



CHARGING SOLUTIONS
RANGE OF ELECTRIC VEHICLE
CHARGING STATIONS

Ingeteam

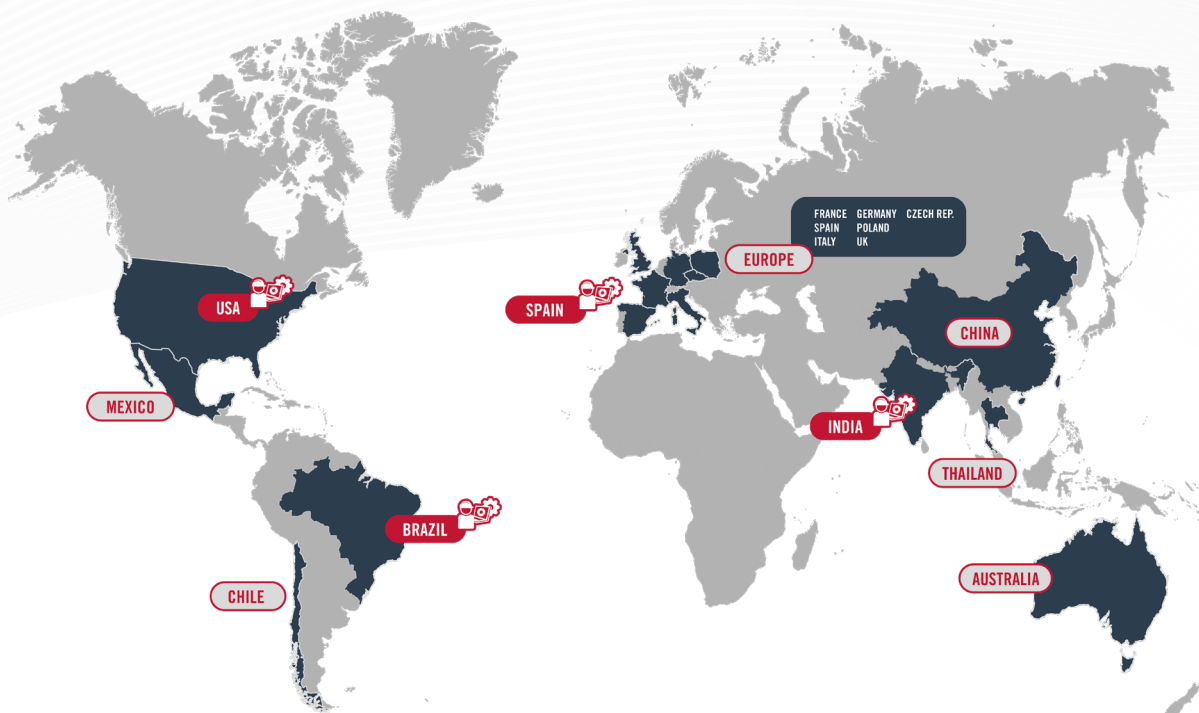
INNOVATION

at our customers' service

INGETEAM is a team of more than **3,500 people** in **15 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 **34 GW of solar photovoltaic power** with our solar inverters, over **80 GW to the wind industry** with converters and Indar generators. We have **more than 11 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 **9.9 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**.



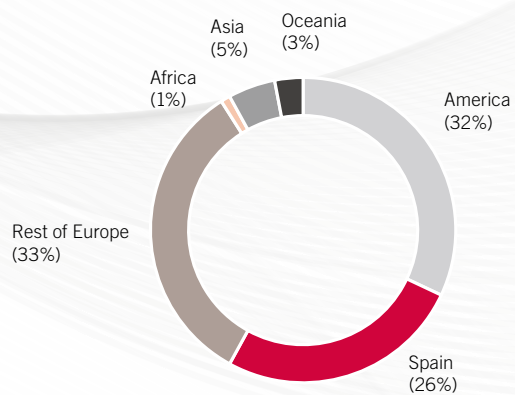
In terms of efficient consumption, it is worth highlighting the more than **32,700 charging ports for electric vehicles**, the supply of our equipment for **746 electric trains**, or for the **more than 960 ships** that are equipped with our technology, enabling an evolution towards hybrid and full electric 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 180 Series** and **RAPID 420 Series**.

SECTORS



GLOBAL SALES



FINAL DESTINATION PRODUCT / SERVICES



CHARGING STATION MODELS



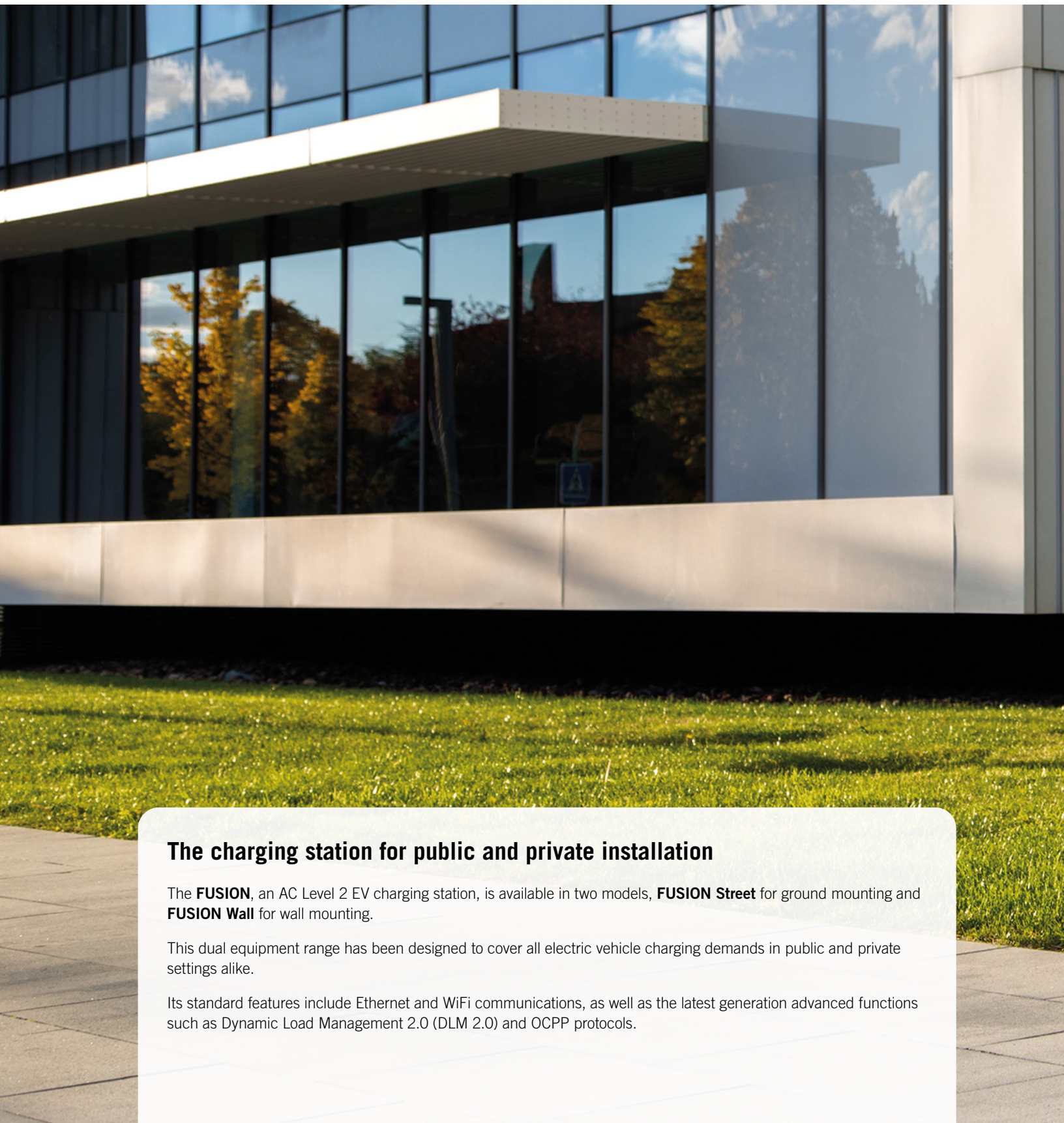
FUSION



RAPID 180 Series



RAPID 420 Series



The charging station for public and private installation

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.



FUSION

FUSION FEATURES

Functions

- Ground and wall versions, suitable for outdoor use.
- Front door for easy operation and maintenance.
- Up to 40 amps per port.
- Energy meters built-in.
- Warning message in case of power outage.
- Vinyl customization for all sides.

HMI

- RGB status LEDs.
- RFID reader.
- 4.3" color screen, multi-language.

Communications and software

- Dual Ethernet port with Switch mode.
- Wi-Fi.
- OCPP.
- DLM, static and dynamic power

management with other Ingeteam DC and AC units.

- Web Manager.
- Modbus TCP, MQTT.
- Automatic software updates.
- Update via USB.

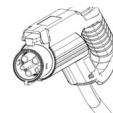
Safety

- CCID5.
- CLG.
- Security lock with key.
- Door-opening sensor.

Options

- 4G communication.
- Credit card reader.
- Smart DLM.
- Cloud Manager.

CONNECTORS



SAE J1772

Type 1 cable (20ft)



NACS

SAE J3400



FUSION

The CHARGING STATION for public and private installations

FUSION Wall

FUSION Street

AC inputs and outputs

Voltage supply	L1 + L2 + PE 208 Vac / 240 Vac $\pm$ 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 / NACS
Charging mode	Mode 3

Compliance and safety

Standards	UL 2594
Safety	CCID5, 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	FCC Part 15 Class B, NEC 625	

RAPID 180 Series

RAPID 180 SERIES FEATURES

Functions

- Highly resistant enclosure, either galvanized steel or stainless steel.
- Modular electronics.
- Retractable hose management system.
- Ambient light.
- CCS1 charges up to 180 kW.
- NACS charges up to 180 kW.
- CHAdeMO charges up to 80 kW.
- Integrated DC energy meters.
- RAPID 180 allows one power module failure without affecting uptime.

HMI

- 7" color touchscreen.
- Multi-language.
- RFID reader.
- RGB status LEDs.

Communications and software

- OCPP 1.6j and 2.0.1

- ISO 15118, Plug&Charge and Autocharge.
- MQTT, Modbus TCP.
- Ethernet, RS-485.
- Web Manager.
- DLM, static and dynamic power management with other Ingeteam DCFC and L2 units.
- Automatic software updates (remote and USB).

Safety

- Electrical protections built-in.
- Security lock with key.
- Door-opening sensor.

Options

- 21" Full HD advertising screen.
- Credit card reader.
- 4G communication.
- 8 ports Ethernet switch.
- Smart DLM.
- Cloud Manager.

CONNECTORS



CCS1 375

CCS Type 1 375 A



CCS1 200

CCS Type 1 200 A



NACS 375

SAE J3400 375 A

NACS 250

SAE J3400 250 A

CHA 200

CHAdeMO 200 A



90 1/2"

28 3/4"

30 1/2"



red**dot** winner 2022
urban design

All-In-One ultra-fast charging points

Being able to respond to current market needs is always a challenge, which requires constant transformation. In order to develop the RAPID range, at Ingeteam, we asked ourselves countless new questions, as these units had to cover not only current but also future needs in a constantly evolving sector.

Ingeteam presents the **All-In-One RAPID 180 Series for ultra-fast charging**, to match the potential of the most demanding vehicles. They have been designed to meet the highest quality and performance standards in terms of power management, communications, reliability and efficiency.

They are compatible with the CCS1, NACS and CHAdeMO standards.

	RAPID 180 Series	
	One	Duo
Connectors	1	2
Left connector type	CCS1 or NACS	CCS1 or NACS
Right connector type	CCS1 or NACS or CHAdeMO	

RAPID 180 Series

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

RAPID 60E

RAPID 90

AC input

Voltage	L1 + L2 + L3 + PE 480 Vac $\pm$ 15%	
Frequency	60 Hz $\pm$ 5%	
Rated AC current	76 A	115 A

DC output

Voltage	150 .. 1000 V	
Nominal DC current	200 A	300 A
Boost DC current	200 A	300 A
Single port maximum DC power	60 kW	90 kW
Simultaneous maximum DC power	30 kW + 30 kW	60 kW + 30 kW
Output connectors	One: CCS1 or NACS Duo: CCS1 or NACS + CCS1 or NACS or CHAdeMO	

Compliance and safety

Standards	UL 2202	
Overcurrent	Programmable MCB	
Indirect contact	RCD Type A + DC leak sensor	
Overvoltage	Protection against permanent and transient overvoltage	

Functions Accessories

Communication	Ethernet 4G (optional)	
Communication protocols	OCPP 1.6J, OCPP 2.0.1, 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	15 ft	
Energy metering	Built-in	
Operating temperature	-30 °F to 130 °F (optional kit for lower temperatures/derating from 105°F)	
Humidity	< 95 %	
Weight	890 lb	920 lb
Dimensions (height x width x depth)	90 1/2" x 30 1/2" x 28 3/4"	
Enclosure	Galvanized steel or stainless steel (optional)	
Maximum altitude	6500 ft	
Protection rating	NEMA 3R / IK10 (display IK08)	
Directives	FCC Part 15, NEC 625	

RAPID 120		RAPID 150		RAPID 180	
L1 + L2 + L3 + PE					
480 Vac ± 15%					
60 Hz ± 5%					
155 A		190 A		230 A	
150 .. 1000 V					
375 A		375 A		375 A	
400 A		500 A		500 A	
120 kW		150 kW		180 kW	
60 kW + 60 kW		90 kW + 60 kW		90 kW + 90 kW	
One: CCS1 or NACS Duo: CCS1 or NACS + CCS1 or NACS or CHAdeMO					
UL 2202					
Programmable MCB					
RCD Type A + DC leak sensor					
Protection against permanent and transient overvoltage					
Ethernet					
4G (optional)					
OCPP 1.6J, OCPP 2.0.1, 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					
15 ft					
Built-in					
-30 °F to 130 °F (optional kit for lower/higher temperatures/derating from 105°F)					
< 95 %					
950 lb		990 lb		1025 lb	
90 1/2" x 30 1/2" x 28 3/4"					
Galvanized steel or stainless steel (optional)					
6500 ft					
NEMA 3R / IK10 (display IK08)					
FCC Part 15, NEC 625					

RAPID 420 Series

RAPID 420 SERIES FEATURES

Functions

- Excellent power density standalone charger.
- Highly resistant enclosure, either galvanized steel or stainless steel.
- C-Fly System: innovative holding cable system to ensure ease of use.
- Up to 4 cables in the same charger.
- Flexibility to combine CCS1, NACS & CHAdeMO connectors.
- Simultaneous DC charging:
 - Up to two vehicles at the same time.
 - Possibility of granular split of power with increments of 60 kW.
- Integrated DC wattmeters.
- Smaller versions for 360 kW, 300 kW & 240 kW.
- Configuration focused on the ease of use for the installer.

Communications and software

- DLM, static and dynamic power management with other Ingeteam DC and AC units.

- Web Manager.
- Modbus TCP, MQTT.
- Automatic software updates.
- Update via USB.
- 31,5" Full HD advertising screen.

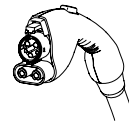
Safety

- Built-in electrical protections.
- Security lock with key.
- Door-opening sensor.

Options

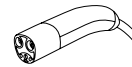
- C-Fly System. Useable length up to 5.6m (18ft 4").
- 4G communication.
- Ethernet switch kit for 8 ports.
- Credit card reader.
- Emergency button.
- Parked vehicle detector.
- Smart DLM.
- Cloud Manager.

CONNECTORS



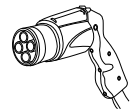
CCS1

CCS Type 1
375 A Air cooled
500 A Liquid cooled



NACS

SAE J3400
375 A Air cooled
500 A Liquid cooled



CHA

CHAdeMO 200 A





Ultra-fast charging points that allow simultaneous charging of up to two vehicles

	RAPID 420 Series			
	ONE	DUO	DUO/3	DUO/4
Connectors	1	2	2 & 1	2 & 2
Simultaneous charging		✓	✓	✓
Left side connector			NACS or CHAdeMO	NACS or CHAdeMO
Left front connector	CCS1 or NACS	CCS1 or NACS	CCS1 or NACS	CCS1 or NACS
Right front connector		CCS1 or NACS	CCS1 or NACS	CCS1 or NACS
Right side connector				NACS

RAPID 420 Series

AC INPUT

RAPID 240

RAPID 300

Voltage	L1 + L2 + L3 + PE 480 Vac ± 15%	
Frequency	50 / 60 Hz ± 5%	
Rated AC current	303 A	379 A

DC OUTPUT

Voltage	150 - 1000 V	
Nominal DC current (liquid cooled)	500 A	500 A
Nominal DC current (air cooled)	375 A	375 A
Single port maximum DC power	240 kW	300 kW
Granularity	Minimum 60 kW + increments 60 kW	Minimum 30 kW + increments 60 kW
Number of simultaneous charges	2	
Number of connectors	Up to 4 (Left side, left front, right front, right side)	
Output connectors	One: CCS1 or NACS I Duo: CCS1 or NACS + CCS1 or NACS I Duo/3: NACS or CHAdeMO + CCS1 or NACS + CCS1 or NACS I Duo/4: NACS or CHAdeMO + CCS1 or NACS + CCS1 or NACS + NACS	

REGULATIONS AND SAFETY

Standards	UL 2202*, UL 2231-1*, UL2231-2*
Overcurrent	MPCB + Fuse
Indirect contacts	RCD Type A + IMD + GFD
Overvoltages	Protection against permanent and transient overvoltage

FUNCTIONALITIES AND ACCESSORIES

Communication	Ethernet 4G (optional), Dual SIM (optional)
Communication protocols	OCPP 1.6j, OCPP 2.0.1, ISO 15118, DIN 70121
Additional protocols	MQTT, Modbus TCP, Modbus RTU
HMI	31.5" Full HD multi-language color touchscreen
Credit Card Reader	Optional
Authentication	RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)

GENERAL INFORMATION

Stand-by consumption	< 230 W	
Efficiency	95%	
Power factor	> 0.98	
Retractable power cord system	C-Fly System (optional)	
Cable length	Up to 18 ft with C-Fly System (optional)	
Energy metering	Built-in	
Operating temperature	-30 °F to 130 °F	
Humidity	< 95 %	
Weight	1600 lb	1800 lb
Dimensions (height x width x depth)	98 1/2" x 35 1/2" x 39 1/2"	
Enclosure	Galvanized steel or stainless steel (optional)	
Maximum altitude	6500 ft	
Protection rating	NEMA 3R / IK10 (display IK08) / C5H	
Directives	FCC Part 15, NEC 625	

Notes

*Pending

RAPID 360		RAPID 420	
L1 + L2 + L3 + PE			
480 Vac ± 15%			
50 / 60 Hz ±5%			
455 A		530 A	
150 - 1.000 V			
500 A		500 A	
375 A		375 A	
360 kW		420 kW	
Minimum 60 kW + increments 60 kW		Minimum 90 kW + increments 60 kW	
2			
Up to 4 (Left side, left front, right front, right side)			
One: CCS1 or NACS I Duo: CCS1 or NACS + CCS1 or NACS I Duo/3: NACS or CHAdMO + CCS1 or NACS + CCS1 or NACS I Duo/4: NACS or CHAdMO + CCS1 or NACS + CCS1 or NACS + NACS			
UL 2202*, UL 2231-1*, UL2231-2*			
MPCB + Fuse			
RCD Type A + IMD + GFD			
Protection against permanent and transient overvoltage			
Ethernet			
4G (optional), Dual SIM (optional)			
OCPP 1.6j, OCPP 2.0.1, ISO 15118, DIN 70121			
MQTT, Modbus TCP, Modbus RTU			
31.5" Full HD multi-language color touchscreen			
Optional			
RFID (MIFARE Classic 1K&4K, MIFARE DesFire EV1, NFC)			
< 230 W			
95%			
> 0.98			
C-Fly System (optional)			
Up to 18 ft with C-Fly System (optional)			
Built-in			
-30 °F to 130 °F			
< 95 %			
2000 lb		2200 lb	
98 1/2" x 35 1/2" x 39 1/2"			
Galvanized steel or stainless steel (optional)			
6500 ft			
NEMA 3R / IK10 (display IK08) / C5H			
FCC Part 15, NEC 625			

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.

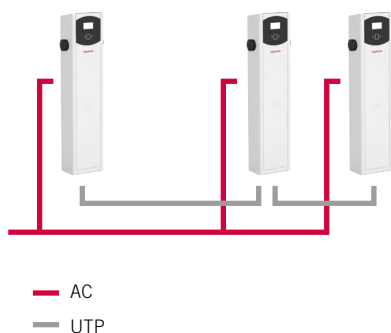
It is therefore possible to **optimize the use of the existing installation**, either through the power contracted or through any other limitation on the installation.

DLM BASICS

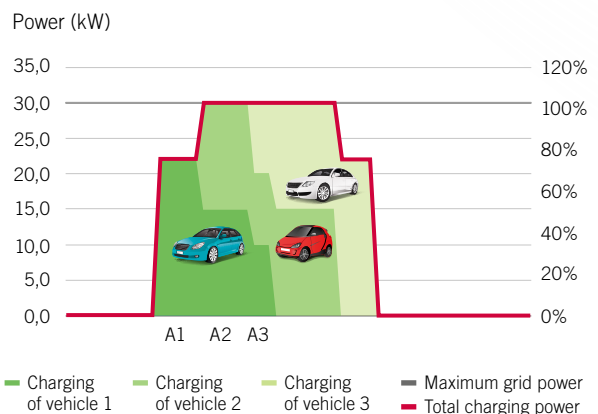
DLM 2.0 dynamically manages the power at each socket in the installation, based on the number of sockets in operation, the types of sockets or connectors used at each charging point and the current actually demanded by each vehicle. This is all evaluated in real time.

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.



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.

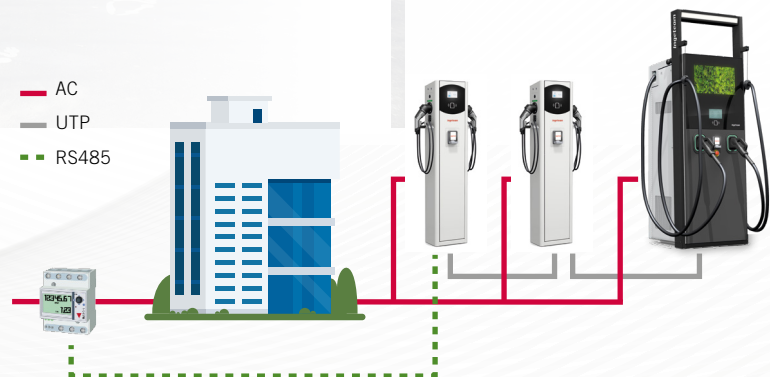
The Smart DLM **allows for the real-time dynamic adjustment of the overall power of the chargers**, which will jointly adjust their power to adapt to the other consumptions of the installation.

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

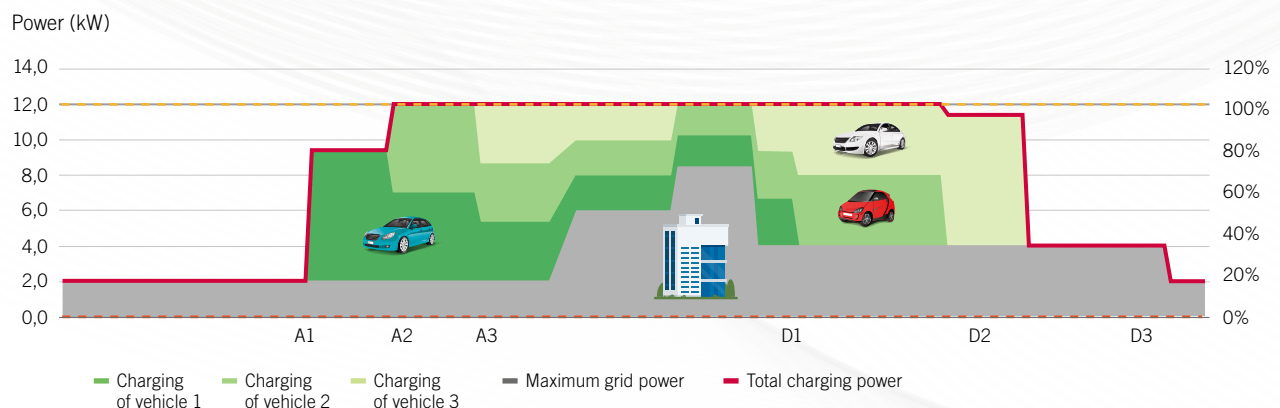
The Smart DLM system makes a continuous analysis of the power consumed by the entire installation, including the charging stations.

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



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