

THE PMP ENGINE START MODULE

Stop Start Failures.
Cut Downtime.
Save Costs.

THE CHALLENGE

Extreme temperatures, inactive periods, heavy electrical loads, and aging batteries cause start failures in heavy equipment.

Each failed start means lost production, higher maintenance costs, and increased safety risk.

BUILT FOR MINING

- 1. Smart, rugged design**
Compact, sealed, vibration-resistant
- 2. Easy integration**
Works with existing battery systems, no major mods
- 3. Long-term reliability**
Over 1 million cycles with minimal degradation

RELIABILITY | SAFETY

REDUCED COST | SUSTAINABILITY

READY TO ELIMINATE
START FAILURES?



THE SOLUTION

**Reliable Starts.
Every Time.**

The ESM uses **ultracapacitor technology** to deliver a dedicated, high-power energy source for engine cranking—**independent of battery condition**. This ensures instant, reliable starts even with weak or heavily loaded batteries.

WHAT YOU GAIN

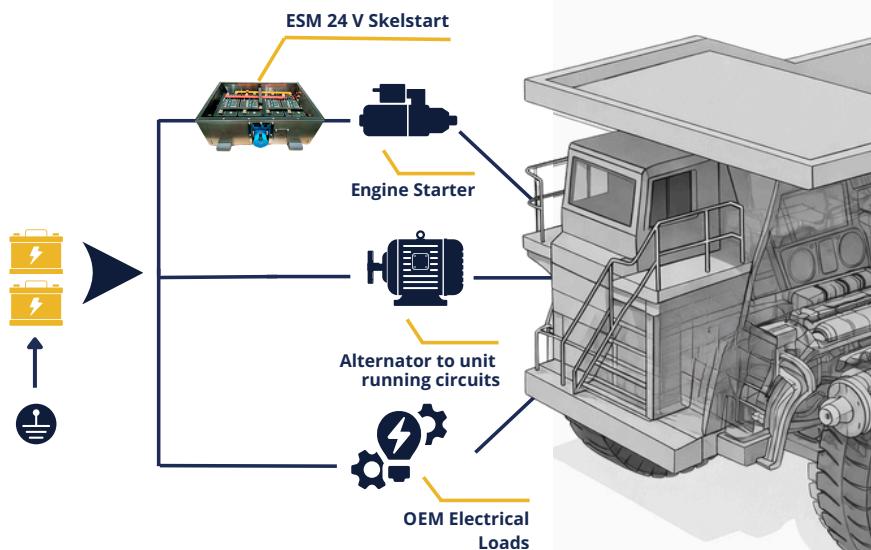
The ESM delivers measurable operational benefits across reliability, cost, safety, and sustainability.

- 01 Boost Fleet Availability**
Eliminate start failures and unplanned downtime.
- 02 Lower Operating Costs**
Reduce idling, fuel waste, and jump-starts.
- 03 Extend Battery Life**
Minimise strain and replacement frequency.
- 04 Enhance Safety**
Reduced vehicle/personnel interactions.
- 05 Support Sustainability**
Lower emissions and battery waste.

HOW THE ESM WORKS



- The ultracapacitor bank stores energy separately from the batteries.
- During engine start, the ESM delivers high-current cranking power.
- Once the engine is running, it rapidly recharges—without stressing the battery system.



TECHNICAL CREDIBILITY

- Ultracapacitors rated for **1,000,000+ cycles**—designed to last the life of the equipment.
- Consistent performance in **extreme heat and cold**.
- Engineered for **heavy-duty duty cycles** and harsh environments.
- **Simple installation** and low maintenance.

SAFETY & SUSTAINABILITY

- Integrated **de-energising discharge unit** for safe isolation during maintenance.
- Reduced idling lowers **fuel consumption and emissions**.
- Fewer battery replacements reduce **waste, procurement costs, and safety exposure**.

EQUIPMENT APPLICATIONS

- Dump trucks
- Dozers
- Drill rigs
- Excavators
- Front-end loaders
- Water carts
- Road graders
- Drainage pumps
- Support vehicles
- Other fuel-powered equipment

TECHNICAL SUPPORT

- Local PMP Group support for **installation, training, and optimisation**.
- No major modifications required to existing battery systems.

START EVERY TIME.
REDUCE DOWNTIME.
IMPROVE SAFETY.

Contact us today!

Discover how ESM protects your operation.

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