Public AC 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, Public AC Charging and Fast Charging. Efacec has started the EV charging program in 2008 developing solutions and products for the different EV charging market segments.

Efacec public AC charger is being recommended by EV manufacturers as authorized provider for public AC charging units.

Product description

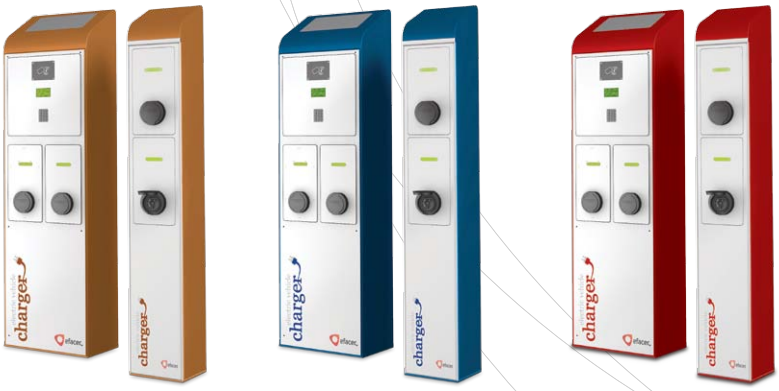
Efacec EV Public AC Chargers product line has been developed and designed for conductive battery charging of the EV or PHEV's on board batteries at public access charging locations.

The EV public AC Charger was designed to have one Central Command Unit (equipped with one Command Module and up to two AC charging modules) and the required number of Power Satellites Units, managing up to 254 sockets. This type of design assures:

- Scalability
- Low Cost
- Modularity
- High flexibility to match the local architecture requirements
- Easy installation and maintenance
- Charging Modules:
  - Mode 1
  - Mode 2
  - Mode 3 charging, Case B
    Type 1 or type 2 outlet socket. Others available under request
  - Mode 3 charging, Case C
    Power cord charger attached with type 1 or type 2 plug. Others available under request

Each Efacec EV Public AC Charger can be integrated in a Charging Infrastructure Network and its operation and status is controlled by the Central Management System. If a charger is offline the User can still operate it according to the business model defined by the customer. Even at a power shutdown emergency the charger will release EV's charging cord only to the identified user.

Each user has its own Mobility Card that allows him to use anywhere the public charging infrastructure. By default the contactless card data model is the Mifare standard but other standards can be adopted.



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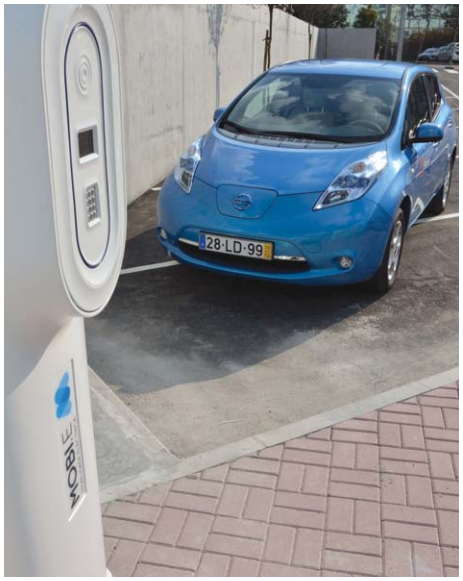
Technical Data

Central Command Module				
User Interface				
Display and keys	Monochrome LCD and Numeric Keypad (other under request)			
User Identification	Contactless RFID Card (Mifare or Calypso) ISO14443			
Communication protocol	Different Protocols based on Web services over IP (Ex.: OCPP, Mobi.E, Efacec, others)			
Charging Modules	EV S1F-16-T2-3	EV S1F-32-T2-3	EV S3F-16-T2-3	EV S3F-32-T2-3
Nominal Input				
N° of lines	1 line + neutral + earth		3 line + neutral + earth	
Voltage	(230 ± 10%) Vac		(400 ± 10%) Vac	
Current	16 A	32 A	16 A	32 A
Power (@ 230 Vac / 400 Vac)	3.7 kVA	7.4 kVA	11 kVA	22 kVA
Frequency	(50 ± 0.5) Hz			
Output				
Connector	Type 2 according to EN 62196-2 (others under request)			
EV Connection to EVSE	EN 61851-1 | IEC 61851-1 Case B (others under request)			
Outlet Protection				
Over-Current	20 A	32 A	20 A	32 A
RCD (Type A)	30 mA			
Charging Mode				
Direct connection between the EV and the EVSE using the cable supplied with the vehicle.	EN 61851-1 | IEC 61851-1 Mode 3 (others under request)			
Energy Metering				
In each output	Yes			
Mechanical Characteristics				
Dimensions mm (WxDxH)	Customization dependant			
Architecture	Central Command Unit: Cabinet equipped with Central Command Module and up to 2 charging Modules Charging unit: Cabinet connected to the Central Command Unit and equipped with up 2 charging modules			
Weight	Customization dependant			
Environment Conditions				
Degree of protection	IP44			
Temperature	Natural cooling (Range -20 °C to +50 °C)			
Humidity	Range 30% to 90%			
Installation site	Outdoor / Indoor			
Applicable Standards				
	IEC 61851-1 | EN 61851-1 *1 IEC 61851-22 | EN 61851-22 *2 IEC 61000-6-1 | EN 61000-6-1 *3 IEC 61000-6-3 | EN 61000-6-3 *4			

*1 Electric Vehicle charging system: Part 1: General requirements;
*2 Electric vehicle conductive charging system: Part 22: AC electric vehicle charging station;
*3 Electromagnetic compatibility (EMC): Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments;
*4 Electromagnetic compatibility (EMC): Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.



Examples of customization.

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Main Office:
Rua Eng. Frederico Ulrich - Ap. 3078 I 4471-907 Moreira Maia I Portugal I Phone: +351 229 402 000 I Fax: +351 229 403 209 I e-mail: efapower@efacec.com I web: www.efacec.com
Office:
2755 Northwoods Parkway I Norcross, Georgia 30071 USA I Phone: 770 446 8854 I Fax: 770 446 8920 I e-mail: usa@efacecusa.com

mod. SA77I1111B1