

Application Notes...



Sensors for railway tracks

With the modern welded railway lines, it has become more difficult to test the condition of the track to ensure its safety.

Brief given

These days testing of railway lines is carried out. The way to check modern rails is by trying to pull the tracks of the sleepers, measuring the force exerted and the resulting displacement. It is the relationship between the two which defines whether the track is safe.

Such testing products are used worldwide, usually at night when the rail traffic is low. The equipment has to be suitable for all weather conditions and must be quick and simple to use as the operators are always under time pressure – the next train might be just around the corner.

Sensor-Technik was asked to supply a tension load-cell and a displacement sensor that would connect to the existing hand-held computer. The equipment needed to be very robust.

The solution

Two standard, robust sensors were chosen and then modified to meet the needs of the application. A housing providing extra protection was

added, stainless steel conduit was fitted around the cables and special protective boots were fitted over all the joints and connections.

Implementation

Initial in-housing testing to get the sensors to communicate with the hand-held computer was the easy part. The majority of Sensor-Technik's development effort went into constructing a solution that was robust enough to withstand both the harsh environmental conditions and the abuse from the operators.

Conclusion

The sensors work well and the failure rate is low, but occasionally sensors get run over by trains, or sensor cables get caught in the test equipment hydraulics and are pulled out. Sensor-Technik can go a long way towards developing the perfect product, but there will always be mishaps that conspire against us.

Sensor-Technik

Complete solutions

Sensor-Technik is fully able to meet your systems needs, by offering a unique product design and manufacture facility to build up complete sub-assemblies where necessary, from development of specifications to delivery of the finished product, guaranteed to offer performance and reliability in even the toughest of environments.

With our in-house design capabilities, the resources of our own machining facilities, decades of applications experience and approvals from the likes of the Ministry of Defence and NATO, we can tailor a standard product to meet your exact requirements.

Sensors and displays

From pressure sensors to load cells to encoders – and many other electro-mechanical products besides – Sensor-Technik has one of the widest ranges of products available. Further, Sensor-Technik's sensor products are all available as standard with read-out units that provide clear indication of the parameter being measured.

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