Eve Single

General

Product variants	Article no.
S-line	
Eve Single S-line, 1 phase, LED, type 2 socket	904460503
Eve Single S-line, 1 phase, LED, type 2 socket shutters	904460505
Eve Single S-line, 1 phase, LED, tethered cable	904460507
Eve Single S-line, 1 phase, LED, RFID, type 2 socket	904460553
Eve Single S-line, 1 phase, LED, RFID, type 2 socket shutters	904460555
Eve Single S-line, 1 phase, LED, RFID, tethered cable	904460557
Eve Single S-line, 1 phase, LED, LTE, type 2 socket	904460573
Eve Single S-line, 1 phase, LED, LTE, type 2 socket shutters	904460575
Eve Single S-line, 1 phase, LED, LTE, tethered cable	904460577
Eve Single S-line, 3 phase, LED, type 2 socket	904460523
Eve Single S-line, 3 phase, LED, type 2 socket shutters	904460525
Eve Single S-line, 3 phase, LED, tethered cable	904460527
Eve Single S-line, 3 phase, LED, RFID, type 2 socket	904460583
Eve Single S-line, 3 phase, LED, RFID, type 2 socket shutters	904460585
Eve Single S-line, 3 phase, LED, RFID, tethered cable	904460587
Eve Single S-line, 3 phase, LED, LTE, type 2 socket	904460593
Eve Single S-line, 3 phase, LED, LTE, type 2 socket shutters	904460595
Eve Single S-line, 3 phase, LED, LTE, tethered cable	904460597
Pro-line	
Eve Single Pro-line, 1 phase, display, type 2 socket	904460003
Eve Single Pro-line, 1 phase, display, type 2 socket shutters	904460005
Eve Single Pro-line, 1 phase, display, tethered cable	904460007
Eve Single Pro-line, 3 phase, display, type 2 socket	904460023
Eve Single Pro-line, 3 phase, display, type 2 socket shutters	904460025
Eve Single Pro-line, 3 phase, display, tethered cable	904460027
Eve Single Pro-line DE, 3 phase, display, type 2 socket	904460123
Eve Single Pro-line DE, 3 phase, display, tethered cable	904460127

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Specifications of Eve Single product lines

Specification	S-line	Pro-line	Pro-line DE
1 phase	✔	✔	-
3 phase	✔	✔	✔
NFC card reader	Optional*	✔	✔
RGB Status LED	✔	-	-
Display	-	✔	✔
Mobile network communication	Optional*	✔	✔
Ethernet/LAN dedicated network connection	✔	✔	✔
Energy meter	MID certified	MID certified	MID certified, encrypted data transport
Eichrecht support	-	-	✔
Residual Current Device (RCD) onboard	-	-	-
Max. 6mA DC detection	✔	✔	✔
Short-circuit protection onboard	-	-	-
Support for E-socket	✔**	✔**	-
Giro-e Support	-	-	✔
Socket Type 2	✔	✔	✔
Socket Type 2 with shutters	✔	✔	-
Tethered cable	✔	✔	✔

REMARKS
* Optional features are mutually exclusive.
** e-Socket support is only available on shutter socket variants.

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General product specifications

Number of outlets	1
Types of outlets	Tethered cable, with plug in accordance with
	• SAE J1772 Type 1 or
	• IEC 62196 Type 2 (cable holder integrated in product)
	Type 2 socket, in accordance with IEC62196-2
	Type 2 socket shutters, in accordance with IEC62196-2, ed. 2
Authentication methods	Plug & Charge
	RFID charge card (Pro-line or selected S-line models only)
	Girocard (Pro-line DE)
	Central system
	Third-party apps
Status indication	S-line: RGB LED
	Pro-line: Integrated in display
Display (Pro-line models only)	3.5" TFT colour display
	Resolution: 320 x 240 pixels
Supported power systems	TN-S, TN-C-S, TT, IT *
Nominal output voltage (+/- 10%)	230V, 1-phase products
	400V (3x230V), 3-phase products
Maximum design current	1-phase products: 32A per phase
	S-line 3-phase: 16A per phase
	Pro-line 3-phase: 32A per phase
Maximum design power	1-phase products: 7.4kW
	S-line 3-phase: 11kW
	Pro-line 3-phase: 22kW
Cable diameters	Cable gland, clamping range for 14-25.5mm cable thickness
	Cable clamps on main switch, range:
	• 10mm^2 per wire: solid (VD) wire
	• Max. 6mm^2 per wire: stranded (VDS) wire with ferrules
Contactors	Per phase controllable relays
	Integrated per outlet, 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 6mA DC fault current detection
	Response time: 0.1-10 seconds
Available in- and outputs	RJ45 (Ethernet/LAN)
	RJ11 (Active Load Balancing)

REMARKS

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

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Communication and protocols

Controller	NG910
Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)
NFC card reader (Pro-line or selected S-line models only)	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 (Pro-line or selected S-line models only) LTE Cat M1 4G (Pro-line or selected S-line models only) Ethernet/LAN
Supported mobile communication bands (Pro-line or selected S-line models only)	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)
Supported RJ45 protocols	OCPP TCP/IP
Supported RJ11 protocols	DSMR 4.0-4.2 and SMR5.0 (P1 port) I/O for supporting external relay
Modbus (Master)	TCP/IP

Cyber security

SIM card	Mini SIM card (2G/4G) APN username and password
Central 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 Interal Flash	AES 128 bit (erased when read)
Root certificate	Installed in the factory, update through signed UpdateFirmware file, or remote via OCPP management system.

Available memory

Tokens	Local list: approx. 800 tokens (via the Backend) White list: approx. 1,200 tokens (local)
Transaction database	Approx. 1,500 transactions (of 4hrs with 15min Wh-metering values)
Logging for diagnostics	Approx. 45,000 lines

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Operating conditions

Operating temperature	-25°C ... +40°C
Relative atmospheric humidity	5 - 95 %
Electrical safety class	Class I
Degree of protection (casing)	IP55
IK protection (mechanical impact)	IK10
Stand-by power consumption	S-line 1-phase: approx. 3.5 - 3.8W
	S-line 3-phase: approx. 3.9 – 4.1W
	Pro-line: approx. 3.9 – 4.1W
	Pro-line DE: approx 5.1W

Casing

Type	Wall-mounted unit	
Mounting options	Wall mounting or mounting post (accessory)	
Material	Polycarbonate, UV resistant and flame retardant	
Colour	RAL9016 (Traffic White): front side	
	RAL 7043 (Traffic Grey B): rear	
Locking	Torx T20 screws	
Dimensions (H x W x D)	S-line/Pro-line	Pro-line DE
Casing		
Models with socket	373 x 242 x 138mm	373 x 242 x 181mm
Models with cable holder	373 x 242 x 173mm	373 x 242 x 216mm
Packaging		
Models with socket	470 x 320 x 250mm	470 x 320 x 290mm
Models with cable holder, incl. cable	470 x 320 x 370mm	470 x 320 x 410mm
Weight	S-line/Pro-line	Pro-line DE
Casing	Approx. 4 kg	Approx. 4.5 kg
Total, incl. packaging	Approx. 4.5 kg	Approx. 5 kg

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Installation instructions

Input: minimal recommended cable diameters (based on assumed max. 50m cable length)	1-phase 3.7kW charging, 16A per phase: 3 x 4 mm² 3-phase 11kW charging, 16A per phase: 5 x 4 mm² 1-phase 7.4kW charging, 32A per phase: 3 x 6 mm² 3-phase 22kW charging, 32A per phase: 5 x 6 mm²
Short-circuit protection	With breaker circuits: 1-phase 16A (3.7kW): 1 x 20A, 1P, type B or C 3-phase 16A (11kW): 1 x 20A, 3P, type B or C 1-phase 32A (7.4kW): 1 x 40A, 1P, type B or C 3-phase 32A (22kW): 1 x 40A, 3P, type B or C With fuses: 1-phase 16A (3.7kW): 1 x 20A gG 3-phase 16A (11kW): 3 x 20A gG 1-phase 32A (7.4kW): 1. x 35A gG 3-phase 32A (22kW): 3 x 35A gG
Residual current protection (possibly i.c.w. circuit breakers)	Earth leakage circuit breakers: 30mA type A or B, 4P 3.7kW/11kW charging: minimum 20A 7.4kW/22kW charging: 40A
Nominal input voltage	• V_{L1-N}: 230V (+/-10%) • V_{L2-N}: 230V (+/-10%) • V_{L3-N}: 230V (+/-10%) • V_{L1-L2}: 400V (+/-10%) • V_{L1-L3}: 400V (+/-10%) • V_{L2-L3}: 400V (+/-10%) • V_{PE-N}: ≈ 0V
Nominal frequency	50 Hz
Grounding	TN system: separate PE cable TT system: separately installed grounding 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

Frequency range	Level 3		Level 4	
	Cont. test Vrms (V)	Current (mA)	Cont. 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

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Standard and selectable settings ex works

Description	Options
Authorisation	Plug & Charge RFID* (Pro-line or selected S-line models only)
Maximum charging current	16A 32A*
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, Polish
User availability if temporarily offline	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 cable plugged back in
Selected management system	Stand alone ICU Connect* Other options*
Network communication options*	2G: GPRS (Pro-line or selected S-line models only) 4G: LTE-M (Pro-line or selected S-line models only) UTP/LAN Autodetect
Payment Solutions	Off Giro-e ready* (Pro-line DE models only)

REMARKS

The settings marked with a * may result in additional costs when purchasing your charging station. The default settings are always mentioned first. For more information about the options, please contact your sales representative

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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	●	●
Display message	-	-

REMARKS
- ■ Using Alfen-specific messages and/or keys
- ● Follows OCPP specifications
- - Not implemented
- ** By implementation of Security Extension

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	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

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Accessories

General accessories for Eve Single

Mounting pole	Art. 803873036-ICU
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
Colour	RAL 7043 (Traffic Grey B)
Packaging (H x W x D)	1,200 x 340 x 220 mm
Weight	11.4 kg
Mounting pole 2x Eve Single	Art. 803873037-ICU
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
Colour	RAL 7043 (Traffic Grey B)
Packaging (H x W x D)	1,200 x 340 x 220 mm
Weight	11.4 kg
Concrete base	Art. 833829300-ICU
Dimensions (H x W x D)	570 x 350 x 220 mm
Weight	42 kg
Metal base	Art. 803828601-ICU
Dimensions (H x W x D)	598 x 204 x 300 mm
Weight	8.2 kg
Packaging (H x W x D)	50 x 295 x 620 mm
Type 2 charging cable, 5m, 1 phase, up to 32A (7.4kW)	Art. 203100306-ICU
Type 2 charging cable, 7.5m, 1 phase, up to 32A (7.4kW)	Art. 203100309-ICU
Type 2 charging cable, 5m, 3 phase, up to 32A (22kW)	Art. 203100304-ICU
Type 2 charging cable, 7.5m, 3 phase, up to 32A (22kW)	Art. 203100310-ICU
Wall bracket for plug T1	Art. 803857251-ICU
Wall bracket for plug T2	Art. 803857252-ICU
Additional RFID card	Art. 203120010-ICU

Accessories

Accessories for E-Socket

E-Socket installation bracket for Single Pole	Art. 803873063-ICU
Dimensions (H x W x D)	125 x 145 x 130 mm
Material	Stainless steel AISI 304, fine-structure powder coating
Colour	RAL 7043 (Traffic grey B)
E-Socket installation bracket for Single Duo-Pole	Art. 803873066-ICU
Dimensions (H x W x D)	340 x 240 x 125 mm
Material	Stainless steel AISI 304, fine-structure powder coating
Colour	RAL 7043 (Traffic grey B)
Socket Type E	Art. 803873065-ICU
Dimensions (H x W x D)	122 x 120 x 105 mm