



#accuracy

#reliability

#safety

LaseBCP

Boom Collision Prevention

Enhancing the safety and efficiency in ports



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Boom Collision Prevention



The application LaseBCP Boom Collision Prevention is a two-dimensional laser measurement system which observes the area around the boom of quay cranes during gantry travel. In case of detecting an obstacle on the vessel like e.g. bridge, radio antennas etc., a signal is provided to the crane control PLC in order to slow down or stop the crane movement before any collision can occur. The system is built especially for the use at STS vessel operations and prevents significant damages, crane down-times and particularly dangerous accidents.



2D laser scanner mounted at water-sided boom end

Smart obstacle detection under STS crane booms

The system LaseBCP consists of one 2D laser scanner from the LASE 2000D series, which is installed at the water-sided end of the STS crane boom. The laser scanner builds a horizontal scan plane under the crane boom along the lower side of the girder whose scan area is parametrized in terms of three graduated surveillance areas.

When the STS crane travels in gantry mode and an obstacle on the vessel approaches the surveillance areas a signal is generated and transferred to the crane PLC. The surveillance areas are divided into three different zones (blue, yellow, red) and according to the position of an obstacle inside the zones, the PLC evaluates the situation in order to slow down (yellow) or to stop (red) the gantry movement of the crane.

The main advantage of this system is the smart handling where detected objects are analyzed by their lifetime and spatial expansion. If both exceed pre-defined threshold values, the object is indicated and stored. This ensures a reliable system performance and avoids false alarm by e.g. birds, rain drops or snow flakes.



General max. scan area before parametrization



Scan plane divided into three surveillance areas



Vessel antennas inside yellow warning area

CUSTOMER BENEFITS AND FEATURES:

- ✓ 2D measurement system with state-of-the-art laser technology
- ✓ Exact and reliable boom collision prevention by smart obstacle detection
- ✓ Individually definable surveillance areas around crane boom
- ✓ Lifetime and spatial expansion analysis to avoid false alarms
- ✓ Immediate alarm signal to PLC stops gantry travel in the event of collision detection
- ✓ Ensures retro-fitting of existing quayside cranes
- ✓ Prevention of significant damages, crane down-times and injuries



Note:

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