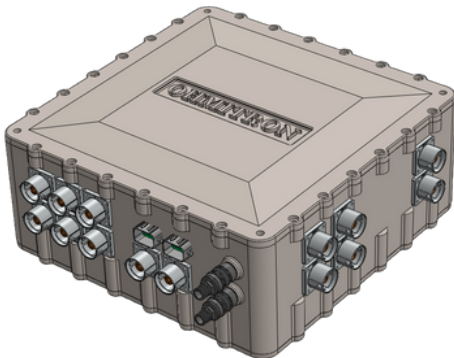


9-in-1 Vehicle Power Management System (VPMS)

Advanced Integrated 9-in-1 Powertrain Solution for EVs



The Ohmitron VPMS-D360 is a cutting-edge 9-in-1 integrated Vehicle Power Management System (VPMS) designed for next-generation electric vehicles. With Silicon Carbide (SiC) technology, it supports dual 300kW motor drives, an integrated 19.2kW onboard charger, and full thermal and power distribution control in a compact, ruggedized enclosure.

S. No	Module	Function
1	Dual Motor Inverter	2×300kW Three-Phase AC Inverter
2	Onboard Charger (OBC)	Up to 19.2kW AC Charging
3	V2X Interface	110V AC Grid Bi-Directional Charging
4	DC-DC Converter	3kW Low Voltage Power Supply
5	Integrated Vehicle Control Unit (VCU)	Centralized Control of Propulsion and Charging
6	Power Distribution Unit (PDU)	Circuit Protection, Fuse/Relay Integration
7	Thermal Management Controller	Control for Pumps, Flowrate and Cooling Circuits of Battery Packs
8	DC Fast Charging Interface	CCS1 / NACS
9	Communication Gateway	CAN and Ethernet

Electrical Specifications

Parameter		Units	Detail
General	System Voltage	Vdc	800 Nominal
Inverter	Inverter Output	kW	2 × 300
	Inverter Peak Current	Arms	2 × 360 (3-Phase AC)
	Inverter Switching Frequency	kHz	8 - 20 Adjustable
	Peak Inverter Efficiency	%	> 97.5
Converter	DC-DC Converter	kW	3 @ 12 - 24 V
V2X	V2X	Vac	110 / 220 (Bi-Directional)
On-Board Charger	Onboard Charger	kW	19.2 kW (@ 110 – 240 Vac, Split-Phase)
	Peak Efficiency (OBC)	%	> 94
Charging	CCS1/NACS Charging	A	Up to 500 (ISO 15118)
	AC Charging Efficiency	%	> 95
Protection	Insulation	MΩ	>10 MΩ @ 1000 V
	Isolation	kV	5 (Galvanic)
	Ground Fault Detection Threshold	mA	< 1.5
	Short Circuit Protection	μs	< 5
	Communication and Baud Rates	Mbps	Dual CAN 2.0B (1 Mbps), Ethernet (100 Mbps)
	Temperature De-Rating	-	Limp Mode on ≥105°C, HW Fault, or Isolation Error. Limits Output, Disables Non-Essential Systems, Alerts VCU. Temperature De-Rating Adjusts Power/Freq to Protect Components.

Mechanical Specifications

S. No	Parameter	Detail
1	Enclosure Material	Cast Aluminum Alloy, Corrosion-Resistant
2	Mounting	4 Rigid Mounts M12×1.5 (Enclosure to Vehicle)
3	Weight	Approx. 82-85 kg
4	Size (L×W×H)	470 × 470 × 200 (mm)
5	IP Rating	IP6K9K (Dust and Water Resistant)
6	Working Temperature	-40°C to +65°C
7	Internal Cooling Ports	2 × Liquid Cooling (Inlet/Outlet)
8	Cooling Flow Requirement	6–10 L/min @ 1–2 bar
9	Volume	39.7 (L)

Environmental and Safety Specifications

S. No	Parameter	Detail
1	Ingress Protection	IP6K9K (Sealed)
2	Shock & Vibration	ISO 16750-3 / SAE J1455
3	Humidity Resistance	98% RH, Non-Condensing
4	EMI/EMC Standards	CISPR 25, ISO 11452, ISO 7637
5	RoHS / REACH Compliance	Yes
6	Software Safety Class	ISO 26262 ASIL C Ready
7	Soft De-rating Start	85°C
8	Full Power Recovery	< 75°C
9	Thermal Cutoff Point	≥ 105°C (Limp Mode Trigger)

- Ratings subject to change without notice—consult company for most recent technical documentation and queries.

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