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**Renishaw introduces the world’s smallest wireless probe for machine tools**

Global engineering technologies company, Renishaw, will showcase its latest radio transmission probing system at IMTS 2024. The RMP24-micro is the smallest wireless machine tool probe on the market, measuring just 24 mm in diameter and 31.4 mm in length.

As well as its miniature size, the RMP24-micro also delivers market-leading metrology performance for a wireless probe in this size category. With measurement repeatability of 0.35 micron 2σ and low trigger forces, it is ideally suited to compact machines manufacturing high-value, high-precision components, such as those found in the medical, watchmaking and micro-mechanics industries.

RMP24-micro utilizes Renishaw’s updated radio transmission protocol to communicate with the mahine tool controller – via the RMI-QE radio interface. With an operating range of up to 5 metres, it employs a 2.4 GHz frequency hopping spread spectrum (FHSS) protocol, which is industry-proven and compliant with radio regulations worldwide. FHSS technology enables both the probe and interface to jump from channel-to-channel while maintaining communication, allowing the probing system to operate alongside other radio sources such as Wi-Fi, Bluetooth® and microwaves. This is not the case for other protocols which may require manual intervention to operate in the same environment.

“At IMTS 2022, we introduced the RMI-QE interface and QE series probes. Back then we spoke about how this new interface and communications protocol was laying the foundations for the next generation of Renishaw sensors. The RMP24-micro is the first of these, with more exciting smart factory devices on the horizon,” said Steve Petersen, Marketing Manager for Renishaw’s Machine Tool Products Division. “The RMP24-micro provides fast, accurate and reliable part set up and verification in a package that fits in the palm of your hand. We’re very pleased that manufacturers of small high-precision components, such as watch movements and orthopaedics, can now benefit from our process control solutions.”

Renishaw’s precision measurement and process control technologies, like the RMP24-micro, enable productive and sustainable manufacturing. They can predict, identify, and correct process errors before they happen. This helps eliminate scrap and, in turn, reduces the wasted energy, time and materials involved in producing those scrap components.

Factory automation drives operational efficiency by increasing machine uptime and overall output, without adding extra machines. Renishaw probing solutions for the automation of CNC machining processes allow manufacturers to increase machine utilisation and operate 24/7. With process automation technologies in place, physical automation can be implemented, which increases productivity and, in turn, can reduce waste and energy consumption.

To find out more about the RMP24-micro, visit us at IMTS 2024 (September 9th – 14th 2024, Quality Assurance Booth # 134314, Additive Manufacturing Booth # 433239, or Student Summit Booth #121404)

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