

## Low Cost HFDC 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. Ideal replacement products for capacitor discharge or inverter based system.



### All m2 series products feature :

- ✓ High speed, low ripple closed loop output control for consistent welding process definition and 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.

## m2-20/40 : 2000 and 4000 Amp Hybrid HFDC Welding supplies Welding

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.

### Features

- Precision control, fast response, very low ripple for low current applications
- Single phase and three variants
- Very low ripple DC output
- Programmable QC & part limit checking

### Typical Applications

- Contact welding
- Ideal replacement improvement for capacitor discharge units
- Micro circuit welding
- Sensor and component welding
- Thermode staking applications
- Battery tab & pack assembly
- Automotive components
- Hot staking and crimping
- Wire compacting
- Lamp manufacture

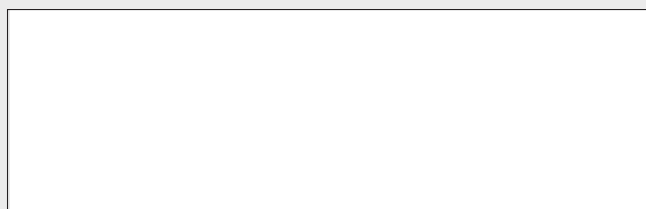
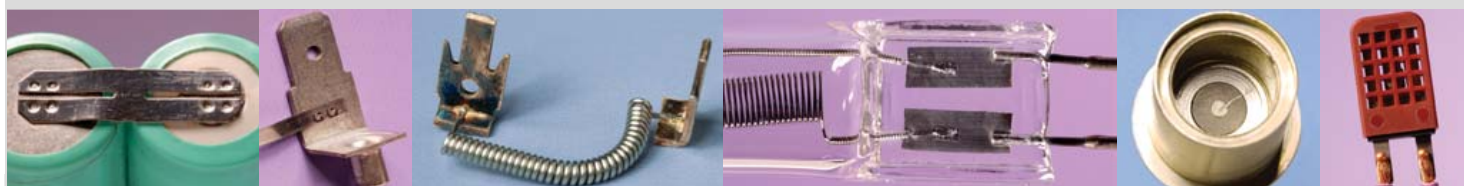
### Benefits

- Short high current pulse capability for conductive material joining.
- Ideal replacement for capacitor discharge and inverter equipment
- SPC monitoring with Windows™ software



## m2 Standard Specifications

Standard Features	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	5 V DC	5 V DC	5 V DC	5 V 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	Within 2% of set value	Within 2% of set value	Within 2% of set value	Within 2% of set value
Ripple	<2%	<2%	<2%	<2%
<b>Programmed timing Values</b>				
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
<b>Process Monitor Limits</b>				
	Current/Voltage/Power	Current/Voltage/Power	Current/Voltage/Power	Current/Voltage/Power
<b>Input Requirements</b>				
Input Voltage	95 – 260 VAC 1 phase	380 - 480 VAC 3 phase	95 – 260 VAC 1 phase	380 - 480 VAC 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
<b>Dimensions</b>				
Width (mm)	310 mm	310 mm	310 mm	310 mm
Height (mm)	270 mm	270 mm	270 mm	270 mm
Depth (mm)	450 mm	380 mm	450 mm	380 mm
Weight (Kg)	32Kg	22Kg	36Kg	25Kg



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