



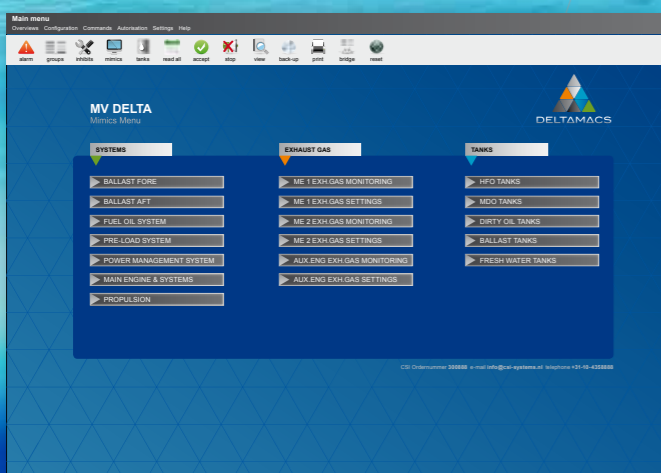
DELTAΔCS

THE NEXT GENERATION



csi CONTROL SYSTEMS

Your ships can count on us



Select the right package for your ship from the following modules:

► **Group Overview**

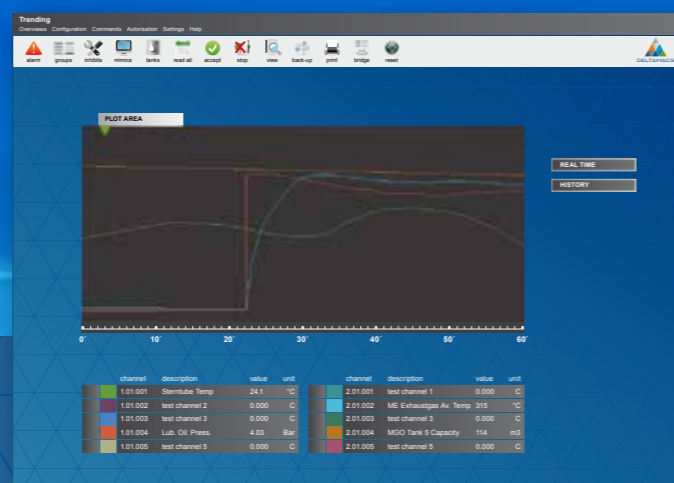
Channel overview grouped per installation or plant. The configuration is a user setting and can be changed by the Chief Engineer. Groups having one or more channels in alarm are displayed in red in the groups menu.

► **Mimic Menu**

Overview of all the mimics in your DeltaMACS system. The CSI Order number can be found on this screen. Please mention this number to our service department for support.

► **Tank Measurement**

Calculation of the actual height of fluids in your tanks. The raw sensor tank data in meters water column are calculated to the actual height in meters taking into account the gravity, sensor offset, trim, list and tank tables.



High-tech Alarm

► **Alarm Screen**

Overview of all the current alarms, descriptions and acceptance of alarms. The line layout is partly user configurable.

► **Exhaust Gas Monitoring**

The exhaust gas module consists of a monitoring and a configuration mimic. The monitoring mimic gives a clear view of the deviation of the cylinder temperatures. In the exhaust setting screen it's possible and easy to set the allowed deviation, average temperature, equalize and bypass cylinders.

► **Valve & Pump Control**

The system can be configured and combined from basic tank gauging and instrumentation to fully automated tank management system. All types of pumps can be controlled and monitored by our DeltaMACS system.

► **FREE Trending Mimic**

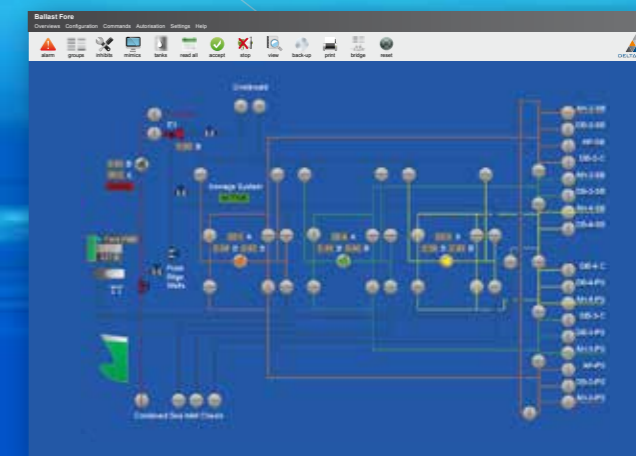
Trending tool to check and analyze data per hour, day, week or month. The value of each analogue channel will be trended every second and stored on an external hard-disk for 1 year. The trend data files are Excel compatible. Trending is standard included in every new built system.

► **Anti Heeling / Ballast system**

Our DeltaFLEX software controls the transfer of ballast water in between port and starboard side ballast tanks. Furthermore it controls the safe full automatic or semi automatic operation of the anti-heeling process. Our ballast system monitors the ballast tanks and controls the ballast valves and pumps.

► **Power Management**

The Power Management System (PMS) is an advanced system for automation of power plants, including power management, starting and stopping of the diesels, and synchronizing of the generators.



The future of alarm, monitoring and control systems

Our fully redundant DeltaMACS system is based on 45 years of experience and integrates nine independent modules that safeguard every ship's function.

Optimal flexibility

Our proven and flexible systems meet all technical and safety requirements and are used by over 3500 vessels, from cargo vessels and yachts to heavy lifters and offshore installations. We offer our customers the latest technology and tailored solutions for the best price. Our latest version DeltaMACS® The Next Generation integrates a full range of alarm, monitoring and control modules tailored to your ships needs.

All channel settings are user configurable:

- channel text
- channel colours
- delay times
- four setpoints per channel
- ranges

Continuous Upgrades

DeltaMACS software is highly flexible and can be continuously upgraded & extended to meet new requirements on board.

Great Visuals

DeltaMACS mimics offer 3D visuals of ships functions and are easy to read.

Our Client Mimic Module can display customer specific mimics. Furthermore all properties, actual value and status of a channel can be displayed, such as values setpoints, bars, analogue gauges and channel texts.

Allround software

Drivers for interfacing with Caterpillar Engines, Wärtsilä, MAN B&W Engines, Thorn & Tyco Fire Alarm Systems, Profibus (Siemens S7). Modbus RTU and Modbus TCP, NMEA input and output, OPC data collection.

For more available interfaces, please contact us.



Our hardware

Key features are:

- Compact and robust
- System update time < 10 milliseconds
- Earth fault detection per module
- Highly scalable (from 100 up to thousands of I/O channels)
- Galvanically isolated I/O modules

The modular set-up makes our systems suitable for any type of vessel.

Type approval

