

RMP600 (QE) high-accuracy radio machine probe



Specification

| | | |
|--|-----------------|--|
| Principal application | | Workpiece inspection and job set-up on multi-tasking machines, machining centres and gantry machining centres. |
| Weight without shank (including batteries) | | 1010 g (35.65 oz) |
| Transmission type | | Frequency-hopping spread spectrum (FHSS) radio Radio frequency 2400 MHz to 2483.5 MHz |
| Radio approval regions | | UK, EU, EFTA, Japan and USA (China exempt). For details about other regions, contact Renishaw. |
| Compatible interfaces | | RMI-Q or RMI-QE combined interface and receiver unit. |
| Operating range | | Up to 15 m (49.2 ft) |
| Recommended styli | | High modulus carbon fibre, lengths 50 mm (1.97 in) to 200 mm (7.88 in) |
| Switch-on / switch-off options | | <div> <div>Radio on</div> <div>Spin on</div> <div>Shank switch on</div> </div> <div> <div>→</div> <div>→</div> <div>→</div> </div> <div> <div>Radio off or timer off</div> <div>Spin off or timer off</div> <div>Shank switch off</div> </div> |
| Probe feedrate (minimum) | | 3 mm/min (0.12 in/min) ¹ |
| Battery life (2 × AA 3.6 V lithium-thionyl chloride) | Standby life | 116 months maximum, dependent on switch-on / switch-off option. |
| | Continuous life | 540 hours maximum, dependent on switch-on / switch-off option. |
| Sense directions | | ±X, ±Y, +Z |
| Unidirectional repeatability | | 0.25 µm (10 µin) 2σ – 50 mm stylus length ² 0.35 µm (14 µin) 2σ – 100 mm stylus length |
| X, Y (2D) form measurement deviation | | ±0.25 µm (10 µin) – 50 mm stylus length ² ±0.25 µm (10 µin) – 100 mm stylus length |
| X, Y, Z (3D) form measurement deviation | | ±1.00 µm (40 µin) – 50 mm stylus length ² ±1.75 µm (70 µin) – 100 mm stylus length |
| Stylus trigger force ³ XY plane (typical minimum) +Z plane (typical minimum) | | 0.10 N, 10 gf (0.36 ozf). Trigger filter (Level 2) 1.22 N, 124 gf (4.39 ozf). Trigger filter (Level 3) |
| Stylus overtravel force XY plane (typical minimum) +Z plane (typical minimum) | | 2.8 N, 285 gf (10.07 ozf) typical minimum ⁴ 9.8 N, 999 gf (35.25 ozf) typical minimum ⁵ |
| Stylus overtravel | | <div>XY plane</div> <div>+Z plane</div> <div>±15°</div> <div>11 mm (0.43 in)</div> |

¹ Speeds below 3 mm/min commonly occur when manually moving the probe using the handwheel with a very fine feedrate.

² Performance specification is tested at a standard test velocity of 240 mm/min (9.45 in/min) with a 50 mm stylus. Significantly higher velocity is possible depending on application requirements.

³ Trigger force, which is critical in some applications, is the force exerted on the component by the stylus when the probe triggers. The maximum force applied will occur after the trigger point (overtravel). The force value depends on related variables, including measuring speed, machine deceleration and system latency. RENGAGE equipped probes offer ultra-low trigger forces when probing at low feedrates. Tested at the lowest recommended feedrate of 3 mm/min (minimum).

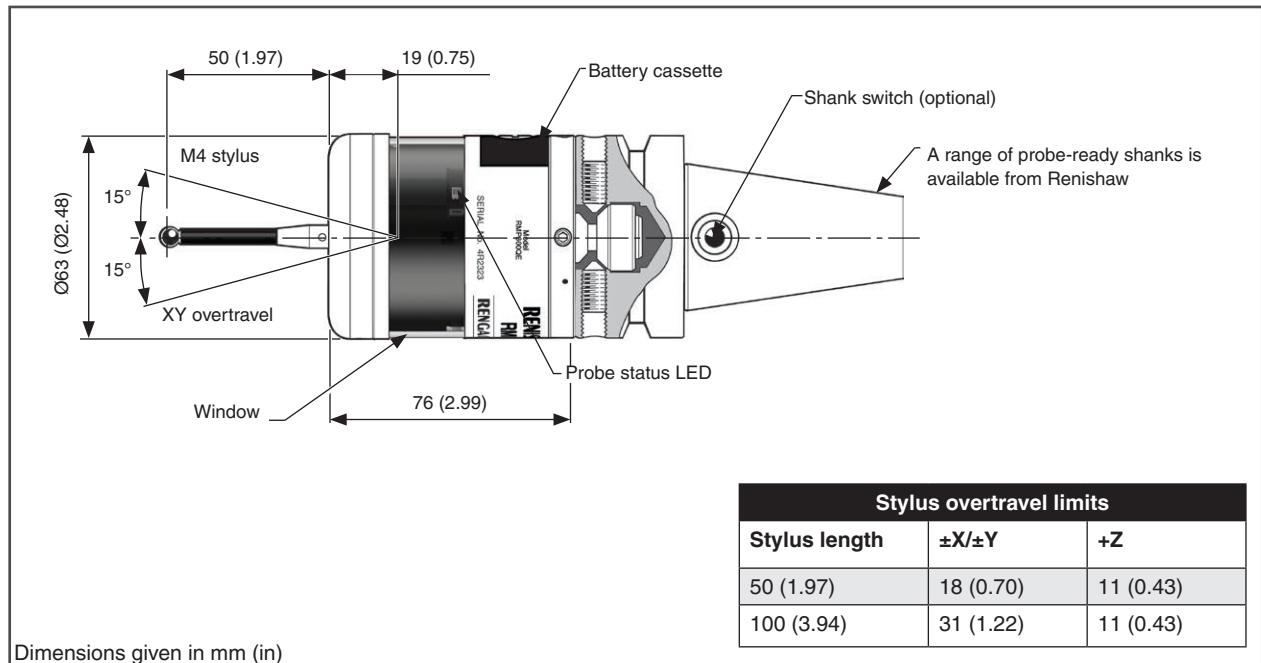
⁴ Stylus overtravel force in the XY plane occurs 80 µm (3149.61 µin) after the trigger point and rises by 0.35 N/mm, 36 gf/mm (32 ozf/in) until the machine tool stops (in the high force direction and using a 50 mm (1.97 in) carbon fibre stylus).

⁵ Stylus overtravel force in +Z direction occurs 7 µm to 8 µm (275.59 µin to 314.96 µin) after the trigger point and rises by 1.5 N/mm, 153 gf/mm (137 ozf/in) until the machine tool stops.

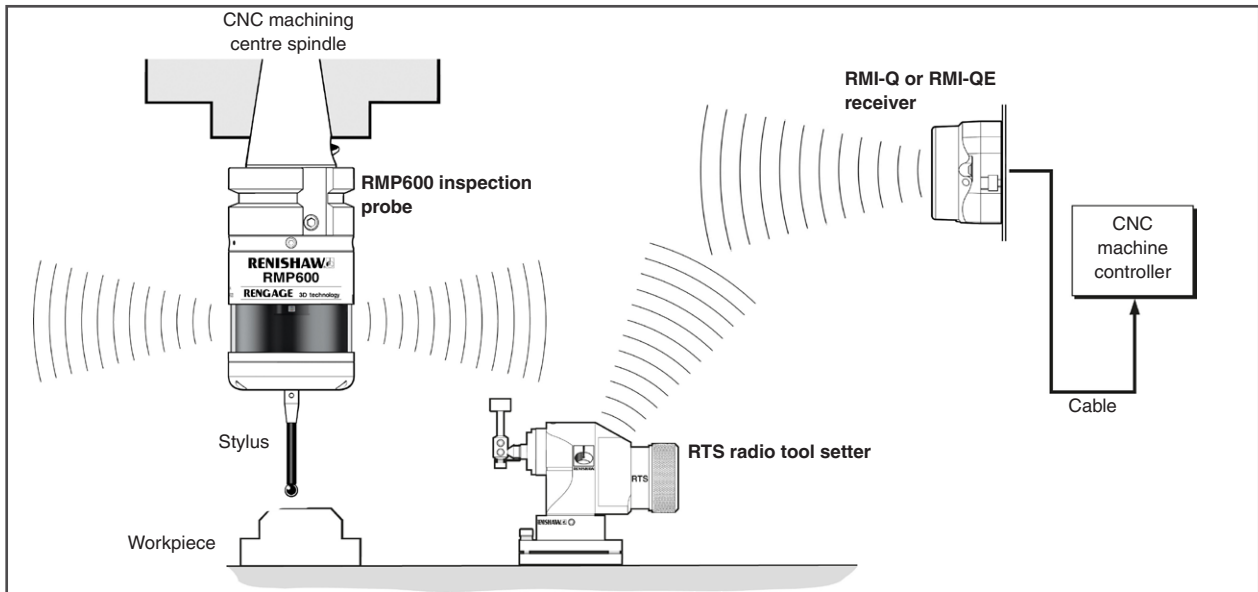
Specification (continued)

| | | |
|-------------|-----------------------|--|
| Environment | IP rating | IPX8, BS EN 60529:1992+A2:2013 (IEC 60529:1989+A1:1999+A2:2013) |
| | IK rating | IK01 (EN/IEC 62262: 2002) [for glass window] |
| | Storage temperature | -25 °C to +70 °C (-13 °F to +158 °F) |
| | Operating temperature | +5 °C to +55 °C (+41 °F to +131 °F) |
| | Indoor/outdoor use | Indoor use |
| | Altitude | <3000 m |
| | Relative humidity | 5% to 95% |
| | Wet location | Yes, water/oil/coolant |
| | Pollution degree | Level 2 |

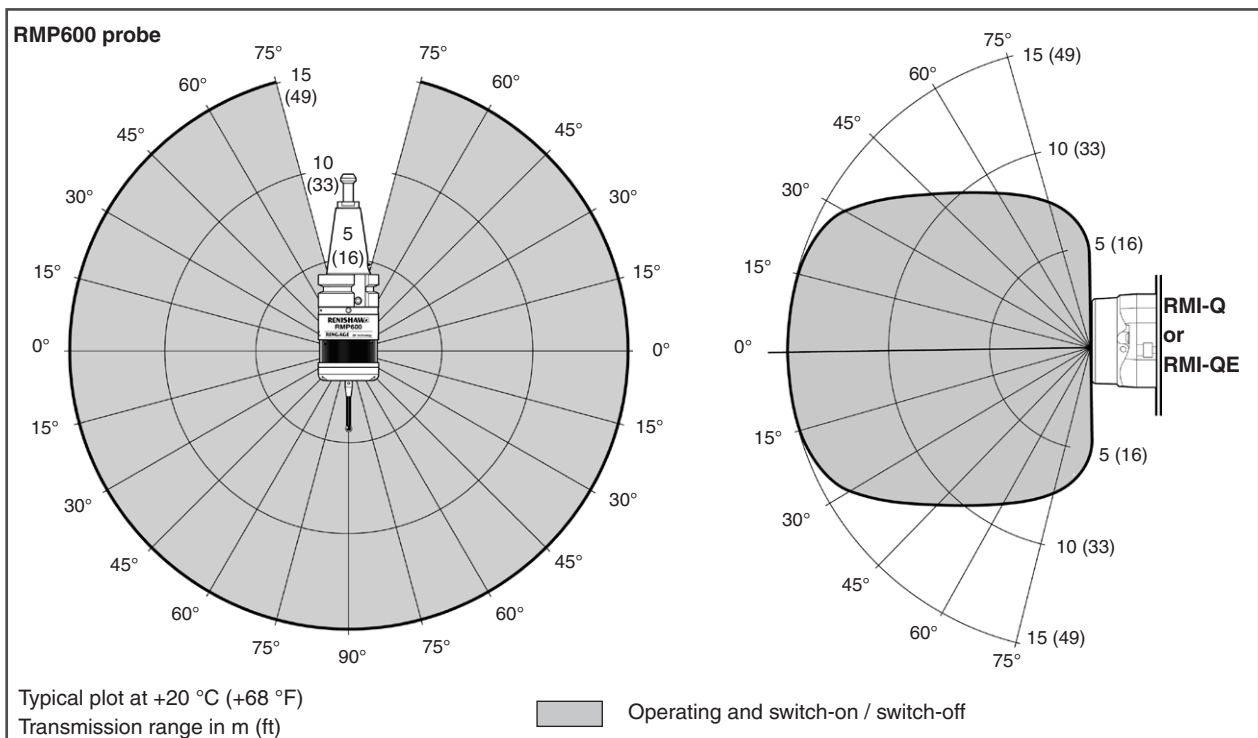
RMP600 dimensions



Installing the RMP600 with a RMI-Q or RMI-QE



RMP600 performance envelope



Spare parts and accessories

A full range of spare parts and accessories is available. Contact Renishaw for a full list.

www.renishaw.com/rmp600

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