

CC300 Crane Control System

- ▶ Integrated crane monitoring and control system
- ▶ Ensures good control and safe and efficient operation
- ▶ Stops crane operation at overload and in collision conditions
- ▶ Full crane control using joysticks
- ▶ Diagnostic and adjustment functions
- ▶ Machine room monitoring and control (hydraulic & electric drives)



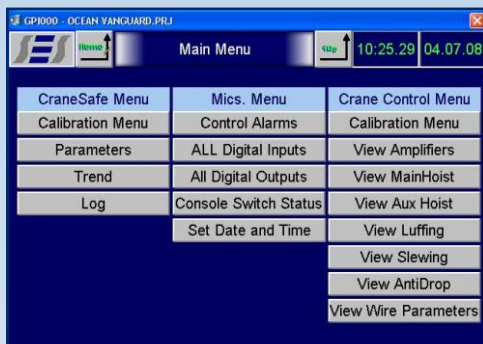
Description

Designed and manufactured by Straininstall, the CC300 is a fully customisable crane monitoring and control system that provides the crane operator with good control and information for safe and efficient crane operation. The CC300 is suitable for installation on new cranes as well as replacement/retrofit of old drives and relay logic based systems.

The system provides a cost-effective way of ensuring compliance to the latest regulations relating to the use of offshore cranes. The principle of the CC300 system is that the PLC technology maintains the original crane design and performance, thereby eliminating the need for classification society new design approval.

Ideally suited to specialist cranes, the system monitors the crane load and indicates overload first by audible and visual alarms, then by ultimately stopping crane operation if no remedial action is taken. It can also optionally include additional information such as slewing, wind speed, hook position/speed and multiple hook monitoring, according to the exact requirements of the customer. In addition to the monitoring functions, the system also fully controls crane operation (hydraulics, operators chair, brakes) to ensure its smooth operation and enabling adjustments to be made as required.

The system has been approved for offshore use by all the major classification societies, including DNV, Lloyds, BV, ABS and API, as well as complying to European Standard EN13852-1 'General Purpose Offshore Cranes'. For cranes used for lifting personnel and emergency vessels, the CC300 can be configured to offer dual redundancy and has been designed to comply fully with European Standard EN13852-2 'Floating Cranes'.

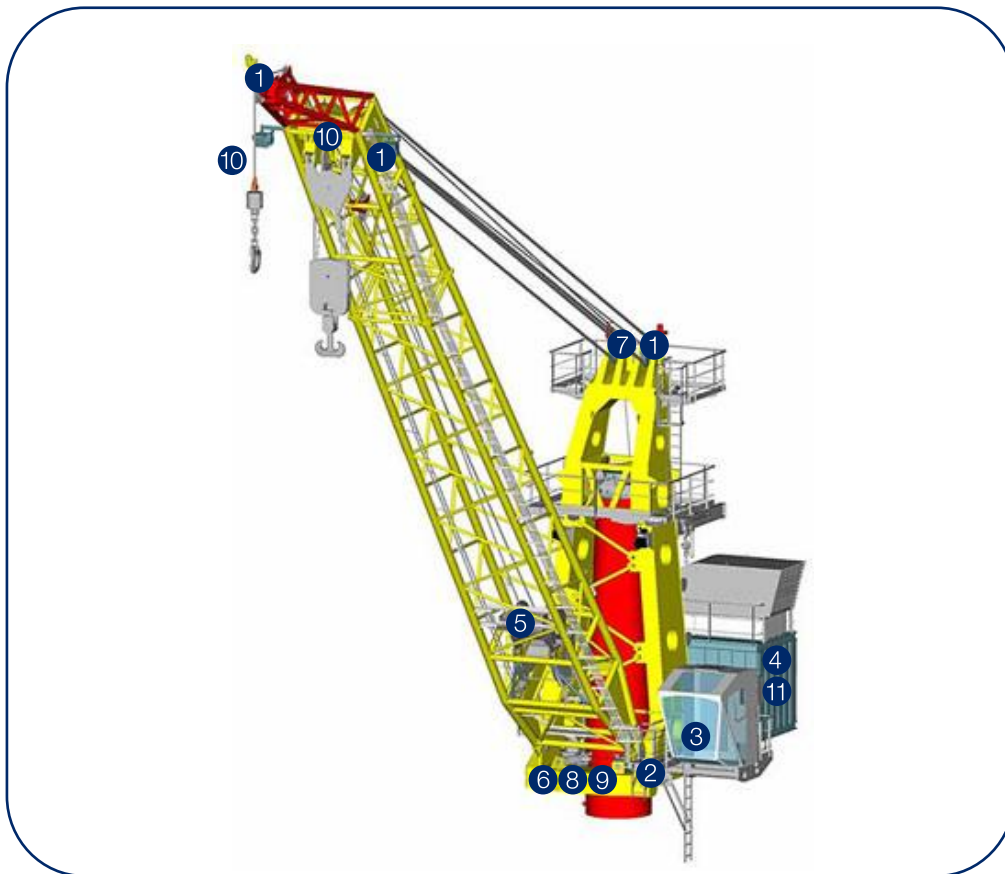


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Applications

The CC300 is a bespoke solution for special types of cranes. Each system is interfaced with the vessel's SCADA system, and Strainstall has experience with all the major suppliers including Rockwell, Siemens, Citect, Eaton Moeller, GE Fanuc and Wonderware.

Being a modular system, the CC300 is easy to upgrade to meet any new future regulations. Upgrades are quick to install to ensure minimum down time of the crane, and in some cases can be completed whilst the crane is operational, so no loss of operating revenue is incurred.



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| <p>1 Load Cells
A load measuring pin is installed in the guide pulley, and/or a load shackle or tensile link in the 'dead end' and anchor point of the wire.</p> <p>2 Outreach Sensor
An electronic inclinometer is typically used to measure the outreach/radius.</p> <p>3 Operator Display
Provides the operator with information on load, allowable load, radius and alarm status, and is also used as an HMI with the PLC.</p> <p>4 Interface & Main Electronics Enclosure
The interface and termination unit of the electrical signals from the sensors, as well as the drives and control for commands such as interlock in the event of overload.</p> <p>5 Hook Height/Speed Sensor
Typically used are incremental encoders with gearing or quadruple proximity switches.</p> | <p>6 Trim & Heel Sensor
Electronic inclinometers with high resolution and narrow band - typically +/- 10 degrees.</p> <p>7 Wind Sensor
Measures the speed using a cup-type anemometer.</p> <p>8 Slewing Sensor
Can be either a multiple rotation potentiometer or an incremental/absolute encoder.</p> <p>9 Over sea/deck Precision Sensor
Proximity switches are used in combination with an arch to detect and define the sector.</p> <p>10 A-2-B Sensors
Proximity switches are used to detect and stop the hook block travelling past its upper limit to protect the upper sheaves from damage.</p> <p>11 Drive Control
Monitors and controls the hydraulic pressure of the drives and controls.</p> |
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Due to continuous development, Strainstall AS reserve the right to change specification without notice.