



# SmartCharge DC 120-LC

## Hybrid Automatic Battery Charger

DS-401/2

**SmartCharge DC 120-LC** Hybrid automatic battery chargers provide a cost effective solution to most industrial battery charging requirements. Utilising the latest high efficiency switch-mode technology and micro-processor control, the SmartCharge DC 120-LC is suitable for charging most sealed or flooded batteries and is easily calibrated by the end user to suit the battery type. The multi-stage intelligent charging characteristic ensures accurate and efficient battery charging and is designed for permanent connection to the batteries maintaining them in a fully charged condition without overcharging. The SmartCharge DC 120-LC is fully protected against overload, reverse input polarity, reverse battery connection, over voltage and over temperature.



### Input Specification

Voltage Range, $V_{IN}$	34 - 67V DC
Input Current	2.8A @ 48V DC
Inrush Current	5.0A @ 48V DC

### Output Specification

Voltage / Current	12.0V Nominal 10.0A. <i>Other Voltages on Request</i>
Ripple & Noise	±0.5%
Line Regulation	±0.5%
Load Regulation	±1.0%
Efficiency	Up to 89%
Overload Protection	Constant Current Limit
Over Temp. Protection	Output shutdown with automatic recovery
Reversed Battery Protection	Automatic protection. Disabled when in PSU mode.

### Alarms and Levels

DC Output Voltages	Float = Factory set to 13.8V. Boost (Bulk/Absorb) = Float Voltage +4%.
AC / Charger Fail	Loss of DC 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.
Over Voltage Protection	16.0V instantaneous lockout.
Battery Disconnected	Open circuit on DC output (Disabled in PSU mode)

### FEATURES

- Cost effective
- Micro-processor control
- Small footprint and compact size
- DIN rail mounting
- Automatic multi-stage charging
- Continuously rated
- Protections:
  - Input polarity
  - 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
- Fail alarm contact set

### APPLICATIONS

- Hybrid power generators
- Robust PSU
- Industrial control systems
- Battery powered systems



@ sales@jenelec.co.uk www.jenelec.com

+44 1379 853666

## Isolation

Withstand Voltage	I/P to O/P, I/P to Earth : 1.5kV AC
Isolation Resistance	I/P to O/P, I/P to Earth, O/P to Earth : 500V DC / 100M Ohms

## Environmental Specification

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	0.8 kgs

## Finish

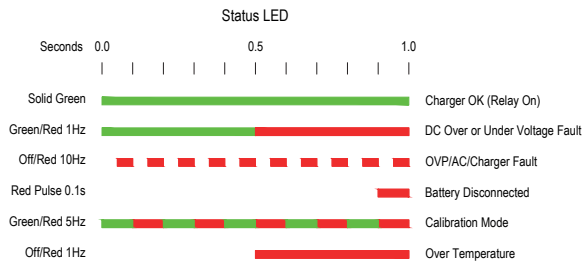
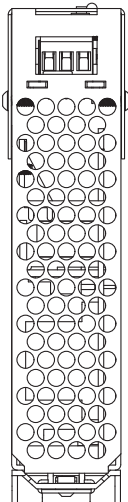
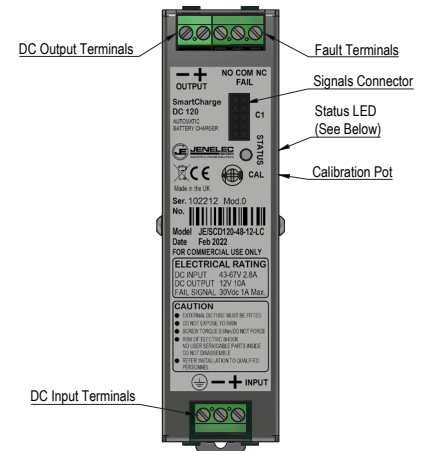
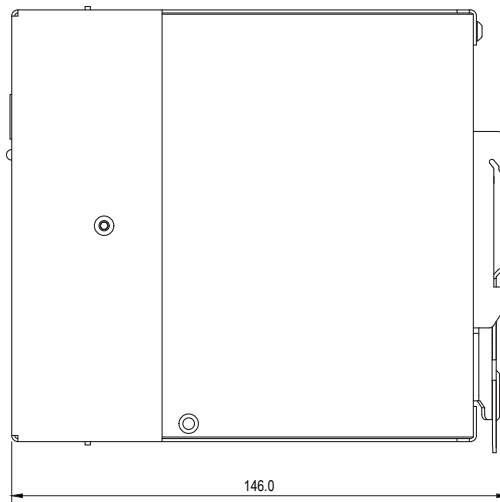
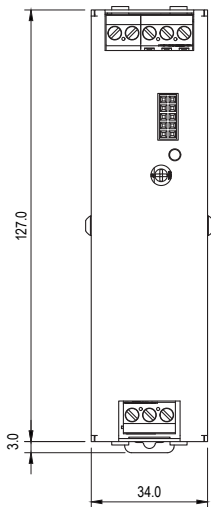
Aluminium / RAL9005 black fine texture.

## 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.

## General Arrangement



### TO CALIBRATE:

- DISCONNECT THE BATTERY.  
CONNECT A DC VOLTMETER TO THE +/- OUTPUT TERMINALS.
- 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.
- WHEN THE LED RED/GREEN @5Hz. FLASH SEQUENCE ENDS THE UNIT IS CALIBRATED.

Top hat DIN rail mount. Optional screw down bracket available on request.

## Termination

AC Input and DC Output:

Connections terminate to rising clamp screw terminals and will accept 2.5mm<sup>2</sup> stranded cable.

Fail Alarm:

Connections terminate to rising clamp screw terminals and will accept 2.5mm<sup>2</sup> stranded cable.

Connector 'C1' (Signals):

Pins 7 and 8 should be linked when the charger should also function as a PSU.

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

The remaining pins are for expansion modules, communication interfaces, firmware upgrade etc. and should not be used.

## Ordering Information

Model No.	DC Output
JE/SDC120-48-12-LC	12V 10A