



## Precise monitoring of structures with LVDT sensors

Continuous bridge monitoring - displacement sensors from Inelta can reliably detect and prevent static changes of bridges at an early stage.

### Initial situation

The number of bridges in need of rehabilitation has increased significantly in recent years. In addition to unexpected material fatigue or undercutting of foundations, the causes are often found in overloading due to increasing traffic and inadequate monitoring of structural statics. In 2018, a delayed problem detection in Genoa led to a highway bridge collapse with devastating effects. To avoid such hazards, reliable monitoring of bridge statics is needed under outdoor conditions.

# Monitoring of bridge statics with LVDTs

## Solution

In order to detect damage and hazards to bridges at an early stage, Inelta developed an extremely compact and robust LVDT (Linear Variable Differential Transformer) displacement sensor for long-term monitoring of bridge statics. The sensor reliably detects even smallest displacements at critical load points and is ideally suited for outdoor conditions. The inductive measuring principle achieves a theoretically unlimited resolution, which depends solely on the quality of the signal amplification.



LVDT-ISAG-300-K

Unlike conventional LVDT sensors, which typically have a ratio of measuring path to overall length of 1:4 or more, Inelta's special LVDTs for static monitoring feature an unprecedented compact design with a length-to-touch ratio of 1:1.5.



## Customer value

- free from wear and maintenance due to contactless measurement
- highly weatherproof: optimal for demanding outdoor environments due to welded housing, bellows and high sealing IP67
- optimized length-to-touch ratio of 1:1.5 for compact construction
- robust design and unlimited resolution for long-term monitoring

## Inelta Sensorsysteme

For over 20 years now, Inelta Sensorsysteme has been developing, producing, and selling customer-specific sensor solutions for industrial applications. Our portfolio includes sensors for measuring force, pressure, displacement and inclination and also various designs of signal conditioners. We enjoy working with you to develop customised sensor solutions to meet your individual requirements using our interdisciplinary know-how and many years of experience in sensor technology.

Take advantage of our interdisciplinary know-how on sensor systems.

**We would be glad to advise you!**



## Contact

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