

Service catalogue

CYLINDER LUFFING CRANE CONVERSIONS, UPGRADES AND MODIFICATIONS



TTS



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Our experience

TTS Services has the experience and capacity to meet today's market demands.

Developments in the maritime industry and operational changes also influence material handling and its requirements. Upgrading your cranes to be able to meet these demands or to utilize the cranes in new types of operation can be a cost effective solution compared to replacing the crane. Modernization of the equipment increases predictability, reliability and extends the life and operation of the crane, but also reduce the costs related to high prices and long lead times of old or obsolete parts.

With over 40 years of experience providing services for equipment operating on marine and offshore vessels and installations, the TTS conversion programs are developed to prepare existing equipment for a viable and competitive future. TTS has extensive knowledge and a proven record of upgrading and modifying equipment, in particular steel structure, hydraulics and electrical control systems, including adapting equipment for new types of operation in compliance with new rules and regulations. Our product expertise combined with comprehensive knowledge of classification rules and regulations enables us to provide solutions to suit the exact requirements of your equipment.

Conversions

Conversions from TTS include all activities of upgrading and modifications. A conversion project typically includes an initial study, design, manufacturing, installation, testing and commissioning.

TTS performs conversions worldwide on all kinds of vessels, all class societies, both in the safe and ex zone.

Benefits include:

- Enter new market opportunities and charters
- Extended lifetime of the equipment
- More efficient operation
- Compliance with customers' requirements
- Equipment prepared for different types of operation
- Update of original user documentation
- Installation by experienced OEM personnel
- Engineering by maker ensures safe and optimal design



ECB05 – Safe Load Indicator System

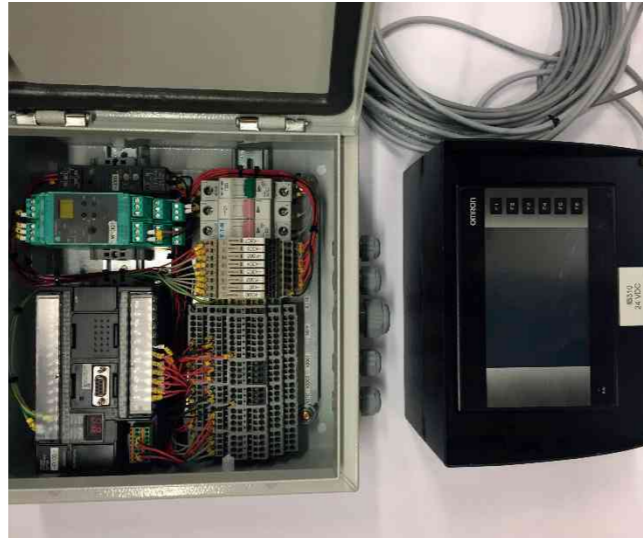
Description

The ECB05 - Safe Load Indicator System provides significant information in plain text and graphic readout information.

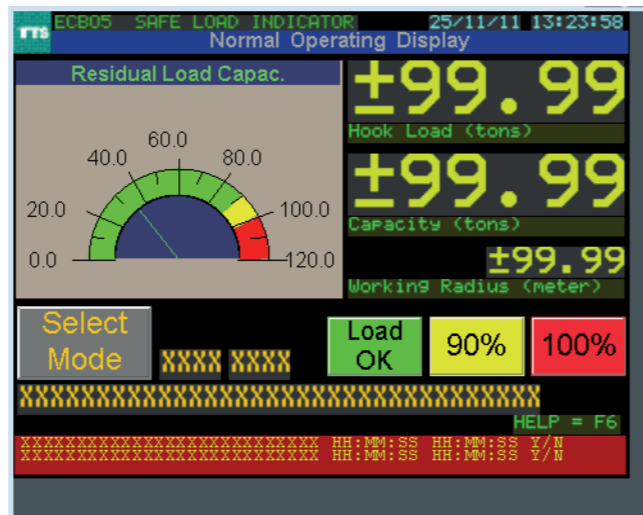
It has a password protected screen for parameter adjustments. It also has a built in alarm system, and real time clock.

The system consists of an operator console, a control box with a programmable unit, necessary interface units, and a tilt arm for mounting the operator console.

The installation will be carried out by a TTS Service Engineer. Any necessary adjustments for the new control system will be implemented. The adjustments are specific for each crane.



**TOUCH SCREEN
PASSWORD PROTECT
ALARM SYSTEM
REAL TIME CLOCK**



Control System Upgrade

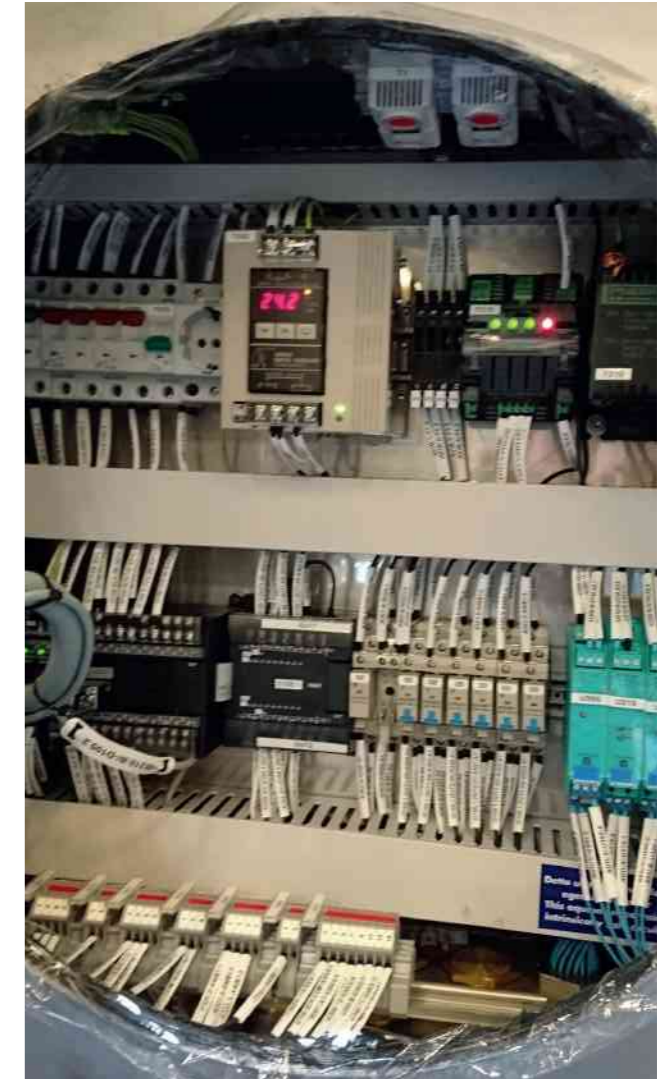
Description

The control system is a critical part of the crane. Without this, the crane would not function in a safe and efficient manner.

Upgrading the control system ensure that the system will perform according the current operational requirements, as well as including diagnostic capabilities and remote monitoring to reduce costs related to troubleshooting and support.

Main deliverables (depending on crane type)

- Joysticks with crane operator consoles, buttons, lamps
- PLC with the latest software technology
- Touch screen for operator readouts
- Touch screen for Safe Load Indicator, warnings, alarms and selections
- Prepared for Remote Access connection



Personnel Handling

Description

Requirements for safe lifting of personnel have changed over the years. Our personnel handling solution is tailor-made to for each project to match the crane with the newest class requirements.

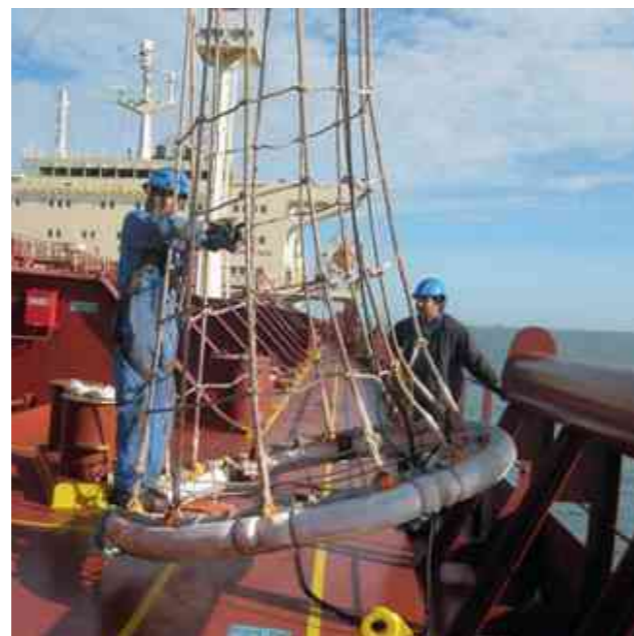
The winch comes with a class society product certificate. The conversion is in accordance to regulations from class society and ready for system approval and certification.

The control station is equipped with a manual key selection switch for the purpose of lifting persons. The switch is lockable in both positions with a removable key and has an adjacent warning light which continuously indicates when it is activated.

Our system can be incorporated on cranes with or without a sophisticated control system.

Main deliverables (depending on crane type)

- Winch with double brake
- Electrical driven emergency aggregate for recovery in case of power failure
- Separate mode for personnel handling
- De-rating of winch in personnel modus
- Letter of conformity from maker
- Bypass of MOPS/AOPS, CT and AHC



Ship-to-Ship

Description

By installing safety upgrades on the crane, it will have the safety level of an offshore crane for ship-to-ship handling in accordance with criteria from the DNV "Standard for certification no. 2.22 Lifting Appliances."



Main deliverables (depending on crane type)

- New or modified winch where necessary
- New wire, sheave, bolt, modification of wire sheave bracket etc.
- New hook
- New main control valve
- New main hydraulic pump
- New main electric motor with starter
- New flexible coupling between electric motor and hydraulic pump
- Electrical sensors, angle sensors, limit sensors
- TTS MOPS system
- De-rating according to significant wave height (HS) and dynamic factors
- Calculations of new load curves
- Signs, procedures, load charts
- Modification of control system to include additional feature required on the crane
- Brackets, frame, platform, cable trays, joystick frame, monitor frame in cabin
- Engineering, programming and documentation

Radio Remote Control

Description

By installing a radio remote controller, all the cranes essential functions are available remotely. The crane can be operated without having an assistant between the operator and cargo.



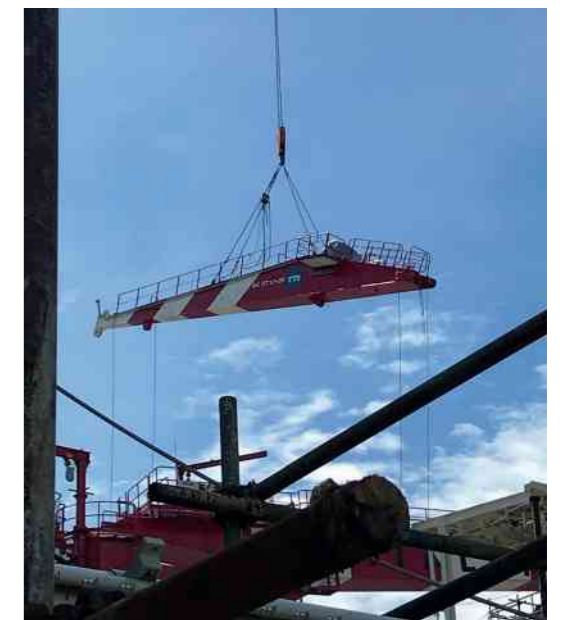
Structural Changes

Description

Modifying an existing crane for a different utilization is a cost effective and time saving solution that opens up possibilities to enter new market opportunities.

We offer the following structural changes:

- Boom extension
- Expanding the reach of the crane
- Increase of SWL
- Increasing the lifting capacity of the crane
- Wire extension
- Increasing the operational depth capabilities of the crane
- Slew limit
- Reducing the slew sector of the crane
- Adapting for operator cabin



Winch Modification

Description

When a new project requires different winch parameters, it might be an option to consider if the existing winch could be modified.

Examples of modifications:

- Extension of wire length (will normally reduce SWL)
- Hoisting speed increase
- Wave compensation (see add-on AHC)
- Overload hydraulic quick release
- Constant tension
- Any other according to request



Add-on AHC

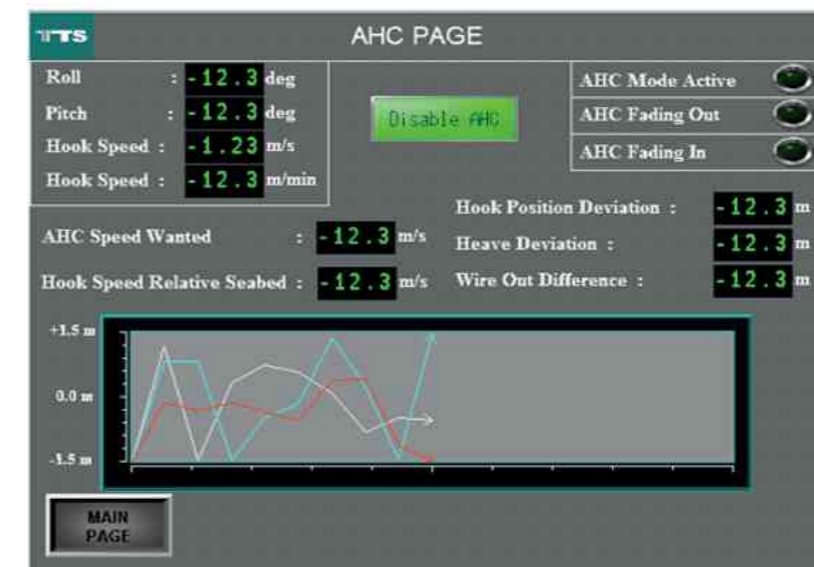
Description

TTS has developed an add-on Active Heave Compensation (AHC) solution for crane winches and winches in general. The solution uses the existing hydraulic/electric power that is already available on the crane, which means that we can deliver add-on AHC for any crane. This gives the possibility for cranes without AHC to offer their services in a bigger market.

The modification is a simplified solution as it uses existing components and few new components are added. The modification can be performed with short down time, and on site.

Necessary modifications:

- Absolute encoder for the winch drum
- Motion Reference Unit
- Updated software or new PLC with AHC software
- Minor hydraulic updates





Whether it's an upgrade, modification or conversion, TTS has your tailor-made solution.

For further information, contact: service@ttsgroup.com

Or your local TTS aftersales representative



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