product data sheet

LaseBCP-ML
BOOM COLLISION PREVENTION

LaseBCP-ML detects obstacles on the vessel during crane travel, and sends a signal to the crane control system to slow down or stop the crane travel before a collision with the vessel's superstructure can occur.

THE APPLICATION

LaseBCP is a three-dimensional laser measurement system that monitors the area around the boom of STS cranes during crane travel. If an obstacle on the vessel such as the bridge, radio antennas, etc. is detected during crane travel, a signal is sent to the crane control system to slow down or stop the crane travel before a collision with the vessel's superstructure can occur.

THE MEASUREMENT SYSTEM

The system is specially designed for use in STS ship operations and prevents significant damage, crane downtime and particularly dangerous accidents. The LaseBCP measurement system consists of two multilayer scanners installed at the land-side (close to hinge) of the STS crane boom. The laser scanners create a 3D scan area under the crane boom along its underside as well as downwards to the ship. The scan plane is parameterised in the form of three graduated monitoring areas. When the STS crane moves in gantry mode and approaches an obstacle on the ship, a signal is transmitt ed to the crane PLC, which slows down the movement or stops it. The monitoring area is divided into three diff erent three-dimensional zones (blue, yellow, red) and depending on the position of an obstacle within the zones, the PLC evaluates the situation to slow down (yellow) or stop (red) the crane travel.

The main advantage of this system is its smart handling, where detected objects are analysed based on their lifetime and spatial extent. If both exceed predefined thresholds, the object is displayed and stored. This thus ensures reliable system performance and avoids false alarms caused by, e.g. birds, raindrops or snowflakes.
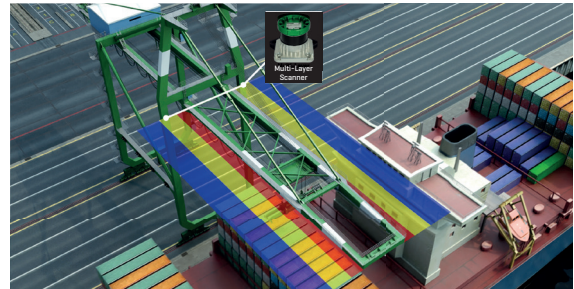
Everything in view: LaseBCP-ML monitors the working area.

Easy to retrofit: The sensors are installed at the end of the STS crane boom.

THE FEATURES

✔ 3D measuring system with state-of-the-art laser technology

✔ Individually definable 3D monitoring areas around the crane boom

✔ Easy retrofitting of existing quay crane systems

✔ OEM installation possible as well

✔ Extension for further upgrades possible (profiling of operation and adjacent bays on the vessel)

THE BENEFITS

✔ Precise and reliable collision avoidance of the crane boom through clever obstacle detection

✔ Analysis of lifetime and spatial extent of objects to avoid false alarms

✔ Immediate alarm to the PLC stops the gantry travel in case of collision detection

✔ Avoidance of severe damage, crane failure and injury

✔ System can be mounted on the hinge or boom tip

THE FUNCTION PRINCIPLE
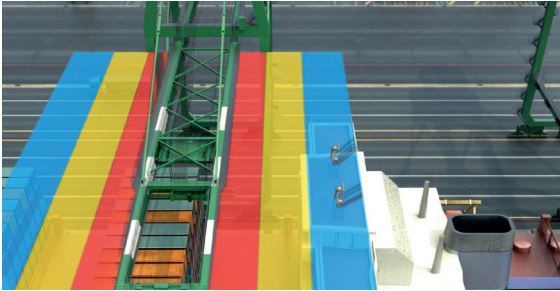
LaseBCP divides into three areas. If an object is in the blue area, it is considered harmless.
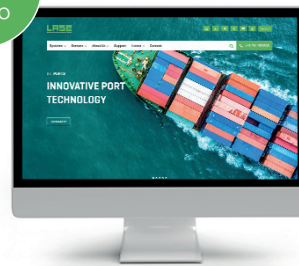

If the object enters the yellow area, the crane slows down as a precaution.

As soon as the object is in the red area, the crane stops to avoid accidents.

WATCH THE PRODUCT VIDEO

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