Datasheet

Eve Double Pro-line

Technical Specifications

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Product Variants

Product variant	Article number
Pro-line	
Eve Double Pro-line, 1 phase, 2x socket Type 2, single feeder	904461031
Eve Double Pro-line, 1 phase, 2x socket Type 2, dual feeder	904461032
Eve Double Pro-line, 3 phase, 2x socket Type 2, single feeder	904461021
Eve Double Pro-line, 3 phase, 2x socket Type 2, dual feeder	904461022
Eve Double Pro-line, 3 phase, 2x socket Type 2, single feeder, RCD Type A	904461001
Eve Double Pro-line, 3 phase, 2x socket Type 2, dual feeder, RCD Type A	904461002
Pro-line DE	
Eve Double Pro-line DE, 3 phase, 2x socket Type 2, single feeder	904461101
Eve Double Pro-line DE, 3 phase, 2x socket Type 2, dual feeder	904461102
Eve Double Pro-line DE, 3 phase, 2x socket Type 2, single feeder, 1x SPD	904461101SPD
Eve Double Pro-line DE, 3 phase, 2x socket Type 2, dual feeder, 2x SPD	904461102SPD
Pro-line FR	
Eve Double Pro-line FR, 1 phase, 2x socket Type 2S (shutters), single feeder	904461215
Eve Double Pro-line FR, 1 phase, 2x socket Type 2S (shutters), dual feeder	904461216
Eve Double Pro-line FR, 3 phase, 2x socket Type 2S (shutters), single feeder	904461205
Eve Double Pro-line FR, 3 phase, 2x socket Type 2S (shutters), dual feeder	904461206

Specification per variant

Specification	Pro-line	Pro-line DE	Pro-line FR
1-phase	•	—	•
3-phase	•	•	•
Charge card authentication	•	•	•
Mobile network communication	•	•	•
Ethernet/LAN dedicated network connection	•	•	•
Energy meter, per socket	MID certified	MID certified, encrypted data transport	MID certified
"Eichrecht" conformity	—	•	—

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Specification	Pro-line	Pro-line DE	Pro-line FR
Residual Current Device (RCD) on board	•	•	•
Surge Protection Device (SPD)	—	o	—
Max. 6 mA DC detection	• / —	—	—
Short-circuit protection on board	—	—	—
Direct Payment Solution	—	•	—
Type 2 socket	•	•	—
Provision of electrical connection for E-socket *	—	—	o (2x)
Type 2 socket with shutters	—	—	•

• = Standard

o = Optional

— = Not available

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

General Product Specifications

Number of sockets	2
Types of sockets	Type 2 socket, in accordance with IEC62196-2 Type 2 socket shutters, in accordance with IEC62196-2, ed. 2 (Pro-line FR)
Authentication methods	Plug & Charge (Not available on Pro-line DE) Charge card Girocard (Pro-line DE) Back office Third-party apps
Status indication	Integrated in display
Display	7" TFT color display Resolution: 800 x 480 pixels Brightness: 650 Nits
Supported power systems	TN-S, TN-C-S, TT, IT *
Nominal output voltage (+/- 10%)	230 V, 1-phase products 400 V (3x230 V), 3-phase products
Maximum design current	32 A per phase * *
Maximum design power	1-phase products: 7.4 kW 3-phase products: 22 kW

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Main Switch	Single feeder cable 1-phase: 4P, 80 A, 400 V 3-phase: 4P, 80 A, 400 V	Dual feeder cable 1-phase: 4P, 80 A, 400 V 3-phase: 8P, 40 A, 400 V
Cable diameters	Cable gland, clamping range for 14-25.5 mm cable thickness Cable clamps on main switch, range: 16 mm^2 per wire: solid wire (PVC cable) Max. 6 mm^2 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	Per outlet integrated RCD, 30 mA Rated breaking capacity: 10 kA Type B (All models, except Type A models * * * Integrated 6 mA DC fault current detection Response time: 1-5 seconds	
Available in- and outputs	RJ-45 (Ethernet/LAN) RJ-11 (Active Load Balancing)	

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

* * When input current per phase exceeds the design current, use of Standard Load Balancing is required

* * * Type A models (904461001, 904461002)

Communication and Protocols

Controller board	NG
Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)
Charge card 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

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Communication protocol Back office	OCPP 1.5 (JSON) OCPP 1.6 (JSON) 2nd edition, certified OCPP 2.0.1 (JSON)
Supported RJ-45 protocols	OCPP TCP/IP
Supported RJ-11 protocols	DSMR 4.0-4.2 and SMR5.0 (P1 port) I/O for supporting external relay
Modbus (Master)	TCP/IP RTU

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	B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85	23 dBm
Charge card	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 x 509 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)
Root certificate	Installed in the factory, update through signed UpdateFirmware file, or remote via OCPP management system.

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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

Operating Conditions

Operating temperature	- 25 °C to + 40 °C
Relative atmospheric humidity	5 to 95%
Electrical safety class	Class I
Degree of protection (casing)	IP54
IK protection (mechanical impact)	IK10
Stand-by power consumption	Pro-line: approx. 9 to 12 W Pro-line FR: approx. 9 to 12 W Pro-line DE: approx. 10 to 13 W
Environmental conditions	indoor / outdoor use
Electromechanical environmental conditions	E2 * *
Mechanical environmental conditions	M1 * *

* * 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 or pole mount (accessory)
Material	Fibre-reinforced polyester (Sheet Moulding Compound - SMC)
Color	RAL 9016 (Traffic White): front side RAL 7043 (Traffic Grey B): rear side
Locking	Torx T25 tamper resistant screws
Dimensions (H x W x D)	
Casing Packaging	590 x 338 x 230 mm 700 x 398 x 320 mm
Weight	
Casing Total, incl. packaging	Approx. 15 kg Approx. 22 kg

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External protection according to EV/ZE-Ready

IEC 61000-4-16 or IEC 61543

	Level 3		Level 4	
Frequency range	**Continuous test V_{rms} (V)**	**Current (mA)**	**Continuous test V_{rms} (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 various functions

	OCPP 1.5	OCPP 1.6	OCPP 2.0
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	—	—	•

- • = Follows OCPP specifications
- ▼ = Using Alfen-specific messages and/or licence keys
- — = Not implemented
- ** By implementation of Security Extension

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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

Standard and Selectable Settings ex Works

Description	Options
Authorization	Plug & Charge (Not available on Pro-line DE) Charge card *
Maximum charging current	16 A 32 A *
Smart Charging	Off Standard Load Balancing * Active Load Balancing * Smart Charging Network *
Personalized display	Off (Alfen logo) On (your own logo) *
Languages supported	English, Dutch, German, French, Spanish, Portuguese, Italian, Norwegian, Swedish, Finnish
User availability if temporarily off line	Accept all charge cards Only accept locally registered charge cards Charging not possible

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Response if plug is released on vehicle side	Stop transactions and release the plug Pause charging until cable plugged back in
Management system	Stand alone OCPP charging station management systems *
Network communication options *	2G: GPRS 4G: LTE-M UTP/LAN Autodetect
Direct Payment options	Off QR code * Giro-e ready (Pro-line DE) *

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.

Accessories

	Article number
Eve Double Pole	803881380-ICU
Concrete base	833829300-ICU
Metal base	803828601-ICU
Wall Cover Eve Double	803881382-ICU
Additional charge Card	203120010-ICU

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Installation instructions

Input: minimum recommended cable diameters (based on assumed max. 50 m cable length)	**1-phase 3.7 kW charging, 16 A per phase:** Art.nr. 904461031, 904461215: 3 x 4 mm^2 Art.nr. 904461031, 904461215: 3 x 4 mm^2 (per cable) **3-phase 11 kW charging, 16 A per phase:** Art.nr. 904461021, 904461001, 904461101, 904461205: 5 x 4 mm^2 Art.nr. 904461032, 904461002, 904461102, 904461206: 5 x 4 mm^2 (per cable) **1-phase 7.4 kW charging, 32 A per phase :** Art.nr. 904461031, 904461215: 3 x 6 mm^2 Art.nr. 904461032, 904461216: 3 x 6 mm^2 (per cable) **3-phase 22 kW charging, 32 A per phase:** Art.nr. 904461021, 904461001, 904461101, 904461205: 5 x 6 mm^2 Art.nr. 904461032, 904461002, 904461102, 904461206: 5 x 6 mm^2 (per cable)

Short-circuit protection		With breaker circuits:	With fuses:
	Single feeder cable, 1-phase:	1x 40 A, 1P, type B or C	1 x 35 A gG
	Single feeder cable, 3-phase:	1x 40 A, 3P, type B or C	3 x 35A gG
	Dual feeder cable, 1-phase:	2x 40 A 3P, type B or C	2 x 35A gG
	Dual feeder cable, 3-phase:	2x 40 A 3P, type B or C	6 x 5A gG
Residual current protection (possibly i.c.w. circuit breakers)		Optional: Residual Current Device (RCD): 100 mA S (Selective), 4P • Art.nr. 904461001, 904461002: Type A • All other models: Type B Rating: • 3.7 kW/11 kW charging: minimum 20 A • 7.4 kW/22 kW charging: 40 A	
Nominal input voltage		• V_{L1-N}: 230 V (+/-10%) • V_{L2-N}: 230 V (+/-10%) • V_{L3-N}: 230 V (+/-10%) • V_{L1-L2}: 400 V (+/-10%) • V_{L1-L3}: 400 V (+/-10%) • V_{L2-L3}: 400 V (+/-10%) • V_{PE-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	

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