product data sheet

PORT INDUSTRY

LaseGCP-3D

GANTRY COLLISION PREVENTION 3D

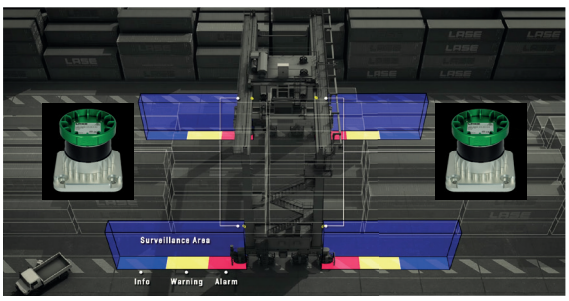
The LaseGCP-3D measurement system is a driver assistance system that helps crane operators of Harbour Cranes, RTG, RMG, STS or Jib Harbour cranes to avoid collisions and thus increase crane availability. The system can be used with two or four multilayer laser scanners mounted on the upright gantries. Depending on the number and mounting location, one direction or two directions of travel can be monitored. The 3D monitoring areas are generated as a virtual monitoring area in front of the cranes drives in the respective direction of travel.

THE MEASUREMENT SYSTEM

The laser measurement system consists of two or four multilayer laser scanners mounted on the upright chassis beams at approximately a height. 6m - 7m. The scan planes are formed in up to 64 vertical individual scan planes. This allows monitoring not only at a single specified height but seamlessly from ground level to a height beyond the installation location of the multilayer laser scanner. The measurement data from the laser scanner is sent to the LASE application software, which evaluates the data and detects emerging hazardous situations in time. Dynamic monitoring fields are generated in the control system, which changes or adapts their extension analogously to the crane speed.

This means that the scan fields have a small extension at low speeds and accelerate simultaneously with the crane speed. The fields cover the width of the respective trolley (including stairs that may be located on the side of the crane). From this, the system derives three detection areas, the largest/outermost of which is used to create candidates. This field is called the surveillance field. The candidates are objects that have a certain size and lifetime and should be protected from collisions with the crane.

If an object occurs within the smaller „warning field“, the system reacts and sends a warning to the crane operator, who starts to reduce the speed of the gantry crane. An emergency stop is automatically triggered if the nearest field („alarm field“) is violated.



The sensors divide the position of the obstacle into the three detection zones blue, yellow and red.

With the LASE „Surveillance Manager“, the crane operator has everything in view.

THE FEATURES

- 3D monitoring ranges from ground level to defined height above the scanner
- Up to 64 vertical scan planes or even more
- Harbour Cranes, RTG, RMG, STS, Jib Harbour Cranes
- Modular system design - two or four sensors can be used
- Trusted product with high acceptance by the crane operator
- Dynamic detection fields based on cranes speed
- Object tracking
- Object lifetime detection

THE BENEFITS

- Ideally suited for automated crane systems
- Avoidance of hazardous situations and thus increase the safety level for crane operation
- Cost savings due to collision-free operation and avoidance of repair costs
- Increased machine availability due to reduced crane downtime
- High reliability against environmental influences - no false alarms
- Crane operators can concentrate on other operating issues
- Retrofit or OEM product
- The system could be integrated into other LASE multilayer solutions

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THE FUNCTION PRINCIPLE

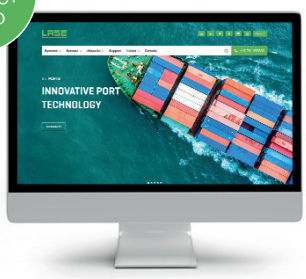
The multi-layer sensors constantly observe all movement points and watch out for obstacles.

The location of the object triggers either an observation (blue), a slowing down of the crane (yellow) or a stop (red).

Any kind of obstacle is detected.

The new LASE multilayer scanner.

WATCH THE PRODUCT VIDEO



SCAN ME

Scan the QR code with your mobile phone. Discover the product video and more innovative solutions from LASE!

GLOBAL PLAYER FOR LASER MEASUREMENT SYSTEMS

For more than 30 years, LASE Industrielle Lasertechnik GmbH has been the global contact for high-precision and robust laser measurement technology for the port sector. With our 1D, 2D, 3D and multilayer sensors as well with our high sophisticated application software, our systems stand for more accurate, safe and efficient container handling. Our goal is to drive the automation of the port industry forward. With 30 offices worldwide through subsidiaries and business partners, we are always at your side.

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