

## QC 20 - Quick Charger

### Overview

Efacec has long experience in power electronics design and industrial product manufacturing which allows us to successfully make our own product development and engineering.

Currently Efacec EV charging family has 3 product lines, Home Charging, Normal Public Charging and Fast Charging. Efacec has started the EV charging program in 2008 developing solutions and products for the different EV charging market segments.

In the Quick Charging product line Efacec, by being a member of CHAdeMO association, was one of the first companies to obtain the certification for its DC Quick Charger, and also within the first to be Combined Charging System compliant.

Efacec's search and development for new solutions is in continuous motion, and its solutions are in constant development to support and reply to all manufacturers and EV users demands.

### Product description

The Efacec EV DC Quick Charger can be used to charge all the EVs with CHAdeMO charging standard compliance or Combined Charging System compliance.

The DC Quick Charger is user friendly and safe. After user identification it only requires coupling the charger's DC output plug in the EV for automatic starting if all safety features are accomplished. The battery charging state is displayed and the charging cycle finishes by itself or can be interrupted by user command.

Different options are available like the basic single DC output in a single cabinet or in bundle with a wired charging post and standard or customized solutions for more than one DC output charging station. An optional second 22 kVA AC output is available.

The DC Quick Charger includes Efacec's power electronics unique design, resulting in top specifications for conductive DC fast charging. Higher power output with best power factor, THD and efficiency.

The DC Quick Charger is highly recommended for EV fleet bases, service stations, EV service workshops and public EV infrastructure.



Standard Quick Charger cabinet.

CE Certification  
ZE ready Certification



Choose the color of your energy!



## Applications

- Service, Commercial and Distribution fleets
- Car-share, Taxi and Rent-a-Car fleets
- Filling stations, service stations
- EV Service Workshops
- EV Infrastructure Operators

## Key specification and features

- Supports up to 500 V<sub>dc</sub> and 50 A
- CHAdeMO standard certification
- Combined Charging System compliant
- Standalone or network integrated charger
- Customized charging post design on request

Technical Data	CE	US
<b>Nominal Input</b>	3 phases + neutral + PE	
Phases / lines		
Voltage	(400 ± 10%) Vac	(480 ± 10%) Vac
Current (maximum with V <sub>max</sub> output, I <sub>max</sub> output)	33 A	27 A
Power	23 kVA	23 kVA
Frequency	(50 ± 10%) Hz	(60 ± 10%) Hz
Efficiency	> 94 %	> 94 %
Power factor	0,95 (0,98 as na option)	
THD input current	12,3	
<b>DC Output</b>		
Voltage	50 Vdc to 500 Vdc	
Current	0 to 50 A	
Nominal Power (@ 400 V output)	20 kW	
Communication with EV	JEVS G104 / PLC	
Plug	JEVS G105 / Combo T2	JEVS G105 / Combo T1
<b>Insulation</b>		
Input / Output / Ground	2000 Vac	1500 Vac
Control Circuit / Ground	500 Vac	
<b>AC Output (optional)</b>		
AC Charging outlet	Rated 32 A   3 phase   22 kVA Mode 3   Case B or case C connection	
<b>Cabinet</b>		
Dimensions (W x D x H)	630 x 457 x 1922 mm	24.8 x 18.0 x 75.67 inches
Weight	≈ 325 Kg	≈ 716.5 pounds
Protection degree	IP55   IK10	IP55   IK10   Nema 3R
<b>HMI and Command Unit</b>		
Contactless card specification (for private operation card functions can be disable)	Calypso   Mifare (Others under request)	
Communication Protocol (others under request)	Web Services over IP Router 3G (GSM or CDMA) OCPP   Efacec   Mobi.e   Others	
Emergency stop	Yes  TFT Color display 6.4" Buttons (Numeric Keypad as option)	
<b>Environment Conditions</b>		
Temperature	-25 to +50 °C	-13 to +122 °F
Humidity	5% to 95%	
Place of installation	Indoor/Outdoor	
Altitude	Up to 1000 m	Up to 3280 feet
Sound noise	<55 dB in all directions	
<b>Applicable Standards</b>		
	CHAdeMO IEC 62196-3 IEC 61851-1   EN 61851-1 *1 IEC 61851-22   EN 61851-22 *2 IEC 61000-6-2   EN 61000-6-2 *3 IEC 61000-6-4   EN 61000-6-4 *4	CHAdeMO IEC 62196-3 UL2202 *5 UL2231-1 *6 UL2231-2 *7 ADA *8 UL2251
	DIN 70121 / IEC 15118 (future)	

\*1 Electric Vehicle charging system - Part 1: General requirements;

\*2 Electric vehicle conductive charging system: Part 22: AC electric vehicle charging station (Optional AC Output);

\*3 Electromagnetic compatibility (EMC): Part 6-2: Generic standards - Immunity for industrial environments;

\*4 Electromagnetic compatibility (EMC): Part 6-4: Generic standards - Emission standard for industrial environments;

\*5 Electric Vehicle (EV) Charging System Equipment;

\*6 Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: General Requirements;

\*7 Personnel Protection Systems for Electric Vehicle (EV) Supply Circuits: Particular Requirements for Protection devices for Use in Charging Systems;

\*8 American with Disabilities Act.

### AC and DC Plug-in Charging Systems

#### CHAdeMO



#### AC



#### Combo-T1



#### Combo-T2



Examples of customization.



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