

Technical Specification

Eve Single



Product Variants

	Article no.
S-line	
Eve Single S-line, 1-phase, LED, type 2 socket	904460603
Eve Single S-line, 1-phase, LED, fixed charging cable	904460607
Eve Single S-line, 1-phase, LED, type 2 shutter socket	904460605
Eve Single S-line, 3-phase, LED, type 2 socket	904460623
Eve Single S-line, 3-phase, LED, fixed charging cable	904460627
Eve Single S-line, 3-phase, LED, type 2 shutter socket	04460625
Pro-line	
Eve Single Pro-line, 1-phase, display, type 2 socket	904460003
Eve Single Pro-line, 1-phase, display, fixed charging cable	904460007
Eve Single Pro-line, 1-phase, display, type 2 shutter socket	904460005
Eve Single Pro-line, 3-phase, display, type 2 socket	904460023
Eve Single Pro-line, 3-phase, display, fixed charging cable	904460027
Eve Single Pro-line, 3-phase, display, type 2 shutter socket	904460025

Specification of Eve Single Product Lines

	S-line	Pro-line
1-phas	✓	✓
3-phase	✓	✓
RFID card authentication	✓	✓
RGB Status LED	✓	-
Display	-	✓
Mobile network communication	✓	✓
Ethernet/LAN dedicated network connection	✓	✓
Energy meter	MID certified	MID certified
Max. 6 mA DC detection	✓	✓
Provision of electrical connection for E-socket	*	*
Type 2 socket	✓	✓
Type 2 socket with shutters	✓	✓
Fixed charging cable	✓	✓

* Provision of electrical connection for E-Socket is only available on shutter socket variants

Technical Specifications

Number of sockets	1
Types of sockets	Type 2 socket, in accordance with IEC62196-2 Fixed charging cable, with plug in accordance with IEC 62196 Type 2 socket (charging cable holder integrated in product), in accordance with IEC62196-2 Type 2 socket shutters, in accordance with IEC62196-2, ed. 2
Nominal output voltage (+/- 10%)	230 V, 1-phase products 400 V (3x230 V), 3-phase products
Maximum current	32 A per phase

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Maximum power	1-phase products: 7.4 kW 3-phase products: 22 kW
Permissible cos phi	0.9-1
Earthing systems	TN-S, TN-C-S, TT, IT *
Stand-by power consumption	S-line: approx. 8.0 W Pro-line: approx. 8.9 W
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 In accordance with IEC62955
Overvoltage category	OVC III
Rated insulation voltage U_i	500 V
Rated impulse withstand voltage U_{imp}	4 kV
Rated diversity factor RDF	1
Display (Pro-line models only)	3.5" TFT color display Resolution: 320 x 240 pixels Brightness: 400 cd/m ²
Status indication	S-line: RGB LED Pro-line: Integrated in display
Authentication methods	Plug & Power RFID card

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

** Applies only to product variants with type 2 sockets with shutters

Environmental conditions

Operating temperature	-25 °C to +55 °C
Electrical safety class	Class I
Ingress protection	IP55
Impact protection	IK10
Environmental conditions	Indoor / outdoor use
Electromagnetic environment class	E2 8**
Mechanical environment class	M1 **
Pollution degree	PD2

* More information about the indicated operating temperature:

- The maximum charging power of 22 kW of Pro-line is only guaranteed at an ambient temperature between -25°C and +40 °C.
- A front cover in a colour other than RAL9016, and the addition of customizations, can increase the heat from solar radiation transferred to the charging station.
- 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 installed outside without protection will be affected by weather conditions and will discolour.

Alfen recommends to install the charging stations in a sheltered environment to optimize the lifetime of the product.

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Information on Radio Frequency

Alfen charging stations 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

Radio equipment	Frequency / Frequency bands	Max. power
DCS1800/PCS1900	1800 / 1900 MHz	32 dBm
GSM850/EGSM900	850 / 900 MHz	35 dBm
LTE-FDD	B3/B8/B20	23 dBm
RFID card	13.56 MHz	32 dBm
Wi-Fi 802.11 b/g/n	2.4 GHz to 2.4835 GHz	19 dBm

Communication and Protocols

Controller board	NG910
Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)
RFID card authentication	ISO/IEC 14443A/B, 13.56 MHz MIFARE Classic 1K/4K, MIFARE Ultralight, DESFire (EV1/EV2) Maximum length: 7 bytes
Mobile communication	LTE Cat-M1 2G Wi-Fi / Wireless LAN (802.11 b/g/n, 2.4 GHz)
Back office communication	OCPP 1.5 (JSON) OCPP 1.6 (JSON) 2nd edition, certified OCPP 2.0.1 (JSON) *
Ethernet	RJ-45: 1x10/100 Base-T
Available inputs for Smart Charging	RJ-11: DSMR 4.0-4.2 and SMR5.0 (port P1) or external relay RJ-45: Modbus TCP/IP Client (Energy Management System) or Modbus TCP/IP (external energy meter) RS-485: Modbus RTU (external energy meter) Télé-Information Client (TIC) (Linky smart meter) Suspend Signal §14a EnWG

* Consult the Alfen Knowledge Base for the latest overview.

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OCPP Specifications Supported feature profiles and functionalities

	OCPP 1.6	OCPP 2.0.1
Core (Transactions, Availability, remote control, Authorization, Meter value, Data transfer)	✓	✓
Advanced security	✓	✓
Firmware Management	✓	✓
Reservation	✓	✓
LocalAuthlistManagement	✓	✓
Remote Trigger	✓	✓
Smart Charging	✓	✓
Security	✓	✓
Provisioning	✓	✓
Diagnostics	✓	✓
Tariff & Costs	🛡️	🛡️

✓ Follows OCPP specifications

🛡️ Using Alfen-specific messages and/or license keys

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 RFID cards	
Size of list	800
Size of list transfer	50
Smart Charging Specifications	
Charging profiles	45
Periods in one charging profile	100
Maximum Stack level of charging profiles	15

Available Memory

RFID 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

Cyber Security

Specification supported SIM card	Mini SIM card (2G/4G), gold plated APN username and password
Charging Station Management System authentication	TLS 1.2 x 509 2048/4096 bit root certificate
EVSE authentication	HTTP Basic authentication, with TLS (recommended) or without TLS
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)

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Casing

Type	Wall-mounted charging station
Mounting options	Wall mounting Pole mounting (optional)
Material	Polycarbonate UV resistant: UL746c - f1 Flame retardant: UL94 - 5VB
Color	RAL 9016 (Traffic White): front side RAL 7043 (Traffic Grey B): front side (optional) RAL 7043 (Traffic Grey B): rear
Locking	Torx T20 screws
Casing (exterior) dimensions (H x W x D)	S-line/Pro-line
model with socket	373 x 242 x 138 mm
model with fixed charging cable *	373 x 242 x 173 mm
Packaging Dimensions (L x W x H)	S-line/Pro-line
Box with charging station, both models	390 x 290 x 210 mm
Box with charging cable 5 m / 7.5 m	390 x 290 x 130 mm
Weight	S-line/Pro-line
Charging station	Approx. 4.0 kg
Box with charging station	Approx. 4.5 kg
Charging cable 5 m / 7.5 m	Approx. 2.5 kg / 3.6 kg
Box with charging cable 5 m / 7.5 m	Approx. 2.9 kg / 4.0 kg

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

Installation Instructions

Residual current protection	1-phase installation: 2-pole 30 mA Type A RCD 3-phase installation: 4-pole 30 mA Type A RCD	
Short-circuit protection	Rated conditional short-circuit current: 10 kA With circuit breakers: 1 phase: 1x 40 A 1P, type B or C 3 phase: 1x 40 A 3P, type B or C With fuses: 1 x 35 A gG 3 x 35 A gG	
Nominal input voltage	V_{L1-N} : 230 V (+/-10%) V_{L2-N} : 230 V (+/-10%) V_{L3-N} : 230 V (+/-10%) V_{PE-N} : ≈ 0 V	V_{L1-L2} : 400 V (+/-10%) V_{L1-L3} : 400 V (+/-10%) V_{L2-L3} : 400 V (+/-10%)
Advised cable cross-section of the power supply cable (based on assumed max. 50 m cable length)	14 to 25.5 mm clamping range of the cable gland 1 phase: 3 x 6 mm ² 3 phase: 5 x 6 mm ² • Solid wire (PVC cable): max. 10 mm ² per wire • Stranded wire with ferrules (PVC cable): max. 6 mm ² per wire	
Nominal frequency	50 Hz	
Earthing system	TN system: separate PE cable TT system: separately installed earthing electrode < 100 Ω spreading resistance IT system: connected to a shared reference (common earth) with other metal parts	

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Standard and Selectable Settings ex Works

Authorization	Plug & Power RFID card
Maximum charging current	16 A 32 A
Smart Charging	Off Active Load Balancing Smart Charging Network
Own logo in display (Pro-line models only)	Off (Alfen logo) On (your own logo)
Languages supported (Pro-line models only)	English, Dutch, German, French, Spanish, Portuguese, Italian, Norwegian, Swedish, Finnish, Czech, Danish, Hungarian, Icelandic, Latvian, Polish, Romanian, Slovak, Slovenian, Catalan, Croatian.
Direct Payment Solution	Off On * <ul style="list-style-type: none">• QR code payments• Payment Terminal

* Optional feature. Adding it will result in additional costs when purchasing your charging station. The default settings are always mentioned first. For more information about the optional features, contact your sales representative.

Accessories

	Article no.
Type 2 charging cable for fixed cable variants, 5 m, 3 phase, up to 32 A (22 kW)	203100304-ICU
Type 2 charging cable for fixed cable variants, 7.5 m, 3 phase, up to 32 A (22 kW)	203100305-ICU
Eve Single Pole	803873036-ICU
Eve Single Duo Pole	803873280-ICU
Concrete base	833829300-ICU
Metal base	803828601-ICU
Additional RFID card	203120010-ICU
Payment Terminal Wall Mount	904464010
Payment Terminal Single pole (Eve Single (Duo) Pole not included)	904460700

Built to move
what matters

