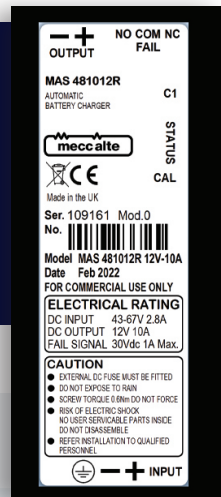


SmartCharge

Hybrid Automatic Battery Charger

DC 120-LC

MAS 481012R



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 10A
Other voltages on request	
Ripple and noise	$\pm 0.5\%$
Line regulation	$\pm 0.5\%$
Load regulation	$\pm 1.0\%$
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	16V Instantaneous lockout
Battery disconnected	Open circuit on DC output (Disabled in PSU mode)

FEATURES

- Cost effective
- Micro-processor control
- Small footprint & compact size
- Din rail mounting
- Automatic multi-stage charging
- Continuously rated
- Protections:
 - Input polarity
 - Short circuit and overload
 - Over voltage
 - Over temperature
 - Reverse battery
- Low ripple output
- Naturally cooled
- Simple calibration procedure
- Comprehensive alarm monitoring
- Fail alarm contact set

APPLICATIONS

- Hybrid power generators
- Engine driven battery chargers
- Hybrid assist power systems
- DC lighting towers

ISOLATION

Withstand voltage	Input - Output, Input - Earth 1.5kV AC
Isolation resistance	Input - Output, Input - Earth, Output - 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 (OPTIONAL)

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

DC 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 2.5mm² stranded cable.

Connector 'C1' (signals):

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

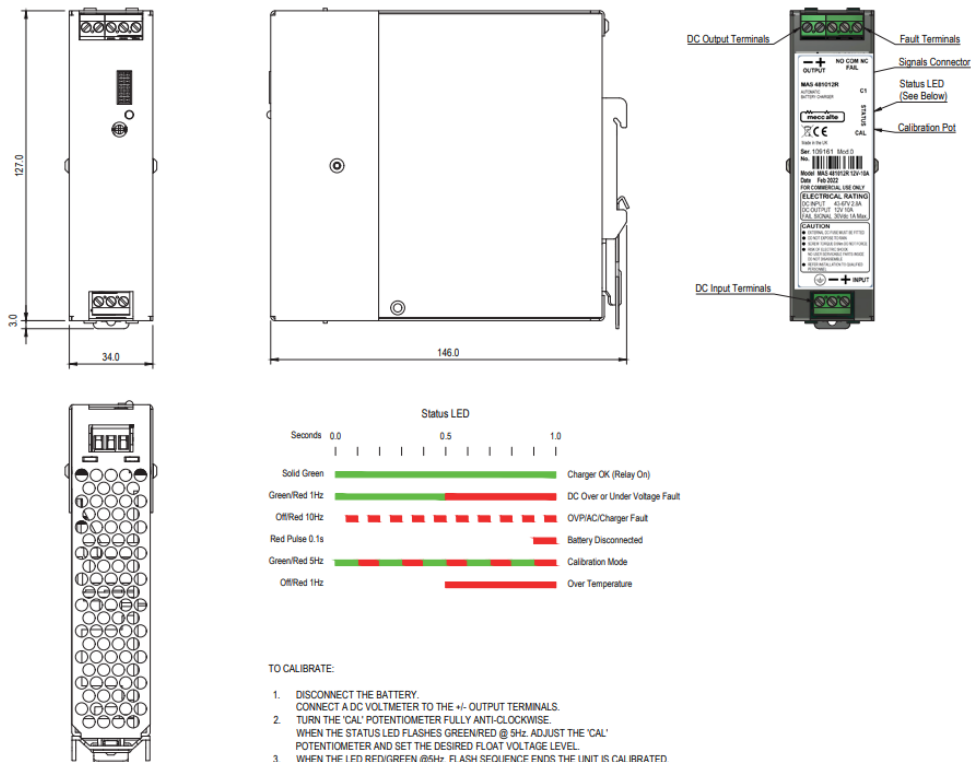
NOTE: Reverse battery and battery disconnected alarms are disabled in PSU mode.

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

ORDERING INFORMATION

Model No.	DC output
MAS 481012R	12V 10A

GENERAL ARRANGEMENT



Top-hat din rail mount. Optional brackets for screw fixing.