

uCharge

Automatic Battery Charger

DS-397/2

MAS 0612 12V-6A
 MAS 0612R 12V-6A
 MAS 0324 24V-3A
 MAS 0324R 24V-3A



uCharge 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 range 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.

uCharge is fully protected against overload, reverse battery connection, over voltage and over temperature.

INPUT SPECIFICATION

Voltage range, V_{IN}	90 - 264V AC
Frequency	47 - 63Hz
Input current	1.5A rms max.
Leakage current	None

OUTPUT SPECIFICATION

	MAS 0612 12V-6A MAS 0612R 12V-6A	MAS 0324 24V-3A MAS 0324R 24V-3A
Voltage / Current <i>Other voltages on request</i>	12.0V Nominal 6.0Apk.	24.0V Nominal 3.0Apk.
Ripple and noise	±0.5%	
Line regulation	±1.0%	
Load regulation	±1.0%	
Efficiency	Up to 90%	
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

	MAS 0612 12V-6A MAS 0612R 12V-6A	MAS 0324 24V-3A MAS 0324R 24V-3A
DC output voltages	Float = Factory set to 13.8V Boost (Bulk/Absorb) = Float Voltage +4%	Float = Factory set to 27.6V
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	
Over voltage protection	16.0V instantaneous lockout	30.5V instantaneous lockout
Battery disconnected	Open circuit on DC output (Disabled in PSU mode)	

FEATURES

- Cost effective
- Micro-processor control
- Compact size
- Sealed electronic construction
- 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
- UL approved to UL1236 Edition 8
- cUL approved to CSA C22.2 No.107.2-01 edition 2

APPLICATIONS

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

ISOLATION

Withstand voltage	Input - Output 1.5kV AC
Isolation resistance	Input - Output 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	400 grams.

FINISH

Black ABS plastic case - Fine Spark Erode

FAIL ALARM RELAY CONTACT SET

Available on models MAS 0612R 12 V-6A and MAS 0324R 24V-3A

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

AC input and DC output:

Connections terminate to rising clamp screw terminals and will accept 2.5mm² stranded cable.

Optional fail alarm:

Connections terminate to rising clamp screw terminals and will accept 1.5mm² stranded cable. Available on MAS 0612R 12V-6A and MAS 0324R 24V-3A.

Connector 'C1' (signals):

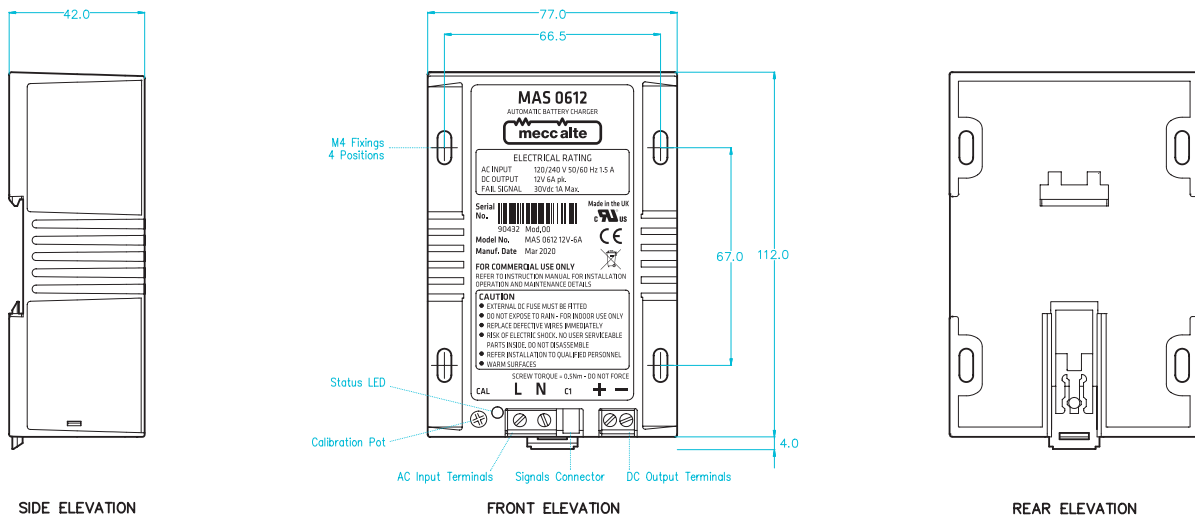
Pins 7 and 8 should be linked when the charger should also function as a PSU.

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	Fail alarm
MAS 0612 12V-6A	12V 6A pk	No
MAS 0324 24V-3A	24V 3A pk	No
MAS 0612R 12V-6A	12V 6A pk	Yes
MAS 0324R 24V-3A	24V 3A pk	Yes

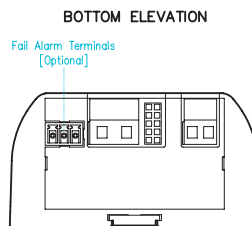
GENERAL ARRANGEMENT



Top-hat din rail mount or screw fixing.

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.



Status LED

Seconds	0.0	0.5	1.0	
Solid Green	[Green bar]			Charger OK (Relay On)
Green/Red 1Hz	[Green/Red bar]			DC Over or Under Voltage Fault
Off/Red 10Hz	[Red bar]			OVP/AC/Charger Fault
Red Pulse 0.1s	[Red bar]			Battery Disconnected
Green/Red 5Hz	[Green/Red bar]			Calibration Mode
Off/Red 1Hz	[Red bar]			Over Temperature