Technical Specification

Twin 5 plus

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 (encoded MAC address) ISO 15118 Plug & Charge *
Graphical user interface features	Authorization instructions Start charging instructions Charging status Error status
Display	7″ IPS color display Resolution: 1024 x 600 pixels Brightness: 1000 cd/m^2 Contrast ratio: 800:1
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

Technical Specification

Twin 5 plus

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: 110-125% after 100 seconds 125% and higher after 5 seconds	
Short-circuit protection ****	**Twin 5 Plus** MCB or 14 x 51 A 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.

Technical Specification

Twin 5 plus

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 mm2 to 16 mm2				
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)
	ISO 15118 hardware ready (HomePlug Green PHY)
RFID reader	ISO/IEC 14443A/B, 13.56 MHz
	MIFARE Classic 1K/4K, MIFARE Ultralight, DESFire (EV1/EV2)
	Maximum length: 10 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 + Security Whitepaper
	OCPP 2.0.1

Technical Specification

Twin 5 plus

Cyber Security

Default network interfaces	Web Service on port 443, finds charging station using mDNS
Privacy	When using the NFC reader, the charging station will read, process and cache the unique identifier contained within the tag. This data, along with location data (if configured), can be erased in the ACE Service Installer
SIM card	Mini SIM card (4G), gold plated APN username and password authentication via: • PAP • CHAP *
Charging Station Management System authentication	TLS 1.2 with x509 certificates. Supported CSMS root certificate algorithms: • RSA-2048/4096 • ECDSA (P-256 or P-384)
EVSE authentication	HTTP Basic authentication • with TLS • with TLS and Client Side Certificates • without TLS
Diagnostic files	Encryption: AES-128-CBC
Firmware update files	Encrypted and signed. Algorithms: Encryption: AES-256-CBC Signature: ECDSA (P-384) with SHA-256
Root certificate	Installed in the factory, updateable through OCPP management system using UpdateFirmware message, or locally with ACE Service Installer
Tamper detection	Security notification will be sent to the back office

* Will be available in future firmware releases.

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 8.4.3.1 option a)	
Ingress protection	**Twin 5 Plus** IP54	**Twin 5 Plus 25D60** IP55
Impact protection	IK10	
environmental conditions (indoor or outdoor use)	Outdoor	
Stand-by power consumption	10-17 W depending on brightness level	

Technical Specification

Twin 5 plus

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	1385 x 335 x 220 mm	1441 x 356 x 285 mm
Packaging	1490 x 390 x 300 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	Approx. 40 kg	Approx. 47 kg
Total, incl. packaging	Approx. 42.5 kg	Approx. 50 kg

Standard and Selectable Settings Ex-Works

Description	**Options**
Authorization	AlfenPlug & Charge RFID reader * Autocharge (encoded MAC address) *
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.

Technical Specification

Twin 5 plus

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 50 A 3 x 63 A /3 x 80 A	3 x 32 A / 3 x 40 A / 3 x 63 A
Compliant with	Dutch connection requirements for up to 80 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	✓	✓

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	

Built to move what matters

Visit our Eve Twin 5 Plus product page for more info.