Displacement

Application Story

Monitor change in metallic structures

The Challenge

Metallic structures such as steel bridges and trusses are expected to last for decades with no breakdowns. However, these structures can undergo strains from wind, earthquakes, shifting of foundations, and other factors. To ensure no structural failures, engineers must monitor how much the structures might shift or strain over time. They also might require sensors in laboratories to measure strain on materials at even the sub-micron level.

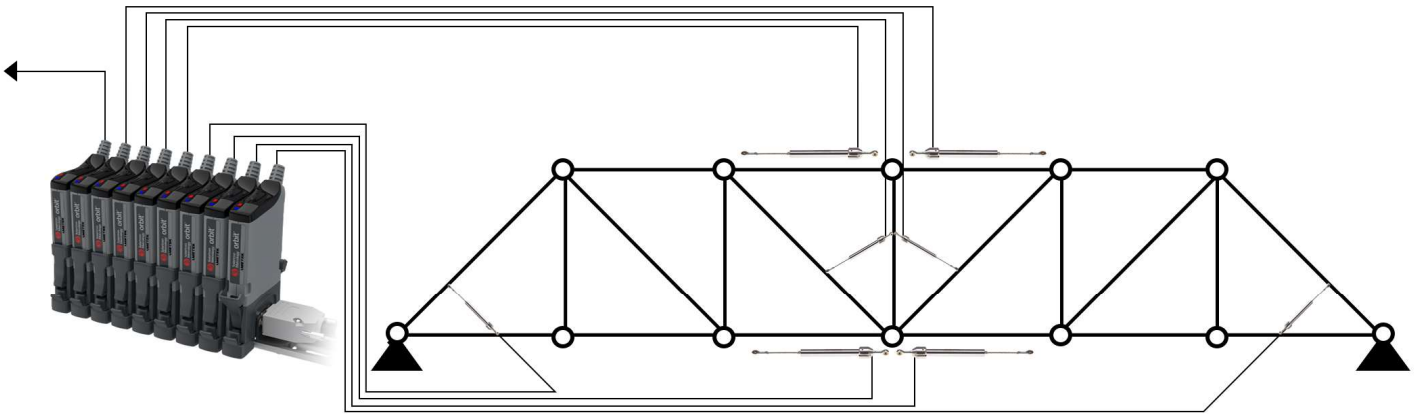
The Solution

Solartron Metrology offers LVDT probes that meet the needs of metallic structure monitoring, including:

- **High Resolution**: Solartron LVDTs offer resolution up to 0.01 micron, showing the slightest change in measurement that Linear Encoders cannot provide.
- **Endurance:** Solartron sensors have been tested to millions of cycles, and are built in a stainless steel casing to withstand years of abuse, including vibration and heat. Special high temp and low temp versions are available.
- **IP 65 rating with optional IP 68 sealing:** Any standard Solartron Probe is IP 65, which can withstand most outdoor weather elements. But there is option of being sealed to IP 68 for applications where the sensor may be submerged
- **Customization:** Elements such as special length cables or tips can be added.
- **Multiple Outputs:** Solartron offers DC, 4-20mA, TTL, and other analog output options.
- **Digital Option**: In addition, Solartron's Digital Orbit® network offers a calibrated, digital unit, and enables multiple, synchronized readings into a PC or PLC

Solartron transducers are available in multiple configurations

A Solartron OP Series transducer monitoring two plates on a bridge.



Solartron's Orbit Network can connect multiple displacement transducers, as well as third party sensors

The Orbit® Network

Orbit® – The Total Measurement System from Solartron Metrology

The Solartron Orbit® Digital Measuring System provides a limitless set of measurement solutions, with numerous different interfaces to computers and PLC's.

S-Series

Special probes for low temperatures

SI 8500

Compact displacement

S-series transducer monitoring a crack

OP Series

Measurement of concrete compression