

# MEGAPULSE Product Data Sheet

## Lead Acid Battery Conditioner



- Combats the leading cause of lead acid battery failure: sulphation.
- Suitable for all types of lead acid batteries.
- Wide operating voltage range.
- Works with 6V to 48V battery packs.

### Device Application & Functionality

The Megapulse unit is connected directly across the terminals of a battery (or battery pack) up to a nominal voltage of 48V and is powered by the battery it is conditioning. The unit is equipped with a 3 second start up delay to eliminate sparking upon connection to the battery. It is water, dust and vibration proof, with an IP67 (main body) & IP65 (fuse housing).

There are 3 user selectable operating modes. The WINDOW and HIGH modes are helpful in situations where the pulses from the unit may cause unwanted interference to AM radios during operation.

- CONSTANT mode, continuous operation (this is the default mode after first connection or power failure)
- WINDOW mode, operation suspended during high battery voltage (e.g. while engine operating)
- HIGH mode, operation only during high battery voltage

While the battery voltage is within bounds (according to the selected operating mode), a pulse is continually applied to the battery. The green 'BATTERY OK' or red "CHECK BATTERY" light will flash whenever a pulse is being delivered to the battery.

Pulse Information	
Pulse repetition	Approx 5kHz
Pulse duration	Approx 1.5µs
Pulse amplitude	1-37 Vpp, varies depending on battery inductance

Specifications are current of 22 June 2016 and apply part number AAMP001 Rev 1.2

This product is suitable for stationary, automotive and marine applications only . Specifications subject to change without notice.

**MEGAPULSE**

Email: [info@megapulse.net](mailto:info@megapulse.net)  
Phone: 1300 391 225

Website: [www.megapulse.net](http://www.megapulse.net)  
Address: PO Box 577  
Albany Creek QLD 4035  
Australia

# MEGAPULSE Product Data Sheet

The Megapulse unit measures the battery voltage continuously and assumes a nominal battery pack voltage based on the following table. The operating mode is selected via a pushbutton on the unit and the current mode is shown with an indicator light.

Voltage Range		Assumed Battery Voltage	Operating Mode		
Low	High		Constant (Default)	Window	High
0	5.3	6	Inactive		
5.3	6.4		X	X	
6.4	8		X		X
8	10.5	12	X		
10.5	12.8		X	X	
12.8	16		X		X
16	21	24	X		
21	25.6		X	X	
25.6	30.5		X		X
30.5	31.5	36	X		
31.5	38.4		X	X	
38.4	41.9		X		X
41.9	42	48	X		
42	51.2		X	X	
51.2	60		X		X

For 12V and 24V applications, the unit performs a load test after connection and every 21 hours thereafter. If this test fails, the red "CHECK BATTERY" indicator will light instead of the green "BATTERY OK" indicator. Pulsing will still occur under this condition.

Load Test Function (applicable to 12V and 24V applications only)	
Load test duration	~5.5ms
Load test resistance	~600mΩ (approx 20A @ 12V or 40A @ 24V)
Load test repetition interval	Approx 21 hours
Load test criteria	Pass if voltage drop while under test does not exceed 2V

For 6V, 36V, and 48V applications no load test is performed. Instead the red "CHECK BATTERY" indicator will light when the battery terminal voltage becomes low indicating an approximated 80% depth of discharge. Pulsing will still occur under this condition.

Specifications are current of 22 June 2016 and apply part number AAMP001 Rev 1.2

This product is suitable for stationary, automotive and marine applications only. Specifications subject to change without notice.



Email: [info@megapulse.net](mailto:info@megapulse.net)

Phone: 1300 391 225

Website: [www.megapulse.net](http://www.megapulse.net)

Address: PO Box 577

Albany Creek QLD 4035  
Australia

# MEGAPULSE Product Data Sheet

General Specifications	
Operating Voltage	5V to 60V
Quiescent Current (shutdown mode)	1mA to 2.6mA
Average Operating Current	5mA to 10mA
Operating temperature	-20°C to +85°C
Protection	Reverse battery protected. 5A inline fuse, internal self-resetting fuse, internal 115°C thermal fuse.
IP Rating	IP65
Fault Tolerance	Single failure safe
Cable Length	450mm
Cable Type	R2 Automotive grade, 1.5mm <sup>2</sup>
Weight	120g
Size	92 x 52 x 17mm
Mounting Holes	4 mounting holes, 4mm diameter, 78 x 38mm spacing
Regulatory Compliance	European Directive 2009/19/EC, ISO 13766: 2006, AS/NZS 61000-6-3:2007, EN 61000-6-1, EN 60601-1-2, RoHS compliant
Country of Origin	Australia

Specifications are current of 22 June 2016 and apply part number AAMP001 Rev 1.2

This product is suitable for stationary, automotive and marine applications only. Specifications subject to change without notice.

**MEGAPULSE**

Email: [info@megapulse.net](mailto:info@megapulse.net)

Phone: 1300 391 225

Website: [www.megapulse.net](http://www.megapulse.net)

Address: PO Box 577  
Albany Creek QLD 4035  
Australia