JUICE™ PERMANENT MAGNET ALTERNATORS

Juice Permanent Magnet Alternators

With energy demands onboard vessels endlessly increasing, and the desire by most owners to become as environmentally friendly as possible, Enertec has developed another unique solution with the Juice Permanent Magnet Alternator.

Unlike traditional alternators these use permanent magnet technology to improve efficiency from around 30-40% on traditional alternators to 90+% on the Juice PMA!

This seismic improvement in efficiency means they draw far less power from the main engine, generate far less heat, and therefore burn far less fuel for the energy they produce.

The Juice PMA 4.5 delivers 300+ amps (12V system) and only use the equivalent hp from the main engine as a traditional 120A alternator.

Another driving force behind the development of the Juice PMA has been the growth of Li-Ion batteries and their ability to accept large amounts of current for fast charging. When charging lithium technology batteries with high currents care should be taken when the battery is close to reaching full capacity. Either the internal balancers need to be suitable for this high power or the charging source needs to reduce its output when this point is reached.

To meet these requirements, the Juice PMA was designed to work on the Juice Bus and integrate with Juice Pro Series Li-Ion batteries to provide faster, safer charging performance than other Li- Ion batteries and alternators.

Models available include a 4.5kW in either 12V or 24V output, and a 9kW in either 24V or 48V. Each system includes the PMA alternator and required PMA regulator.

Benefits:

- **Rapid fast charging with high output**
- **Suitable for Lead Acid and Li-Ion batteries**
- **Integrates with Juice Li-Ion Pro Series batteries for superior performance**
- **High efficiency, generates far less heat**
- **Uses less than ½ the HP required to run a conventional alternator**
- **Low cut in RPM**
- **Output fully controllable**

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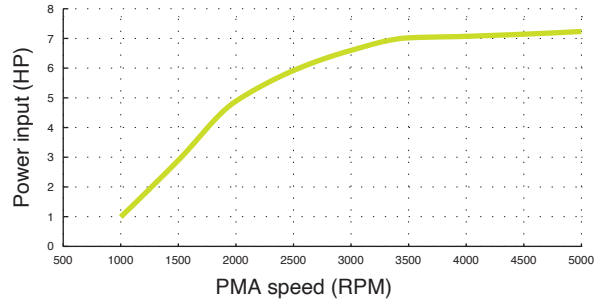
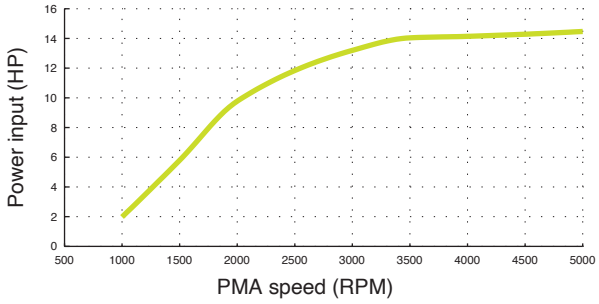
	PMA 4.5		PMA 9	
Voltage	12V	24V	24V	48V
Max Output	320A	160A	320A	160A
Max RPM	5000rpm		5000rpm	
Max Efficency	91%		91%	
Dimensions: PMA Alternator	200L x 200D mm		240L x 200D mm	
Weight: PMA Alternator	14kg		22kg	
Dimensions: Regulator	355L x 185W x 88H mm		355L x 185W x 88H mm	
Weight: Regulator	4kg		4kg	
Min Temp	-40°C		-40°C	
Max Temp	+85°C		+85°C	
Regulator	1 x PMA Regulator		1 x PMA Regulator	
Shaft Size	22.2mm		25.4mm	
Temp Protection	Electronically Protected above + 85°C			
Mounting	J180 Long hinge mount			
Rotation	Clockwise/ Counter clockwise			
Isolated Ground	YES			
Current Limiting	YES			
Max Propulsion Mode	YES			
JuiceBus Compatible	YES			
Temp Compensation	YES - For use with Lead Acid batteris only			
Temp Protection	YES - internal			

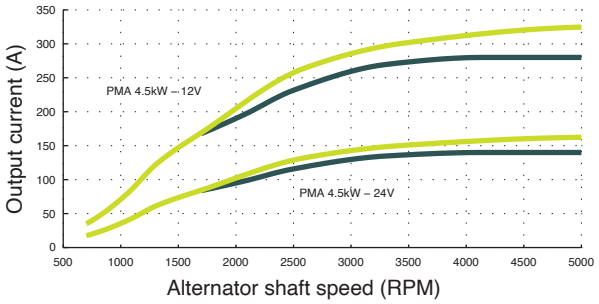
Mechanical power input 4.5kW vs shaft RPM



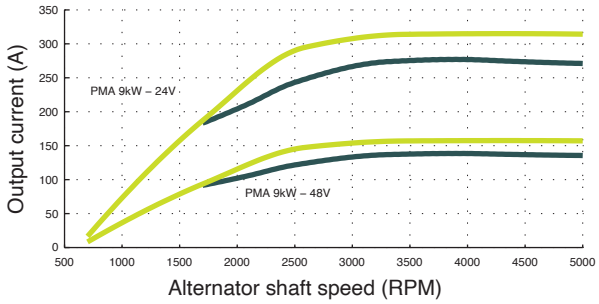
Mechanical power input 9kW vs shaft RPM



DC current output vs shaft RPM, 4.5kW, 12–24V



DC current output vs shaft RPM, 9kW, 24–48V



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