



ESM control upgrade for Waukesha gas engines

Conversion, Modification & Upgrade Offering



Product description

The Waukesha* ESM* engine system manager provides comprehensive control capability to help enhance uptime and boost performance for a variety of Waukesha VHP* and VGF* engines. Designed for ease of use and enhanced serviceability, the ESM integrates spark timing control, speed governing, knock detection, start-stop control, diagnostic tools, fault logging, engine safeties, and air/fuel ratio control.

Product details

The ESM control upgrade includes:

- Engine control unit (ECU) with knock sensors, ignition system, and governor actuator
- Upgraded harness
- Power distribution box
- Pressure and temperature sensors
- Customer interface harness
- Air-fuel ratio control (rich-burn only)
- Speed sensor

Additionally, the ESM upgrade can include these optional components:

- Exhaust thermocouples
- Main bearing thermocouples

The ESM offers a variety of control features, including:

- Start-stop control
- Engine safeties
- Fault logging and diagnostics
- Electronic Service Program (ESP) tool with E-help troubleshooting guide

Customer benefits

- **Increased engine uptime.** ESM employs a variety of strategies to help protect your Waukesha gas engines, increase uptime, and improve availability, including:
 - A knock detection algorithm that adjusts timing to keep your engine running through changes in fuel quality and ambient conditions. Detection of faulty sensors or wiring, along with diagnostics, can help you quickly resolve problems.
 - The Ignition Power Module Diagnostics (IPM-D) system which provides automatically controlled dual ignition voltage levels to increase spark plug life, and predictive diagnostics based on spark reference numbers which can be used to monitor each cylinder's spark plug life and predict maintenance intervals.
 - Monitoring of oil pressure, speed, load, intake manifold temperature, and coolant temperature reduces the risk of engine damage through the use of factory-programmed set points.
- **Improved engine performance.** Factory-engineered variable ignition timing is calibrated to enhance operation across all speeds and loads.
- **Ease of use.** An E-help troubleshooting guide provides step-by-step solutions to diagnose issues and minimize engine downtime.

- **Improved serviceability.** An array of ESM features allows for enhanced maintenance and service capabilities for your Waukesha engines, including:

- The engine control unit (ECU) which provides a single point of control and information source.
- ESP which delivers current status and permanent fault history for alarms and shutdowns.
- The IPM-D which provides up-to-date diagnostic information to predict spark plug condition-based maintenance.
- Quick connection harnesses which are used throughout to speed removal of any component.
- I/O signal connections are consolidated from the engine to the customer package control panel by a customer interface harness.
- Simplified electrical fault troubleshooting employs power distribution box fault indicators and integrated power reset.

Applicable units

VHP	F3524GSI L5774LT L5794LT/LTD L5794GSI L7042GSI L7042GL L7044GSI
VGF	F18GSID H24GSID



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