

fCharge

Automatic Battery Charger

DS-399/1

MAS 1024R 24V-10A

fCharge 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.

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

INPUT SPECIFICATION

Voltage range, V_{IN} 100 - 264V AC

Frequency 47 - 63Hz

Input current 2.5A max.

Leakage current <1mA / 240VAC

OUTPUT SPECIFICATION

Voltage / Current 24.0V 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 88%

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 27.6V.
Boost (Bulk/Absorb) = Float Voltage +4%.

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 30.5 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:
 - 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

- Standby & prime power generators
- Engine driven pumps and compressors
- Switch gear tripping
- Industrial control systems
- Robust PSU
- Alarm systems
- Navigational aids

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	1.2 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

AC input and DC output:

Connections terminate to rising clamp screw terminals and will accept 6.0mm² 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.

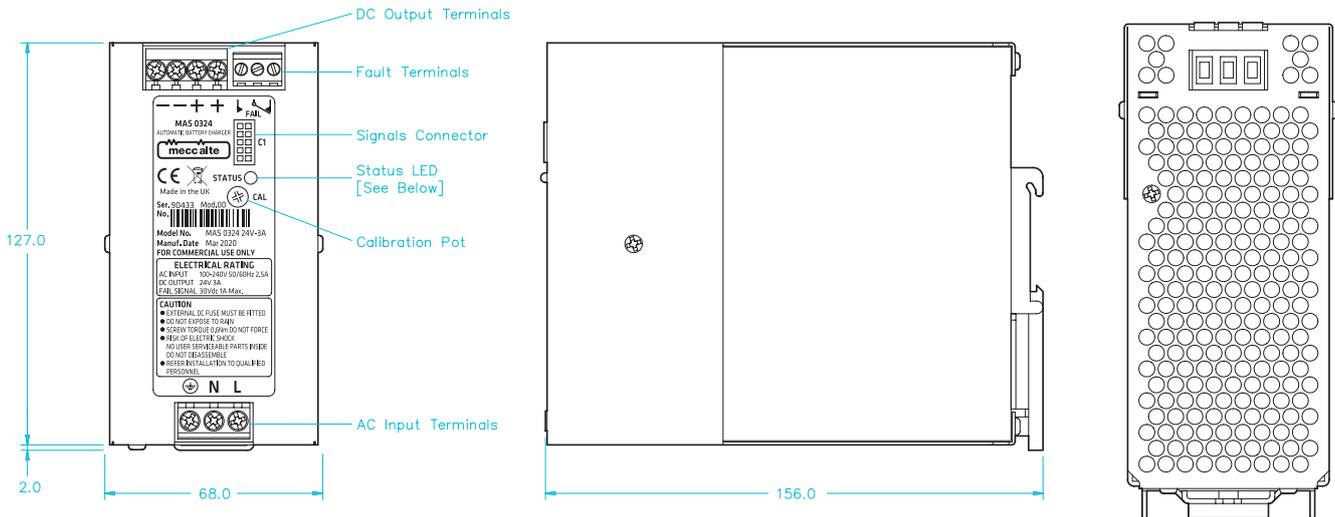
NOTE: Reverse battery and battery disconnected alarms are disabled in PSU mode.

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

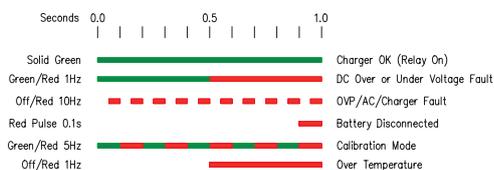
ORDERING INFORMATION

Model No.	DC output
MAS 1024R 24V-10A	24V 10A

GENERAL ARRANGEMENT



Status LED



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