CHARGING SOLUTIONS FOR ELECTRIC VEHICLES

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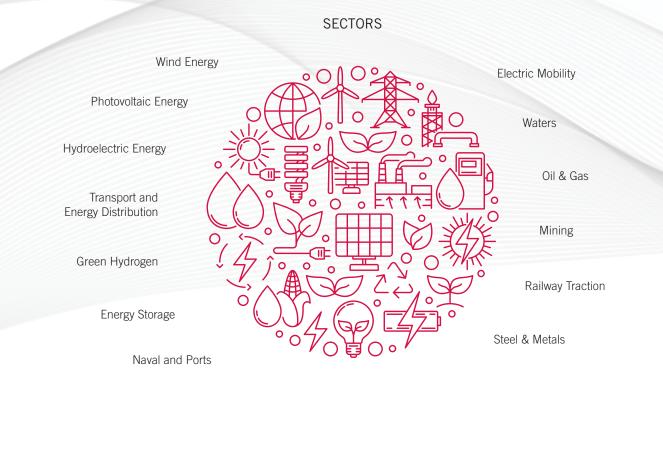
# Ingeteam

## Ingeteam

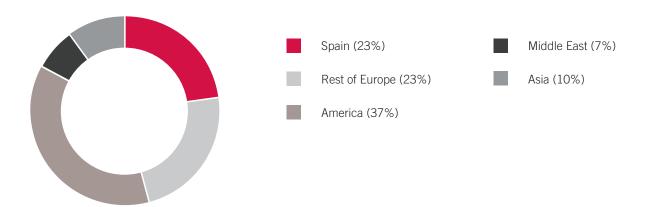
## **INNOVATION FOR OUR CUSTOMERS**

INGETEAM is an international technology group specializing in electrical energy conversion.

Its technological developments in **power and control electronics** (inverters, frequency converters, controllers and protections), Indar **rotating electrical machines** (motors, generators and motor-pump sets), **systems** (integration of electro-mechanical and automation engineering) and operation and maintenance **services**, allows it to offer solutions for the following sectors: wind, photovoltaic, hydroelectric and fossil generation, metal transformation industry, naval, railway traction, waters, electric vehicle charging, green hydrogen and electric power grids, including substations covering transport and distribution, always seeking more efficient energy generation and consumption.







## Final destination of products/services



Charging point models

**FUSION** 



RAPID 120/180







SEE OUR COMPLETE RANGE OF INGETEAM RECHARGING POINTS





## The charging point in public and private settings

The **FUSION range** is available in two versions, **FUSION Street** for installation on the ground, and **FUSION Wall** for installation on the wall.

It is the range of dual units designed to meet all the requirements of electric vehicle charging in public and private settings.

It incorporates Ethernet and Wi-Fi communications as standard, as well as advanced latest generation functions such as Dynamic Load Management 2.0 (DLM 2.0) and OCPP protocols.

	FUSION Street/Wall		
	FS1MW / FW1MW	FS3MW / FW3MW	
Grid	Single phase	Three phase	
MID wattmeter	$\checkmark$	$\checkmark$	
Manual Type A differential protection <sup>(1)</sup>	1	$\checkmark$	
Overcurrent protection (Curve C)	$\checkmark$	$\checkmark$	

#### Notes

<sup>(1)</sup> Optionally, the differentials can be Type A resettable or Type B.





## **FUSION**

## **FUSION FEATURES**

#### **Functions**

- Ground and wall versions, suitable for outdoor use.
- Front door for easy operation and maintenance.
- Single-phase and three-phase versions with up to 32 amps per socket.
- Multiple sockets available, mode 1&2 sockets, mode 3 cables and sockets.
- MID wattmeters.
- Warning message in case of power outage.
- Possible customization using vinyls on the four sides<sup>(1)</sup>.

#### HMI

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

### **Communications and software**

- Dual Ethernet port with Switch mode.

#### Notes:

<sup>(1)</sup> Large surface where vinyl can be applied. (2) 5 m optional.

- 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

- Differential protections and circuit breakers.
- Main switch for quick disconnection of the charger.
- Security lock with key.
- Door-opening sensor.

## Options

- GPRS 2G/3G/4G communication.
- Contactless bank card reader.
- DC leak detector.
- Type A self-resetting differentials or Type B differentials.
- Smart DLM.
- Cloud Manager.





N2 Socket Type 2

**S2** Type 2 socket with shutters

N4 CEE 7/3 Type F socket (Schuko)



N7 CEE 7/5 Type E socket (Schuko)

**S**5 N7 and S2



C1 Type 1 cable (4 m)<sup>(2)</sup>



C2 Type 2 cable (4 m)<sup>(2)</sup>











800 mm

1,400 mm

## **FUSION**

	FUSIO	N Street	FUSIO	N Wall
INPUTS AND OUTPUTS	Single-phase (FS1)	Three-phase (FS3)	Single-phase (FW1)	Three-phase (FW3)
Voltage	1 phase + N + PE	3 phases + N + PE	1 phase + N + PE	3 phases + N + PE
voltage	230 Vac ±15%	400 Vac ±15%	230 Vac ±15%	400 Vac ±15%
Frequency			i0 Hz	
Rated current		64 A (32	A + 32 A)	
Rated power	14.8 kW (7.4 kW + 7.4 kW)	44 kW (22 kW + 22 kW)	14.8 kW (7.4 kW + 7.4 kW)	44 kW (22 kW + 22 kW)
Charging connectors	Configurable (Ty	pe 1 and 2 cables; Type 2	sockets, CEE 7/3 Type F	, CEE 7/5 Type E)
Charging mode		Modes 1, 2 and 3 accor	rding to installed sockets	
REGULATIONS AND SAFETY				
Standards	IEC	C-61851-1, IEC-61851-21	-2, IEC-62196-2, IEC-61	000
Overcurrent		40 A Curve C circuit bre	eaker protections (10 kA)	
ndirect contacts			rential protections <sup>(1)</sup> ctor (optional)	
Overvoltages		Overvoltage pro	otection Type III	
FUNCTIONALITIES AND ACCESS	SORIES			
Communication interfaces		Ethernet (Switch GPRS - 2G/30	mode) and Wi-Fi G/4G (optional)	
Communication protocols	(	OCPP 1.6, 2.0.1, Modbus	RTU, Modbus TCP, MQT	Т
HMI	RFID	4.3" color screen, multi-language RFID reader (Mifare Classic 1K&4K, MifareDesFire EV1, NFC) Contactless bank card reader (optional)		
GENERAL INFORMATION				
		< 1	0 W	
Stand-by consumption		2 x MID w	vattmeters	
Stand-by consumption Energy measurement			vattmeters	
Stand-by consumption Energy measurement Operating temperature		2 x MID w -25 ℃ t	vattmeters	
Stand-by consumption Energy measurement Operating temperature Humidity		2 x MID w -25 ℃ t	vattmeters to 50 °C 5%	
Stand-by consumption Energy measurement Operating temperature Humidity Maximum altitude	33 kg (2 x Type 2)	2 x MID w -25 °C t <9 2,000 m (for heights abov 33 kg (2 x Type 2)	vattmeters to 50 °C 15% ve this, consult Ingeteam 24 kg (2 x Type 2)	) 24 kg (2 x Type 2)
Stand-by consumption Energy measurement Operating temperature Humidity Maximum altitude Weight	33 kg (2 x Type 2)	2 x MID w -25 °C t <9 2,000 m (for heights abov	vattmeters to 50 °C 15% ve this, consult Ingeteam 24 kg (2 x Type 2)	24 kg (2 x Type 2)
Stand-by consumption Energy measurement Operating temperature Humidity Maximum altitude Weight Dimensions (h x w x d)	33 kg (2 x Type 2)	2 x MID w -25 °C t < 9 2,000 m (for heights abov 33 kg (2 x Type 2) 1400 x 320 x 215 mm Galvanized ste	vattmeters to 50 °C 15% ve this, consult Ingeteam 24 kg (2 x Type 2) 800 x 320 x 215 mm cel I RAL 9003	24 kg (2 x Type 2)
GENERAL INFORMATION Stand-by consumption Energy measurement Operating temperature Humidity Maximum altitude Weight Dimensions (h x w x d) Enclosure Protection class	33 kg (2 x Type 2)	2 x MID w -25 °C t < 9 2,000 m (for heights abov 33 kg (2 x Type 2) 1400 x 320 x 215 mm Galvanized ste	vattmeters to 50 °C 15% ve this, consult Ingeteam 24 kg (2 x Type 2) 800 x 320 x 215 mm	
Stand-by consumption Energy measurement Operating temperature Humidity Maximum altitude Weight Dimensions (h x w x d) Enclosure	33 kg (2 x Type 2)	2 x MID w -25 °C t < 9 2,000 m (for heights abov 33 kg (2 x Type 2) 1400 x 320 x 215 mm Galvanized ste IP54 / IK	vattmeters to 50 °C 15% ve this, consult Ingeteam 24 kg (2 x Type 2) 800 x 320 x 215 mm cel I RAL 9003	24 kg (2 x Type 2)

**Notes** <sup>(1)</sup> Optionally, the differentials can be Type A resettable or Type B.









## Fast charging solutions for all types of urban and inter-urban environments. Ideal for reduced spaces.

With increasingly efficient vehicles, and with the emergence of new mobility scenarios, at Ingeteam, we have reimagined fast charging. Ingeteam presents the new range of RAPID 60 kW chargers, capable of charging a single vehicle at 60 kW or two vehicles simultaneously at 30 kW. El **new RAPID 60** is a solid and robust charger, designed to resist the most demanding conditions thanks to its construction in galvanized steel and stainless steel. The result is a compact, silent, light and elegant unit, featuring a modern design with clean lines.

The lack of rear ventilation slots means it can be installed against the wall, or with back to back with another RAPID 60. The main design premise was to achieve a silent unit, so that it could be installed in enclosed or urban spaces. It also has a cable management system (CMS) to make it easier to use. This unit is technologically ahead of its time, featuring credit card readers, parking sensors and Plug & Charge technology, not forgetting the dynamic load management between the unit's outputs, between multiple DC and AC units, as well as dynamic balancing with the installation's remaining loads.

	One	RAPI	D 60 Duo	Trio
Connectors	1	2	2	3
Simultaneous charging	$\checkmark$	1	$\checkmark$	$\checkmark$
Connector type	CCS	CCS + AC T2S	CCS + CCS CCS + CHAdeMO	CCS + CCS + AC T2S CCS + CHAdeMO + AC T2S



## **RAPID 60 IN DATA**

## Functions

- Highly resistant enclosure, either galvanized steel or stainless steel.
- No ventilation slots on the back, can be installed against the wall or two units back to back.
- Can be positioned with a crane and pallet truck.
- Cable management system (CMS).
- Simultaneous AC and DC charging:
- DC: DC charging at 60 kW. Dual charging at 30 kW.
- · AC: 22 kW.
- Integrated DC wattmeters.
- AC MID wattmeter.

#### HMI

- RGB status LEDs on supports and 360° ring.
- RFID reader.
- 10.1" color touchscreen, multilanguage.

### **Communications and software**

- Dual Ethernet port with Switch mode.
- RS485.

- OCPP, Autocharge, Plug & Charge.
- 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

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

#### Options

- GPRS 2G/3G/4G communication.
- Ethernet switch kit for 8 ports.
- Contactless bank card reader.
- Emergency button.
- Connector locking system.
- Parked vehicle detector.
- Self-resetting differentials.
- Smart DLM.
- Cloud Manager.

## CONNECTORS



**CCS1 150** CCS Type 1 150 A

**CCS2 150** CCS Type 2 150 A

Cha125 ChadeMO 125 A

NACS





1,950 mm



	RAPID 60 One	RAPID 60 One+	RAPID 60 Duo	RAPID 60 Trio
AC INPUT		" 3 phases +	N + PE	"
Voltage		380/400 Va		
Frequency		50/60 Hz	z ±5%	
Rated current	96 A	128 A (96 A + 32 A)	96 A	128 A (96 A + 32 A)
Rated power	60 kW	82 kW (60 kW + 22 kW)	60 kW	82 kW (60 kW + 22 kW
DC OUTPUT				
/oltage range		150 - 10	V 000	
Maximum current	150 A	150 A	200 A (10	00 A + 100 A)
Aaximum power	60 kW	60 kW		) kW + 30 kW)
Charging connectors	CCS	CCS	CCS + CCS CCS + CHAdeMO	CCS + CCS CCS + CHAdeMO
AC OUTPUT (OPTIONAL)				
/oltage	-	230/400 Vac ±15%	-	230/400 Vac ±15%
Aaximum current	-	32 A	-	32 A
laximum power	-	22 kW	-	22 kW
Charging connectors	-	Type 2 socket with shutters	-	Type 2 socket with shutters
REGULATIONS AND SAFETY				
tandards		EC 61851-1, IEC 61851-21-2, I EC 62196-2, IEC 62196-3, IEC 6		
Dvercurrent		Curve C circuit breaker	protections (20 kA)	
ndirect contacts <sup>(1)</sup>		30 mA differential protections <sup>(2</sup>	2)	30 mA (DC) differentia protections <sup>(2)</sup> 30 mA type B (AC) differential protection
Overvoltages	Type 2 prote	ection against permanent and tr and out		oth on DC inputs
UNCTIONALITIES AND ACCESSOF	RIES			
		witch mode), RS485, GPRS - 2	G/3G/4G (optional), du	al SIM (optional)
Communication interfaces		witch mode), RS485, GPRS - 2 OCPP 1.6, 2.0.1, Modbus R		
Communication interfaces Communication protocols	Ethernet (S		TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs	T
Communication interfaces Communication protocols	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional)	T
Communication interfaces Communication protocols IMI Ilug & Charge (ISO15118)	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional)	T
Communication interfaces Communication protocols IMI Ilug & Charge (ISO15118) CENERAL INFORMATION	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional)	T
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) CENERAL INFORMATION Retand-by consumption	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W	T
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) CENERAL INFORMATION Extand-by consumption Efficiency and power factor	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W	T
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) CENERAL INFORMATION CENERAL INFORMATION Charge and power factor Chargy measurement	Ethernet (S	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w	AC (MID) and DC meter <sup>(3)</sup>
Communication interfaces Communication protocols IMI Plug & Charge (ISO15118) CENERAL INFORMATION EENERAL INFORMATION fficiency and power factor Energy measurement lose length	Ethernet (S R 5 m (4.	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w power; > 0.98	AC (MID) and DC meter <sup>(3)</sup> MS) included
Communication interfaces Communication protocols AMI Plug & Charge (ISO15118) CENERAL INFORMATION tand-by consumption fficiency and power factor nergy measurement lose length Operating temperature	Ethernet (S R 5 m (4.	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter 4 m usable length) with cable m	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 GGB LEDs d reader (optional) W w w w w w management system (Cl w temperature kit at -3	AC (MID) and DC meter <sup>(3)</sup> MS) included
Communication interfaces Communication protocols AMI Plug & Charge (ISO15118) CENERAL INFORMATION tand-by consumption fficiency and power factor inergy measurement Hose length Operating temperature Humidity	Ethernet (S R 5 m (4.	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank carr Yes < 70	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 (GB LEDs d reader (optional) W w power; > 0.98 hanagement system (Cl w temperature kit at -3 %	AC (MID) and DC meter <sup>(3)</sup> MS) included
Communication interfaces Communication protocols IMI Plug & Charge (ISO15118) CENERAL INFORMATION tand-by consumption fficiency and power factor nergy measurement Hose length Operating temperature Humidity Maximum altitude	Ethernet (S R 5 m (4.	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 (GB LEDs d reader (optional) W w power; > 0.98 hanagement system (Cl w temperature kit at -3 %	AC (MID) and DC meter <sup>(3)</sup> MS) included
Communication interfaces Communication protocols AMI Plug & Charge (ISO15118) CENERAL INFORMATION Catand-by consumption Efficiency and power factor Caterogy measurement Aose length Operating temperature Aumidity Maximum altitude Veight	Ethernet (S R 5 m (4. -25 ℃ to	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w power; > 0.98 nanagement system (CI w temperature kit at -3 % des, consult Ingeteam) 160 kg	AC (MID) and DC meter <sup>(3)</sup> MS) included 5 °C (optional)
Communication interfaces Communication protocols AMI Plug & Charge (ISO15118) CENERAL INFORMATION Consumption Efficiency and power factor Chergy measurement Aose length Operating temperature Aumidity Maximum altitude Veight Dimensions (h x w x d)	Ethernet (S R 5 m (4. -25 ℃ to	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter 4 m usable length) with cable m 55 °C (derating from 40 °C) I Lo < 95' 2,000 m (for higher altitud 145 kg 1950 x 760 × Galvanized steel (stainless s	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w bower; > 0.98 management system (Cl w temperature kit at -3 % des, consult Ingeteam) 160 kg < 335 mm teel optional)   RAL 900	AC (MID) and DC meter <sup>(3)</sup> MS) included 5 °C (optional) 165 kg
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) GENERAL INFORMATION Stand-by consumption Efficiency and power factor Energy measurement Hose length Operating temperature Humidity Maximum altitude Veight Dimensions (h x w x d) Enclosure	Ethernet (S R 5 m (4. -25 ℃ to	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter 4 m usable length) with cable m 55 °C (derating from 40 °C) I Lo < 95' 2,000 m (for higher altitud 145 kg 1950 x 760 >	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w bower; > 0.98 management system (Cl w temperature kit at -3 % des, consult Ingeteam) 160 kg < 335 mm teel optional)   RAL 900	AC (MID) and DC meter <sup>(3)</sup> MS) included 5 °C (optional) 165 kg
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) GENERAL INFORMATION Stand-by consumption Efficiency and power factor Energy measurement Hose length Operating temperature Humidity Maximum altitude Veight Dimensions (h x w x d) Enclosure Protection class /entilation system	Ethernet (S R 5 m (4. -25 ℃ to	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter 4 m usable length) with cable m 55 °C (derating from 40 °C) I Lo < 95' 2,000 m (for higher altitud 145 kg 1950 x 760 × Galvanized steel (stainless s IP54 / IK10 Side air ver	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w bower; > 0.98 management system (CI w temperature kit at -3 % des, consult Ingeteam) 160 kg < 335 mm teel optional) I RAL 900 D / C5H ntilation	AC (MID) and DC meter <sup>(3)</sup> MS) included 5 °C (optional) 165 kg
Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) GENERAL INFORMATION Stand-by consumption Efficiency and power factor Energy measurement Hose length Operating temperature Humidity Maximum altitude Veight Dimensions (h x w x d) Enclosure Protection class Ventilation system Sound level	Ethernet (S R 5 m (4. -25 ℃ to	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes 270  95% at rated p   DC meter   4 m usable length) with cable m   55 °C (derating from 40 °C) I Lo   2,000 m (for higher altitud   145 kg   1950 x 760 >   Galvanized steel (stainless s   IP54 / IK10  Side air ver     50 (Side air ver	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w bower; > 0.98 management system (CI w temperature kit at -3 % des, consult Ingeteam) 160 kg < 335 mm teel optional) I RAL 900 D / C5H ntilation	AC (MID) and DC meter <sup>(3)</sup> MS) included 5 °C (optional) 165 kg
FUNCTIONALITIES AND ACCESSOR Communication interfaces Communication protocols HMI Plug & Charge (ISO15118) GENERAL INFORMATION Stand-by consumption Efficiency and power factor Energy measurement Hose length Operating temperature Humidity Maximum altitude Veight Dimensions (h x w x d) Enclosure Protection class /entilation system Sound level Markings	Ethernet (S R 5 m (4. -25 ℃ to 140 kg	OCPP 1.6, 2.0.1, Modbus R 10.1" color touchscre FID reader (Mifare Classic 1K& 360° status F Contactless bank card Yes < 70 > 95% at rated p DC meter 4 m usable length) with cable m 55 °C (derating from 40 °C) I Lo < 95' 2,000 m (for higher altitud 145 kg 1950 x 760 × Galvanized steel (stainless s IP54 / IK10 Side air ver	TU, Modbus TCP, MQT en, multi-language 4K, Mifare DesFire EV1 RGB LEDs d reader (optional) W w bower; > 0.98 hanagement system (CI w temperature kit at -3 % des, consult Ingeteam) 160 kg < 335 mm teel optional) I RAL 900 0 / C5H ntilation dB	T , NFC) AC (MID) and DC meter <sup>(3)</sup> MS) included (5 °C (optional) 165 kg

## Notes

<sup>(1)</sup> Manual or resettable protection depending on the model.
 <sup>(2)</sup> Protection type A or type B depending on the model.
 <sup>(3)</sup> MID French market certification and Eichrecht certification in development.

## Ultra-fast charging points that allow up to three vehicles to be charged simultaneously

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

Ingeteam presents the new range of **RAPID 120 kW and 180 kW chargers 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 CCS and CHAdeMO standards. The Trio models also incorporate a 22 kW Type 2 socket for alternating current charging, allowing up to three vehicles to be charged simultaneously. Moreover, they feature power management between the different outputs on the unit, or between various units in one installation.

ſ		RAPID 12	0 / 180	
	One	One+	Duo	Trio
Connectors	1	2	2	3
Simultaneous charging	$\checkmark$	$\checkmark$	1	$\checkmark$
Connector type	CCS	CCS + AC T2S	CCS + CCS CCS + CHAdeMO	CCS + CCS + AC CCS + CHAdeMO + AC



## **RAPID 120/180 FEATURES**

## **Functions**

- Highly resistant enclosure made of stainless steel.
- Modular electronics. The 120 kW units can be expanded to 180 kW.
- Cable management system (CMS).
- Ambient light.
- Simultaneous AC and DC charging:
  - · DC: DC charging at 180 kW. Dual charging at 90 kW. CHAdeMO up to 80 kW.
  - · AC: 22 kW.
- Integrated DC wattmeters.
- AC MID wattmeters.

## HMI

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

## **Communications and software**

- Ethernet, RS485.
- OCPP, Autocharge, Plug & Charge.
- 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

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

## Options

- GPRS 2G/3G/4G communication.
- Ethernet switch kit for 8 ports.
- Contactless bank card reader.
- Emergency button.
- 21" Full HD advertising screen.
- Connector locking system.
- Parked vehicle detector.
- Smart DLM.
- Cloud Manager.



CCS1 200 CCS Type 1 200 A

CCS2 250 CCS Type 2 250 A

**CHA200** CHAdeMO 200 A





AC 22 kW Type 2 socket with shutters



2,300 mm

NACS



TOTAL I LINE	

	RAPID 120	RAPID 180
AC INPUT		
Voltage	3 phases + N + PE; 380	)/400 Vac ±15%
Frequency	50/60 Hz ±	
Rated current	222 A (190 A + 32 A)	312 A (280 A + 32 A)
Rated power	142 A (120 kW + 22 kW)	202 A (180 kW + 22 kW)
DC OUTPUT		
Voltage range	150 - 1,00	V C
Maximum current	400 A (200 + 200 A)   1 x 500 A @boost 50	0 A (250 + 250 A)   1 x 500 A @boos
Maximum power	120 kW (60 + 60 kW)	180 kW (90 + 90 kW)
Charging connectors	CCS   CCS + CCS   CC	CS + CHAdeMO
AC OUTPUT (OPTIONAL)		
Voltage	400 Vac ±1	5%
Maximum current	32 A	
Maximum power	22 kW	
Charging connectors	Type 2 socket wit	n shutters
REGULATIONS AND SAFETY		
Standards	IEC 61851-1, IEC 61851-21-2, IEC IEC 62196-2, IEC 62196-3, IEC 610	61851-23, IEC 61851-24,
Overcurrent	Curve C circuit breaker pi	
Indirect contacts	30 mA Type A (DC) differ	
	30 mA Type B (AC) differ Type 2 protection against permanent and transi	
Overvoltages	outputs	
FUNCTIONALITIES AND ACCESSORIES		
Communication interfaces	Ethernet, RS GPRS - 2G/3G/4G (optional)	
Communication protocols	OCPP 1.6, 2.0.1, Modbus RTU	
	7" color touchscreen,	
HMI	RFID reader (Mifare Classic 1K&4K RGB status I	,
	Contactless bank card r	
Advertising screen	21" Full HD (o	
Plug & Charge	Yes	
GENERAL INFORMATION		
Stand-by consumption	< 60 W	< 85 W
Efficiency and power factor	> 95% at rated pov	ver; > 0.98
Energy measurement	AC (MID) and DO	
Hose length	6.5 m (4,6 m usable length) with cable ma	nagement system (CMS) included <sup>(2)</sup>
Operating temperature	-25 °C to 55 °C (derating from 40 °C)   Low	
Humidity	< 95%	
Maximum altitude	2,000 m (for higher altitude:	s, consult Ingeteam)
Weight	380 kg	420 kg
Dimensions (h x w x d)	2300 x 774 x 7	30 mm
Enclosure	Stainless steel and	aluminum
Protection class	IP54 / IK10 (IK08 di	splay) / C5H
Markings	CE	
	Low Voltago Directive, 2014/25/ELL	EMC Directive, 2014/20/ELLI

Notes

Directives

<sup>(1)</sup> MID certification (optional) and Eichrecht certification in process.
 <sup>(2)</sup> Optional 10 m without cable management system (CMS).

Low Voltage Directive: 2014/35/EU | EMC Directive: 2014/30/EU | RED Directive 2014/53/EU





The ultra-fast charging station Ultra-fast charging stations are a key element for electric mobility to take off fully.

Ingeteam's solution for ultra-fast charging stations is based on a new DC distribution architecture, which allows maximum simplification of the installation and easy integration of storage and photovoltaic energy.

It brings together all the advantages of latest generation SiC electronics with a very compact size, as well as excellent efficiency and reliability.

RAPID ST200 and ST400 are the ideal ultra-fast 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 electric vehicle.





	RAF	PID ST 200	RA	PID ST 400
	ONE	DUO	ONE	DUO
Connectors	1	2	1	2
Simultaneous charging		$\checkmark$		$\checkmark$
Connector type	CCS	CCS + CCS CCS + CHAdeMO	CCS	CCS + CCS CCS + CHAdeMO

## **RAPID** ST

## **RAPID ST FEATURES**

### Functions

- Ultra-fast charging in CCS, up to 400 kW.
- Ultra-fast charging in CHAdeMO up to 100 kW.
- Cable management system (CMS).
- Ambient light.
- Integrated DC wattmeter.
- Simplicity and efficiency in the integration of storage systems.

## HMI

- RFID reader.
- 7" color touchscreen, multi-language.

## **Communications and software**

- Ethernet, RS485.
- OCPP, Autocharge, Plug & Charge.
- 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

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

#### Maintenance

- Ventilation filter accessible from the outside without internal manipulation.
- IP2x accessible control area.

## Options

- GPRS 2G/3G/4G communication.
- Ethernet switch kit for 8 ports.
- Contactless bank card reader.
- 21" Full HD advertising screen.
- Complete supply of the transformation center.
- Smart DLM.
- Cloud Manager.
- Refrigerated cable.

## CONNECTORS



**CCS2 300/500** CCS Type 2 300 or 500 A

CHA200 CHAdeMO 200 A

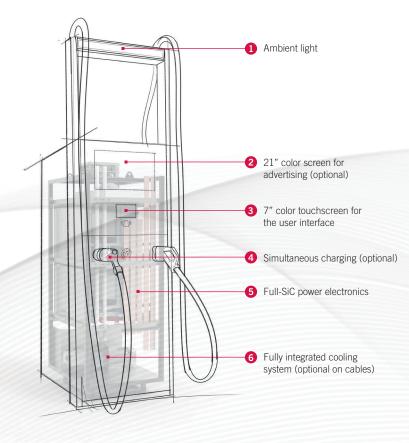




	СНАБ	RGING SATELLITES	
	RAPID ST200	RAPID ST400	
DC INPUT			
Rated current	301 A	602 A	
Rated voltage	700 V	700 V	
DC OUTPUT			
Voltage range	5	0 - 1,000 Vdc	
Maximum current	312 A to 500 Vdc 200 A to 1.000 Vdc	500 A to 500 Vdc, 400 A to 1,000 Vdc	
Maximum power	200 kW	400 kW	
Charging connectors	CCS   CCS +	CCS I CCS + CHAdeMO	
REGULATIONS AND SAFETY			
Standards	IEC 61851-1, IEC 61851 IEC 62196-2, IEC 62196-	-21-2, IEC 61851-23, IEC 61851-24 -3, IEC 61000, DIN70121, ISO15118	
ndirect contacts		ous insulation monitoring ferential protection	
Overvoltages	Overvoltage category	y: III (according to IEC 60664-1)	
FUNCTIONALITIES AND ACCESSORIES			
Communication interfaces		hernet, RS485 (optional), dual SIM (optional)	
Communication protocols		odbus RTU, Modbus TCP, MQTT	
HMI	7" color touc RFID reader (Mifare Class	7" color touchscreen, multi-language RFID reader (Mifare Classic 1K&4K, Mifare DesFire EV1, NFC) Contactless bank card reader (optional)	
Advertising screen		Full HD (optional)	
Plug & Charge		Yes	
GENERAL INFORMATION			
Auxiliary supply	3 phases	s + N; 400 Vac ±10%	
Stand-by consumption		300 W	
Efficiency and power factor	> 95% at	t rated power; > 0.98	
Energy measurement		DC meter	
Hose length		nagement system (CMS) included	
Operating temperature	-20 °C to 55 °C (derating from 40	°C)   Low temperature kit at -35 °C (optional) < 95%	
Humidity Maximum altitude	2 000 m (for high	< 95% er altitudes, consult Ingeteam)	
Weight	530 kg	630 kg	
Dimensions (h x w x d)	0	x 791 x 1,130 mm	
		alvanized steel	
Protection class		0 (IK08 display) / C5H	
Cooling system		cooling (optional in cables)	
Markings		CE	
0	Low Voltage Directive: 201	4/35/EU   EMC Directive: 2014/30/EU	



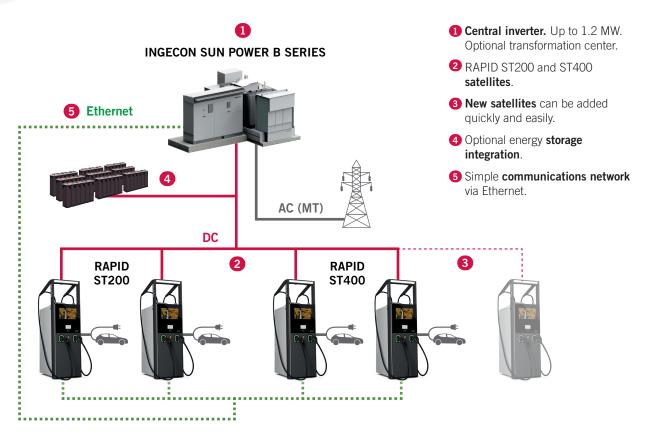
## RAPID ST



## Advantages of the DC bus architecture

- Up to 120 meters of distance between the central inverter and the satellites, free and clear charging area.
- Half of the installation footprint of other architectures.
- Cooling integrated in all elements, allowing maximum simplification of the installation.
- Scalability, allowing easy implementation of expansions by connecting new satellites to the DC bus.
- Flexible power balancing (DLM) between all satellites.
- All satellites can always be charged simultaneously without having to sacrifice power modules in order to divert that energy to another satellite with greater demand.
- ST200 satellites can be updated to ST400 just by adding a new power module.

## **INSTALLATION DIAGRAM**





AC INPUT	1110TL B400
Power @35 °C / @50 °C	1,020 kVA
Current @35 °C / @50 °C	1600 A / 1472 A
Rated voltage	3P 400 V IT System
Frequency	50 / 60 Hz
Adjustable power factor	Yes, 0-1 (leading /lagging)
THD (Total Harmonic Distortion)	< 3%
Overvoltage protection	Type II surge arresters
AC switch	AC thermomagnetic switch with door control, remote or motorized trip
STORAGE	
Battery voltage range	580 V - 780 V
DIMENSIONS AND WEIGHT	
Dimensions (W $x$ D $x$ H)	2820 x 825 x 2,270 mm
Weight	1560 kg

#### GENERAL DATA

Operating temperature Relative humidity (without condensation) Protection class Protection against corrosion

Maximum altitude

Product marking

CENTRAL INVERTER

## INSTALLATION

-20 °C to +60 °C

0 - 100% IP54 / IK10 (IK08 display and ventilation grilles) C5H 4,500 m (for installations above 1,000 m, please contact the sales department) CE









## Maximum use of the available power

**Dynamic Load Management 2.0 (DLM 2.0)** is the latest generation of the dynamic load management system incorporated as standard in all FUSION and RAPID models.

DLM 2.0 allows all sockets on each charging point to share the total power defined on the equipment in the most balanced and dynamic way possible, also allowing a set of units to be interconnected, defining a maximum power for them all so that they never exceed the assigned threshold, regardless of the number of vehicles charging simultaneously.

This means we can **optimize the use of the existing installation**, either due to contracted power or any other limitation of the installation.

## GENERAL OPERATION

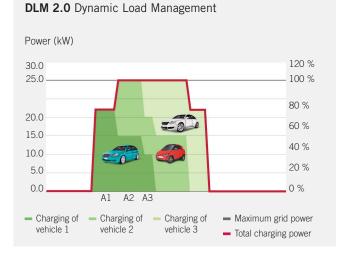
**DLM 2.0 dynamically manages the load of each socket in the installation**, depending on the number of vehicles that are charging, the types of socket or connector used and the actual current required by each vehicle, evaluating all of this in real time.

It is dynamic and versatile, as if one of the vehicles does not use all of the assigned current, that unconsumed current is redistributed to the other vehicles that are connected for better use of the available power.

It is possible to combine alternating and direct current points in the same group of charging points.

## **DLM 2.0 FEATURES**

- Multiple units interconnected, in series or in a hub.
- Maximum power of the fixed charging installation.
- Instantaneous charging powers adjusted according to the number of vehicles charging and their consumption.



# SMART DLM 2.0

## **Smart power**

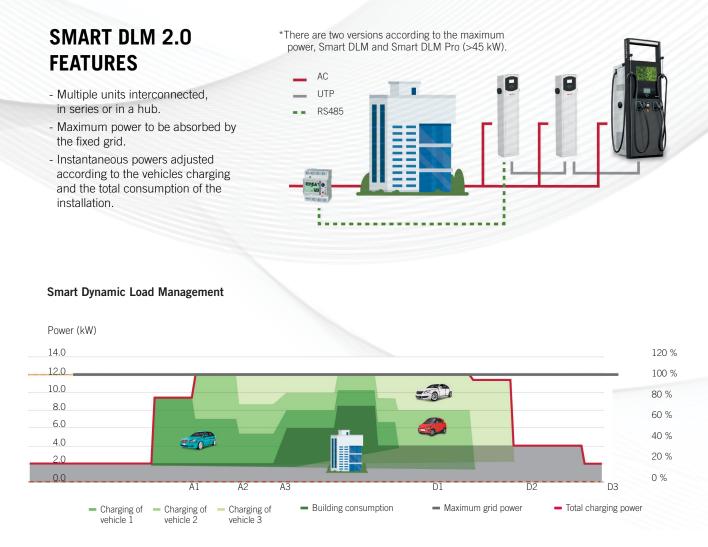
Smart DLM is the latest evolution of the DLM 2.0 system for smart and dynamic management of the power in an installation that, in addition to chargers, is made up of other loads, such as those of an office or industry.

It consists of a grid analyzer, installed at the point to be managed and connected to a unit. All FUSION and RAPID models are compatible with Smart DLM and they can even be combined.

Smart DLM allows the overall power of the chargers to be modified in real time and dynamically, which will regulate their power as a whole, adapting to the other consumers in the installation.

This means that we can manage the power demand and avoid or minimize the need to increase the contracted power.

The Smart DLM system analyzes the power consumed by the entire installation at all times, including charging points.



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