



PUNWARE

FAST CHARGER P60DC-EU

Input

Voltage requirement	Nominal: 380, 400, 415, 480 VAC Three phase, 4-wire including earth (no neutral) Voltage tolerance: 320 – 530 VAC Frequency: 45 – 66 Hz
Maximum current	75 ARMS input per phase
Power factor nominal	Greater than 0.995 at full power, 0.99 at half power, 0.98 to 5% power
Power factor adjustment	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	2828VDC input to chassis for 1 minute
Protection	Overvoltage: operates to 550 VAC typically Undervoltage: operates to 303 VAC typically Surge protection to 6 kV/3 kA Internally fused – additional external protection may be required by local wiring rules
Startup	Controlled soft-start – inrush current less than rated current;
Standby operation	Power on standby: <50 W VAR on standby: <50 VAR leading

Output

Voltage	Adjustment range: 150 – 920 VDC for CCS 50 – 1000 VDC for CHAdeMO
Current	Smoothly variable output – no range changing required Up to 250 ADC is available at and below 400VDC. Constant power characteristic applies above this voltage.
Noise	<0.5% peak to peak (0 – 20MHz) Negligible mains frequency ripple
Protection	Short circuit protected with electronic limit. Internally fused – 50kA fault rating
Isolation	IT isolation 2828 VDC output to chassis for 1 minute
Output rapid discharge circuit	Built in
Output characteristics	60kW when charging one vehicle 2 x 30kW in parallel charging mode of 2 vehicles

Standards

Features and Safety	Designed to be used as a CCS vehicle charger to IEC61851-1: 3rd Ed 2017, and IEC61851-23: 1st Ed 2014, and general safety to IEC 62477-1 Ed 2016 Also, for a CHAdeMO vehicle charger to V1.0, 1.2, or 2.0.
EMC Emissions and Immunity Grid compatibility	Designed to IEC 61851-21-2: 1 st edition 2018, Class B VDE-AR-N 4100 Ed 2019

Environment



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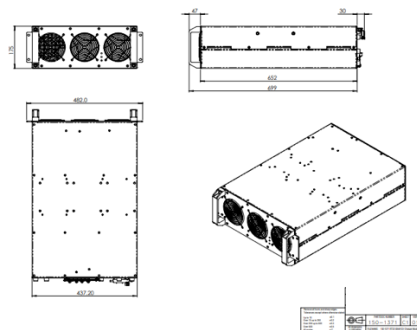
Operating range -35°C to +60°C, ≤90% RH, reduced power >50°C
Protection IP54 (up to IP56)
Altitude 2000m max, de-rating 5°C per 1000m

Users Interfaces

Touch Display Outdoor 43" HD
Network Connection GSM-/CDMA-Modem 2G / 3G / 4G / 5G (optional)
10/100Base T-Ethernet
WLAN
Infrastructure comm. protocol OCPP 1.6J / 2.0J

Tech drawings - Sketch

Rectifier sk.1



Rectifier sk.2

