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Two sensors in one!

'Scanning sensor' and 'touch trigger probe'

Scanning provides large amounts of data, which can be used to determine the 'fitness for purpose' of complex components. Where a number of features form functional fits with other parts, the form or shape of the feature is critical and a scanning sensor is most appropriate.

However, many manufactured features do not require form measurement (e.g. small threaded holes), or are clearance/location features (e.g. holes for roll pins). Here touch trigger probing is often considered most appropriate.

Whilst scanning sensors are capable of taking discrete point measurements, a dedicated touch trigger probe is the optimum solution. SP25M has been designed to be a scanning sensor AND a touch trigger probe, where it uses the full range of TP20 probe modules.

The result is unmatched flexibility to easily select the most appropriate probing technique to suit the application – thereby improving accuracy and productivity.

Excellent reach and accessibility

For complex components and features, the ability to carry long styli and articulate your probe offers great potential to automate CMM inspection. At only 25 mm (1 in) diameter, the SP25M can be mounted to motorised articulating heads, such as the PH10M/MQ, and may be fitted to the PEM range of extension bars for flexible access to deep features.

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SP25M – the world's most compact and versatile scanning probe system

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Increase the functionality of your CMM with the SP25M

RENSCAN™ technology
High accuracy scanning performance with styli up to 400 mm long

Two sensors in one! – scan for form, and touch trigger probe for geometry

Modular design and flexible change rack system enables optimal sensor configuration

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SP25M – the world's most compact and versatile scanning probe system

The world's most compact and versatile scanning probe system

Renishaw is delighted to introduce the SP25M compact scanning probe system.

Using innovative RENSCAN™ technology and a highly modular system design to provide unmatched flexibility, SP25M delivers excellent scanning performance on both traditional co-ordinate measuring machines and compact vision systems.

Ultimate sensor versatility

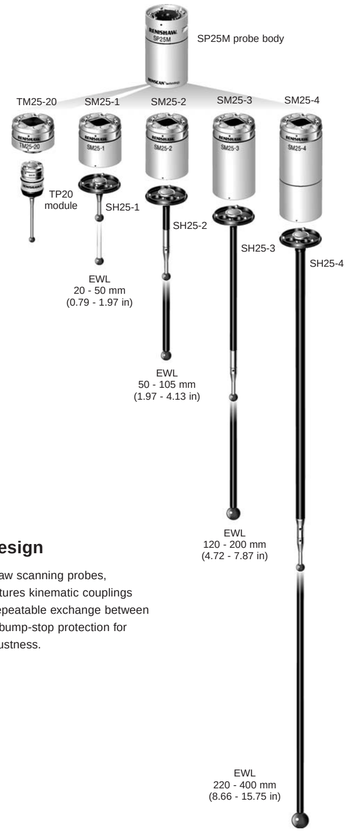
The ever growing range of features and components typically measured on CMMs increases the need for highly versatile probing solutions – a single sensor and stylus configuration will be insufficient in most cases.

The unrivalled modularity of the SP25M system enables configuration by the user to precisely match the application's needs. By applying the most appropriate mix of scanning modules, measurement performance will be optimised, ensuring high accuracy and productivity.

Optimised for accuracy

The SP25M's compact size and lightweight design provides excellent scanning performance using Renishaw's unique isolated optical metrology. This approach measures stylus deflections independently.

Four inter-changeable scanning modules (SM25), with matching stylus holders (SH25) are available, each optimised to suit a range of stylus lengths. Ranging from 20 mm (0.8 in) to 400 mm (16 in), they maintain low contact forces, maximise stylus stiffness and high transducer resolution. The combined effect is superior scanning accuracy.



Robust design

Like all Renishaw scanning probes, the SP25M features kinematic couplings for rapid and repeatable exchange between elements, and bump-stop protection for impressive robustness.

FCR25's mounted to a MRS

FCR25 system

Kinematic couplings enable fast, repeatable module and stylus changing

A flexible change rack concept

The full potential of the SP25M system is realised when the measurement routine is automated. To achieve this, Renishaw has developed its most flexible rack change system ever; the triple port FCR25, which allows rapid and repeatable exchange between all the SP25M system elements.

The FCR25 mounts directly to Renishaw's modular rack system (MRS) for multiple port solutions (3, 6, 9, 12, 15 etc). Alternatively, there are 3 and 6 port stand alone racks available where machine space is limited.

Stand alone rack versions

RENSCAN™ technology

Renishaw invented the world's first touch trigger probe in 1972 to solve a specific inspection requirement, and went on to revolutionise the use of CMMs. Since then, the company has continuously developed innovative products to fulfil the increasing demands placed on quality inspection. This concept is the focal point of RENSCAN™ technology, Renishaw's integrated scanning philosophy.

RENSCAN™ technology provides class-leading scanning performance, with a modular approach to design, which allows greater flexibility and lower lifetime costs than conventional fixed scanning systems.

RENSCAN™ technology is based on the following principles:

- **compact, light and robust scanning sensors** which support high speed, high accuracy measurement
- improved accuracy, accessibility and flexibility obtained from **probe and stylus changing**
- maximum inspection system performance due to high integration of sensor and **machine control**, with sophisticated **dynamics compensation**
- **isolated optical metrology** that measures stylus deflections independently