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RMP60 radio transmission probe

World's first frequency hopping radio probe

The RMP60 inspection probe is the first to use frequency hopping spread spectrum (FHSS) transmission, and offers rapid part set up and part verification on machining centres of all sizes.

The RMP60 system comprises the probe and the RMI - a combined interface and receiver unit. The probe's robust body and compact dimensions allow it to access surfaces produced by short tools, without being restricted by the upper limits of the machine's Z travel.

Unlike conventional radio transmissions, the RMP60's unique transmission system does not use a dedicated radio channel. Instead, the probe and receiver 'hop' together through a sequence of frequencies, enabling multiple probe systems and other industrial equipment to coexist in confidence, with negligible chance of interference.

The 2.4 GHz frequency band is compliant with radio regulations in the EU, USA, Japan, Canada, Switzerland, Russia, Australia, New Zealand, Israel and China.

The new wave of transmission has just begun...



Key benefits

Simple set up

Unlike fixed frequency systems, with the RMP60 there is no need to allocate a specific radio channel. Once installed, reliable communications are assured within the industrial environment.

Compact and robust

The RMP60 is ideal for machines of all sizes and can access surfaces cut with short tools. Its robust stainless steel body makes it suited to the harshest machine environments.

Ideal for retrofit

The RMI (a combined antenna and interface) can be positioned anywhere near the machine, resulting in a fast installation. The RMP60 system is ideal for retrofitting to existing machines.

Innovations

Frequency hopping spread spectrum transmission

The world's first FHSS transmission for probes means that once matched, the RMP60 and RMI hop frequencies together to provide reliable communications. Radio "turn on" is available via an M-code signal.

Miniaturised electronics

With dimensions of just 63 mm diameter and 76 mm in length, the RMP60 is the shortest radio transmission inspection probe available, making it ideal for use on all sizes of vertical and horizontal machines.

Combined interface and receiver unit

New technology allows the interface and receiver to be combined as a single unit, eliminating the need for a separate enclosure inside the control cabinet.

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Specification

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| Principle application | Workpiece measurement and job set-up on medium to large horizontal, vertical and gantry machining centres, 5 axis machines, twin spindle machines and vertical turret lathes |
| Territory | EU, USA, Japan, Canada, Switzerland, Russia, Australia, New Zealand, Israel and China. |
| Transmission type | Frequency hopping spread spectrum radio (FHSS) |
| Nominal frequency | 2.402 - 2.481 GHz |
| Turn ON control | Radio 'M' code, spin, shank switch |
| Turn OFF control | Radio 'M' code, time out, spin, shank switch |
| Operating range | Up to 15 m |
| Shanks | Various |
| Interface/receiver | RMI combined interface and receiver unit |
| Sense directions | Omni-directional: $\pm X$, $\pm Y$, $+Z$ |
| Uni-directional repeatability | 1.0 μm , 0.00004 in (2 σ) |
| Trigger force (XY plane): | |
| Lowest force | 0.75 N, 2.64 ozf |
| Highest force | 1.4 N, 4.92 ozf |
| Trigger force (+Z axis) | 3.7 N, 13.05 ozf |
| Stylus overtravel (XY plane) | $\pm 18^\circ$ |
| Stylus overtravel (Z direction) | 11 mm, 0.43 in |
| Max recommended stylus length | 150 mm, 5.91 in |
| Test conditions | |
| Stylus length | 50 mm, 1.97 in |
| Stylus velocity | 480 mm/min, 18.90 in/min |
| Stylus force | Factory settings |
| Battery quantity and type | 2 x AA 1.5 V alkaline |
| Battery life maximum | |
| stand by | 1,538 days |
| 5% usage | 115 days |
| continuous life | 144 hours |
| Sealing | IPX8 |

More information

The RMP60 is available as a kit that includes an RMI combined antenna and interface, suitable for retrofitting to existing machines.

Details of the RMP60, RMI and accessories can be found at www.renishaw.com/RMP60



RMP60 probe



RMP60 probe inspecting a component, with RMI receiver / interface in the background

For worldwide contact details please visit our main website at www.renishaw.com