

Twin 4XL



General

Product variants

Twin 4XL, 3 phase, 2x socket Type 2

Article no.

934452502

Available products with Grid Connection Boxes*

Specification	3x25A	3x35A	3x32A
Article no.	934452501	934452504	934452513
Compliant with	Connection requirements for 3x25A – 3x80A charging Stations v2.1		Fluvius grid requirements
Short-circuit protection in GCB	3x Fuse 25A gG	3x1P MCB 40A Char C	-
Short-circuit protection onboard	3x Fuse 20A gG	3x Fuse 20A gG	MCB 32A Char B
Short-circuit protection setup selectivity	✓	✓	-
Main onboard RCD	-	-	300mA, Type A

REMARKS

* Grid Connection Boxes may be defined turn-key togetherwith per outlet protection devices

General product specifications

Number of outlets	2
Socket types	2x Type 2 socket, in accordance with IEC62196-2
Authentication methods	Plug & Charge RFID charge card Central system Third-party apps
Status indication	User interface equipped with LEDs
Energy meter, per outlet	MID certified
Number of phases	3-phase
Supported power systems	TN-S, TN-C-S, IT *
Nominal output voltage (+/- 10%)	400V (3x230V)
Maximum design current	64A per phase
Maximum design power	7.4kW (1-phase) 22kW (3-phase)
Main switch	4P, 80A, 400V Cable clamps on main switch, range: • 16mm² per wire: solid (VD) wire • Max. 6mm² per wire: stranded (VDS) wire with ferrules
Cable diameters	Tulles available for: • 1x 14-54mm: Mains power in • 2x 13-34mm: Power out for (max) 2 Twin 4XL in Smart Charging Network • 3x 12-18mm: Ethernet cable Cable clamp, range for 2-7mm: cable for grounding electrode
Contactors	Per phase controllable relays Integrated per outlet, simultaneous activation of all phases Extra safety relay in series for emergency situations

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General product specifications

Overcurrent protection	Integrated in firmware, overcurrent response scenarios: 105% after 1,200 seconds 112% after 100 seconds 120% after 5 seconds 150% after 2 seconds
Short-circuit protection	Per outlet: MCB 40A Char C **
Residual current protection	Per outlet integrated RCD, 30mA type A Rated breaking capacity: 10kA Integrated 6mA DC fault current detection, response time: 1-5 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

** The presence of a Grid Connection Box (GCB) may reduce the maximum input capacity and limit the output per outlet, or require Standard Load Balancing

Smart Charging Network support *

Maximum number of Twins in an SCN	3
Design optimised for	3x35A
Supported wiring schemes	Star topology Daisy chain
Terminals	5x 4 Connections: L1, L2, L3, N, PE
Clamping range	2,5mm ² - 16mm ²
Network switch	5 ports, 10/100Mbps
Recommended cable dimensions **	3x25A 3x35A
Diameter	5 x 4mm ² 5 x 6mm ²
Total length (max)	80m 60m

REMARKS

* Assumes the use of accessory 803882293-ICU

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

Communication and protocols

Controller	NG920
Vehicle communication	Mode 3 in accordance with IEC 61851-1 ed. 3 (2017)
NFC card 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
Supported mobile communication bands	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 (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

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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 (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: SHA 256 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

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

Operating conditions

Operating temperature	-25°C ... +40°C
Relative atmospheric humidity	5 - 95 %
Electrical safety class	Class I
Degree of protection (casing)	IP54
IK protection (mechanical impact)	IK10
Stand-by power consumption	Approx. 9 – 12W

Casing

Type	Charging column
Mounting options	Directly on solid underground or on optional metal or concrete base
Material	Cold-rolled Stainless steel AISI/SAE 304, fine-structure powder coating
Colour	RAL 7043 (Traffic Grey B)
Locking	Lockable lever with space for 2 Half (Single) Euro cylinders 40/45mm (not included) Standard key included
Dimensions (H x W x D)	
Casing	1385 x 335 x 220 mm
Packaging	1400 x 350 x 300 mm
Internal space for Grid Connection Box (H x W x D)	634 x 220 x 160 mm
Weight	
Casing	Approx. 40 kg
Total, incl. packaging	Approx. 42.5 kg

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Installation instructions

Input: minimal recommended cable diameters (based on assumed max. 50m cable length)	11kW charging, 16A selected per phase: 5 x 4 mm ² 22kW charging, 32A selected per phase: 5 x 6 mm ²
Short-circuit protection	Integrated in Grid Connect Box (direct installation on electricity grid), or Installation on local Low voltage distribution panel With breaker circuits: 80A, 3P, type B or C With fuses: 3 x 80A gG In case of gG fuses it is possible to reduce 64A as minimum
Residual current protection (possibly i.c.w. circuit breakers)	On board when Grid Connect Box is installed (direct installation on electricity grid), or <u>Optional</u> : Residual Current Device (RCD): 100mA S (Selective), type A, 4P Rating: 22kW charging: 80A
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%) • $V_{PE-N'}$: $\approx$ 0V
Nominal frequency	50 Hz
Grounding	TN system: separate PE cable 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*
Maximum charging current	16A 32A*
Smart Charging	Off Standard Load Balancing * Active Load Balancing (P1)* Smart Charging Network*
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*
Mobile network communication options *	2G: GPRS 4G: LTE-M UTP/LAN Autodetect

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

OCPP specifications

Supported feature profiles and functionalities

	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	●	●	●

REMARKS

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

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OCPP specifications

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

Accessories

General accessories for Twin 4XL

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	7.8 kg
Packaging (H x W x D)	50 x 295 x 620 mm
Additional RFID card	Art. 203120010-ICU
SCN extension module Twin 4XL	Art. 803882293-ICU
Dimensions (H x W x D)	100 x 150 x 100 mm
Weight	Approx. 1.5 kg

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