

# m2 Series

## High Performance DC Resistance Welding Power Supplies



The m2 series is an economic high performance resistance welding power supply system defined by a wide operating range, high accuracy output and very fast process response rate. These characteristics combined with a feature rich menu system define the m2 as the ideal choice as a cost effective precision power DC resistance supply. Unlike basic inverter units, MacGregor HFDC systems reduce ripple levels to insignificant levels ensuring high quality, repeatable and reliable joining. The m2 range utilises a unique HFDC twin loop power control circuit that develops a very high quality DC output over the entire operating range of the machine. Closed loop control combined with HFDC output ensures very fast process response times and repeatability, overcoming the coming problems of temperature and component drift associated with basic capacitor discharge supplies. Similarly, automatic compensation is made for mains input variations.

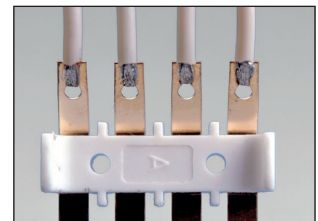
### KEY FEATURES:

- Short high current pulse capability for conductive material joining.
- High speed, low ripple closed loop output control
- Constant current, voltage and power modes with programmable multi-pulse combinations.
- Built in process and limits monitor.
- Compact, high performance, high duty at affordable pricing.
- High speed automation and communication ports.
- Programmable QC & part limit checking
- SPC monitoring with Windows™ software

### TYPICAL APPLICATIONS



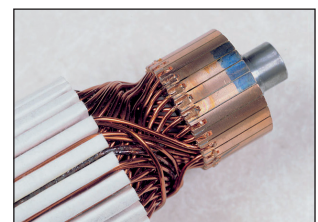
*Battery tab assembly*



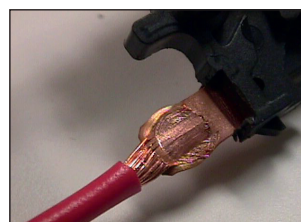
*Cable Wire Terminations*



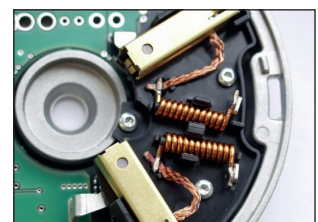
*Component welding to leadframe*



*Resistance weld engine motor armature*



*Stranded wire to coil*



*Stranded wire to terminal*

## TECHNICAL SPECIFICATIONS

Model	m2-20-1	m2-20-3	m2-40-1	m2-40-3
Maximum Output Current (A)	2000 Amps DC	2000 Amps DC	4000 Amps DC	4000 Amps DC
Output Voltage at Full Load	5V DC	5V DC	5V DC	5V DC
Maximum Output Power	10KW	10KW	20KW	20KW
Full Output Duty Cycle	3.5%	3.5%	2.5%	2.5%
Control Modes	Current/Voltage/Power	Current/Voltage/Power	Current/Voltage/Power	Current/Voltage/Power
Output Accuracy	±1% at Maximum Current	±1% at Maximum Current	±1% at Maximum Current	±1% at Maximum Current
Ripple	<2%	<2%	<2%	<2%

Programmed Timing Values				
Squeeze Time	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Upslope Time Pulse 1	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Peak Time Pulse 1	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Downslope Time Pulse 1	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Delay Time Between Pulses	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Upslope Time Pulse 2	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Peak Time Pulse 2	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Downslope Time Pulse 2	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms
Hold Time	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms	0.1 – 999.9 ms

Process Monitor Limits	Current/Voltage	Current/Voltage	Current/Voltage	Current/Voltage

Input Requirements				
Input Voltage	115VAC or 230VAC	380 - 480VAC 3 phase	115VAC or 230 VAC	380 - 480VAC 3 phase
Control I/O	Opto isolated	Opto isolated	Opto isolated	Opto isolated
Serial Communications	RS232, RS422/485	RS232, RS422/485	RS232, RS422/485	RS232, RS422/485

## WEIGHT &amp; DIMENSIONS

Width	310 mm	310 mm	310 mm	310 mm
Height	270 mm	270 mm	270 mm	270 mm
Depth	450 mm	380 mm	450 mm	380 mm



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