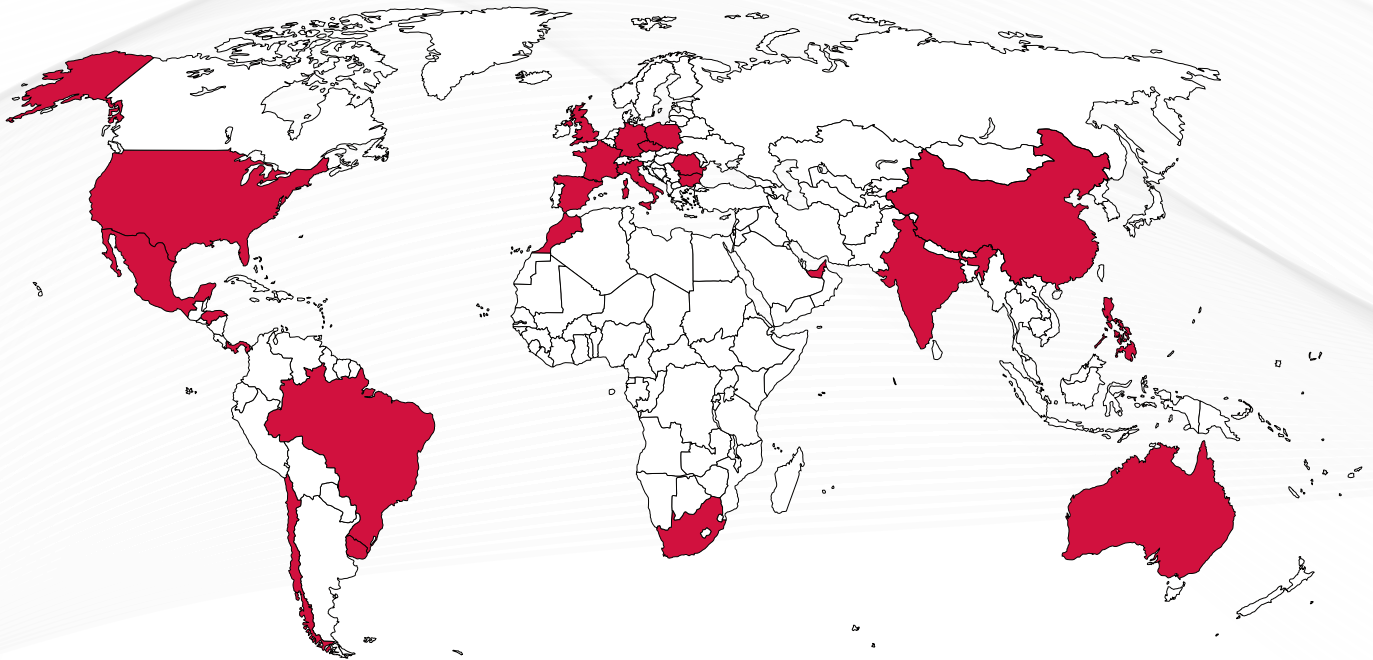
ELECTRIFYING
A SUSTAINABLE FUTURE

INNOVATION at our customers' service

INGETEAM is a team of more than **5,000 people** in **21 countries**, with more than 80 years of experience in providing creative solutions to specific problems to **electrify society** in an **innovative** and **sustainable** way through cutting-edge technology specialised in the conversion of electrical energy.

We want to consolidate our position as leaders in **renewable generation** (wind, photovoltaic and hydroelectric), **storage**, in the **intelligent transport network** and in the **efficient and clean consumption** of electrical energy through our **electric vehicle chargers, converters, generators and motors** for traction, marine, iron and steel industry, mining, for the production of green hydrogen and **submersible motors and pumps** for water.

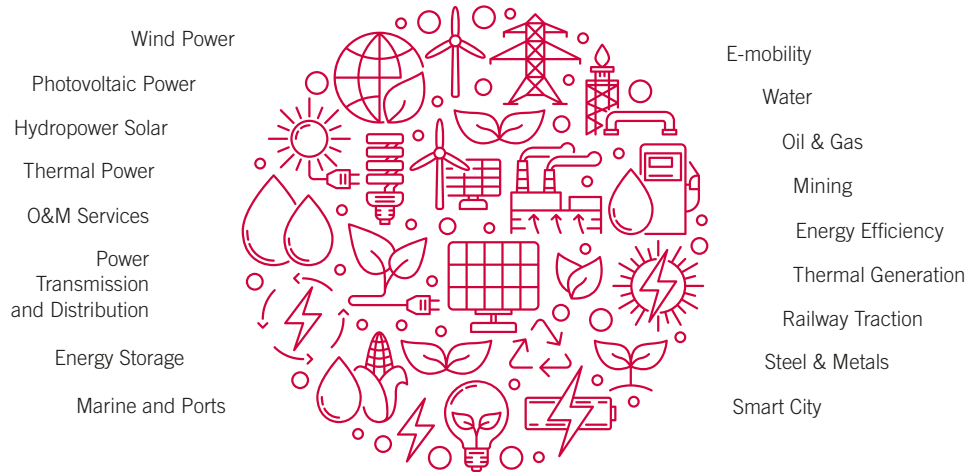
We have supplied **25 GW of solar photovoltaic power** with our solar inverters, over **54 GW to the wind industry** with converters and Indar generators. We have **more than 10.5 GW of total installed power in the hydropower sector** with Indar generators, **more than 12,000 Indar submersible pumps and motors** worldwide and **more than 6,000 electrical substations** are automated with our equipment. In addition to **1.6 GWh accumulated in electrical storage facilities** and being world leaders in the provision of operation and maintenance services in renewable energy plants, with **more than 18 GW of power maintained**.



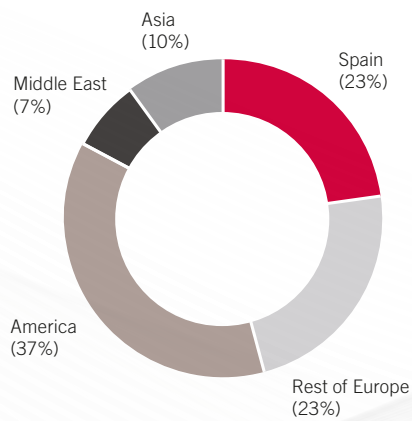
In terms of efficient consumption, it is worth highlighting the more than **35,000 charging ports for electric vehicles**, the supply of our equipment for **700 electric trains**, or for the **more than 600 ships** that are equipped with our technology, enabling an evolution towards hybrid and full electric naval propulsion systems.

We have been present in the **E-Mobility** sector since 2011, thanks to the development and supply to our customers of AC and DC charging stations, with the **FUSION, RAPID 60E/180** and **RAPID ST 200/400 models**.

SECTORS



GLOBAL SALES



FINAL DESTINATION PRODUCT / SERVICES



CHARGING STATION MODELS



FUSION



RAPID 60E/180



RAPID ST 200/400

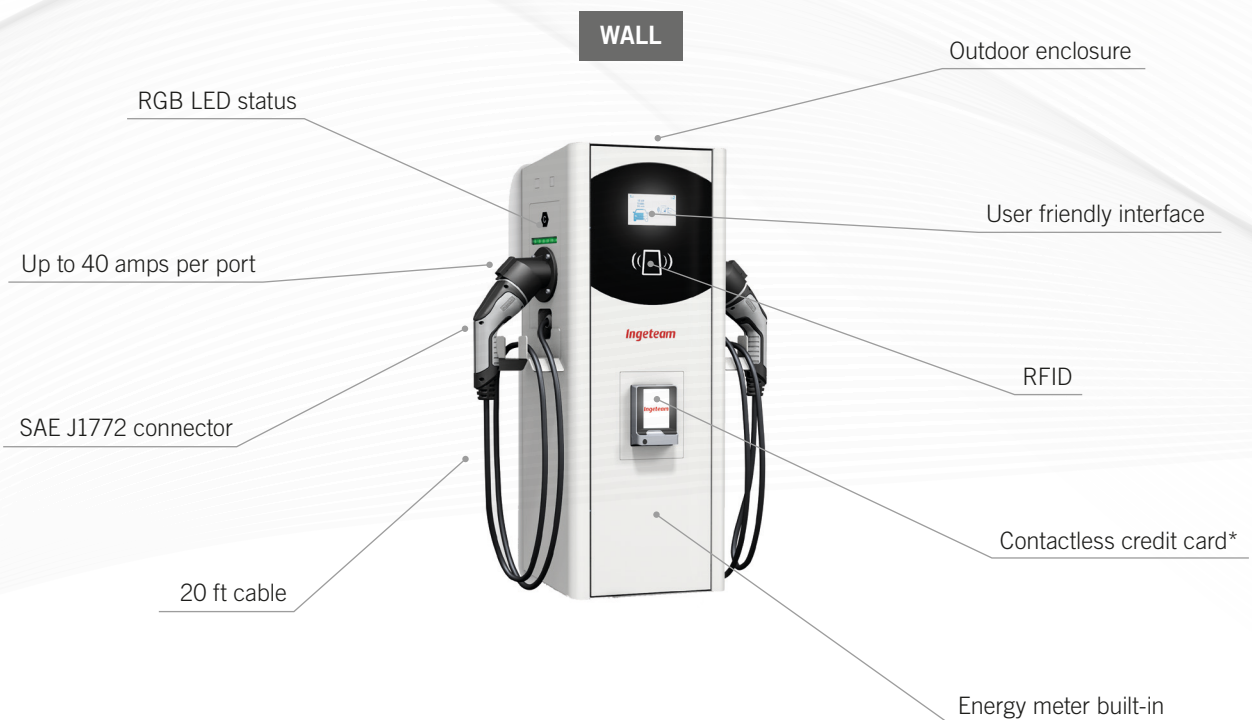
FUSION

The CHARGING STATION for public and private installations

The **FUSION**, an AC Level 2 EV charging station, is available in two models, **FUSION Street** for ground mounting and **FUSION Wall** for wall mounting.

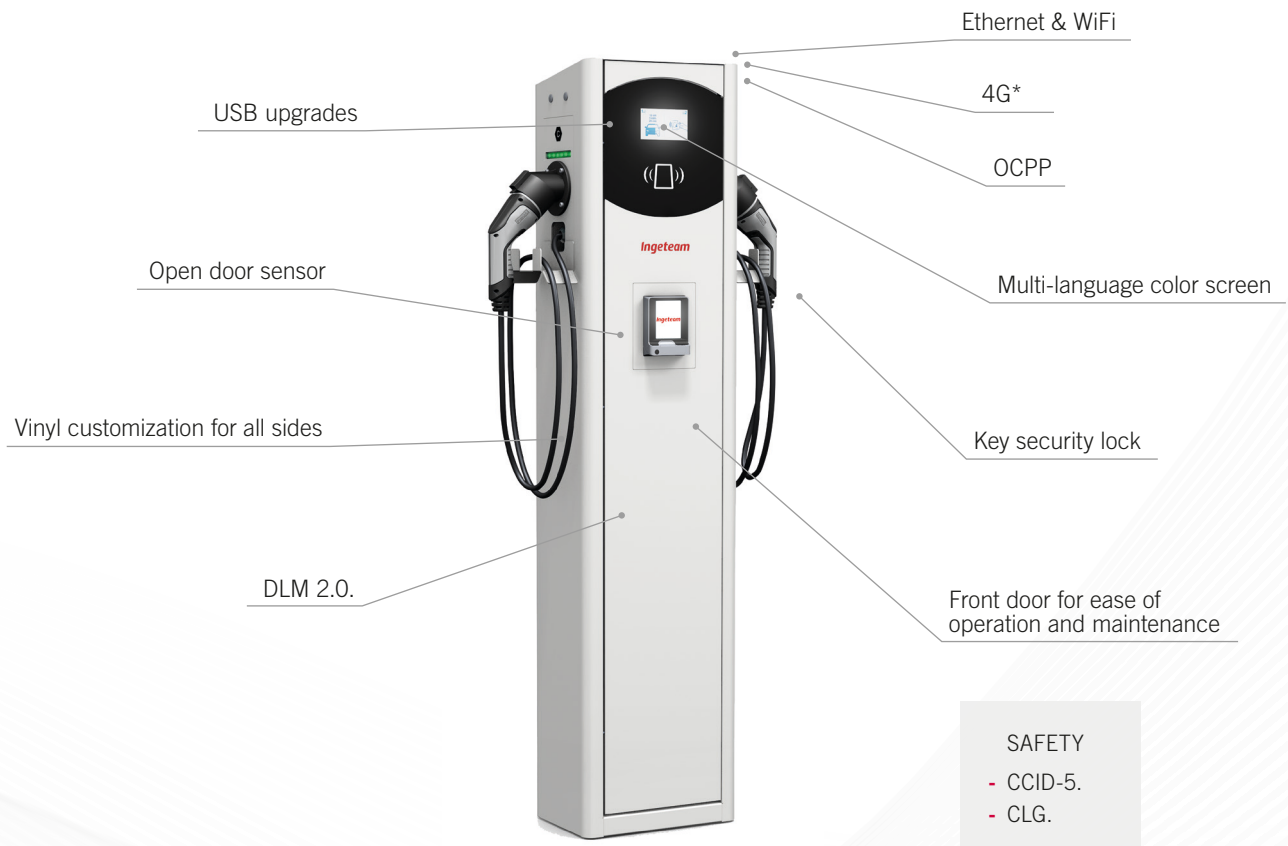
This dual equipment range has been designed to cover all electric vehicle charging demands in public and private settings alike.

Its standard features include Ethernet and WiFi communications, as well as the latest generation advanced functions such as Dynamic Load Management 2.0 (DLM 2.0) and OCPP protocols.



*Optional

STREET



- SAFETY**
- CCID-5.
 - CLG.

*Optional

ADDITIONAL FEATURES:

- Ethernet switch (minimizes the cost of Ethernet cabling).
- Automatic software updates (OCPP, ISO15118,...) for the entire product life.
- Warning message in the event of an outage.
- ADA Compliant.

OPTIONS

- Smart DLM 2.0. (Advance Power Management, Fleet, Driver groups).



FUSION

The CHARGING STATION for public and private installations

	FUSION Wall	FUSION Street
AC inputs and outputs	Single phase (FW1)	Single phase (FS1)
Voltage supply	L1 + L2 + PE 208 Vac / 240 Vac ± 15%	
Rated power	19.2 kW (9.6 kW + 9.6 kW)	
Frequency	60 Hz	
Rated current	80 A (40 A + 40 A)	
Output connectors	SAE J1772	
Charging mode	Mode 3	
Compliance and safety		
Standards	UL 2594*	
Safety	CCID-5, CLG	
Functionalities and accessories		
Communications	Ethernet switch, Wi-Fi 4G (Optional)	
Communication protocols	OCPP	
HMI	4.3" TFT multi-language color screen	
Authentication	RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)	
General information		
Stand-by consumption	< 10 W	
Energy metering	Built-in	
Operating temperature	-15 °F to 125 °F	
Humidity	< 95%	
Maximum altitude	6500 ft	
Weight	53 lb	73 lb
Dimensions (height x width x depth)	31 1/2" x 12 19/32" x 8 15/32"	55 1/8" x 12 19/32" x 8 15/32"
Enclosure	Galvanized steel. RAL 9003	
Protection rating	NEMA 3R	
Directives	Energy Star*, FCC Part 15 Class B, NEC 625	

*Pending.

Ingeteam



RAPID 60E/180

Changing the **answer** is EVOLUTION Changing the **question** is REVOLUTION

Ingeteam is proud to present its range of **RAPID 60 kW, 90 kW, 120 kW, 150 kW and 180 kW ultra-rapid chargers**, created to supply the power to even the most demanding vehicles. The RAPID charging stations have been designed to comply with the highest quality standards, **small footprint** and to offer the best performance in terms of power management, communications, reliability and efficiency.

These **all-in-one** chargers are compatible with the CCS and CHAdeMO standards, with the option of one or two cables in DC charging mode, allowing the simultaneous charging of up to two vehicles. Likewise, power management is available either between the different charger outputs or between various chargers installed at the same location.

	RAPID 60E/90/120/150/180	
	One	Duo
Connectors	1	2
Simultaneous charging	-	✓
Connector types	CCS	CCS + CCS CCS + CHAdeMO

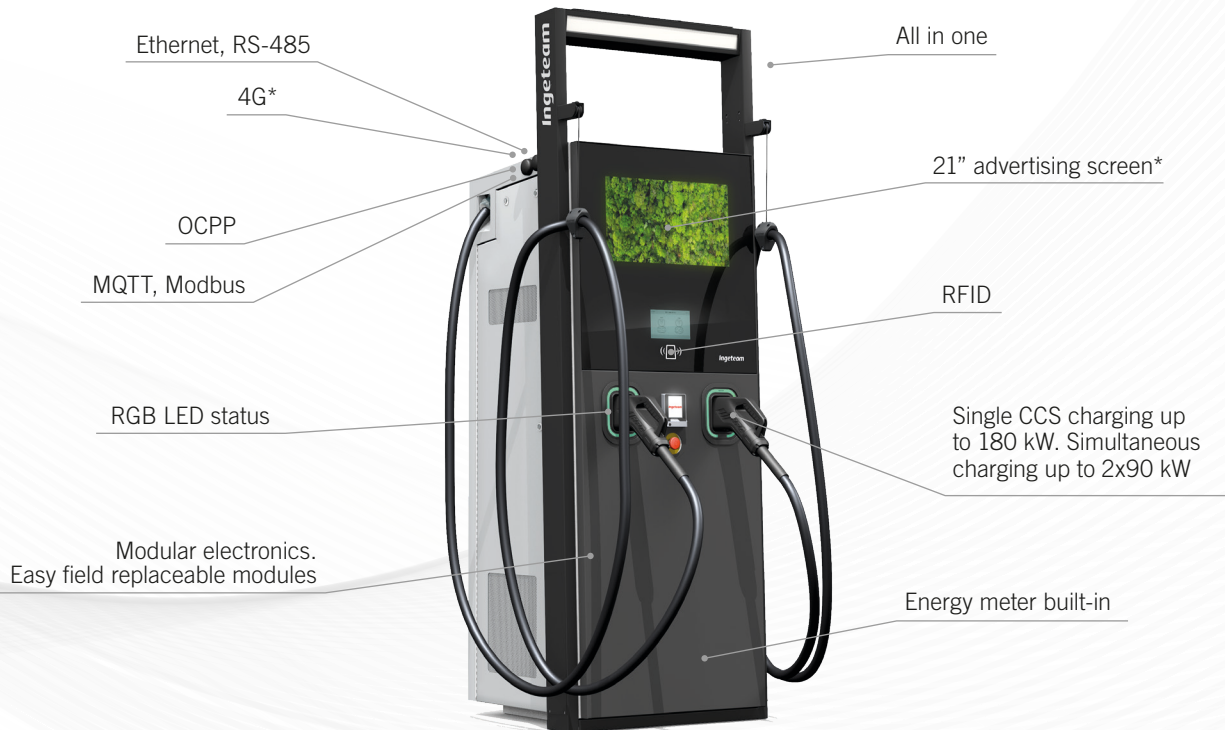


*Optional



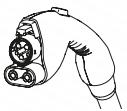
reddot winner 2022
urban design

DUO



*Optional

CONNECTOR TYPES



CCS1 200
CCS Type 1 200 A



CHA200
CHAdeMO 200 A

ADDITIONAL FEATURES:

- Ethernet switch (minimizes the cost of Ethernet cabling).
- Automatic software updates throughout the product lifetime.
- Connector locking system for CHAdeMO.
- ADA Compliant.

OPTIONS

- Smart DLM 2.0. (Advance Power Management, Fleet, Driver groups).

RAPID 60E/180

Changing the **answer** is EVOLUTION
 Changing the **question** is REVOLUTION

	RAPID 60E	RAPID 90
AC input		
Voltage	L1 + L2 + L3 + PE 480 Vac ± 15%	
Frequency	50 / 60 Hz ± 5%	
Maximum AC current	76 A	115 A
DC output		
Voltage	150 .. 1000 V	
Simultaneous nominal DC current	100 A + 100 A	200 A + 100 A
Boost DC current	200 A	300 A
Maximum power	60 kW (30 kW + 30 kW)	90 kW (60 kW + 30 kW)
Output connectors	One: CCS I Duo: CCS + CCS I Duo CHA: CCS + CHAdeMO (200 A)	
Compliance and safety		
Standards	UL 2202	
Overcurrent	Programmable MCB	
Indirect contact	RCD Type A + DC leak sensor	
Overvoltage	Type II protection against permanent and transient overvoltage	
Functions Accesories		
Communication	Ethernet 4G (optional)	
Communication protocols	OCPP, ISO 15118	
Advertising screen	21" Full HD (optional)	
HMI	7" TFT multi-language color touchscreen	
Authentication	RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)	
General information		
Stand-by consumption	< 40 W	< 50 W
Retractable hose system	Included	
Cable length	20 ft	
Energy metering	Built-in	
Operating temperature	-30 °F to 140 °F (optional kit for lower/higher temperatures)	
Humidity	< 95 %	
Weight	750 lb	795 lb
Dimensions (height x width x depth)	89 1/2" x 30 1/2" x 28 3/4"	
Enclosure	Stainless steel 430 and aluminum	
Maximum altitude	6500 ft	
Protection rating	NEMA 3R / IK10 (display IK08) / C5H	
Directives	FCC Part 15 Class A, NEC 625	

RAPID 120	RAPID 150	RAPID 180
L1 + L2 + L3 + PE		
480 Vac ± 15%		
50 / 60 Hz ± 5%		
155 A	190 A	230 A
150 .. 1000 V		
200 A + 200 A	200 A + 200 A	200 A + 200 A
400 A	500 A	500 A
120 kW (60 kW + 60 kW)	150 kW (90 kW + 60 kW)	180 kW (90 kW + 90 kW)
One: CCS I Duo: CCS + CCS I Duo CHA: CCS + CHAdeMO (200 A)		
UL 2202		
Programmable MCB		
RCD Type A + DC leak sensor		
Type II protection against permanent and transient overvoltage		
Ethernet		
4G (optional)		
OCPP, ISO 15118		
21" Full HD (optional)		
7" TFT multi-language color touchscreen		
RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)		
< 60 W	< 70 W	< 80 W
Included		
20 ft		
Built-in		
-30 °F to 140 °F (optional kit for lower/higher temperatures)		
< 95 %		
840 lb	885 lb	930 lb
89 1/2" x 30 1/2" x 28 3/4"		
Stainless steel 430 and aluminum		
6500 ft		
NEMA 3R / IK10 (display IK08) / C5H		
FCC Part 15 Class A, NEC 625		

RAPID ST 200/400

The ULTRA-RAPID

CHARGING STATION



The Ingeteam ultra-rapid charging station solutions **up to 200kW and up to 400kW** are based on an innovative DC distribution architecture, for maximum simplicity of the installation as well as the easy integration of storage and PV energy.

It offers all the advantages of the latest generation SiC electronics, while combining an extremely compact size, high efficiency and reliability.

RAPID ST200 and ST400 are the ideal ultra-rapid charging points for service stations with a high turnover. Compatible with the CHAdeMO and CCS standards, they are the perfect solution for charging all types of EVs.

	ST200 ONE	ST400 ONE	ST200 DUO	ST400 DUO
Connectors	1	1	2	2
Simultaneous charging				✓

COMMUNICATIONS

- Modbus TCP.
- OCPP.

SAFETY

- High visibility emergency button to guarantee safety of use.
- Automatic software updates (OCPP, ISO15118, etc.) for the entire product life.

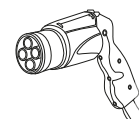
OPTIONS

- 21" advertising screen.
- Contactless credit card reader.
- Complete turnkey solution (satellites, central inverter and sub-station)
- Remote communication via Ethernet and 4G.

CONNECTOR TYPES



CCS1 500
CCS Type 1
500 A



CHA200
CHAdeMO 200 A



Simple and efficient storage systems integration

Built-in DC wattmeter

RFID / NFC card authentication

Super-rapid charging in CHAdeMO up to 100 kW

Ambient light

21" advertising screen*

Multi-language 7" color touchscreen

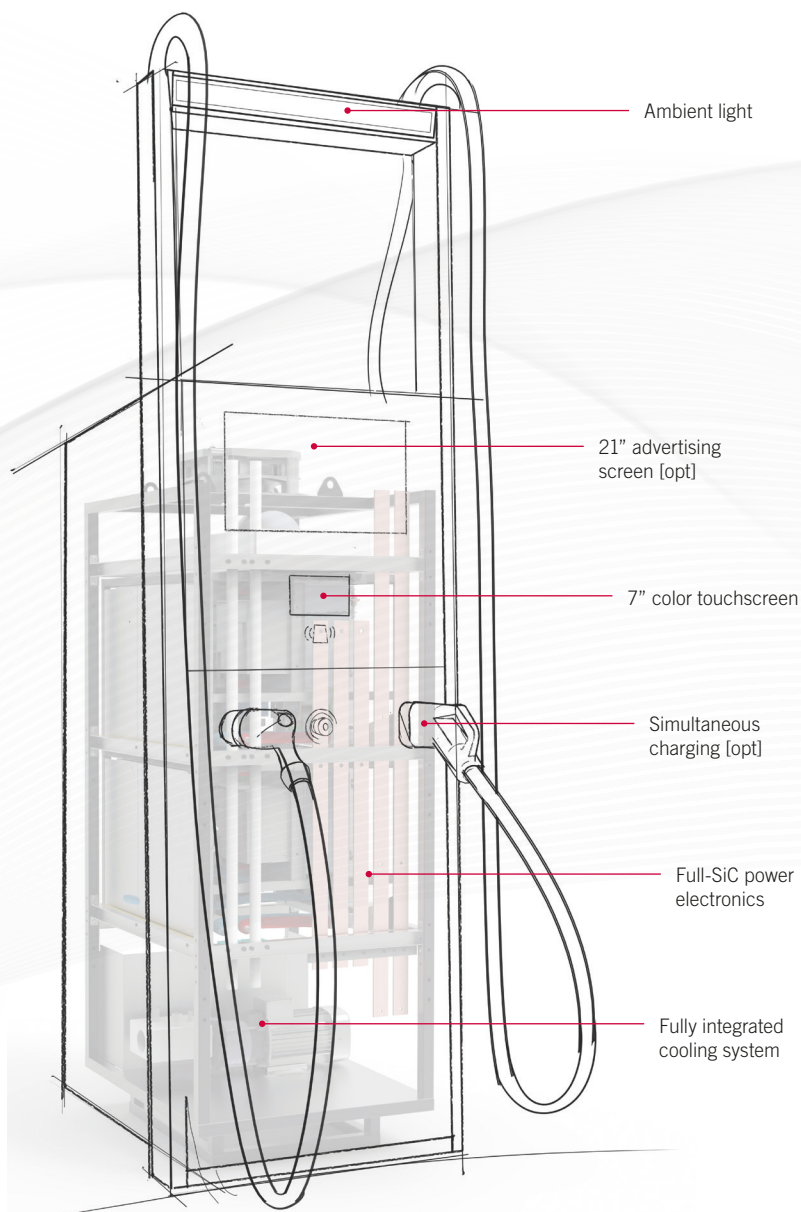
Ultra-rapid charging in CCS up to 400 kW

*Optional

RAPID ST 200/400

Central inverter AND SATELLITES **RAPID ST**

KEY FEATURES

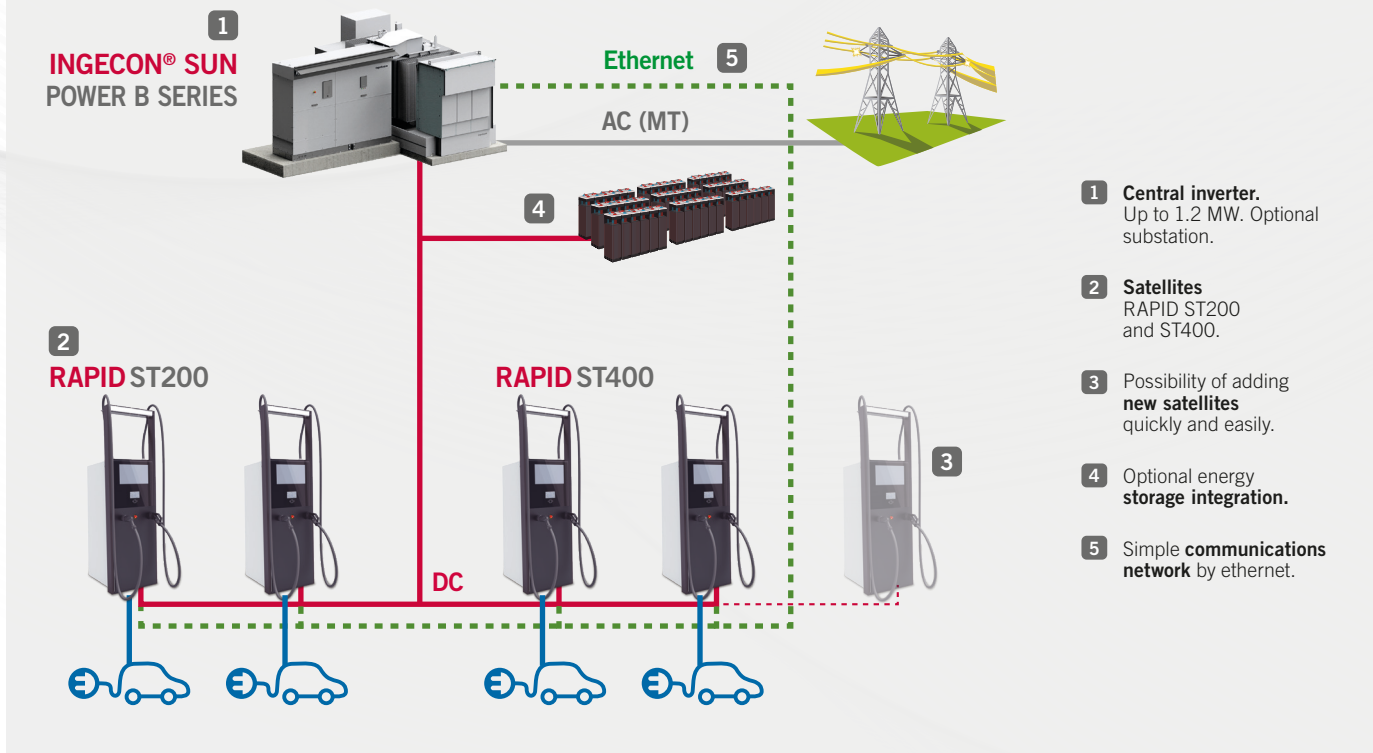


ADVANTAGES OF THE DC BUS ARCHITECTURE

- Distance of up to 120 metres between the central inverter and the satellites, free and unobstructed charging area.
- Half the installation footprint of other architectures.
- Integrated cooling in all elements, for maximum installation simplicity.
- Scalability, the system can be easily extended by connecting new satellites to the DC bus.
- Flexible power balancing (DLM) between all the satellites.
- All the satellites can always charge simultaneously with no need to sacrifice power modules in order to divert the energy to another satellite with a higher demand.
- The ST200 satellites can be upgraded to ST400 by simply adding a new power module.



DIAGRAM OF THE INSTALLATION



- 1** **Central inverter.**
Up to 1.2 MW. Optional substation.
- 2** **Satellites**
RAPID ST200 and ST400.
- 3** Possibility of adding **new satellites** quickly and easily.
- 4** Optional energy **storage integration.**
- 5** Simple **communications network** by ethernet.

RAPID ST 200/400

Central inverter AND SATELLITES RAPID ST

	RAPID ST200	RAPID ST400
DC input		
Rated input current	200 A	400 A
DC output		
Voltage	50 .. 1000 V	
Maximum current	250 A (up to 500 Vdc)	500 A (up to 500 Vdc)
	200 A (up to 1000 Vdc)	400 A (up to 1000 Vdc)
Maximum power	200 kW	400 kW
Output connectors	One: CCS I Duo: CCS + CCS I Duo CHA: CCS + CHAdeMO	
Auxiliary AC input		
Voltage	L1 + L2 + L3 + N 400 Vac ± 15%	
Compliance and safety		
Standards	CE	
Indirect contact	Insulation monitoring	
Overvoltage	Type II surge arresters	
Functions Accesories		
Communication	Ethernet, 4G (optional)	
Communication protocols	OCPP, ISO 15118	
Advertising screen	21" Full HD (optional)	
HMI	7" TFT multi-language touch color screen	
Authentication	RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)	
General information		
Cooling system	Integrated liquid cooling	
Cable length	16 ft	
Operating temperature	-5 °F to 140 °F	
Humidity	< 95 %	
Weight	950 lb	1170 lb
Dimensions (H x W x D)	103 5/32" x 30 1/2" x 36 13/16"	
Maximum altitude	6500 ft	
Protection rating	NEMA 3R / IK10 (display IK08) / C5H	
Directives	FCC Part 15 Class A	

SUN Power B Series

	INGECON 950TL B366	INGECON 1040TL B400	INGECON 1170TL B450
AC input			
Voltage	366 V (IT System)	400 V (IT System)	450 V (IT System)
Current (@86°F / @122°F)	1500 A @ 86°F / 1350 A @ 122°F		
Power (@86°F / @122°F)	951 kVA / 856 kVA	1,039 kVA / 935 kVA	1,169 kVA / 1,035 kVA
Frequency	50 / 60 Hz		
Power Factor	1		
Adjustable power factor	0..1 (leading / lagging)		
Total Harmonic Distortion	< 3%		
DC output			
Voltage	579 .. 820 Vdc	588 .. 820 Vdc	707 .. 820 Vdc
Maximum voltage	1000 Vdc		
Maximum current	1870 A		
Compliance and safety			
Standards	UL 1741		
Overvoltage	Type II surge arresters		
Overcurrent	Short-circuit and overloads		
Indirect contact	Insulation monitoring		
General information			
Operating temperature	-40 °F to 135 °F		
Humidity	< 95 %		
Weight	3,440 lb		
Dimensions (H x W x D)	89 3/8" x 111 1/32" x 32 15/32"		
Maximum altitude	14,770 ft		
Protection rating	NEMA 3R / IK10 (display and grid IK08) / C5H		
Marking	CE, SGS		
Directives	FCC Part 15, IEEE C37.90.1, IEEE C37.90.2, CSA22.2 No107		

DLM 2.0

OPTIMIZED USE of the available power



CHARACTERISTICS:

- Multiple charging points, either interconnected in series or at a hub.
- Set maximum installation charging power.
- Instantaneous charging powers adjusted according to the number of vehicles charging and their consumption.

Dynamic Load Management 2.0 (DLM 2.0) is the latest generation dynamic management system, supplied as standard in all the FUSION and RAPID models.

DLM 2.0 allows all the couplings on each charging station to share the total power defined for the equipment in the most balanced and dynamic way possible, also permitting the interconnection of a group of charging points and the definition of a maximum power output for the whole group. This ensure that the assigned threshold is never exceeded, regardless of the number of vehicles charging simultaneously.

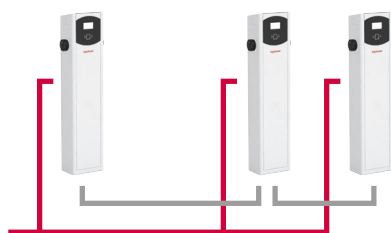
It is therefore possible to **optimize the use of the existing installation**, either through the power contracted or through any other limitation on the installation.

DLM BASICS

DLM 2.0 dynamically manages the power at each socket in the installation, based on the number of sockets in operation, the types of sockets or connectors used at each charging point and the current actually demanded by each vehicle. This is all evaluated in real time.

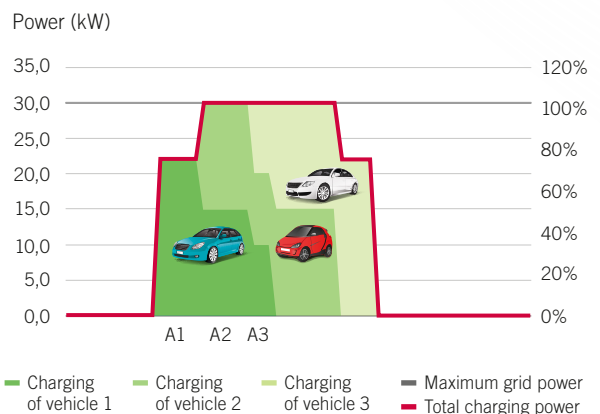
It is a dynamic, adaptive system, given the fact that if one of the vehicles is not consuming the current assigned by the system then, after a given time, the current not being consumed is assigned to the rest of the vehicles connected, for maximum use of the power available.

It is possible to combine AC points with DC points in the same group of charging stations.



— AC
— UTP

DLM 2.0 Dynamic Load Management



SMART DLM 2.0

THE SMART power



Smart DLM is the latest development of the DLM 2.0 system for the smart and dynamic management of the power in an installation that includes charging stations and also other loads such as those that are characteristic of an office or industry.

It consists in a network analyzer, installed at the desired management point and connected to a unit. All the FUSION and RAPID models are compatible with Smart DLM and it is even possible to combine models.

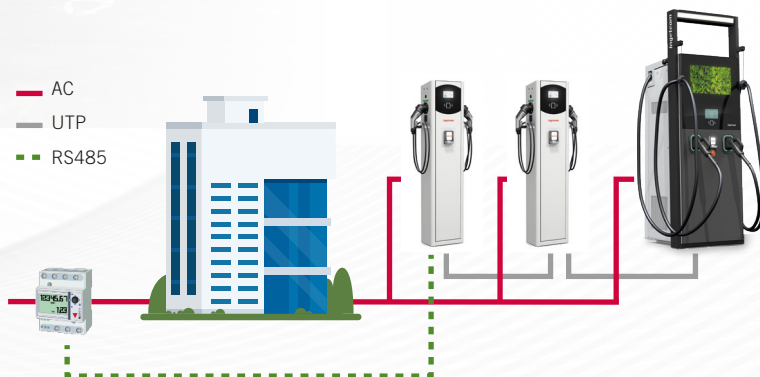
The Smart DLM **allows for the real-time dynamic adjustment of the overall power of the chargers**, which will jointly adjust their power to adapt to the other consumptions of the installation.

In this way it is possible to management the power demand and avoid or minimize the need to increase the power contracted.

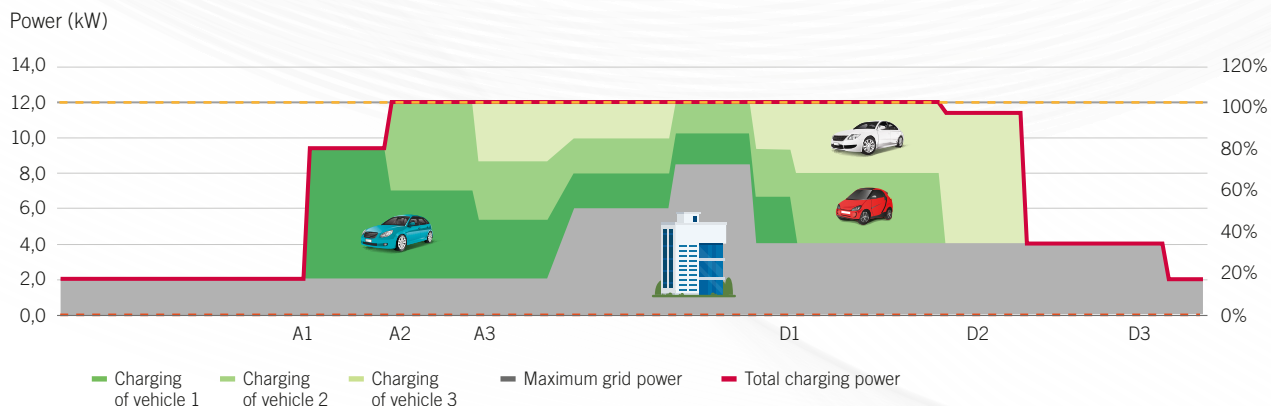
The Smart DLM system makes a continuous analysis of the power consumed by the entire installation, including the charging stations.

CHARACTERISTICS:

- Multiple charging points, either interconnected in series or at a hub.
- Set maximum power to be supplied by the grid.
- Instantaneous powers adjusted according to the number of vehicles loading and the total consumption of the installation.



Smart Dynamic Load Management



www.ingeteam.com



THE
REAL
DREAM
team

BE PART OF
THE ENERGY TRANSITION.

Ingeteam

ELECTRIFYING
A SUSTAINABLE FUTURE