

# RAPID ST



## The ultra-fast charging station

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

Ingteam'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.



|                       | RAPID ST 200 |                            | RAPID ST 400 |                            |
|-----------------------|--------------|----------------------------|--------------|----------------------------|
|                       | ONE          | DUO                        | ONE          | DUO                        |
| Connectors            | 1            | 2                          | 1            | 2                          |
| Simultaneous charging |              | ✓                          |              | ✓                          |
| Connector type        | CCS          | CCS + CCS<br>CCS + CHAdeMO | CCS          | CCS + CCS<br>CCS + CHAdeMO |

## RAPID ST FEATURES

### Functions

- Ultra-fast charging in CCS, up to 400 kW.
- Ultra-fast charging in CHAdeMO up to 100 kW.
- Retractable hose management system.
- 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.

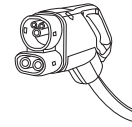
### Maintenance

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

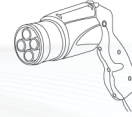
### Options

- 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.

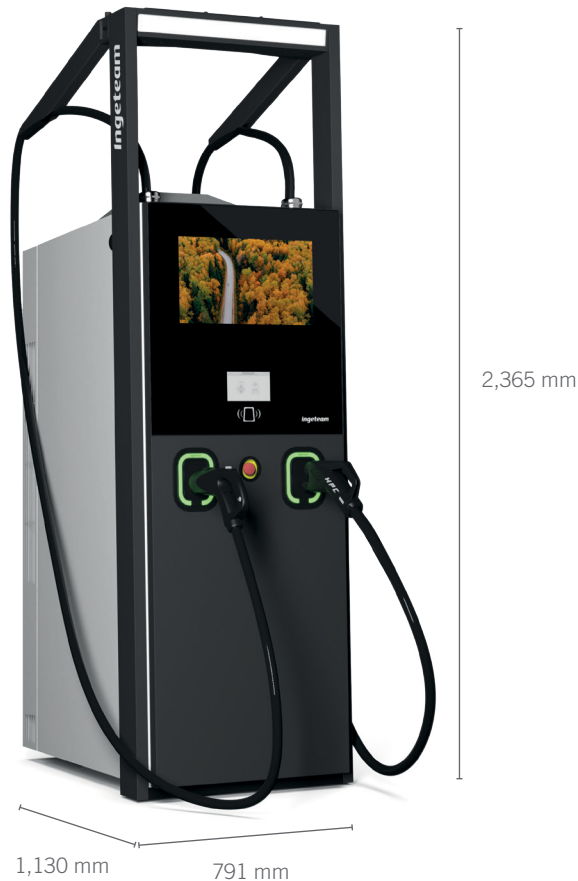
## CONNECTORS



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



**CHA200**  
CHAdeMO 200 A



**CHARGING SATELLITES**
**RAPID ST200**
**RAPID ST400**
**DC INPUT**

|               |       |       |
|---------------|-------|-------|
| Rated current | 301 A | 602 A |
| Rated voltage | 700 V | 700 V |

**DC OUTPUT**

|                     |                                 |   |
|---------------------|---------------------------------|---|
| Voltage range       | 50 - 1,000 Vdc                  |   |
| Maximum current     | 200 A to 1,000 Vdc              | 500 A to 500 Vdc,<br>400 A to 1,000 Vdc |
| Maximum power       | 200 kW                          | 400 kW                                  |
| Charging connectors | CCS I CCS + CCS I CCS + CHAdeMO |   |

**REGULATIONS AND SAFETY**

|                   |  |
|-------------------|--|
| Standards         | IEC 61851-1, IEC 61851-21-2, IEC 61851-23, IEC 61851-24<br>IEC 62196-2, IEC 62196-3, IEC 61000, DIN70121, ISO15118 |
| Indirect contacts | DC: continuous insulation monitoring<br>AC: differential protection  |
| Overvoltages      | Overvoltage category: III (according to IEC 60664-1)   |

**FUNCTIONALITIES AND ACCESSORIES**

|                          |  |
|--------------------------|--|
| Communication interfaces | Ethernet, RS485<br>GPRS - 2G/3G/4G (optional), dual SIM (optional)   |
| Communication protocols  | OCPP 1.6, 2.0.1, Modbus RTU, Modbus TCP, MQTT  |
| HMI                      | 7" color touchscreen, multi-language<br>RFID reader (Mifare Classic 1K&4K, Mifare DesFire EV1, NFC)<br>Contactless bank card reader (optional) |
| Advertising screen       | 21" Full HD (optional)   |
| Plug & Charge            | Yes  |

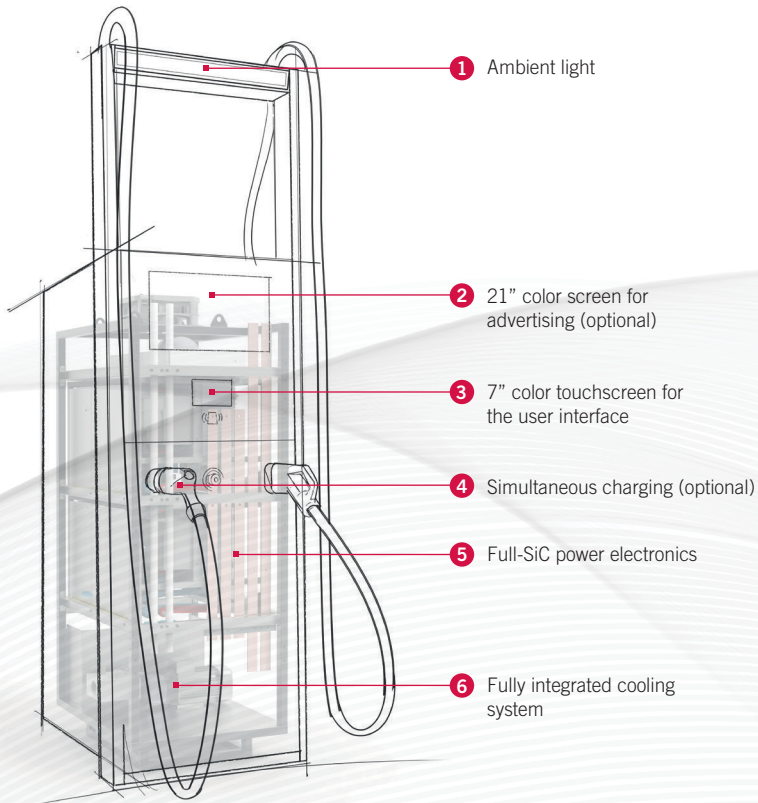
**GENERAL INFORMATION**

|                             |  |        |
|-----------------------------|--|--------|
| Auxiliary supply            | 3 phases + N; 400 Vac $\pm$ 10%  |        |
| Stand-by consumption        | 300 W  |        |
| Efficiency and power factor | > 95% at rated power; > 0.98   |        |
| Energy measurement          | DC meter   |        |
| Hose length                 | 4.8 m with retractable system included   |        |
| Operating temperature       | -25 °C to 55 °C (derating from 40 °C)   Low temperature kit at -35 °C (optional) |        |
| Humidity                    | < 95%  |        |
| Maximum altitude            | 2,000 m (for higher altitudes, consult Ingeteam)                                 |        |
| Weight                      | 530 kg   | 630 kg |
| Dimensions (h x w x d)      | 2365 x 791 x 1,130 mm  |        |
| Enclosure                   | Galvanized steel   |        |
| Protection class            | IP55 / IK10 (IK08 display) / C5H   |        |
| Cooling system              | Liquid cooling delivered   |        |
| Markings                    | CE   |        |

**Directives**

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

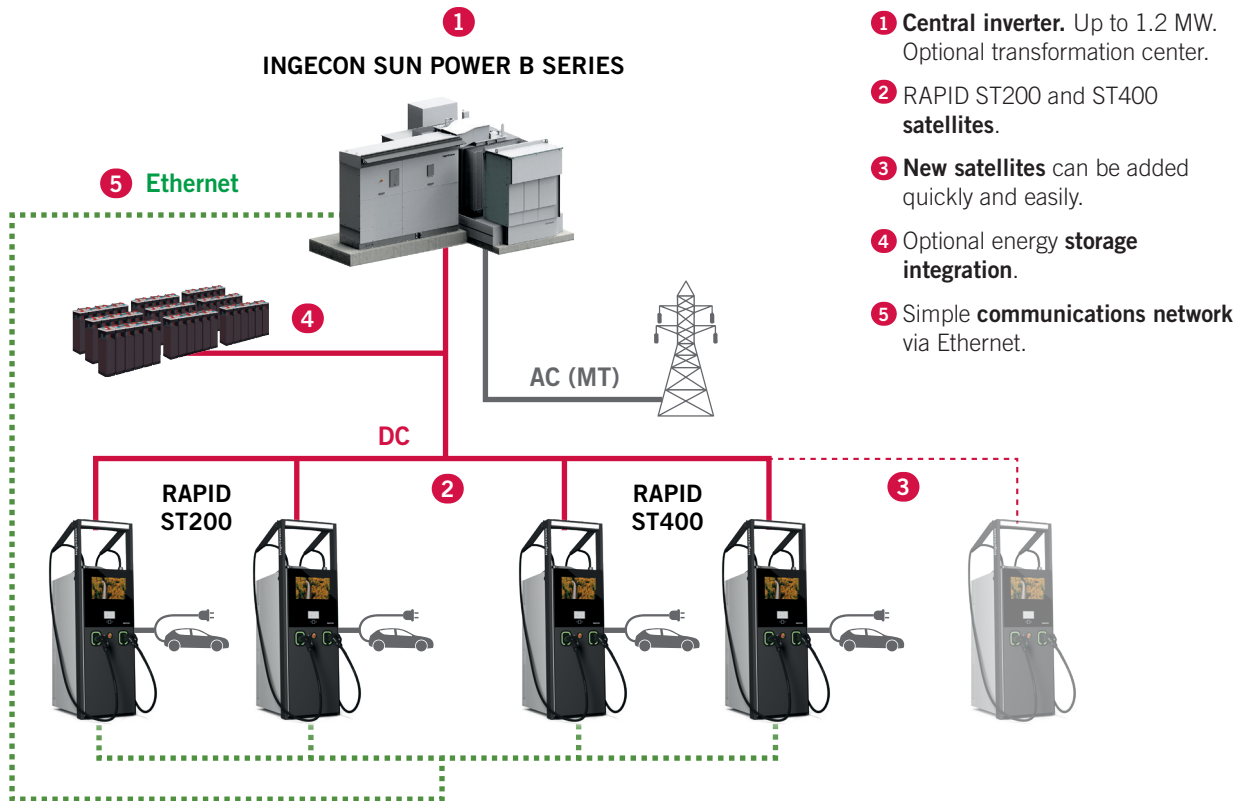




**Advantages of the DC bus architecture**

- 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**



- 1 Central inverter.** Up to 1.2 MW. Optional transformation center.
- 2 RAPID ST200 and ST400 satellites.**
- 3 New satellites** can be added quickly and easily.
- 4 Optional energy storage integration.**
- 5 Simple communications network** via Ethernet.

**CENTRAL INVERTER**
**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 | 580-820 V |
|-----------------------|-----------|

**DIMENSIONS AND WEIGHT**

|                        |                       |
|------------------------|-----------------------|
| Dimensions (W x D x H) | 2820 x 825 x 2,270 mm |
| Weight                 | 1560 kg               |

**GENERAL DATA**
**INSTALLATION**

|  |  |
|--|--|
| Operating temperature                    | -20 °C to +60 °C   |
| Relative humidity (without condensation) | 0 - 100%   |
| Protection class                         | IP54 / IK10 (IK08 display and ventilation grilles)                             |
| Protection against corrosion             | C5H  |
| Maximum altitude                         | 4,500 m (for installations above 1,000 m, please contact the sales department) |
| Product marking                          | CE   |

