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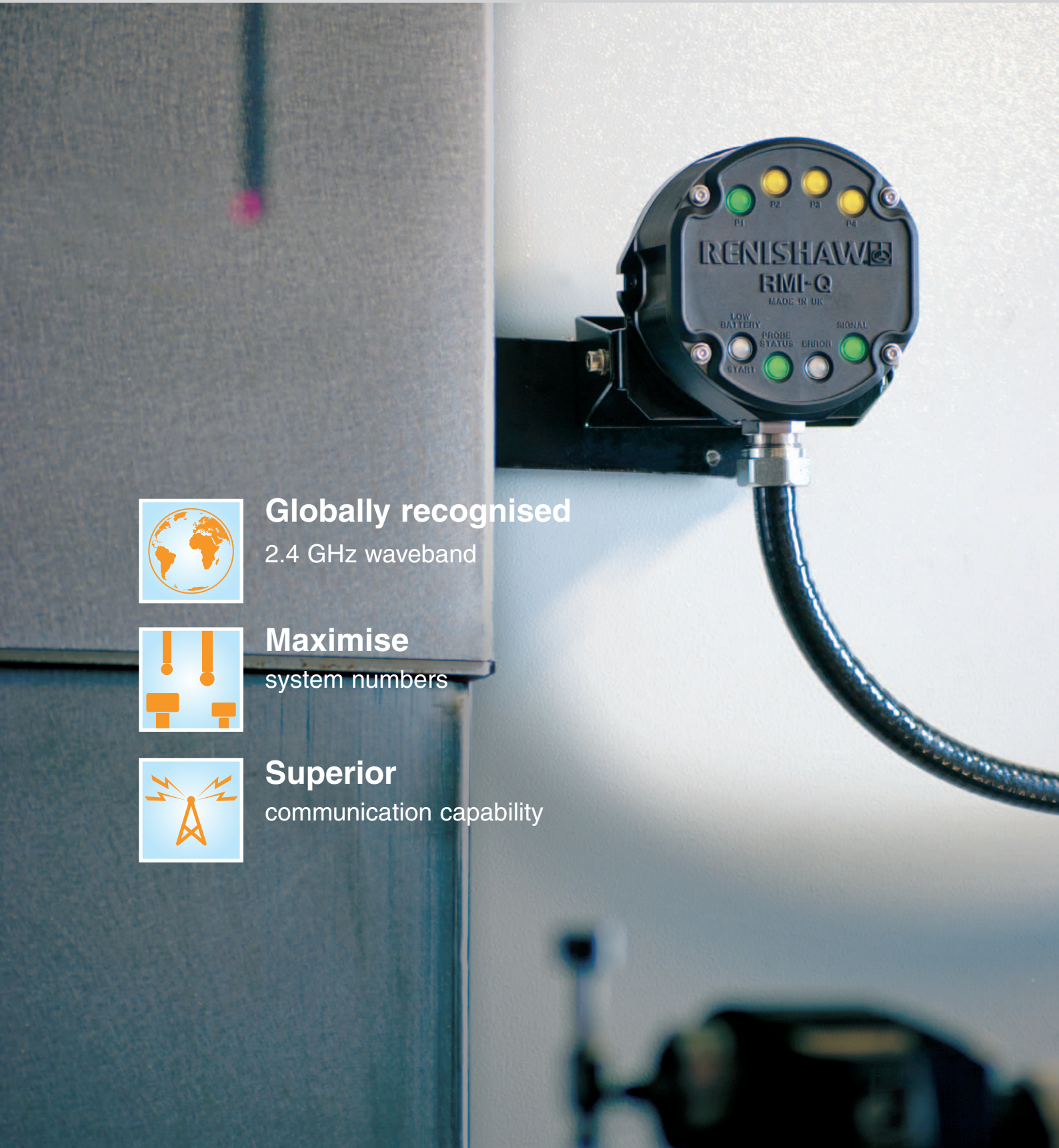
RMI-Q multiple radio probe interface



Globally recognised
2.4 GHz waveband

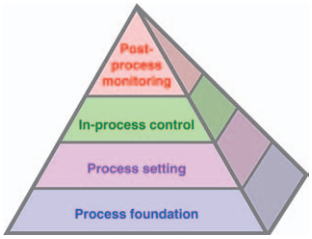
Maximise
system numbers

Superior
communication capability

RMI-Q – for optimised process control capability

Tackle process variation at source, and reap the rewards

The higher the degree of human involvement in the manufacturing process, the higher the risk for error. Automated in-process measurement using Renishaw probes can help ***eliminate the risk.*** The Renishaw radio probe system can facilitate the following measures for enhanced management of your production leading to an ***increase in your profits.***

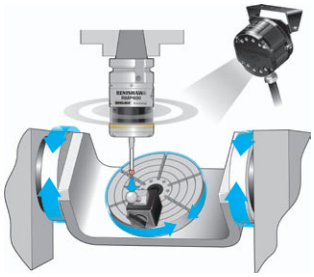


Process foundation

Optimisation and monitoring of machine tool performance.

RMI-Q and RMP600 used in conjunction with Renishaw's machine specific software, **AxiSet™** Check-Up, provides fast, accurate and reliable performance data with powerful yet simple reporting.

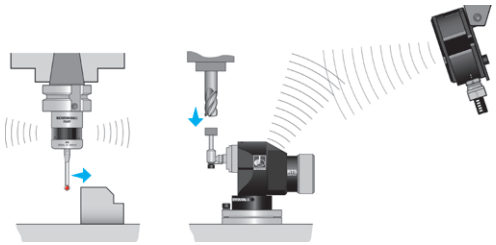
- Eliminate machine errors
- Reduce unplanned stoppages
- Produce consistently good parts



Process setting

Automated on-machine component and tool setting.

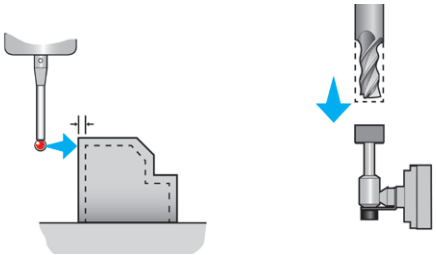
- Eliminate manual setting errors and data entry
- Set up faster, improve quality and reduce scrap



In-process control

Automated component measurement and tool setting.

- Improve process capability and traceability
- Compensate for environmental and machine conditions
- Reduce non-productive time and scrap
- Increase productivity and profits

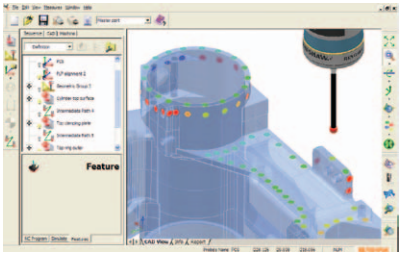


Post-process monitoring

Verification of component conformance prior to removal from machine.

RMI-Q and RMP600 used in conjunction with Renishaw's on machine verification software, OMV, enables reliable verification against a CAD model, which means less inspection off-machine and therefore less set-up and rework.

- Reduce off-machine inspection time and costs
- Rapid, traceable reporting of part conformance to specification
- Increase confidence in manufacturing process



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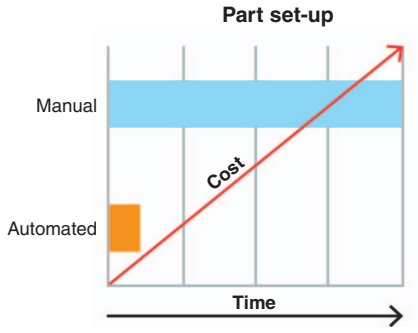
Probing pays...

Machine tools that are optimised to cut more metal, more reliably and more accurately will quickly ***maximise productivity, profits and your competitive edge.***

Automated part or tool setting with a Renishaw radio transmission probe is up to 10 times faster than manual methods, which means immediate and ***significant cost savings.***



Scrap and rework reduce productivity and profits. Renishaw probe systems help guarantee “right first time” parts which means ***reduced waste and increased profits.***

RMI-Q key features

- Robust long-range communications make RMI-Q ideal for larger machines
- Enables cable-free, multiple probe and tool setter systems
- Suitable for all types of CNC machines
- Delivers interference free transmission through the use of frequency hopping spread spectrum (FHSS)
- Globally recognised 2.4 GHz waveband — compliant with radio regulations in all major markets

... the Renishaw way

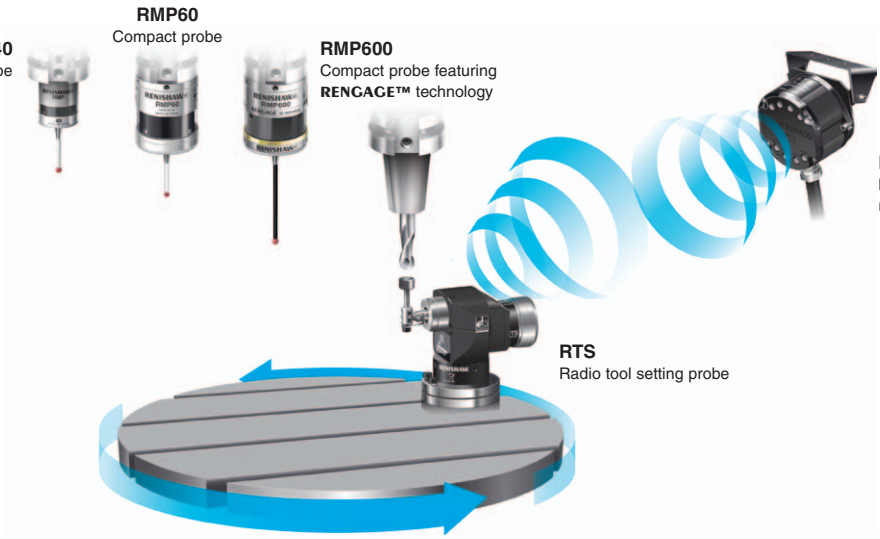
Renishaw, an established world leader in metrology solutions invented the touch-trigger probe in the 1970s.

Decades of customer focus and investment in development, coupled with our own manufacturing experience enables us to provide ***innovative*** and ***exceptional products*** that are unmatched for technical excellence and performance.

Multiple tool setting and inspection probing for machine tools

Applications of the RMI-Q enable individual operation of up to four second generation RMP permitting numerous combinations of radio inspection probe and/or radio tool setters to be used on the same machine tool, for example, two tool setters for a rotary table or a pallet-type machine with two spindle probes performing different operations.

Combination examples showing application flexibility with Renishaw radio product range



Second generation RMP are easily identified by a 'Q' marking — RMI-Q allows for a single first generation RMP to be used provided that any additional probe used has a 'Q' marking.

Compatible machine tool probes for RMI-Q

Probe	Function	Machine type	Process
RTS 	Tool setting and broken tool detection	Vertical CNC machining centres Horizontal CNC machining centres Gantry CNC machining centres CNC mill/turn centres	**Process setting** **In-process control**
RLP40 	Inspection probe	CNC lathes	**Process setting** **In-process control**
RMP40/RMP40M 	Inspection probe	Vertical CNC machining centres Horizontal CNC machining centres Gantry CNC machining centres CNC mill/turn centres	**Process setting** **In-process control**
RMP60/RMP60M 	Inspection probe	Vertical CNC machining centres Horizontal CNC machining centres Gantry CNC machining centres CNC mill/turn centres	**Process setting** **In-process control**
RMP600* 	Inspection probe	Vertical CNC machining centres Horizontal CNC machining centres Gantry CNC machining centres CNC mill/turn centres	**Process foundation** **Process setting** **In-process control** **Post-process monitoring**

* First generation RMP only available.

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RMI-Q optimised for reliable and safe operation

The benefits of FHSS

In addition to its high performance optical systems Renishaw offers a reliable radio solution for larger machines and/or installations where line-of-sight applications are not possible.

Frequency hopping spread spectrum (FHSS) is a robust and proven technology, that enables devices to jump from channel to channel.

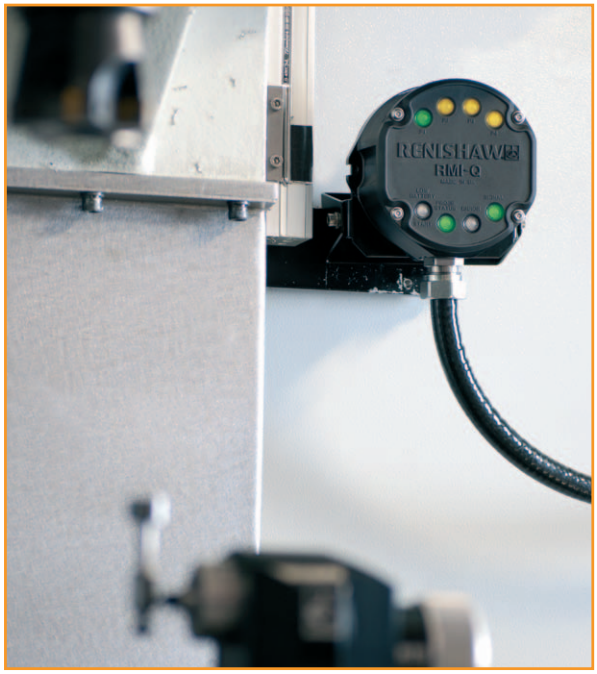
Unlike other protocols which may require manual intervention, Renishaw's products will continue to work as other devices such as Wi-Fi, Bluetooth and microwave enter the same environment.

Operating within the recognised 2.4 GHz frequency band, RMI-Q is compliant with radio regulations in all major markets. It is the preferred choice of many leading machine builders and experienced users.

Ease of use and reliability

Unique to Renishaw, Trigger Logic™ is a simple method enabling the user to quickly adjust probe mode settings for specific applications.

Constructed from the highest grade materials, Renishaw products are robust and reliable in the harshest environments including shock, vibration, temperature extremes and even continual liquid immersion.



Engineered for superior performance

Through the optimisation of transmission and power, RMI-Q partnered with Renishaw's radio transmission probes provides high operational integrity, long battery life and the superior capabilities required in demanding machine shop environments.

- Multiple Renishaw radio probes will reliably co-exist in machine shops of any size
- Combine up to four second generation* probes and/or tool setters with a single RMI-Q
- Negligible interference from other radio sources ensures consistent and reliable performance
- Does not require a carefully managed radio/wireless environment
- Renishaw probes work with widely available "off-the-shelf" batteries

* Second generation radio probes are easily identified by a 'Q' symbol.

For further details, please refer to the *RMI-Q data sheet H-5687-8200.*

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About Renishaw

Renishaw is an established world leader in engineering technologies, with a strong history of innovation in product development and manufacturing. Since its formation in 1973, the company has supplied leading-edge products that increase process productivity, improve product quality and deliver cost-effective automation solutions.

A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers.

Products include:

- Additive manufacturing, vacuum casting, and injection moulding technologies for design, prototyping, and production applications
- Advanced material technologies with a variety of applications in multiple fields
- Dental CAD/CAM scanning and milling systems and supply of dental structures
- Encoder systems for high accuracy linear, angle and rotary position feedback
- Fixturing for CMMs (co-ordinate measuring machines) and gauging systems
- Gauging systems for comparative measurement of machined parts
- High speed laser measurement and surveying systems for use in extreme environments
- Laser and ballbar systems for performance measurement and calibration of machines
- Medical devices for neurosurgical applications
- Probe systems and software for job set-up, tool setting and inspection on CNC machine tools
- Raman spectroscopy systems for non-destructive material analysis
- Sensor systems and software for measurement on CMMs
- Styli for CMM and machine tool probe applications

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

H-5687-8300-02-A

Issued: 0213 Part no. H-5687-8300-02-A