

# APPLICATIONS

ALL FROM ONE HAND



**FEAL**  
Industrial Solutions

## Position supervision of crane installation



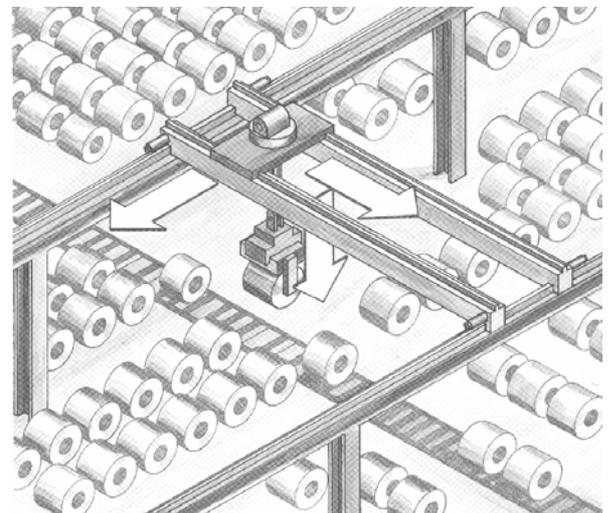
### Short description:

The position of the cart is determined with mm accuracy by use of two Laser Distance Meters of the HD-P Series in X and Y direction. The laser sensors for the crane portal measure off reflector boards installed on the Hall wall or the cart. High-dynamic movement control is accurately achieved by the high measuring rate of up to 5000 measurement/seconds.

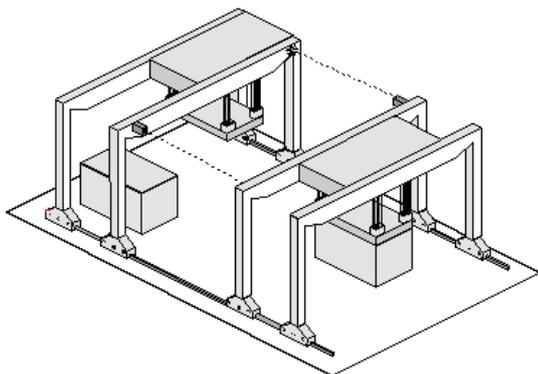
The measuring data is transferred to a control computer or a SPS. The combination of modern laser sensors and high grade reflectors ensures operation over large distances. By suitable protection, heating and/or cooling housings, the sensors can be used also in difficult site conditions trouble free.

### Measurement System Features:

- 3 axis position monitoring possible
- Accuracies up to  $\pm 2\text{mm}$
- High dynamics and reliability
- Contactless one and wear-free measurement
- High working reliability in rough environment
- No initialization necessarily
- Range of more than 600m possible
- Internal self check, simple installation



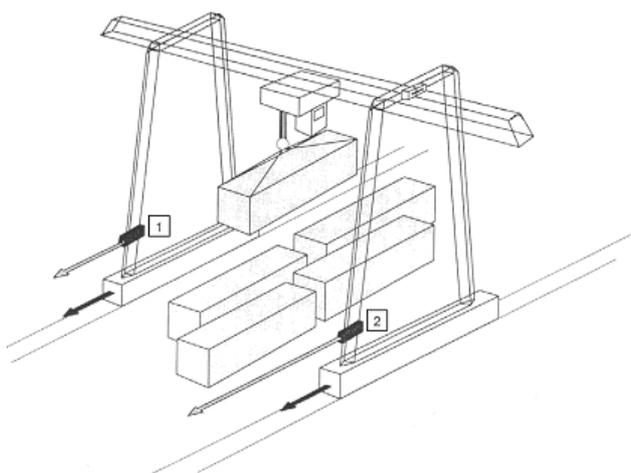
# Accident insurance, material saving



## Collision avoidance supervision

Often the separation between cranes which run on the same rail is only estimated by the crane operator. Through this it is common that accidents occur when working at short distances apart.

**Solution:** A laser distance measurer is installed at the crane and aligned to the opposite crane. The sensor measures continuously the distance to the opposite crane. When this distance falls below a pre-set range, two independent switched outputs are provided by the sensor - early warning and emergency stop. For higher security the sensors are inserted redundantly on both crane installations.



## Crooked run supervision at portal cranes

For large crane installations it is possible to find a crooked run between the two crane pillars. To avoid a large crooked run a closed-loop control of the two crane drives is necessary. This regulation can proceed the left and right drive individually. To create this closed-loop control, information about the way and size of the crooked run must be determined.

**Solution:** Two laser distance measurers are installed on the left and right crane pillar and aligned onto reflectors attached at the respective buffers. The sensors measure continuously the distance to the reflector. The difference of the two distance values is a measure of the size and amount of crooked run. The respective drive engines can be tracked in such a way that synchronisation is restored. This measured distance value can be used additionally for positioning.



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