

Application Story

Measurement of Concrete Creep

The Challenge

For applications where concrete is used on bridges and overpasses, laboratories will sometimes measure the “creep” of a concrete material. This is where a sample of concrete is put under a strain, and then measured to see how far it “creeps” before failure. These testing fixtures typically require a load cell, as well as a high precision sensor to measure the distance stretched.



The Solution

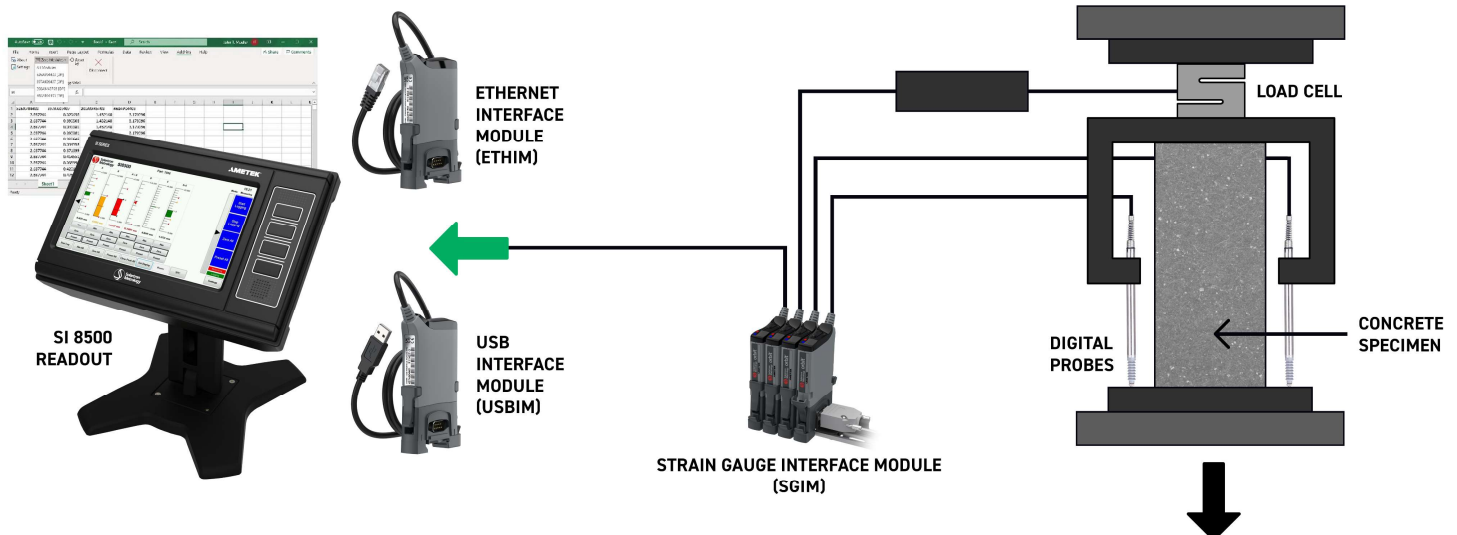
Solartron Metrology offers LVDT sensors that meet the needs of Concrete “Creep” testers and similar laboratory testing instruments. Advantages include:

- **High Resolution:** Solartron transducers have resolution up to 0.01 microns, providing even the slightest shift in materials.
- **Rapid response:** Solartron LVDT probes will provide a near instant response, with no timing loss, when any displacement is made in a laboratory setting.
- **No “drift” of measurement:** Solartron LVDT sensors can maintain their accuracy and repeatability over several years, with no loss or drift of readings over time.
- **Network with a Strain Gauge:** With Solartron’s Orbit® network, a Strain Gauge Interface Module (SGIM) can be utilized to connect with a Full Bridge or Half Bridge Circuit. In addition, the Orbit® Analog Interface Module can connect with any DC or 4-20mA output sensor.
- **Digital Option:** In addition, Solartron’s Digital Orbit® network offers a calibrated, Digital linear sensor, and enables multiple, synchronized readings into a PC or PLC.



A Solartron Gauging probe and a Strain Gauge Interface Module (SGIM)

With the Orbit® Network, a Load Cell and Digital Probes can be networked and output to a computer with Excel or other software, or to a readout like the SI 8500.



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