Solartron Metrology

AMETEK

Application Story

Gauging electric car battery cells

The Challenge

Measurement of battery cells is a critical step during the assembly of battery packs for Electric Cars. “Prismatic” and “Pouch” cells have several critical dimensions, such as thickness and width, that must be checked quickly so they can swiftly be assembled into battery packs, without any issues of form and fit.

The Solution

Solartron Metrology offers high precision Digital probes and non-contact lasers that can be used to quickly gauge battery cells.

- **High Resolution**: Solartron Digital probes offer resolution up to 0.01 micron, which is excellent for checking flatness and height.
- **Quick and Easy Installation:** Solartron Digital probes come pre-calibrated, so customers can just rig them to gauges, master, and then measure. Compared to non-contact, there is no special setup or maintenance. .
- **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.
- **Product Variety and Customization:** Solartron offers hundreds of different probe configurations for any application**.** Probes can also be fitted with special cable lengths, tips, and other specialized components.
- **Non-Contact:** Orbit LT lasers can also be used for dimensions where contact probes are not feasible.
- **Easily Network multiple sensors:** With Solartron’s Orbit® network, up to **250 sensors** can be connected together, both contact and non-contact.
- **Multiple Output Options**: With Orbit®, all readings can quickly be output to a PC with Solartron provided software, or the customer’s software pack as well. There are also gateways for Profinet®, Ethernet/IP®, EtherCAT®, CC-Link®, and Modbus based PLCs.

Gauging a pouch cell: *Solartron probes and lasers can be quickly used to check critical cell dimensions, with high resolution, excellent repeatability, and quick throughput.*

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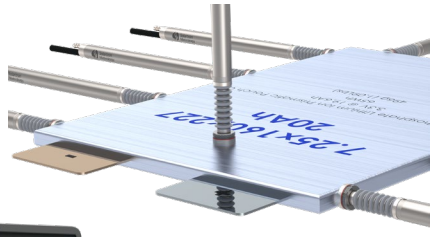
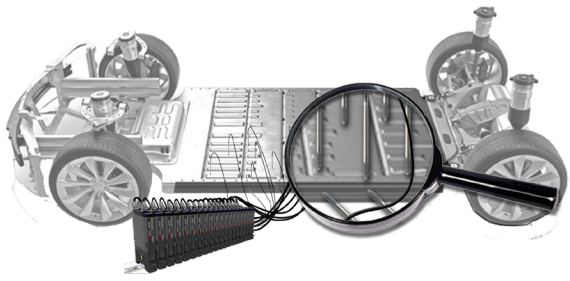


Orbit Stack with Ethernet gateway

Custom tips



Solartron’s new, compact Orbit LT Laser

Optional Ultra Feather Touch Probe

Solartron probes can also be used to check the flatness of a battery pack after being placed in a frame.

Digital Probes & The Orbit® Network

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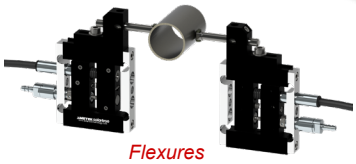
Orbit® – The Total Measurement System from Solartron Metrology

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



Flexures

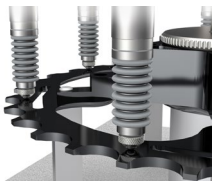
Block Gauges

Displacement

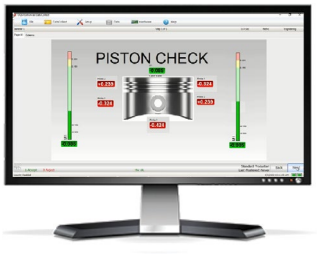
Multi Channel Wireless Gauge

G-Type (With signal conditioning mounted at the end)

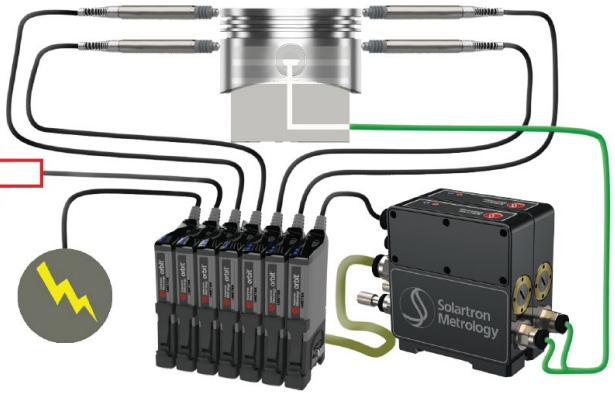
Bore Gauging



Gauging Flatness of a Bicycle Gear



Orbit Gauge Software 4.0



Measurement of Piston with Air Gauging checking ID, and connected to Orbit with the Air Gauge Module. OD Checked with Digital Probes.