

DIMETIX APPLICATION EXAMPLE

AE-0506

MONITORING TRANSFER CAR POSITION

Industry : Metal & steel industry
Application type : Position measurement / Monitoring

Brief description



Pic 1: Mounted Target plate on transfer car

A global steel production facility was experiencing production downtime because the large transfer cars (200 feet in length) used to transport massive, red hot steel plates were overshooting their shuttle positions or colliding with the barrier stops at the end of a rail guided transfer line. The production stoppages were caused by the malfunction of floor mounted micro-switches, which were triggered by the transfer cars and positioned at 6 points along a 55-60 foot track.

To replace the malfunctioning micro switch system, a non-contact distance laser measurement system was designed, installed, and implemented by a local integrator. The replacement system consisted of the following two Dimetix laser distance sensors enclosed in NEMA 4X rated protective housing.

Corresponding reflective target plates attached to the transfer car and a display/controller consisting of a panel mounted serial display and analog transmitter. The protective enclosures housing the lasers also included a vortex compressed air cooling system to continuously monitor temperature and cool the inside of the enclosure. The same compressed air stream was passed over a boron silicate glass viewing window with a unique perforated silicon gasket that directs a stream of clean, cool air over both sides of the viewing window. The continuous flow of air over the viewing window maintains the temperature inside and outside the housing and also provides an air purge to prevent dust accumulation.



Pic 2: Transfer car

Customers advantages

- Non-contact visible eye-safe laser measurement
- Laser sensors can be placed far apart to permit space for material transport and foot traffic
- Plenty of measurement range
- Measurements can be acquired by a PLC or PC
- Maintenance free application– no moving parts to wear or string cables to break
- Economical, rugged , and compact package

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