

Application Story

Automotive

Taking differential housing measurements using WiGauge™



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The Product

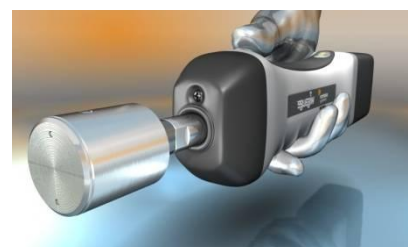
Solartron's Wireless Bore Gauge, the WiGauge™, offers increased efficiency, flexibility and uncompromised accuracy without restrictive cables. Up to 7 WiGauge™ can be connected to a single receiver, with a reach of 15 metres via Class One Bluetooth®. The WiGauge™ is available with an LCD screen on the handset.



The Challenge

During the manufacture of trucks, the performance of the vehicle is inevitably affected if the differential housing is not to specification. To measure the 8 diameters of this housing, one machining cell was utilising three CNC machines, that, under traditional circumstances, would require it's own bore gauging station as well as accompanying amplifiers and/or software. In addition to the high cost of this solution, tight tolerances can prevent manufacturers from using adjustable or variable gauges. For this reason, bore gauges would have to be dedicated.

Accuracy:	Up to 0.6% of reading
Resolution:	Up to 0.05 µm
Repeatability:	Up to 0.07 µm



The Solution

Using one centralised WiGauge™ wireless solution for bore gauging on multi-machine cell projects, eliminates any redundancy that would occur by individually equipping each machine with its own independent 'cabled' system, ultimately reducing costs dramatically.

In this particular solution 8 WiGauge™ are stored (with their relative bore gauge heads) on a single cart. The cart is located in the center of a machining cell that uses three CNC machines. When a part is processed, the cart is brought to the CNC machine and the part is gauged. Solartron WHT Manager runs on a PC and is displayed on a large-screen monitor so that measurement results can be viewed from anywhere within the cell.

The primary reason the WiGauge™ were chosen is that by creating a central, mobile station in the machining cell, the user eliminated the need for three identical wired bore-gauge stations (one for each machine). The wireless engineered solution allowed all the WiGauge™ to be loaded on a moveable cart. Also, WiGauge™ being wireless, the user could measure some of their dimensions on the machine.

Another critical reason this solution was chosen was that the WHT Manager software, free for download on the Solartron Metrology website, eliminated the need for expensive amplifiers or a complicated, pricey software solution that would be required if *wired* bore gauges were chosen.

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