

ORBITAL PMS MKII

ADVANCED POWER MANAGEMENT SYSTEM

The Power Core Behind Every Dependable Mission

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ORBITAL PMS^{MKII}

One Power System.
Every Platform.
Every Mission.



Clean, protected, intelligently managed power - for the engine, the payload, and the platform.

Integrating Orbital's PMS turns power management from a point of failure into a point of assurance. Every volt delivered to your payloads, comms, and flight-critical systems is regulated, protected, and monitored in real time

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Every mission-critical system on a UAV - comms, sensors, gimbals, batteries - depends on power that never wavers.



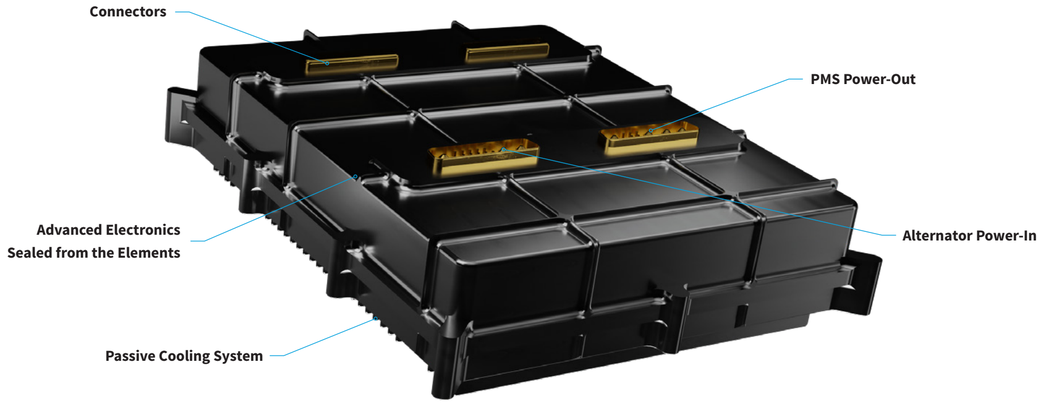
Orbital's Power Management System (PMS) is the engineered core that makes that possible: a fully sealed, passively-cooled unit that takes power from the engine and delivers it clean, stable, and protected to everything downstream.

- Dual configurable outputs up to 1kW combined
- Seamless switching between alternator
- Remote Engine Starting
- Battery and shore power under load
- Real-time CANbus diagnostics

Orbital's PMS MKII removes the guesswork from power delivery whatever the platform.

For heavy-fuel operators, it means stable 28V power for demanding sensor payloads and lower through-life risk.

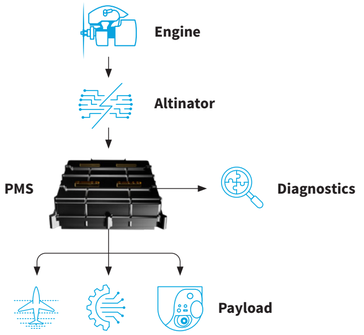
For OEMs building hybrid-electric platforms, it's the bridge that turns Orbital's FlexDI™ engines into a clean, regulated charging source for their existing electric architecture extending range without asking them to re-engineer their system.



Power and intelligence for every mission.

Seamless transition between alternator, battery and shore power under load, reverse-polarity/ short-circuit protection, and "Power Sharing" that holds stable outputs even at low engine RPM - this is what keeps sensors, comms and gimbals powered cleanly through the flight envelope, not just the engine running.

Paired with FlexECU® Argon, it also improves fuelling response to electrical load spikes, so payload draw doesn't compromise engine performance.



Built to Power Both Worlds. Heavy Fuel and Hybrid-Electric.



For heavy fuel engine performance

The PMS is what lets the engine be just an engine - it takes over all the power regulation, protection and diagnostics, so the powerplant can be tuned for output and reliability rather than compromised trying to also manage electrical loads.



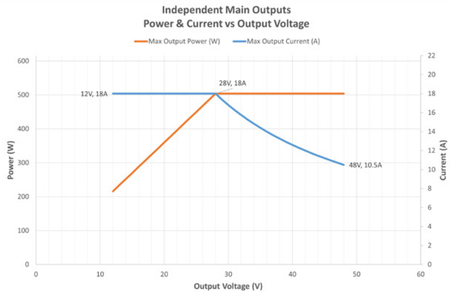
For hybrid electric platforms

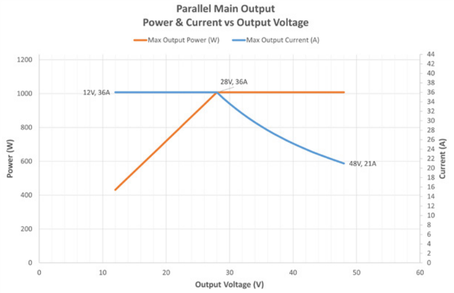
This is the quiet hero of the Hybrid-Enhanced line. The PMS is the component that takes raw alternator output and turns it into clean, regulated, configurable power that an OEM's existing electric motor and battery architecture can actually use — it's the translation layer between combustion and electric, which is exactly what "enhancing, not replacing" the OEM's system requires in practice.

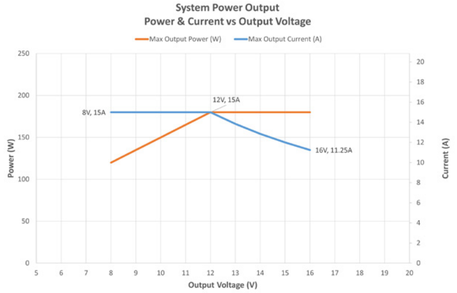


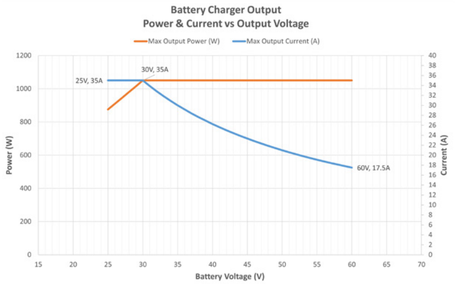
Orbital PMS bridges the gaps so critical systems stay online.

Orbital's PMS uses two independent 28 V outputs (flight/mission) letting you prioritise critical systems while keeping the payload powered.









ORBITAL PMS MKII

ADVANCED POWER MANAGEMENT SYSTEM





Specification	Unit	Value	Conditions / Notes
Physical			
Length	mm	207	
Width	mm	172	
Height	mm	50	Excluding optional fan(s).
Weight	g	1400	Excluding optional fan(s).
Environmental			
Ambient operating temperature range	°C	-40 to +65	Thermal derating applies at higher ambient temperatures.
Storage temperature range	°C	-40 to +71	
Max. internal temperature	°C	+110	Customer shall monitor reported PMS temperatures.
Min. airflow over heatsink	m/s	>5	For up to 500W combined output power.
Min. airflow over heatsink	m/s	>10	For up to 1000W combined output power.
Min. airflow over heatsink	m/s	>15	For up to 1200W combined output power.
Ingress protection	-	IP66	With suitably sealed mating connectors.
Electrical			
Typical efficiency	%	>90	Operating from Alternator, 800W @ 28V, 100W @ 14V, 200W @ 35V battery charging.
Idle power consumption	W	<10W	Operating from Shore Power, with no output loads.
Alternator Input			
Rated engine speed range	RPM	2200-7500	
Min. rectified voltage	V (DC)	12	Below this, backup battery / shore power inputs may be required dependent on output loads.
Max. rectified voltage	V (DC)	120	
Max. rectified alternator current	A (DC)	35	
Voltage sense accuracy	%	±2	
Current sense accuracy	%	±3	
Battery Input			
Supported battery configuration	-	6S-14S LiPo	Other chemistries with equivalent voltages are supported.
Rated input voltage range	V (DC)	18-60	Outside this range, operation from battery will not be permitted.
Max. input current	A (DC)	35	
Voltage sense accuracy	%	±2	
Current sense accuracy	%	±3	
Shore Power Input			
Rated input voltage range	V (DC)	12-60	As measured at PMS.
Max. input current	A (DC)	35	
Voltage sense accuracy	%	±2	
Current sense accuracy	%	±3	
2x Main Power Outputs (Independent Mode)			
Regulation setpoint	V (DC)	12-48 ±2.5%	Configurable at time of order.
Max. output current	A (DC)	21	Per independent bus. Varies with output voltage; refer Figure 1.
Voltage sense accuracy	%	±1	
Current sense accuracy	%	±3	
1x Main Power Output (Parallel Mode)			
Regulation setpoint	V (DC)	12-48 ±2.5%	Configurable at time of order.
Max. output current	A (DC)	42	Varies with output voltage; refer Figure 2.
Voltage sense accuracy	%	±1	

Current sense accuracy	%	±3	
System Power Output			
Regulation setpoint	V (DC)	8-16 ±2.5%	Configurable at time of order.
Max. output current	A (DC)	15	Varies with output voltage; refer Figure 3.
Voltage sense accuracy	%	±1	
Current sense accuracy	%	±3	
Battery Charger Output			
Charging voltage	V (DC)	25-60	In Constant Voltage (CV) mode. Configurable at time of order.
Charging current	A (DC)	1-35A	In Constant Current (CC) mode. Varies with output voltage; refer Figure 4.
Voltage sense accuracy	%	±2	
Current sense accuracy	%	±5	





At 15,000 feet, in the harshest conditions, on missions that cannot fail - who does Textron rely on, every single day?

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Image shows Aerosonde MK 4.8 Fixed Wing, courtesy and copyright of Textron Systems.



Start with Engineering to match the right engine, generator, and PMS configuration to your airframe, payload targets, and mission profile.

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With seamless failover between alternator, battery, payload, and on-board diagnostics that flag issues before they become mission failures. It's not just power delivery, it's power you can build a mission around.

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