



Engine Start Module

HOW ENGINE START MODULE (ESM) ASSISTS WITH IDLING WASTE

Idling waste is a significant issue in mining and heavy equipment operations. Diesel-powered machinery often remains running during breaks, shift changes, or while waiting for tasks, consuming fuel unnecessarily and increasing maintenance costs. This practice leads to:

- Fuel inefficiency
- Higher emissions
- Accelerated engine wear

The Engine Start Module (ESM) offers a practical solution to reduce idling waste without compromising productivity or reliability.

The Problem with Idling

- **Fuel Consumption:** A typical mining truck can burn many litres of diesel per hour while idling.
- **Maintenance Impact:** Prolonged idling increases engine hours, leading to more frequent servicing and shorter engine life.
- **Environmental Concerns:** Idling contributes to CO₂ emissions and environmental compliance challenges.

HOW ESM SOLVES IDLING WASTE

The ESM is a **supercapacitor-based starting system** designed to deliver instant, reliable engine starts. Its key benefits in reducing idling waste include:

1. ELIMINATES THE NEED FOR CONTINUOUS IDLING

Operators often keep engines running to avoid starting issues especially in cold, remote conditions. ESM ensures:

- **Reliable starts every time**, even in extreme temperatures.
- **No dependency on battery health**, reducing the fear of a dead start.

2. REDUCES FUEL COSTS

By enabling engines to be shut down during idle periods:

- Fuel savings could reach **thousands of liters annually per machine**.
- Lower fuel consumption directly reduces operating expenses.



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3. EXTENDS BATTERY AND STARTER LIFE

- **Battery Protection:** ESM takes over the heavy load of engine cranking, minimizing battery strain.
- **Starter Longevity:** ESM delivers a strong, consistent burst of energy for quick starts, reducing cranking duration and mechanical stress on the starter motor. This prevents overheating and wear caused by prolonged or repeated cranking attempts, significantly extending starter life.

4. IMPROVES ENVIRONMENTAL COMPLIANCE

- Lower emissions from reduced idling help meet sustainability targets.
- Supports corporate ESG goals by cutting carbon footprint.

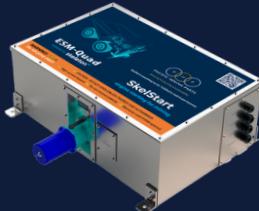
OPERATIONAL IMPACT

- **Enhanced Productivity:** Operators can confidently shut down equipment without worrying about restart delays.
- **Safety Benefits:** Reduces risks associated with leaving equipment running unattended.
- **Improved Equipment Utilisation:** Reduced idling means fewer unnecessary engine hours and less engine wear. Lower operating hours improve maintenance scheduling and reduce downtime, maximizing asset availability and enhancing overall fleet efficiency.

Idling waste is a hidden cost in mining operations, but it can be effectively addressed with ESM technology. By ensuring reliable starts, reducing fuel consumption, and improving equipment longevity, ESM delivers both economic and environmental benefits.

BOOST PRODUCTIVITY & PROTECT YOUR PROFIT

- ✓ Maximum Efficiency & Reliability
- ✓ Lower Operating Costs
- ✓ Reliable +1 million cycle duty life
- ✓ Commitment to Sustainability



Contact us today!

Learn how ESM delivers reliability that pays off your operations with PMP ESM and boost your fleet's efficiency

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