pCharge

Automatic Battery Charger

12V 6A | 24V 3A
24V 5A



The pCharge series of automatic, compact battery chargers delivers a highly efficient, cost-effective solution for industrial power generation and standby applications.

Integrating advanced high-efficiency switch-mode technology with precise microprocessor control, the pCharge range is optimised for both sealed (VRLA/GEL) and flooded lead-acid batteries.

Designed for continuous, permanent connection to the starter battery, the pCharge includes protection against overload, reverse battery connection, over voltage and over temperature.

INPUT SPECIFICATION

	12V 6A 24V 3A	24V 5A
Voltage	120 / 240V AC Universal Input	
Frequency	50 / 60Hz	
Input current	1.5A rms max.	2.3A rms max.
Leakage current	None	<0.75mA / 240VAC

OUTPUT SPECIFICATION

	12V 6A 24V 3A	24V 5A
Voltage / Current *Other voltages on request*	12.0V Nominal 6.0Apk 24.0V Nominal 3.0Apk	24.0V Nominal 5.0A
Efficiency	Up to 90%	Up to 92%
Ripple and noise	±0.5%	
Line regulation	±1.0%	
Load regulation	±1.0%	
Overload protection	Constant current limit / fold back	
Over temp. protection	Output shutdown with automatic recovery	
Reversed battery protection	Automatic protection Disabled when in PSU mode	

ALARMS AND LEVELS

	12V 6A 24V 3A	24V 5A
DC output voltages	Float = Factory set to 13.8V Float = Factory set to 27.6V	24.0V Nominal 5.0A
	Boost (Bulk/Absorb) = Float Voltage +4%	
Over voltage protection	16.0V Instantaneous lockout 30.5V Instantaneous lockout	30.5V Instantaneous lockout
AC / charger fail	Loss of AC input or DC output voltage control	
Low DC voltage alarm	Float Voltage -12% Alarm, -8% Reset	
High DC voltage alarm	Float Voltage +7% Alarm, +5% Reset	
Battery disconnected	Open circuit on DC output (Disabled in PSU mode)	

FEATURES

- Cost effective
- Micro-processor control
- Compact size
- Robust and high reliability
- Automatic multi-stage charging
- Continuously rated
- Protections:
  - Short circuit and overload
  - Over voltage
  - Over temperature
  - Reverse battery
- Universal AC input range
- Low ripple output
- Naturally cooled
- Simple calibration procedure
- Comprehensive alarm monitoring
- Optional fail alarm contact set

APPLICATIONS

- Standby and prime power generators
- Industrial control systems
- Automotive
- Alarm systems
- Marine
- PSU
- Portable equipment

pCharge

ISOLATION

	12V 6A 24V 3A	24V 5A
Withstand voltage	Input - Output 1.5kV AC	
Isolation resistance	Input - Output 500V DC / 100M Ohms	

ENVIRONMENTAL SPECIFICATION

	12V 6A 24V 3A	24V 5A
Working temperature	-10°C to +50°C	
Working humidity	20 - 90% RH	
Storage temperature	-20°C to +85°C	
Storage humidity	10 - 95% RH	
Unpacked weight	300 grams	

FINISH

Black ABS plastic case - Fine Spark Erode

FAIL ALARM RELAY CONTACT SET

Volt-free form C relay contact set for signalling of a fault alarm condition.

The relay contacts de-energise 60 seconds after a fault occurs. The over voltage protection shutdown alarm de-energises the contacts instantly.

TERMINATION / CONNECTORS

AC input and DC output:
Connections terminate to rising clamp screw terminals and will accept 2.5mm2 stranded cable.

Fail alarm:
Connections terminate to rising clamp screw terminals and will accept 1.0mm2 stranded cable.

PSU Enable Jumper:
Remove jumper link for three stage battery charging mode.
Battery disconnected and reverse battery polarity detection are active.

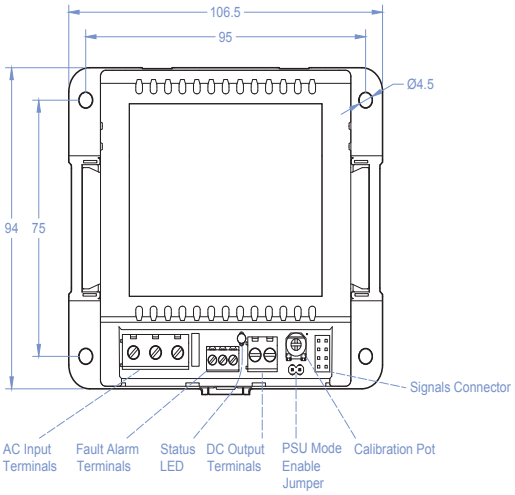
Fit jumper link for PSU mode:
Two stage charging / PSU function (output is always on).

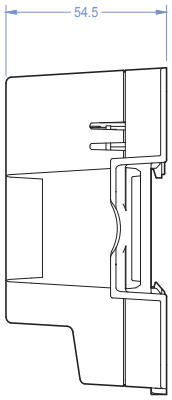
NOTE: Reverse battery and battery disconnected alarms are disabled in PSU mode.

ORDERING INFORMATION

DC output	Fail alarm
pCharge 12V 6A	Yes
pCharge 24V 3A	Yes
pCharge 24V 5A	Yes

GENERAL ARRANGEMENT

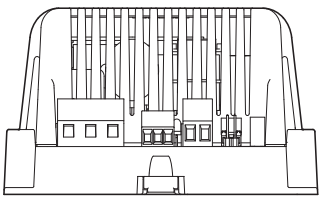




TO CALIBRATE:

1. DISCONNECT THE BATTERY.
   CONNECT A DC VOLTMETER TO THE +/- OUTPUT TERMINALS.
2. TURN THE 'CAL' POTENTIOMETER FULLY ANTI-CLOCKWISE.
   WHEN THE STATUS LED FLASHES GREEN / RED @ 5Hz. ADJUST THE 'CAL' POTENTIOMETER AND SET THE DESIRED FLOAT VOLTAGE LEVEL.
3. WHEN THE LED RED / GREEN @5Hz. FLASH SEQUENCE ENDS THE UNIT IS CALIBRATED.

Top-hat din rail mount or screw fixing



LED status

