Automatic Container Handling for Railcars & Automatic Container transfer on Trucks at automatic RTGs

“Close the Gap!”

By adding “eyes” to the crane, to have an automatic transfer of the containers in the interface between the horizontal- and the vertical transport.
LaseAYC-4 - Container Handling for Railcars
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LaseAYC – Automatic Yard Crane

The AYC products are built for the full automatic operation of the cranes (RTGs/RMGs) and the most sophisticated LASE solutions:

The LaseAYC-2 (with 2 x 3D-laser scanner) for the functions:
1. Automatic container handling in the Yard
2. Collision Prevention in the yard (in trolley axis)

With the LaseAYC-4 (with 4 x 3D-Laser scanner) additional functions are available:
1. Automatic Truck Handling (loading/unloading)
2. Automatic Wagon Handling (loading/unloading)
3. Automatic pick and drop in the Yard
4. Collision Prevention in the Yard (trolley and gantry drive direction)
LaseAYC-4 - Container Handling for Railcars
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Chassis coupling device

Twist Lock Double stack rail car

Detection of top corner castings

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The LaseTPC-RTG-3D system gives the truck driver a position feedback by a digital display, to position the container and/or the trailer in the center line of the crane.

Afterwards, a 3D-scanning for the trailer and/or container follows, to measure the position of the drop or pick position. The spreader can be adjusted according these information to make the process automatically.

Benefits and Features:
1. Accurate truck positioning
2. 3D position measurement of containers and trailers
3. Accelerated crane operations = increases productivity
4. Supports a fully automated container handling
5. More safety by reduced labor activity below the crane
6. Savings in labor costs
7. Usable for ARMG, RMG and RTG cranes
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs

Step 1:
Truck arrives and the scan plane cuts the truck/trailer in the center line. By tracking the edges of the trailer and/or container, the position of the truck is determined. By the traffic light (digital display with distance information in cm) the truck driver can position the Truck easily.
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs

Step 2:
When the truck (trailer/container) is aligned in the center of the crane, the PLC triggers the 3D-Scan process. LaseTPC will swivel the 3D-Unit and calculates the center position of the selected slot.
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs

“Start 3D-Scan for slot detection”
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs

3. The LaseTPC informs the PLC about the slot, used to make the measurements. The position will be sent to the PLC.
LaseTPC-RTG-3D - Automatic Container transfer on Trucks at automatic RTGs

Step 3:
The crane will hoist down to the position provided by the LaseTPC. Crane will load the container in the truck and returns to its operation.
LASE - Summary

With closing step by step all “gaps” between the cranes and the horizontal transport vehicles, the “real” fully automatic terminal comes closer and closer.

For more informations about these and several more products, we welcome you on our stand C44
Thank you for your attention !!!