



Charge-X

DC Charger – 220V_{DC}

The Charge-X (CSX-220-10S) is a 220V_{DC} rack mount, modular charging system that can be used for various systems and system sizes. The modular design allows system expansion for charging of larger batteries and powering systems. With hot swappable rectifier modules the CSX is easy to install, maintain, operate, monitor and expand if/when needed. It also adopts automatic output voltage regulation so that constant output can be achieved even if a rectifier module is faulty or damaged.

Key features include:

- 0.99 power factor
- Compact 2RU design
- High power density
- Up to 10A output current
- High efficiency
- Built in battery protection & load disconnect management system
- LVD function for battery protection
- Hot swappable monitor and modules
- Communication & dry contacts: emergency alarm, major alarm, minor alarm
- Complete fault protection
- Flexible system configuration – N + 1 redundancy

Alpha Power Systems

18/30 Heathcote Road
Moorebank NSW 2170

T (02) 9602 8331

F (02) 9602 9180

E admin@alphapower.com.au

W www.alphapower.com.au

Alpha
Power Systems

Product Specifications

Model	CSX-220-10R
Input Voltage	175 – 300V _{AC} for normal output 75 – 175V _{AC} for reduced output
Input Current	13.6A
Input Power Factor	≥ 0.99
Input Frequency Range	45 – 65Hz
Output Voltage	220V _{DC}
Output Current	10A (@ 300V _{DC})
Output Efficiency	≥ 95%
Output Voltage Ripple	≤ 200mV
Output Short Circuit Protection	15 – 30% of nominal current
Output Paralleling	Current sharing ± 3%
Output Default Charging Voltage	240V _{DC} (default)
Output Overvoltage	302V
Output Noise	Peak: ≤ 200mV 0 - 20MHz Wide frequency: ≤ 50mV @ 3.4kHz - 150kHz ≤ 20mV @ 0.15 MHz - 30MHz Discrete noise voltage: ≤ 5mV @ 3.4kHz - 150kHz ≤ 3mV @ 150kHz - 200kHz, ≤ 2mV @ 200kHz - 500kHz ≤ 1mV @ 0.5MHz - 30MHz
Voltage Regulation	≤ 0.6% precision
Load Regulation	≤ 0.5%
Voltage Regulation	≤ 0.1%
Temp. Compensation Coefficient	Set manually mV/°C
Communication	RS485
Alarm & Protection	Overcurrent (input fuse, output fuse, PFC surge diverter, short circuit protection), input overvoltage*, output overvoltage**, under-voltage*** and over-temperature****
Compliance (EMC)	EN61000-4-2, EN61000-4-6, EN61000-4-3, EN-610004-12
Cooling	Fan
Insulation Resistance	>10MΩ
Dielectric Strength	2000V between input, output and chassis for 1 minute
Operating Conditions	-20 – 55°C, ≤ 90% humidity, ≤ 2000m altitude, 70 – 106Pa air pressure
Storage Temperature	-40 – 70°C
Dimensions W x D x H	103 x 261 x 88 mm
Weight	2.4Kg
Audible Noise	≤ 50dBA

*Parameters set by hardware. Input protection 300V ± 5V (5 – 20V); output protection 37V ± 1V

Parameters set by hardware. Output protection 320V ± 5V *Parameters set by hardware. 75V ± 5V (10 – 20V)

****Default value 80°C (10°C)

Monitor Module

The monitor has an LCD display (128 x 64 mm), LED indicators, built in CPU and provides both local and remote communications. It is designed to communicate directly with the rectifier modules. The built in CPU monitors and controls the operational status of each module in real time.



Model/Part Number	CSX-220-10C
Rated Input Voltage	220V _{DC}
Voltage Range	175 - 300V _{DC}
Working Temperature	-25 – 45°C
Display	Blue LCD: Operating status, fault/alarm, settings & control LED: power supply, charging status, fault status
Dimensions W x D x H	103 x 261 x 88 mm

The main configuration for the CXS-220-10S is shown in the image below.



1 x monitor module, 3 x rectifier modules.

Shelf configurations can differ; blank panels can be used to accommodate for smaller systems where fewer rectifiers are needed. Total shelf dimensions are 482 x 385 x 92 mm.