

Wärtsilä UNIC engine control system for diesel engines

PRODUCT LEAFLET



Wärtsilä UNIC engine control system for diesel engines is a durable, all-inclusive, automation system especially designed for the harsh environment in which engines operate.

LIFECYCLE SUPPORT



Most engine systems incorporate electronic devices and these devices have an anticipated lifecycle of 10–15 years.

Over time, sourcing replacements for the system components can be difficult, as the components might no longer be produced.

As lifecycle support Wärtsilä offers the UNIC product range as a retrofit solution. Wärtsilä UNIC engine control system is based on the latest technology, and is fully supported by our global service network.

PREVENTING THE UNEXPECTED

Wärtsilä UNIC engine control system provides an engine-mounted, local control panel, including a display unit with engine operating data, and an hour counter. With its in-built redundancy and durable mechanical and electrical design, the UNIC system meets the highest reliability requirements.

The main features include:

- New hardware modules
- New software architecture
- Standardisation of connections
- Single maintenance tool

Wärtsilä UNIC engine control system handles:

- Engine start/stop management, including start block handling and slow-turning (where used), load reduction, waste-gate control and LT/HT-thermostat control
- Engine protection (alarms, shutdowns, emergency stops, load reductions) including fully hardwired safety for engine over speed (redundant), lube oil pressure, cooling water temperature and external shutdowns
- Speed and load control through an electronic controller with various operating modes.



THE UNIC UPGRADE IN SHORT

- Leading edge technology packaged for harsh environments
- Offers engine management
- Excellent engine safety
- Speed and load control
- Includes modern bus communication for safe transmission of signals to your network.

UNIC can be applied to Wärtsilä 20, Wärtsilä 26, Wärtsilä 32, Wärtsilä 38, Wärtsilä 64, Wärtsilä Vasa 32, GMT, Sulzer 40, Nohab F20, Nohab F30 and Wärtsilä 25.

DESIGN FEATURES

The UNIC system is designed to meet very high reliability requirements. This includes special measures for redundancy, fault tolerance and mechanical and electrical design.

Sensors and actuators are easy to maintain and to calibrate. The flying lead sensors are used to avoid failure prone connectors.

Only screened, dedicated Teflon insulated cables, which have a very high mechanical strength, are used on the engines.

These point-to-point connections ensure good protection against electrical disturbances, as well as good protection against chemicals and extreme temperatures.

Modules are interconnected with a special multibus cable, including power supply (24V), engine speed, engine phase (where needed), and CAN-bus, all doubled for redundancy reasons.

Communication to external systems is provided by using industry standard interface, Modbus RTU (serial) or Modbus TCP/IP (Ethernet).

The electronic modules, which are distributed on the engine, are mounted in especially designed terminal boxes with cable glands for all outgoing cables. These terminal boxes facilitate the interconnections on the engine, and offer improved serviceability of the system.

A lot of new thinking and innovation has gone into the design of the UNIC system. Upgrading to UNIC brings state-of-the-art performance to every last detail, and improves the reliability of each critical aspect of the engine management system.

OPERATOR'S INTERFACE

The Local Control Panel (LCP) gives easy access to the main functions of the engine. This cabinet is used by the operator for selecting the operating mode, for starting and stopping the engine, and for viewing engine operating data. The LCP consists of a WIP-11 graphical backup display, an LDU display and a control panel.

The standard LCP is located on the front side of the engine. With an optional remote LCP modification kit, it's possible to re-locate LCP panel off-engine to more user-friendly location inside engine room.



LCP (local control panel)