

# 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
- UI 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



www.meccalte.com

POWER FROM WITHIN

# uCharge

## 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 2.5mm<sup>2</sup> stranded cable.

### Optional fail alarm:

Connections terminate to rising clamp screw terminals and will accept 1.5mm<sup>2</sup> stranded cable. Available on MAS 0612R 12V-6A and MAS 0324R 24V-3A.

### Connector 'C1' (signals):

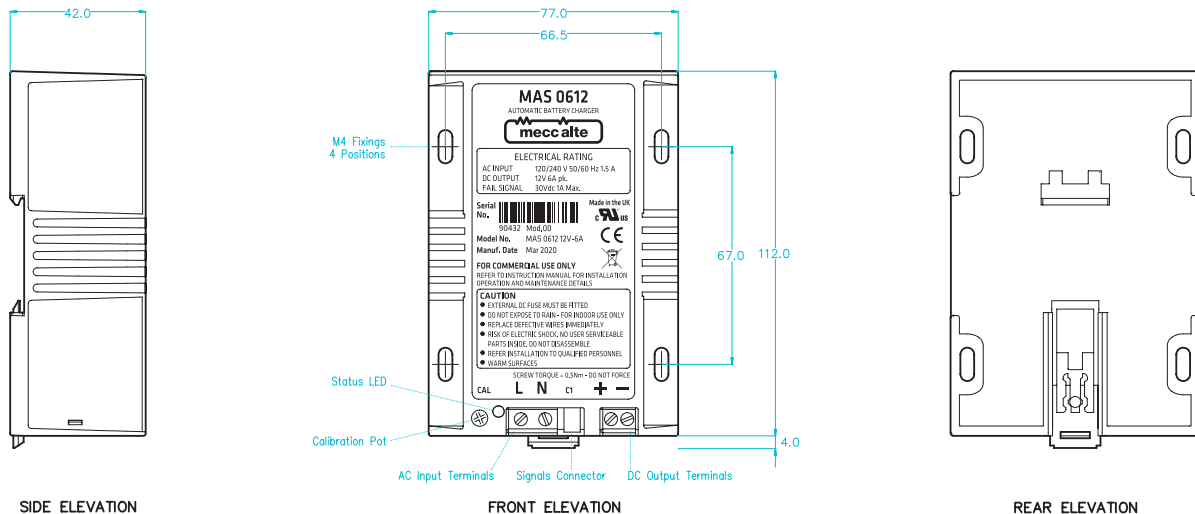
Pins 7 and 8 should be linked when the charger should also function as a PSU.

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

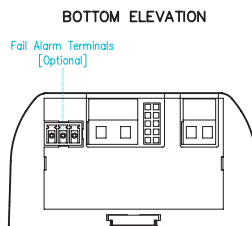
## GENERAL ARRANGEMENT



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.



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