

Application Story

Monitor Displacement in Car Frames

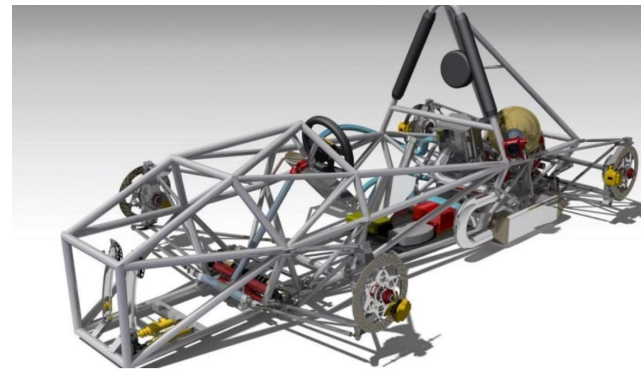
The Challenge

When a car manufacturer or racing team is designing a new vehicle, one of the first steps is to design a car frame, and then test for rigidity. To do that, the frame is put through a series of tests to see how it performs under different strains, such as high speed or extreme environments. For this, you need high resolution sensors that detect the slightest deflection in the frame

The Solution

Solartron Metrology offers a full array of displacement transducers that monitor deflections in car frames. Features includes:

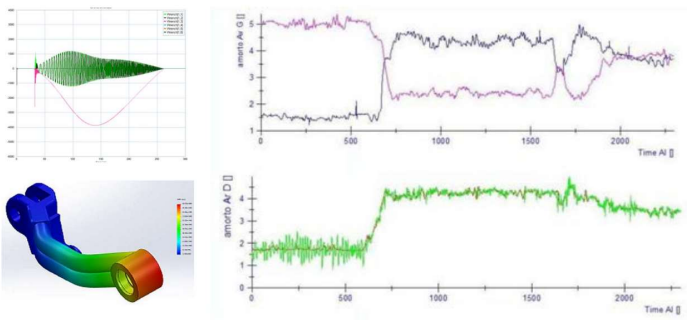
- **Rugged Build:** Solartron transducers are built with high strength stainless steel for long life. Marine grade steel is also available if they must be protected from salt water or humid environments.
- **IP 65 or IP 67 Sealing:** Solartron Displacement LVDTs are available with IP 65 or IP 67 sealing, to protect the internal electronics from tough environments
- **Customization:** Probes and Displacement transducers can be customized for different mounts, such as Universal Joints, and have measurement ranges up to 300mm. They are also available as free core or guided. Signal conditioning can be mounted in the transducer (S-Series) or along the cable.
- **High Resolution:** Solartron LVDTs offer resolution up to 0.01 micron, showing the slightest change in measurement that Linear Encoders cannot provide.
- **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 OP Series



Solartron displacement transducers mounted to the interior of a race car frame



Measurement data can immediately be fed to software via the Orbit® Network or other high speed output



Special Solartron OP Series transducers were used on the high speed Bloodhound vehicle

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 transducers in an auto frame



OP Series



Measurement of concrete compression with G-Type