sCharge

Automatic Battery Charger

DS-398/1

MAS 1012R 12V-10A
MAS 0524R 24V-5A

sCharge 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 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 sCharge 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	2.3A max.
Leakage current	<1mA / 240VAC

OUTPUT SPECIFICATION

	MAS 1012R 12V-10A	MAS 0524R 24V-5A
Voltage / Current *Other voltages on request*	12.0V Nominal 10.0A	24.0V Nominal 5.0A
Ripple and noise	±0.5%	
Line regulation	±0.5%	
Load regulation	±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

	MAS 1012R 12V-10A	MAS 0524R 24V-5A
DC output voltages	Float = Factory set to 13.8V	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	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
- Small footrint & 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 and prime power generators
- Engine driven pumps and compressors
- Switch gear tripping
- Industrial control systems
- Robust PSU
- Alarm systems
- Navigational aids

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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	750 grams

FINISH

Aluminium / RAL9005 black fine texture

FAIL ALARM RELAY CONTACT SET

Available on model MAS 0524R 24V-5A

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 6.0mm^2 stranded cable.

Fail alarm:
Connections terminate to rising clamp screw terminals and will accept 2.5mm^2 stranded cable.

Connector 'C1' (signals):
Pins 7 and 8 should be linked when the charger should also function as a PSU.

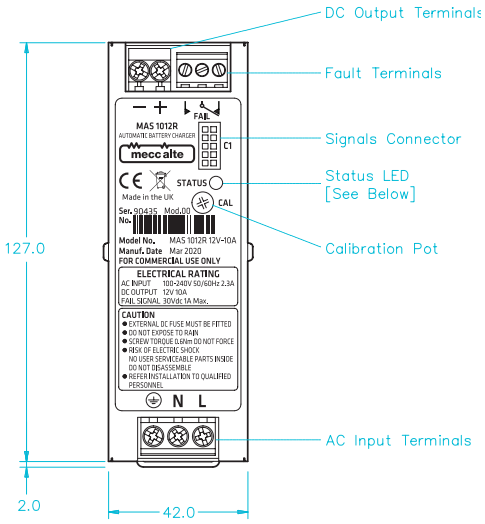
NOTE: Reverse battery and battery disconnected alarms are disabled in PSU mode.

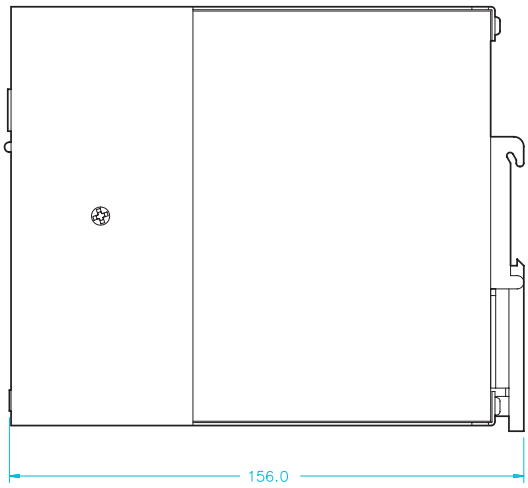
The remaining pins are for expansion modules, communication interfaces, firmware upgrade etc. and should not be used.

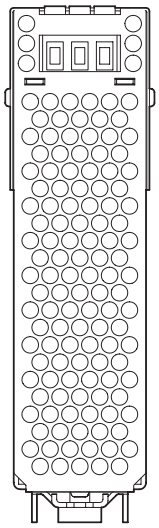
ORDERING INFORMATION

Model No.	DC output
MAS 1012R 12V-10A	12V 10A
MAS 0524R 24V-5A	24V 5A

GENERAL ARRANGEMENT

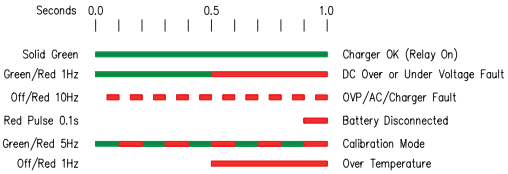






Top-hat din rail mount

Status LED



TO CALIBRATE:

1. DISCONNECT THE BATTERY.
   CONNECT A DC VOLTMETER TO THE +/– OUTPUT TERMINALS.
2. 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.
3. WHEN THE LED RED/GREEN @ 5Hz FLASH SEQUENCE ENDS THE UNIT IS CALIBRATED.