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Twin 5 Plus

Technical Specification

Product Variants

Twin 5 Plus	Art. no. 93445275x
Twin 5 Plus 25D60	Art. no. 93445276x

General Product Specifications

Number of sockets	2
Types of sockets	2 x Type 2 socket, in accordance with IEC62196-2
Authentication methods	Alfen Plug & Charge RFID card Back office Autocharge ISO 15118 Plug & Charge * Third-party apps
Graphical user interface features	Authorization instructions Start charging instructions Charging status Error status
Display	7" IPS color display, 1000 cd/m^2, resolution: 1024 x 600 pixels
Energy meter, per socket	MID certified 4 quadrant meter
Supported power systems	Technical Characteristics of the Assembly – According to IEC 61439-1 (Clause 5): • TN-S (3L+N+PE) • TN-C-S (3L+N+PE combined at origin) • TT (3L+N+E via earth electrode) • IT (3L+E via earth electrode, no N) * *
Nominal output voltage (+/- 10%)	230 V Line to Neutral / Ground 400 V Line to Line
Maximum design current per socket	32 A per phase
Maximum design power	1-phase: 7.4 kW 3-phase: 22 kW
Switch Disconnector * * *	4P, 80 A, 400 V • Flexible with ferrule 1x Cu 1.5...4 mm^2 • Solid 1x Cu 1.5...6 mm^2 • Flexible 1x Cu 1.5...35 mm^2 • Stranded 1x Cu 1.5... 35 mm^2

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Cable diameters	**Twin 5 Plus** • 1 x Mains power in: 14-54 mm • 2 x Mains power out for (max. 2) satellites in Smart Charging Network: 13-34 mm • 3 x Ethernet cable: 5-22 mm • 1 x Earth conductor: 2-7 mm	**Twin 5 Plus 25D60** • 1 x Mains power in: 17-25.5 mm • 2 x Mains power out for (max. 2) satellites in Smart Charging Network: 17-25.5 mm • 2 x Ethernet cable: 3-7 mm • 1 x Earth conductor: 3-7 mm
Contactors	Per phase controllable contactors Integrated per socket, simultaneous activation of all phases Extra safety relay in series for emergency situations	
Over current protection	Integrated in firmware, over current response scenarios: >110% after 100 seconds >125% after 5 seconds	
Short-circuit protection * * * *	**Twin 5 Plus** MCB or 14 x 51 fuse up to 40 A per phase	**Twin 5 Plus 25D60** 14 x 51 A fuse up to 40 A per phase
Residual current protection	Per socket RCD/RCCB, 4P type B 30 mA Rated breaking capacity: 14 kA	
Available interfaces	2 x RJ-45 (Ethernet/LAN) RS-485 (Modbus RTU)	
Rated insulation voltage U_i	500 V	
Rated impulse withstand voltage U_{imp}	6 kV	
Conditional rated short-circuit current I_{cc}	14 kA	
Rated load factor RDF	0.9	
Degree of pollution of the macro environment	3	

* Will be available in future firmware releases, also depending on car and back office integration

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

* * * In a **Twin 5 Plus 25D60** Smart Charging Network, the main charging station needs to be equipped with a 63 A MCB instead of the switch disconnector.

* * * * The presence of a Grid Connection Box (GCB) may reduce the maximum input capacity and limit the output per socket or require Standard Load Balancing. See also Smart Charging Network Support on page 3.

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Smart Charging Network Support

Assumes the use of accessory kits:

- 803995905-ICU for **Twin 5 Plus**
- 803995913-ICU for **Twin 5 Plus 25D60**

Maximum number of charging stations with a single grid connection	3
Design optimized for	3 x 35 A
Supported wiring schemes	Daisy chain
Terminals	5 x 4 connections L1, L2, L3, N, PE
Clamping range	2.5 mm^2 to 16 mm^2

Product variant	**Twin 5 Plus Twin 5 Plus 25D60**	**Twin 5 Plus Twin 5 Plus 25D60**	**Twin 5 Plus 25D60**	**Twin 5 Plus 25D60**
Recommended cable cross sections for: *	**3 x 25 A**	**3 x 35 A**	**3 x 40 A**	**3 x 63 A**
Diameter	5 x 4 mm^2	5 x 6 mm^2	5 x 10 mm^2	5 x 16 mm^2
Total length (max.)	80 m	60 m	28 m	32 m

* These recommendations are only indicative. The installer is responsible for the correct selection of cables and dimensions appropriate for the installation.

Communication and Protocols

Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017) ready for ISO 15118 communication
RFID reader	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
Communication protocols	TCP/IP Websocket (JSON) Secure websocket (JSON)
Supported mobile communication bands	2G: EGPRS quad-band: 850 / 900 / 1800 / 1900 MHz 4G: LTE Cat M1 bands: 3, 8, 20
Communication protocol to central system	OCPP 1.6 OCPP 1.6 + SE OCPP 2.0.1

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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 • with TLS and Client Side Certificates • without TLS
Remote console access (SSH, telnet)	Not supported
Diagnostic files	Encryption: AES 128 bit
Firmware update files	Encryption: AES 256 Signature: ECDSA NIST P384 (SHA384)
EVSE Internal Flash	Smart control board: AES-CBC Switch board: AES 256 bit
Root certificate	Installed in the factory, update through signed UpdateFirmware file, or remote via OCPP management system

Available Memory

RFID card	Local list: 1000 (Configurable) White list: 1000 (Configurable)
Transaction database	20 000 transactions (Configurable)
Logging for diagnostics	Approx. 45 000 lines

Environmental conditions and product properties

Operating temperature	-25 °C to +55 °C (externally validated)	
Relative atmospheric humidity	5 to 95 %	
Electrical safety class	Class I and Double/ reinforced insulation up to RCD according to IEC61439-1 option a)	
Ingress protection	**Twin 5 Plus** IP54	**Twin 5 Plus 25D60** IP55
Impact protection	IK10	
Stand-by power consumption	10-17 W depending on brightness level	

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Casing

Type	Charging column	
Mounting options	On metal or concrete base	
Material	Cold-rolled Stainless steel AISI/SAE 304, fine-structure powder coating	
Color	RAL 7043 (Traffic Grey B) other colors on request	
Locking	Lockable lever with space for 2 half (single) euro cylinders 30/10 or 35/10 mm (not included) Standard key included	
Product variant	**Twin 5 Plus**	**Twin 5 Plus 25D60**
Dimensions (H x W x D)		
Casing Packaging	1385 x 335 x 220 mm 1490 x 390 x 300 mm	1441 x 356 x 285 mm 1500 x 380 x 340 mm
Internal space for Grid Connection Box	750 x 250 x 160 mm	Grid connection box included
Weight		
Casing Total, incl. packaging	Approx. 40 kg Approx. 42.5 kg	Approx. 47 kg Approx. 50 kg

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

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Standard and Selectable Settings Ex-Works

Description	Options
Authorization	AlfenPlug & Charge RFID reader * Autocharge *
Maximum charging current	16 A 32 A *
User availability if temporarily off-line	Accept all RFID cards 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 backend	Stand alone; ICU Connect * Others options *
Mobile network communication options *	2G: GPRS 4G: LTE-M Ethernet UTP/LAN Autodetect

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.

Available Products with Grid Connection Boxes

Product variant	Twin 5 Plus	Twin 5 Plus 25D60
Grid Connection Fuses	3 x 25 A / 3 x 35 A	3 x 32 A / 3 x 40 A / 3 x 63 A
Compliant with	Dutch connection requirements for 3x 25 A charging stations V3	AREI 2024 requirements
Short-circuit protection on board	3 x Fuse 20 A gG or 25 A gG	3 x Fuse 20 A gS or 3 x Fuse 25 A gS or 3 x Fuse 32 A gS or 3 x Fuse 40 A gS
Short-circuit protection setup selectivity	✓	✓

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Accessories

Product	Article no.	
Concrete base	833829300-ICU	
Dimensions (H x W x D)	570 x 350 x 220 mm	
Weight	42 kg	
Metal base	803828601-ICU	
Dimensions (H x W x D)	598 x 204 x 300 mm	
Weight	7.8 kg	
Packaging (H x W x D)	50 x 295 x 620 mm	
Additional RFID card	203120010-ICU	
Product variant	**Twin 5 Plus**	**Twin 5 Plus 25D60**
Smart Charging Network (SCN) module	803995905-ICU	803995913-ICU
Dimensions (H x W x D)	100 x 150 x 100 mm	
Weight	Approx. 1.5 kg	

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