DP-I - INTEGRATED ELECTRONICS

DESIGNED FOR TOMORROW. DELIVERED TODAY.

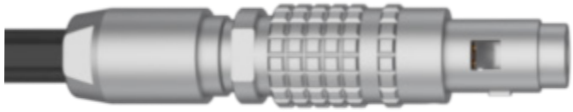
All probes are supplied with the sensor, integrated electronics, and a 30 cm cable (2m available as an option). Custom cable lengths connect to a TCon4.

Welcome the DP-I - Successor to the DP, and a step towards the future.

The BRAND NEW DP-I module is calibrated to the sensor, not the cable, enabling easy replacement and relocation without recalibration, even with cable lengths up to 10 meters.

Its aluminium-pin connector with physical lock ensures secure connections, while design offers full compatibility and seamless integration of all Solartron products, including SI units.

Orbit3 ready with enhanced hotswap functionality, the DP-I supports uninterrupted operation and future-proof scalability for all applications.



KEY FEATURES

- **No Downtime :** Enhanced hotswap capabilities, with no need to recalibrate as the DP-I electronics are calibrated to the sensor, not the cable.
- **Flexibility :** Compatible with any cable length up to 10 metres, eliminates need for reorders on different setups.
- **Compatibility :** 100% compatible with Orbit3 systems. Seamless integration with all readouts, software, and interface modules.
- **Superior Performance :** Retains Solartron standard, this fully digitised product has superior performance to traditional LVDTs.
- **Resistance :** High resistance to external magnetic fields.
- **Full Range :** Works with all transducer measuring ranges.

DP-I uses high-quality lock to ensure secure connection

TCon4 provides compatibility with predecessor modules for all new and existing Solartron Metrology products

The DP-I Integrated Electronics Module is available across the full range of Solartron Metrology sensors, including Gauging Probes, and Specialist Transducers such as Block Gauges and Flexures, ensuring seamless integration and enhanced performance for diverse precision measurement applications. Please refer to the Orbit® Catalogue for more details.

PLEASE NOTE: The DP-I is not available for S Series and DO Series sensors at this time.

DATA PROCESSING FROM A RELIABLE SOURCE

Good original data can be ruined by noisy signal conditioning and poor immunity from electrical interference which in turn affects the repeatability of results. Orbit® processes and transmits clean, repeatable data from sensors at high speeds of up to 3906 readings per second.

A reliable sensor is essential to any data processing system. All Solartron Orbit® based sensors and mechanical interfaces are designed to generate reliable data, not just from new but for millions of cycles.

Data is only of use if it can be displayed and/or acted on. Orbit® offers a range of displays and readouts, interface modules and software for both PC and PLC based systems. the Excel Add-In provides a simple way to get data into Microsoft Excel. PLC Systems are addressed with various interfaces.

All standard transducer cables feature a polyurethane sheath with a foil screen layers for excellent electrical screening. The cable is very flexible.

Hardened stainless steel.

Internal screen to protect from magnetic fields.

Titanium core carrier, inert and able to withstand lateral shock.

Tight tolerance bearing with carbon/chrome balls providing good repeatability with long life.

Anti-rotation device designed to be strong and provide great repeatability even with probe tip off centre.

30 cm cable joining DP-I electronics to Sensor.

Solartron Digital Transducers calibrated using laser interferometers are error mapped to significantly improve linearity. In gauging applications this minimises number of setting masters required, reducing investment costs and ongoing cost of ownership.

Integrated electronics in one compact & robust section.

TCon4 - 35 mm DIN rail mount connector offers a lightweight construction and holds the sensor address.

TCon4 connector. Cable from DP-I connection can be customised.

DP-I PENCIL PROBES

The Solartron DP-I range of Gauging probes are of very high resolution, excellent linearity and possess high data speeds, which are coupled with outstanding measurement repeatability.

Contact gauge probes often provide the most costeffective solution for a wide range of measuring and positioning applications. Long life precision capabilities and excellent sideload strength ensures the probes will last over 100 million cycles.

- **Accuracy :** Up to 0.05 % F.S. (0.1 µm)
- **Repeatability :** Up to 0.05 µm, resolution of up to 0.01 µm
- **IP Rating :** IP 65 Sealing on all probes (except Jet Pneumatic) with IP 68 sealing options (for probe parts only).
- **Orbit® :** Output up to 3906 readings per probe per second via the Orbit® Network
- **Customisability :** Various customisation options are available, cable material, ball tip type, etc.

STANDARD DP-I SPRING PUSH

- 8 mm Diameter
- 0.5, 1, 2, 5, 10, 12, 20, & 30 mm ranges
- 0.7 N Tip Force

STANDARD DP-I PNEUMATIC PUSH

- 8 mm Diameter
- 2, 5, 10, 12, 20, & 30 mm ranges
- 0.7 N Tip Force

STANDARD DP-I VACUUM RETRACT

- Same specifications as Digital Pneumatic probes

DSP-I DIGITAL SHORT PROBES

- Shorter versions of standard digital probes, for tighter spaces
- Up to 25% shorter, with same accuracy specifications
- 4 mm range available

DJ-I JET PNEUMATIC PUSH

- 2, 5, 10, 12, & 20 mm ranges
- Actuation by an inbuilt piston, independent of gaiter. Air exits via side port

PLEASE NOTE: For more products and details, please visit **www.solartronmetrology.com** or refer to the Orbit® Catalogue.

DP-I SPECIALIST PENCIL PROBES

For demanding measurement applications, specialised solutions are essential to ensure optimal performance and enhanced output. Solartron offers a comprehensive range of Specialist Pencil Probes, including Low Tip Force and Narrow/Compact variants, designed to meet the specific requirements of diverse industrial environments.

Our Low Tip Force probes offer safe and effective solutions for measurement of easily marred surfaces, and our Narrow/Compact probes provide solutions for small spaces.

- **Robust :** With over 10 Million operating cycles, these probes have excellent sideload capability, reducing any risk of downtime.
- **Orbit® :** Output up to 3906 readings per probe per second via the Orbit® Network
- **Customisability :** Various customisation options are available, cable material, ball tip type, etc.

DT-I LOW TIP FORCE PROBES

- 0.18 N Tip Force
- 2, 5, 10, 20 & 30 mm ranges
- Pneumatic and Spring Actuation

DW-I ULTRA LOW TIP FORCE PROBES

- 0.03 to 0.06 N Tip Force
- 10 mm measuring range
- Pneumatic and Spring Actuation

DZ-I COMPACT PROBES

- 1 & 2 mm ranges
- IP65
- Use where space is premium
- 0.7 N Tip Force (options available)

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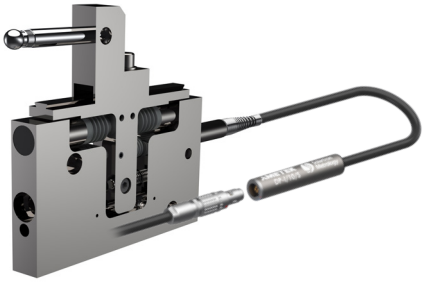
DP-I SPECIALIST TRANSDUCERS

Solartron's specialist transducers are engineered for precision gauging in constrained or complex geometries where standard pencil probes are unsuitable.

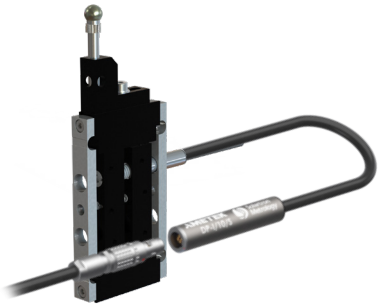
Our ranges include miniature flexures for bore gauging and robust block gauges tailored to specific measurement configurations.

- **Orbit® :** Output up to 3906 readings per probe per second via the Orbit® Network
- **Orbit® :** Output up to 3906 readings per probe per second via the Orbit® Network
- **IP Rating :** DK-I, DUS-I, DU-I have IP65 sealing, DM-I has IP60 sealing, DUSM-I has IP68 sealing, MSLF-I has IP40 sealing (all for sensor parts only).



DK-I BLOCK GAUGE

- Pneumatic & Spring Actuation
- Measurement ranges of 2, 5 & 10 mm
- Accuracy better than 1 µm



DU-I PARALLEL FLEXURE

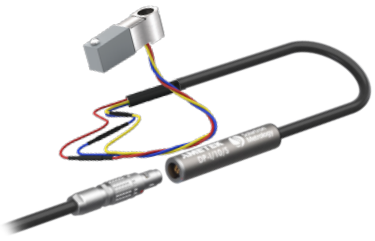
- Pneumatic & Spring Actuation
- 1 and 2 mm ranges
- Removable leafs for ease of repair

DUS-I SINGLE LEAF FLEXURE

- Spring Actuation
- 0.5 mm range
- Extension arms
- Normal or reverse actions

DUSM-I MINIATURE SINGLE LEAF FLEXURE

- Spring Actuation
- 0.5 mm range
- Excellent repeatability <0.5 µm



DM-I MINI PROBE

- Spring Actuation
- 0.5 & 1 mm ranges
- Accuracy better than 1 µm

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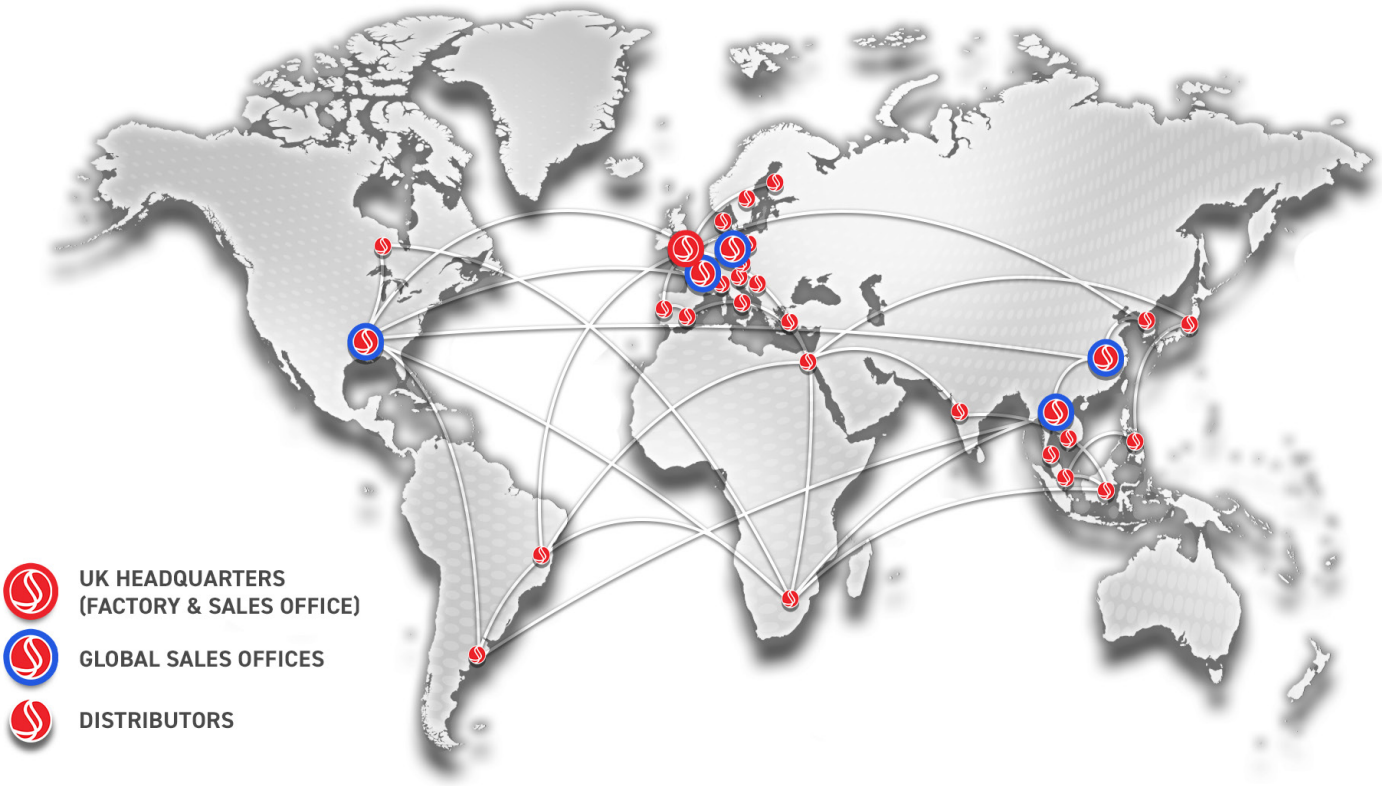

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