



AutoChief®



AutoChief 600 Propulsion Control System

Experience

Back in 1967 we developed the AutoChief I, the first remote control system for low speed propulsion plants.

By 2016 more than 9300 remote control systems have been delivered to vessels all over the world, including approximately 5700 AutoChief®C20/600.

- AutoChief® has become a trademark for safe and efficient propulsion control.

AutoChief® 600 suitable for:

- All low speed engines from Wärtsila and MAN B & W and Mitsubishi, conventional and Dual fuel
- All low speed engines with CPP and fixed propellers
- All low speed engines for single- and twin propulsion line
- Medium and high speed, single and twin propulsion line, with gearbox, FPP or CPP.

Key features :

The main components of the AutoChief®600 are:

- Touch screen Control Panel
- Engine Telegraph Unit
- Engine Safety System
- Digital Governor System
- Manoeuvring Recorder
- Distributed Processing Units

Simple installation
Reliable operation
Easy to use

Few moving parts ensure that little maintenance is required.

AutoChief Control Panel

The AutoChief® Control Panel and Engine Telegraph is designed for easy operation and can be installed into any standard console.

An advanced, yet simple to use touch screen computer give access to all system functions, providing the information you need only when you need it.

Main variables such as RPM, pitch, start air and scavenging air pressure, engine state etc. are displayed. Several levels of control are available to distinguish between user groups.

The system can operate stand-alone, or integrated with our K-Chief 600/K-Chief 700 automation system or K-Thrust. In systems with shaft generators the Power Management System can communicate with the AutoChief® system for smooth operation. Open architecture allow seamless integration with other manufacturer's equipment.

Indications

- Main engine mimic display
- Current main engine state
- Start blocks
- Shutdown/Slowdown
- Alarm indications and pop-ups
- Analogue RPM/Pitch and setpoint.
- Analogue start air pressure
- Control position
- Blowers running
- Wrong way rotation

Operation

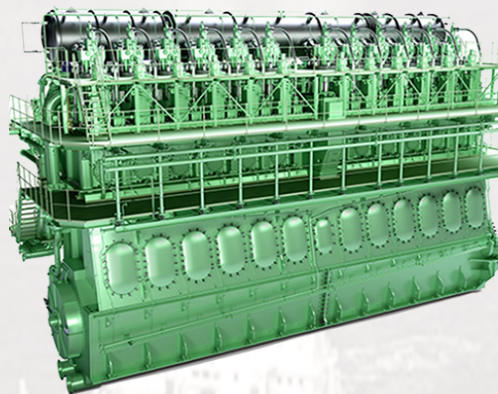
- Engine/Propulsion modes
- Bumpless control transfer
- Cancel Shutdown/Slowdown
- Alarm acknowledge/sound off
- Changing of engine parameters
- Night dimming and daylight setting.

Standard Motortypes

MAN B&W MC CPP
 MAN B&W MC FPP
 MAN B&W ME CPP
 MAN B&W ME FPP
 MAN B&W ME-GI
 MAN B&W ME-LGI
 Wärtsilä RT-Flex(WECS)CPP
 Wärtsilä RT-Flex(WECS)FPP
 Wärtsilä RT-Flex DF(Unic)CPP
 Wärtsilä RT-Flex DF(Unic)FPP
 Wärtsilä RTX(Unic)CPP
 Wärtsilä RTX(Unic)FPP

Mitsubishi UE

We can control a number of other motortypes, please contact us.



The AutoChief® Control Panel



Telegraph Handle



Engine Telegraph Unit

A lever type Engine Telegraph is used on the bridge and in the engine control room.

A Push-Button Telegraph is normally used in the engine room

Telegraph positions

- Ahead: Dead slow, slow, half, full, navigation full
- Stop
- Astern: Dead slow, slow, half, full, emergency astern

Sub telegraph modes

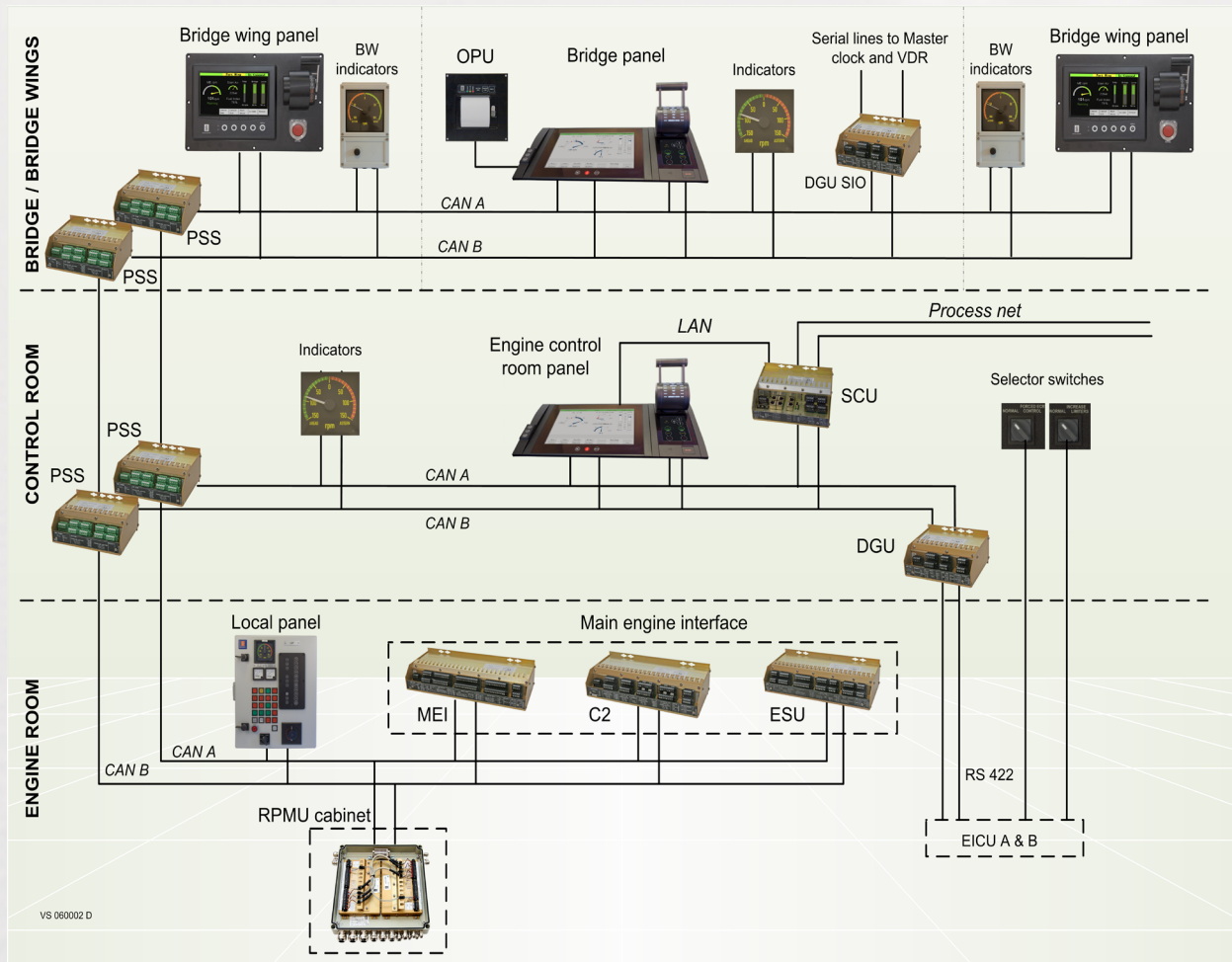
- Finished with engine (FWE)
- Stand-by
- At sea

Available control locations

- Bridge
- Engine control room (ECR)
- Local
- Optional, other locations

Built in emergency telegraph

Typical AutoChief® system configuration



Manoeuvring Recorder

The Manoeuvring Recorder (or Order Printer Unit, OPU) is designed to continuously log specific events related to the propulsion plant and commands from the bridge, and to provide a paper printout.



- Engine-telegraph Command
- Propulsion-system Modes
- Propulsion-system States
- Control Location and Transfer
- Alarms

Bridge Wing Unit

The Bridge Wing Panel BWU09 is designed for use with AutoChief®600 remote control



The TFT technology gives good visibility in night and daylight. The illuminated Lever has 11 telegraph positions with well defined notch in each position. Emergency Stop Switch is independent of panel and connected directly to Main Engine Safety System. Communication with the rest of AutoChief is by CAN bus.

Distributed Processing Units

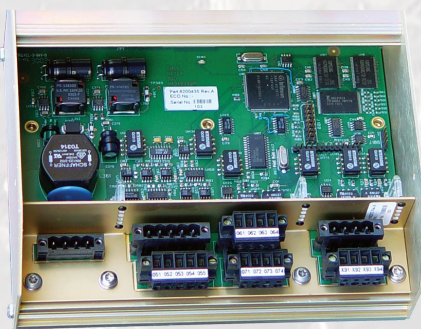
The AutoChief®600 use Distributed Processing Units installed directly in the junction boxes on the main engine. All signals to and from the engine are transmitted on dual redundant CAN lines (bus on engine).

All nonessential sensors can be shared with the K-Chief 600 alarm and monitoring system, requiring only one interface to the main engine. This principle drastically reduces the installation and cabling cost.

Main features:

- Dual/redundant field bus (CAN)
- Signal interfacing to sensors and actuators.
- Alarm detection and process control.
- Time stamping of alarms and events.
- Direct mounting on engine is possible.
- Design focused on EMC compatibility.

Distributed Processing Units



Digital Governor System

The Digital Governor System is both a stand-alone and a fully integrated part of the AutoChief®600 family.

Main features:

- Speed order inputs from all control positions.
- Automatic fuel limiter functions according to main engine builders specifications (scavenge air, torque limiter etc.).
- Manual fuel and RPM limiter adjustable from the control panel (chief limiter).
- Redundant speed measuring system using inductive speed pick-ups.
- Limiters can be cancelled from each control position.
- Self-check functions.

SEFA actuator



Type Approvals

Designed in accordance with the requirements of:

DNV-GL, LR, BV, RINA, Class NK, ABS, KR, RMRS, CCS, PRS

Engine Safety System

The Engine Safety System is both a stand-alone and a fully integrated part of the AutoChief®600 family.

Main features:

- Separate overspeed detection system.
- Automatic shutdown of main engine, both cancellable and non-cancellable, will stop the engine by activating solenoid valves. The sensors may be analogue or digital
- Four dedicated shutdown inputs with backup and double power supply.
- Separate emergency stop system with full loopfail detection and redundant power supply.
- Automatic slowdowns, both cancellable and non-cancellable, reduces engine speed to a safe level if technical problems on the main engine arise.
- Engine RPM detection system with two independent systems, including automatic change over
- RPM indicators on redundant CAN network.
- All sensors and valves are monitored for cable failure.
- Settings may be altered and values may be inspected on any control panel.
- Redundant power supply.

AutoChief®600 is a registered trademark of Kongsberg Maritime AS in Norway and in other countries.

The product sheet is subject to change without prior notice.