

PowerCharge XP - Scalable Fast Chargers

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The PowerCharge XP series is new line of dedicated fast chargers that is now available from PowerDesigners, LLC. The dedicated fast chargers allow optimal fast charging of truck batteries where the full power rating of the charger is dedicated to the connected battery.

Unlike other dedicated fast chargers, the patent pending PowerCharge XP is the first flexible and scalable fast charging system made available. The PowerCharge XP fast chargers utilize a modular **Power Bay** design rated at 10kW (see Fig. 1) along with a **Power and Control Rack** (see Fig. 2). The Power and Control Rack is a dedicated power and control unit that incorporates input and output power distribution and cabling along with advanced user interface and microprocessor controls.



Fig. 1: 10kW Modular Power Bay



Fig. 2: Power and Control Rack

A typical PowerCharge XP fast charger consists of a Power and Control Rack unit along with one or more power bays. For example, a 10kW fast charger will include a single power bay, a 20kW unit will have two power bays, and a 30kW unit will have three power bays. It can be easily seen that higher power fast charging systems can be easily realized by adding more power bays. This makes the PowerHouse FC the most flexible fast charger available on the market.

The modular design concept of the P PowerCharge XP fast chargers offers a number of advantages including:

✓ **Flexible and Re-configurable Fast Charging Systems**

- Ability to realize fast charging systems with power ratings from 10kW-50kW. All what is needed is adding power bays.
- Customizable to user needs in 10kW increments. No need to buy a 30kW charger if your fast charging needs are met with a 20kW unit.
- Scalable and Upgradable: All you need to expand the power capability of the charger is to add power bays. Your investment is protected and the incremental cost is minimal.

✓ **Redundant Architecture Offering Uninterrupted Service**

- Continued operation with a single power bay failure. No down time with a single power bay failure as the system will auto-configure itself and operate at reduced power. For example, a 30kW charger will operate at 20kW if a power bay fails thus ensuring uninterrupted service.
- Auto configuration after removal of power bays. If a power bay is removed, the charger will autoconfigure itself and commission only the remaining power bays.
- Lower maintenance requirements. Users need only need to replace failed power bays which are quite easy to install and connect.