

IdleLogic™ - Idle Reduction Module (IRM)

Manufacturer: Ayantra Technologies, Inc
Part Number: AYN-IRM-12-7680 | Revision: A01 | Date: Aug 2025

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1. General Description

IdleLogic™ IRM is a battery-based idle reduction system designed for Class 7-8 diesel trucks. The system powers E-HVAC and hotel loads using a dedicated LiFePo4 battery bank while preserving the OEM AGM batteries for engine starting.

2. Electrical Specifications

Parameter	Value	Notes
System Voltage	12.8 VDC nominal	LiFePO4
Total Capacity	600ah (2 x 300ah)	~7.6 kWh usable
Cycle Life	≥ 3,000 cycles @ 80% DOD	
Continuous Output	Supports E/HVAC + hotel loads	<5W standby draw
Alternator Output Min	220Amps regulated	OEM
Charge Source	Alternator via DC-DC 60A	Auto charging in operation
Charge Time	8-10 hrs (10% → 100% SOC)	Typical highway duty cycle

3. Mechanical Specifications

Component	Dimensions (L×W×H)	Weight	Enclosure
IRM Module	14" × 10" × 6"	~20 lbs	Polycarbonate sealed
Battery (per)	20" × 11" × 9"	~65 lbs (total ~130lbs)	Polycarbonate sealed

4. Performance

Runtime: Up to 20 hours E/HVAC + hotel loads
Idle Fuel Savings: Up to \$8,000 annually per truck
ROI: 10-12 months typical fleet operation

5. Telemetry / Monitoring

FleetSavvy™ Portal (5-Year Subscription Included for Original Owner). Provides EPU hours, engine hours, idle fuel savings (auto-calculated), and GPS real-time asset tracking & compliance reporting.

6. Warranty & Service

5-Year Limited Warranty covering IRM, LiFePO4 batteries, and systems components. Includes installation, diagnostic manuals and U.S. based technical support line. Refer to Warranty Policy.

7. Environmental & Compliance

Operating Temperature: -20°C to +55°C

Enclosure Protection: IP54 equivalent

Safety: Integrated BMS (over/under voltage, over-temp)

Standards : SAE J1455, FCC/CE compliant.

DOT / FMCSA Compliance Complies with 49 CFR 393.28 – Electrical System Installations (Safe Operation Standards) Designed to meet FMCSA in-cab installation requirements: Permanently secured, non-spillable, vibration-resistant. Protected against short circuits and accidental contact. Integrated overcurrent protection and fusing at battery terminals.

SAE / Industry Standards Conforms to SAE J2929 – Electric Vehicle Battery Safety Standard Tested under SAE J2464 guidelines for abuse and safety performance Meets SAE J1127/J1128 – Heavy-Duty Truck Wiring Standards.

OSHA / Workplace Safety Enclosure labeled with shock and fire hazard warnings Service access restricted to qualified personnel only Warning and safety labels applied per 29 CFR 1910 (OSHA Hazard Communication).

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