

Guascor Energy MODs&UPs: Thermocouples per cylinder

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Background

As part of Guascor Energy's commitment to continuously improve our products, we employ the most advanced technologies available to offer the very best solutions and provide our customers with innovative options. The latest version of Guascor Energy Gas Engines exemplifies increased efficiency, robustness, flexibility, and ease of operation.

Simultaneously, a substantial number of older Guascor Energy engines are installed and operational worldwide. To enhance the engine's behaviour, operation, and availability, Guascor Energy has developed a modernization kit related to the engine instrumentation, specifically focusing on exhaust temperature per cylinder.

Product Overview

Monitoring the exhaust temperature in each engine cylinder allows immediate identification of any issues with combustion behavior, such as low compression, spark plug failure, cable failure, detonation or oil burning, when a cylinder is not functioning properly.

For this purpose, each engine cylinder is equipped with a temperature sensor, k type thermocouple, which continuously measures the temperature of the exhaust gases resulting from cylinder combustion. The signal collected by the individual sensors is centralized in the engine control unit, GCS-E, and transmitted via harness to the genset control panel, GCS-G for monitorization purposes.

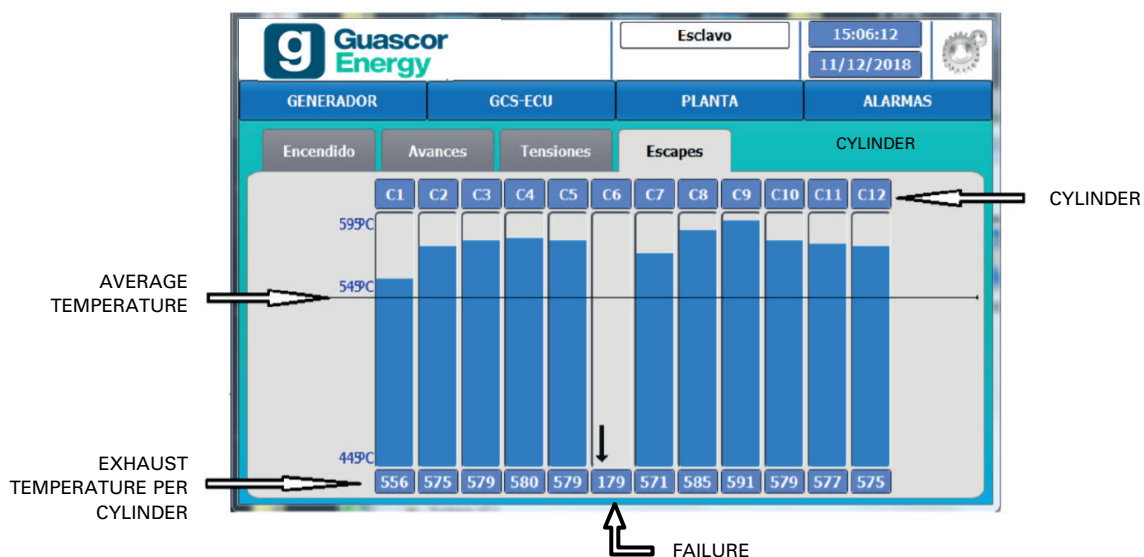


Fig. 1 - Example of exhaust temperature display per cylinder, where a combustion failure is detected on cylinder 6. (*)

(*) The display image may vary depending on the engine model and GCS-G firmware version.

Application

Available upon request for the G-SL engines (18, 24, 36, 48 and 56 litre) manufactured from 2018 onwards equipped with GCSe control unit.

S Series	Control	Year of production
✓	GCS-E	≥ 2018

Upgrade for installed fleet

The Modernization & Upgrade kit, defined for each model of the G-SL series (18, 24, 36, 48 and 56 litre), includes:

- Instrumentation: Thermocouples and thermowells per cylinder. No modification on engine is required, given that the exhaust manifold is ready for installation.
- Interconnection hardware (harness) between each sensor and the GCS-E.
- GCS-E and GCS-G firmware upgrade to manage the new signals and display the data on the GCS-G screen.

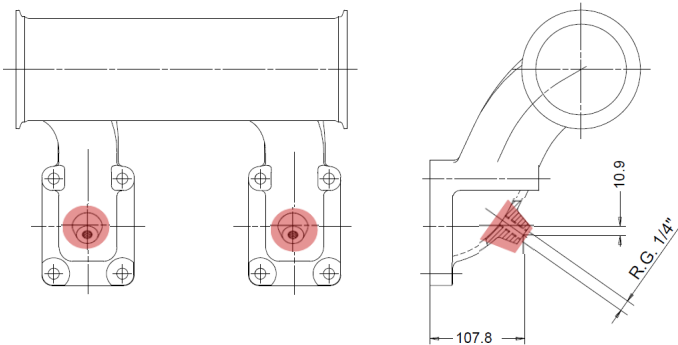


Fig. 2 -Temperature sensor insert point



Fig. 3 - Thermocouple

Prior to installation, a thorough inspection of the existing setup must be conducted to ensure there are no mechanical interferences that could hinder the implementation of the kit in the engine.

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