Ubbink EV Charger

11 kW

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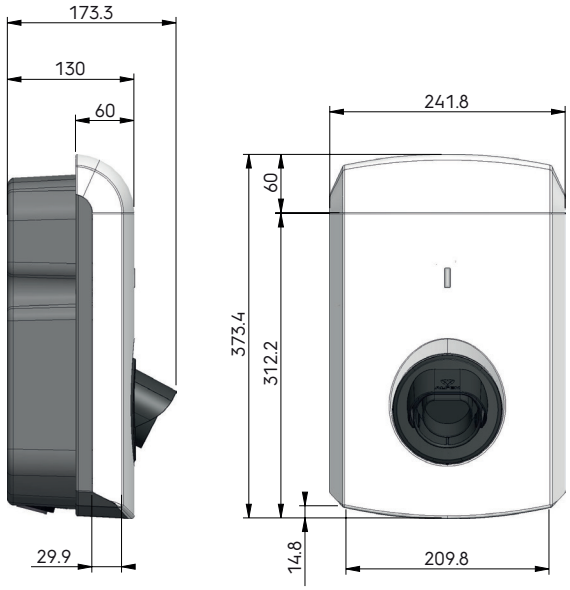
Product introduction

The Ubbink EV Charger is designed for residential installation with intelligent and fast recharging functions. Compact and robust with a polycarbonate casing, it delivers up to 11kW of 3-phase power and features a charge indicator light. Wall-mounted with a charging plug, it supports optional pole mount and fixed cable of 5 or 7,5 m. Activation is via Plug & Charge or RFID with a card or key fob. Connected via Ethernet, usage data are accessible online through our Energy Management System (EMS).

- Charging power from 3.7 kW to 11 kW for optimal power and efficiency.
- Durable, lightweight, and compact design.
- Flexible installation with multiple options to suit any setup.
- Secure & easy access via Plug & Charge or RFID.
- Smart connectivity with real-time data access via EMS.

Product dimensions



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Technical specifications

General product specifications	
Brand	Ubbink EV Charger 11 kW
Type	Alfen EVE S-line
Number of sockets	1
Types of sockets	Type 2 socket, in accordance with IEC62196-2
Authentication methods	Plug & Charge, RFID charge card
Status indication	RGB LED
Supported power systems	TN-S, TN-C-S, TT, IT*
Nominal output voltage (+/- 10%)	400 V (3x230 V)
Maximum design current	16 A per phase
Maximum design power	11 kW
Cable diameters	Cable gland, clamping range for 14-25.5 mm cable thickness Cable clamps on main switch, range: · Max. 10 mm² per wire: solid wire (PVC cable) · Max. 6 mm² per wire: stranded wire with ferrules (PVC cable)
Contactors	Per phase controllable relays Integrated per socket, simultaneous activation of all phases Extra safety relay in series for emergency situations
Overcurrent protection	Integrated in firmware, overcurrent response scenarios: 105% after 1.000 seconds 110% after 100 seconds 120% after 10 seconds 150% after 2 seconds
Residual current protection	Integrated 6 mA DC fault current detection Response time: 0,1-10 seconds
Available inputs / outputs	RJ45 (Ethernet / LAN) RJ11 (active load management)

*Caution: not all vehicles support the IT system. In that case, or with 3-phase charging, an isolation transformer is required.

Communication and Protocols for the Charging Station Management System	
Controller board	NG910
Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)
RFID authentication	ISO/IEC 14443A/B, 13.56 MHz MIFARE Classic 1K/4K, MIFARE Ultralight, DESFire (EV1/EV2) Maximum length: 7 bytes
Internet / networking possibilities	GPRS 2G, LTE Cat M1 4G, Ethernet / LAN
Supported mobile communication bands	2G: EGPRS quad-band: 850 / 900 / 1800 / 1900 MHz 4G: LTE Cat M1 bands: 3, 8, 20
Communication protocol Central System	OCPP 1.5 (JSON) OCPP 1.6 (JSON) 2nd edition, certified OCPP 2.0.1 (JSON)
Available inputs / outputs	RJ45 (Ethernet / LAN) RJ11 (active load management)

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Technical specifications (continuation)

Information on Radio Frequency		
Ubbink EV chargers are approved according to the Radio Equipment Directive (2014/53/EU). The frequency bands and maximum power of this equipment are listed here. All radio equipment is mentioned in this table, the presence or activation for each radio equipment depends on the specific configuration. These are maximum values for all models and component sub-suppliers. Maximum power = rated power + maximum tolerance. The maximum power of the chargers must not exceed the total permissible power of the power grid.		
Radio equipment	Frequency / Frequency bands	Max. power
DCS1800 / PCS1900	1800 / 1900 MHz	32 dBm
GSM850 / EGSM900	850 / 900 MHz	35 dBm
LTE-FDD	B1 / B2 / B3 / B4 / B5 / B8 / B12 / B13 / B18 / B19 / B20 / B25 / B26 / B27 / B28 / B66 / B85	23 dBm
RFID	13.56 MHz	32 dBm

Cyber Security	
SIM card	Mini SIM card (2G / 4G) APN username and password
Charging station management system authentication	TLS 1.2 x509 2048 / 4096 bit root certificate
EVSE authentication	HTTP Basic authentication, with TLS (recommended) or without TLS
Remote console access (SSH, telnet)	Not supported
Diagnostic files	Encryption: AES 128 bit
Firmware update files	Encrypted and digitally signed Encryption: SHA256 hash (pkcs1 / PSS padding with 2048 RSA key) Signature: RSA public key 2048 bit
EVSE Internal Flash	AES 128 bit (erased when read)

Available Memory	
Charge card	Local list: approx. 800 tokens (via the Back office) White list: approx. 1.200 tokens (local)
Transaction database	Approx. 1.500 transactions (of 4 h with 15 min Wh metering values)
Logging for diagnostics	Approx. 45.000 lines

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Technical specifications (continuation)

Operating Conditions	
Operating temperature*	-25 °C to +55 °C
Relative atmospheric humidity	5 to 95 %
Electrical safety class	Class I
Degree of protection (casing)	IP55
IK protection (mechanical impact)	IK10
Stand-by power consumption	approx. 8,0 W
Environmental conditions	indoor / outdoor use
Electromechanical environmental conditions	E2**
Mechanical environmental conditions	M1**

* The operating temperature stated is under the following conditions:
- A maximum charging power of 11 kW is guaranteed at an ambient temperature above 40 °C and below the stated maximum operating temperature.
- The influence of direct solar radiation on the charging station is excluded.
- The influence of a front cover with another color than RAL9016 is excluded.
- The influence of customizations applied on the charging station is excluded.
- The stated charging performance is solely applicable to the charging station, actual performance is dependent on the vehicle and the grid connection.

** According to 2014/32/EU (Measuring Instruments Directive).

Charging stations which are exposed to the elements will gradually age and/ or discolor. Alfen recommends to place the charging stations in a sheltered environment to optimize the lifetime of the product.

Casing	
Type	Wall-mounted charging station
Mounting options	Wall mounting or mounting post (accessory)
Material	Polycarbonate, UV resistant and flame retardant
Color	RAL 9016 (Traffic White): front side RAL 7043 (Traffic White): front side RAL 7043 (Traffic Grey B): rear
Locking	Torx T20 screws
Casing dimensions (H x W x D) with socket	373 x 242 x 138 mm
Casing dimensions (H x W x D) with fixed charging cable*	373 x 242 x 173 mm
Packaging Dimensions (H x W x D)	470 x 320 x 250 mm
Weight casing	Approx. 4 kg
Total weight incl. packaging	Approx. 4,5 kg

* The charging cable is not part of the delivery scope. It has to be ordered separately and is shipped in a separate box.

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Technical specifications (continuation)

Installation instructions		
Input: minimum recommended cable diameters (based on assumed max. 50 m cable length)	3-phase 11 kW charging, 16 A per phase: 5 x 4 mm²	
Short-circuit protection	With circuit breakers: 3-phase 16 A (11 kW): 1 x 20 A, 3P, type B or C 3-phase 32 A (22 kW): 1 x 40 A, 3P, type B or C	With fuses: 3-phase 16 A (11 kW): 3 x 20 A gG 3-phase 32 A (22 kW): 3 x 35 A gG
Residual current protection (possibly i.c.w. circuit breakers)	Earth leakage circuit breakers: 30 mA type A or B, 4P 3,7 kW / 11 kW charging: minimum 20 A 7,4 kW / 22 kW charging: 40 A	
Nominal input voltage	· VL1-N: 230 V (+/-10%) · VL2-N: 230 V (+/-10%) · VL3-N: 230 V (+/-10%) · VL1-L2: 400 V (+/-10%) · VL1-L3: 400 V (+/-10%) · VL2-L3: 400 V (+/-10%) · VPE-N: ≈ 0 V	
Nominal frequency	50 Hz	
Earthing	TN system: separate PE cable TT system: separately installed earthing electrode < 100 Ohm spreading resistance IT system: connected to a shared reference (common earth) with other metal parts	

External protection according to EV/ZE-Ready

IEC 61000-4-16 or IEC 61543

	Level 3		Level 4	
Frequency range	Continuous test Vrms (V)	Current (mA)	Continuous test Vrms (V)	Current (mA)
1 kHz - 1,5 kHz	1	6,6	3	20
1,5 kHz - 15 kHz	1-10	6,6-66	3-30	20-200
15 kHz - 150 kHz	10	66	30	200

OCPP specifications: supported feature profiles and functionalities

	OCPP 1.5	OCPP 1.6
Core (Transactions, Availability, remote control, Authorization, Meter value, Data transfer)	✓	✓
FirmwareManagement	✓	✓
Reservation	✓	✓
LocalAuthlistManagement	-	✓
RemoteTrigger	-	✓
SmartCharging	○	✓
Security	-	✓
Provisioning	-	✓
Tariff and Cost	○	○
ISO 15118 certificate management	-	-
Diagnostics	✓	✓

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Technical specifications (continuation)

OCPP specifications: supported feature profiles and functionalities		
	OCPP 1.5	OCPP 1.6
Display message	-	-

- ✔ Follows OCPP specifications
- ◯ Using Alfen-specific messages and/or license keys
- \- Not implemented

Alfen specific OCPP 1.6/2.0.1 performance parameters.

Meter value interval request		900
Heartbeat interval		30
Maximum number of data fields per message		9
Authorization of charge cards Size of list Size of list transfer		 800 50
Smart Charging Specifications Charging profiles Periods in one charging profile Maximum Stack level of charging profiles		 45 100 15

Standard and selectable settings ex Works	
Authorization	Plug & Charge RFID
Maximum charging current	16 A 32 A
Smart Charging	Off Active Load Balancing Smart Charging Network
User availability if temporarily off line	Accept all RFID passes Only accept locally registered RFID cards Charging not possible
Response if plug is released on vehicle side	Stop transactions and release the plug Pause charging until charging cable plugged back in
Selected management system	Stand alone / ICU Connect / Other options
Network communication options	2G: GPRS / 4G: LTE-M / UTP/LAN / Autodetect

Accessories	
Pole	
Dimensions (H x W x D)	Pole: 1.180 x 60 x 120 mm (baseplate: 300 x 200 mm) Backplate: 335 x 196 x 3 mm
Material	Stainless steel AISI 304, fine-structure powder coating
Color	RAL 7043 (Traffic Grey B)
Packaging (H x W x D)	1.200 x 340 x 220 mm
Weight	11,4 kg
Type 2 charging cable, 5 m, 3-phase, up to 32 A (22 kW)	
Type 2 charging cable, 7,5 m, 3-phase, up to 32 A (22 kW)	