Product Data Sheet

PUNWARE

FAST CHARGER **P500DC-EU**

500 kW SMART DC-charging system for EVs

TECHNICAL DATA

Input

Voltage requirement	Nominal: 380, 400, 415, 480 V Three phase, 4-wire including earth (no neutral) Voltage tolerance: 320 – 700 V Frequency: 45 – 66 Hz
Maximum current	625 A (cont., rms)
Power factor nominal	Greater than 0.995 at full power, 0.99 at half power, 0.98 at 5% power
Power factor adjustment (PFC)	Adjustable from 0.9 inductive to 0.9 capacitive by grid operator as required
Harmonic distortion of input current	Less than 5% at full load; 10% at half load
Voltage withstand test	2828 VDC input to chassis for 1 minute
Protection	Overvoltage: operates to 700 VAC typically Undervoltage: operates to 303 VAC typically Surge protection to 6 kV Internally fused
Startup	Controlled soft-start – inrush current less than rated current
Standby operation	Power on standby: <50 W (per Stack) VAR on standby: <50 VAR leading (per Stack). The P500 DC-EU has 10 Stacks.

Output

Voltage	Adjustment range: 150 – 1000 VDC (CCS)
Current	Smoothly variable output – no range changing required Up to 500 ADC at and below 1000VDC. Constant power characteristic applies above this voltage.
Noise	<0.5% peak to peak (0 – 20MHz) Negligible main frequency ripple
Protection	Short circuit protected with electronic limit. Internally fused – 50kA fault rating
Insolation	IT insolation 2828 VDC output to chassis for 1 minute up to 500kW when charging one vehicle 2 x 250 kW in parallel charging mode of 2 vehicles (Active Power Balancing System)
Output rapid discharge circuit	Build-in
Power Output characteristics	up to 500kW when charging one vehicle up to 2 x 250 kW in parallel charging mode of 2 vehicles (Dynamic Allocation of Power Stacks and Power Distribution to Charging Points):
Granularity	50Kw

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Environment

Suitability	Indoor and Outdoor Installation
Operating range	-35°C to +60°C, ≤90% RH, reduced power >50°C
Environmental Conditions, in storage and transport	-35°C to +70°C
Altitude	2000m max, de-rating 5°C per 1000m
Humidity, in storage and operation	0% - 95% (non condensing)
Noise at stand-by	<10 dB @1m distance
Noise at full charging	<65 dB @1m distance
Noise at cooling after charging	<45 dB @1m distance for max 60 sec.
Design Lifetime	≈15 Years
Life Cycle Assessment	Yes

Sustainability Index	**Component**	**Recyclability Index (%/kg)**
	Steel Case	≈ 100%
	PVC (cables and insulation)	≈ 65%
	TPE (cable insulation and connectors)	≈ 40%
	Glass (display and interface)	≈ 100%
	Aluminum (internal comp. and fasteners)	≈ 100%
	Wood (packaging)	≈ 90%
	Copper (cables)	≈ 85%

System

Type	Powder-coated stainless-steel totem with build-in electronics
Protection	IP54
IK rating	IK10
Efficiency	≈97,2%
DC Interfaces	2x CCS2 up to 600A
Architecture	Multi-Stack, Modular 10x50kW
MID DC-Metering	German PTB Certified, optional
MID AC-Metering	German PTB Certified, optional
Touch Screen	43’ HD Outdoor High Contrast (single or double). Instagram format JPG, MP4.
Cables	Phoenix Contacts *HPC* - CCS Combo 500A (≈3m or ≈5m)
Physical Authentication	RFID reader (ISO/EC 14443A/B, ISO/IEC15693)
QR code Reader	YES, displayed on the touch screen
Radio Authentication	DSRC 5.8GHz radio link (Telepass) , optional
Presence Detector	People counting PD with AI based gender recognition, optional
Network	LTE/UMTS/GSM Modem 4G/3G/2G – 10/100Base T-ethernet
Charging Protocol	OCPP 1.6J. OCPP 2.0J, optional
SCADA	HTTPS remote access+diagnostics. SMS via OEM SIM card, optional
Weight	≈905 Kg, single screen, ≈925 Kg double screen
Dimensions (mm)	H1994 x W865 X D410
Cooling	Forced air cooling

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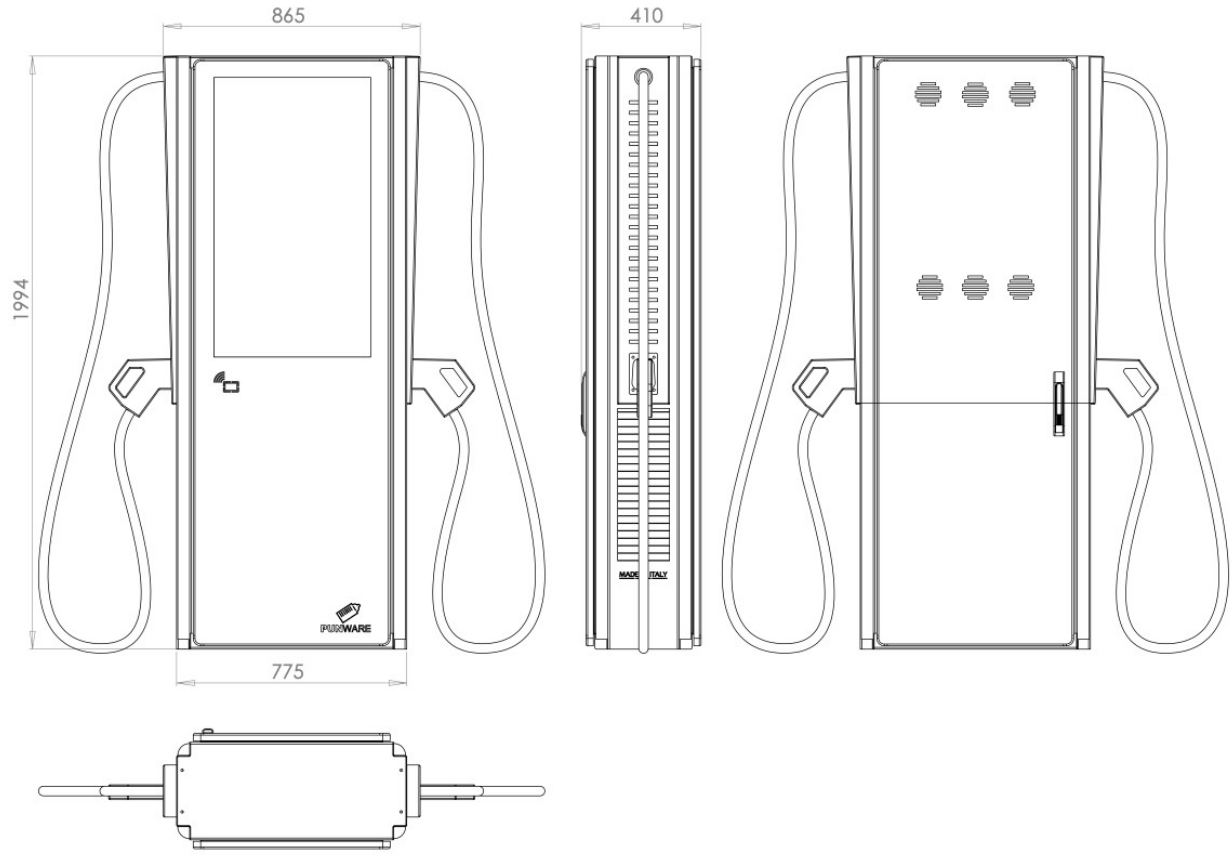
Standards

Certifications	CE
EU Directives	2011-65-EU, 2014-35-EU
IEC EN	IEC 61439, IEC 61851, EN 62311, IEC 61000-4/-2/-3/-5/-6

Case Design



Disclaimer: The above-mentioned specifications are subject to change without prior notice