

Application Story

Monitor cracks in structures

The Challenge

On bridges, dams, and similar structures, engineers must monitor cracks in beams, concrete, and other materials over long periods of time to ensure the structure remains sound. With these types of applications, civil engineering firms require a sensor that rugged and also cost effective, as dozens or hundreds of sensors could be placed in a wide area.

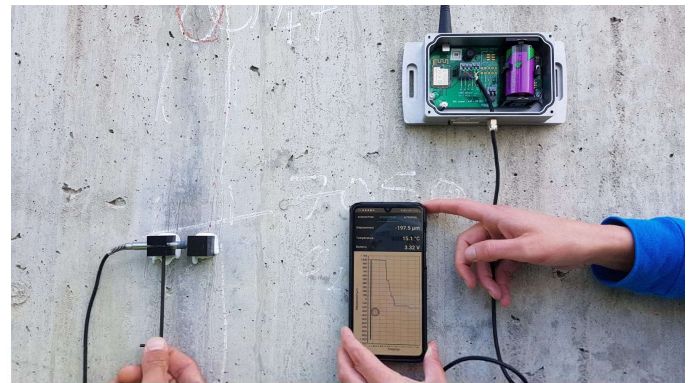
The Solution

Solartron Metrology offers LVDT probes that meet the needs of 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.
- **Rugged Build:** Solartron probes have been tested to millions of cycles, and are built in a stainless steel casing to withstand years of abuse, including vibration and heat.
- **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
- **Single Channel Options:** For simple, single channel options, the G-Type probe with DC and 4-20mA outputs are also available, as well as **Orbit ACS**.



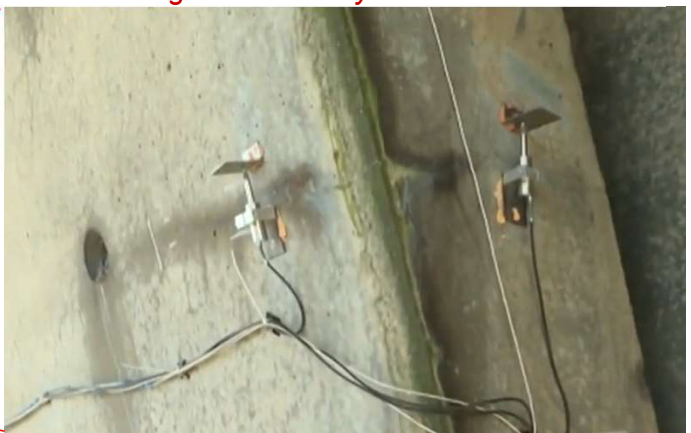
Solartron gauging probe monitoring a crack



The Solartron probe is connected to a Wireless module developed by WTechnologies. (www.wtechnologies.fr) The module uses IoT protocols, and connects to Wi-Fi so the probe can be monitored remotely via a smartphone application.



G-Type probes have sealed signal conditioning mounted right on the body.



Solartron G-Type probes monitoring cracks on a bridge

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 with G-Type