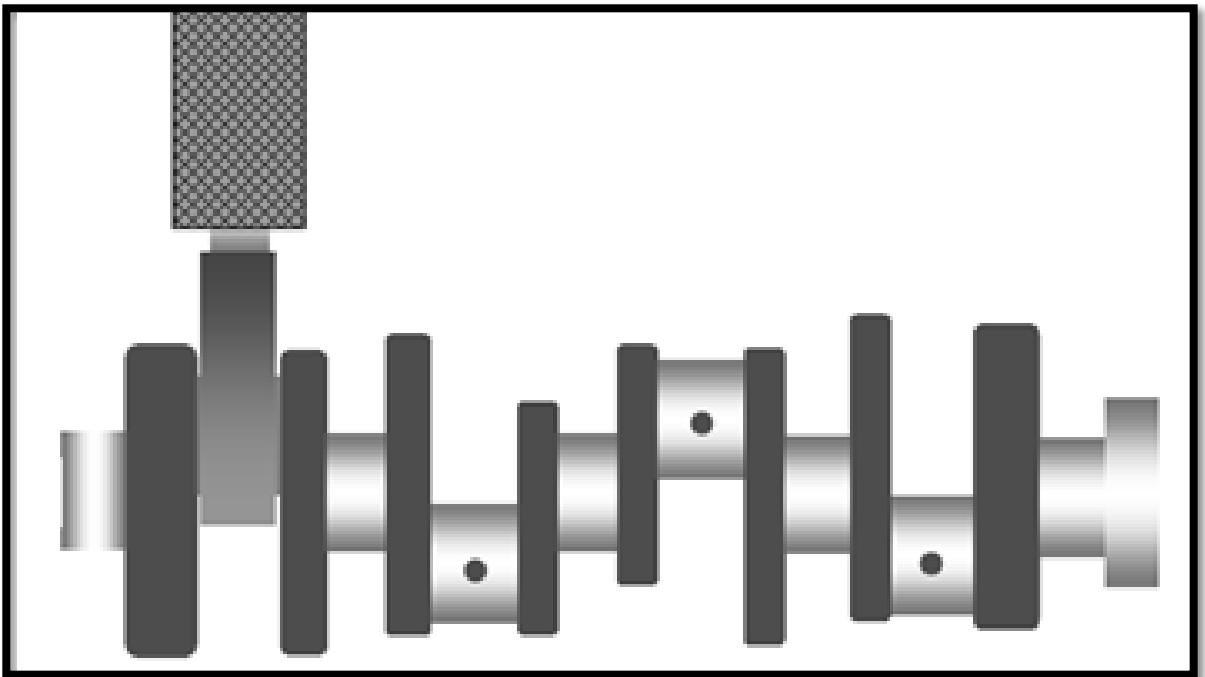


## Application Story

*Automotive*

# Single Leaf Flexure for use in Snap Gauges for Crankshafts



Precision. Quality. Reliability

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## The Product

Solartron's Single Leaf Flexure is for more abrasive applications, as well as jobs where standard pencil probes will not fit. It has been tested to over 20 million cycles, with extendable arms that can fit inside bores or other tough to reach places.



## The Challenge

In automotive engine plants, crankshafts are built with high precision in an oily, humid and abrasive environment. All key dimensions, especially the diameters, must be checked quickly and measurement data logged for customer review. However, the gauges can be damaged and dropped by operators, so sensors that can be repaired or replaced and bought back online must be available.

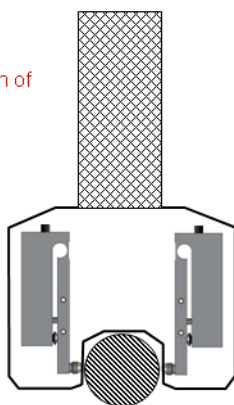
Range: 0.5 mm or greater  
Accuracy: 0.1% of reading  
Resolution: < 0.1  $\mu$ m  
Repeatability: < 0.15  $\mu$ m



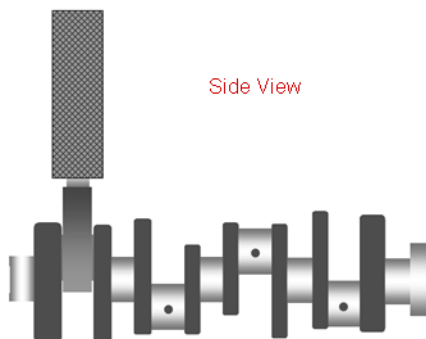
## The Solution

With high endurance, easy setup and low maintenance, the Solartron Digital Single Leaf Flexure can be built into a Snap Gauge for Crankshafts. With an IP65 rating, it is built for harsh environments. It has been abrasively tested to 20 million cycles, and has a more robust design than similar flexures on the marketplace. If the customer needs to stack multiple flexures together for taper measurements, they can easily be connected to the Solartron Orbit<sup>®</sup> 3 network, which runs up to 150 sensors. Orbit<sup>®</sup> 3 ensures an easy, economical setup and simple outputs to a PC or PLC.

Cross Section of  
Snap Gauge



Side View



Flexure with  
inline plug

In the event the Single Leaf becomes damaged from misuse, it can quickly be changed out with an optional Digital Inline Plug. With this feature, all calibration data is loaded into a chip inside the plug (competitors use a potentiometer for mapping data, which is susceptible to drift). Once connected to a PIE module, Orbit<sup>®</sup> 3 instantly recognizes the probe or flexure, and gauging can continue with little downtime.

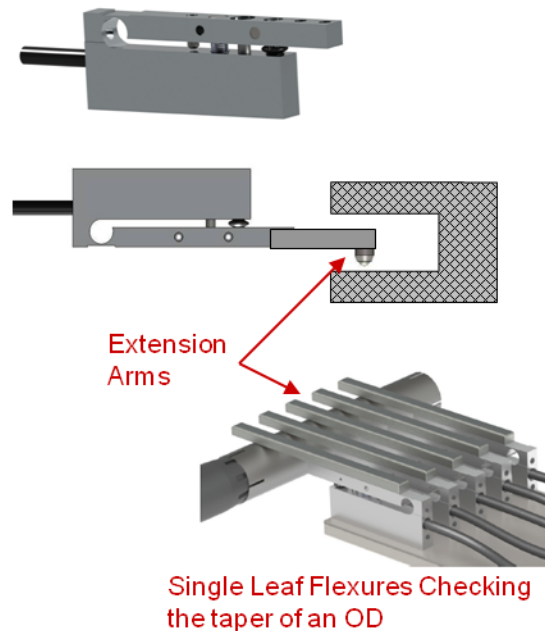
## Single Leaf Flexure

The Solartron Single Leaf Flexure is a high precision machined transducer, with no mechanical friction that can induce wear and tear.

In addition, longer extension arms can be mounted to the flexure, providing more access to harder to reach dimensions.

## Inline Plug

With the Solartron Digital Inline Plug, you have the option of having the plug mounted to the housing of an Orbit® 3 Probe, or inline on the cable.



**Plug  
mounted to  
PIE Module**

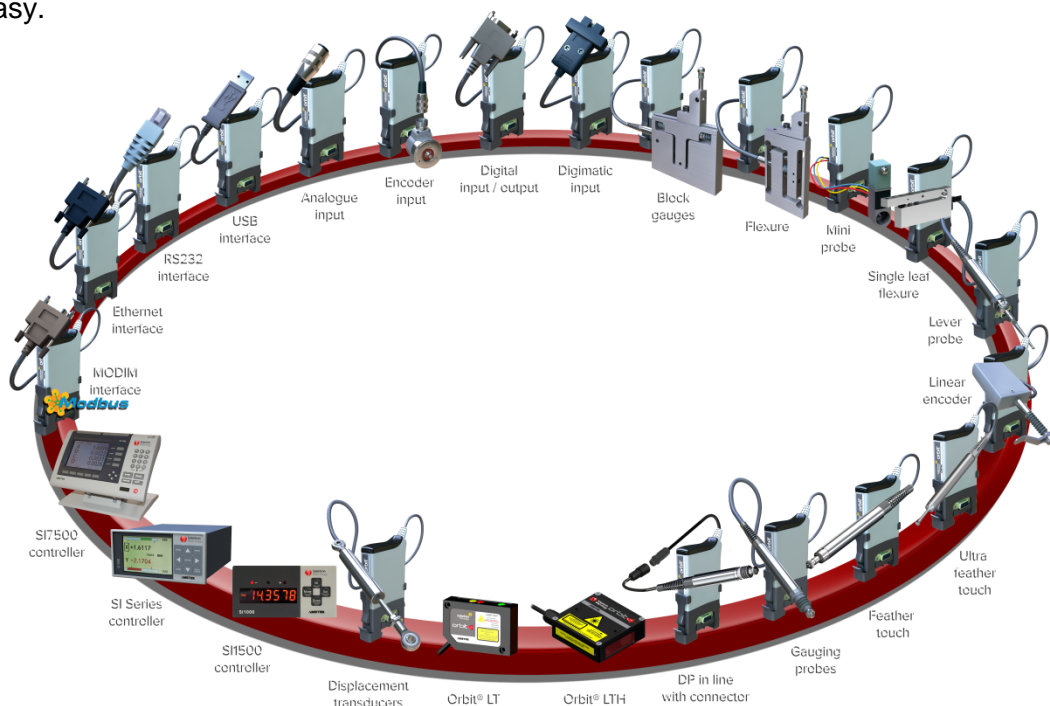


**Plug Inline**



## Orbit® 3 Network

Solartron's Single Leaf Flexure can easily be interconnected via the Orbit® 3 Network. With its multiple gateways to PC's and PLC's, interfacing with the Single Leaf Flexure and other sensors is fast and easy.



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Solartron pursues a policy of continuous development. Specifications in this document may therefore be changed without notice.

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