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RLP40 (QE) radio lathe probe

RLP40 and RLP40H specification

Principal application		Workpiece inspection and job set-up on multi-tasking machines and lathes.	
Weight without shank (including batteries)		260 g (9.17 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		Ceramic, lengths 50 mm (1.97 in) to 150 mm (5.91 in)	
Switch-on / switch-off options		Radio on → Radio off or timer off Spin on → Spin off or timer off	
Battery life (2 × ½AA 3.6 V lithium-thionyl chloride)	Standby life	82 months maximum, dependent on switch-on / switch-off option.	
	Continuous life	2560 hours maximum, dependent on switch-on / switch-off option.	
Sense directions		±X, ±Y, +Z	
Unidirectional repeatability		**RLP40** 1.00 µm (40 µin) 2σ [1]	**RLP40H** 2.00 µm (80 µin) 2σ [1]
Stylus trigger force [2] [3] XY low force XY high force +Z direction		 0.60 N, 61 gf (2.15 ozf) 0.97 N, 99 gf (3.49 ozf) 6.23 N, 635 gf (22.41 ozf)	 1.58 N, 161 gf (5.68 ozf) 3.17 N, 323 gf (11.40 ozf) 10.62 N, 1083 gf (38.20 ozf)
Maximum setting: XY low force XY high force +Z		 0.83 N, 85 gf (2.99 ozf) 1.60 N, 163 gf (5.76 ozf) 10.00 N, 1020 gf (35.97 ozf)	Not applicable
Minimum setting: XY low force XY high force +Z		 0.30 N, 31 gf (1.08 ozf) 0.60 N, 61 gf (2.16 ozf) 4.00 N, 408 gf (14.39 ozf)	Not applicable
Stylus overtravel	XY plane +Z plane	±12.5° 6 mm (0.24 in)	±12.0° 5 mm (0.20 in)

[1] Performance specification is tested at a standard test velocity of 480 mm/min (18.9 in/min) with a 50 mm stylus. Significantly higher velocity is possible depending on application requirements.

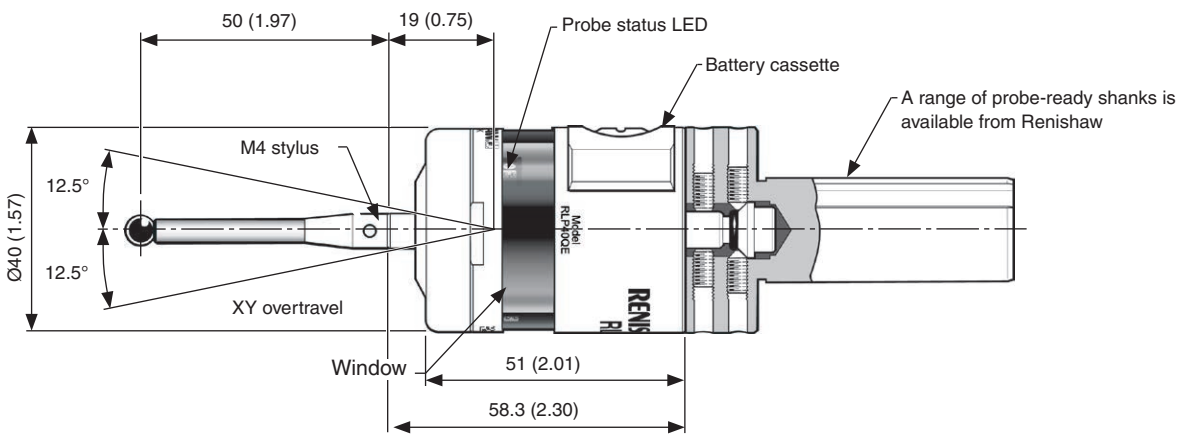
[2] Trigger force, which is critical in some applications, is the force exerted on the component by the stylus when the probe triggers. The maximum force applied will occur after the trigger point (overtravel). The force value depends on related variables, including measuring speed, machine deceleration and system latency.

[3] These are the factory settings; manual adjustment is not possible on the RLP40H.

Specification (continued)

Environment	IP rating	IPX8, BS EN 60529:1992+A2:2013 (IEC 60529:1989+A1:1999+A2:2013)
	IK rating	IK02 (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

RLP40 dimensions



Stylus overtravel limits		
Stylus length	**±X/±Y**	**+Z**
50 (1.97)	12 (0.47)	6 (0.24)
100 (3.94)	22 (0.87)	6 (0.24)

Dimensions given in mm (in)

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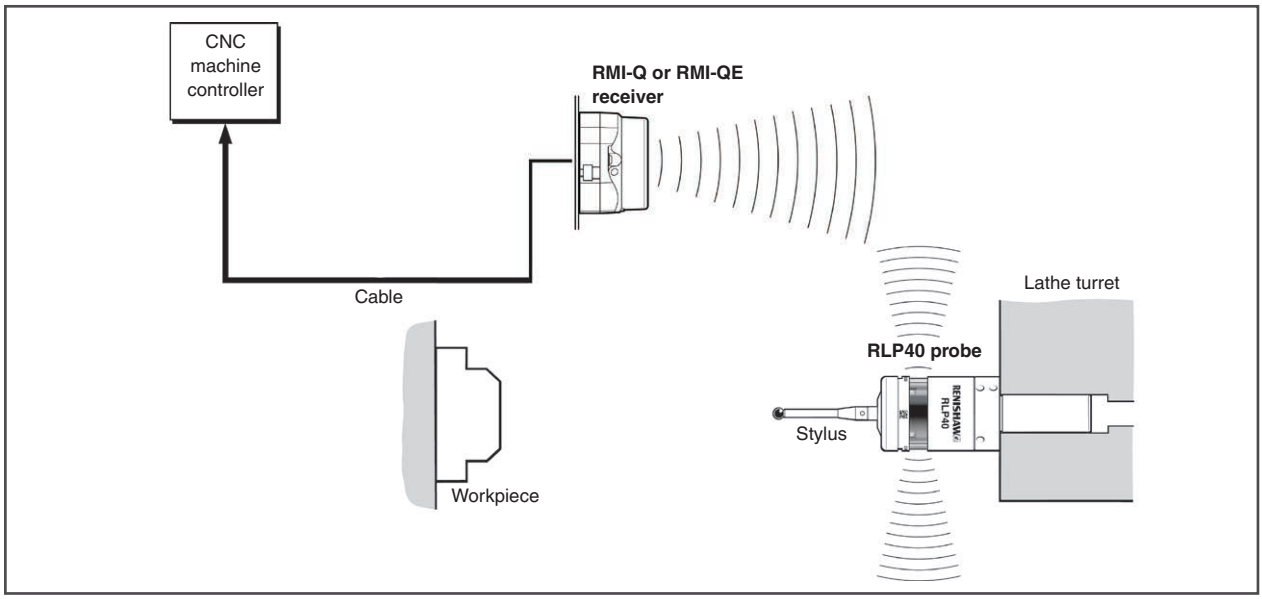
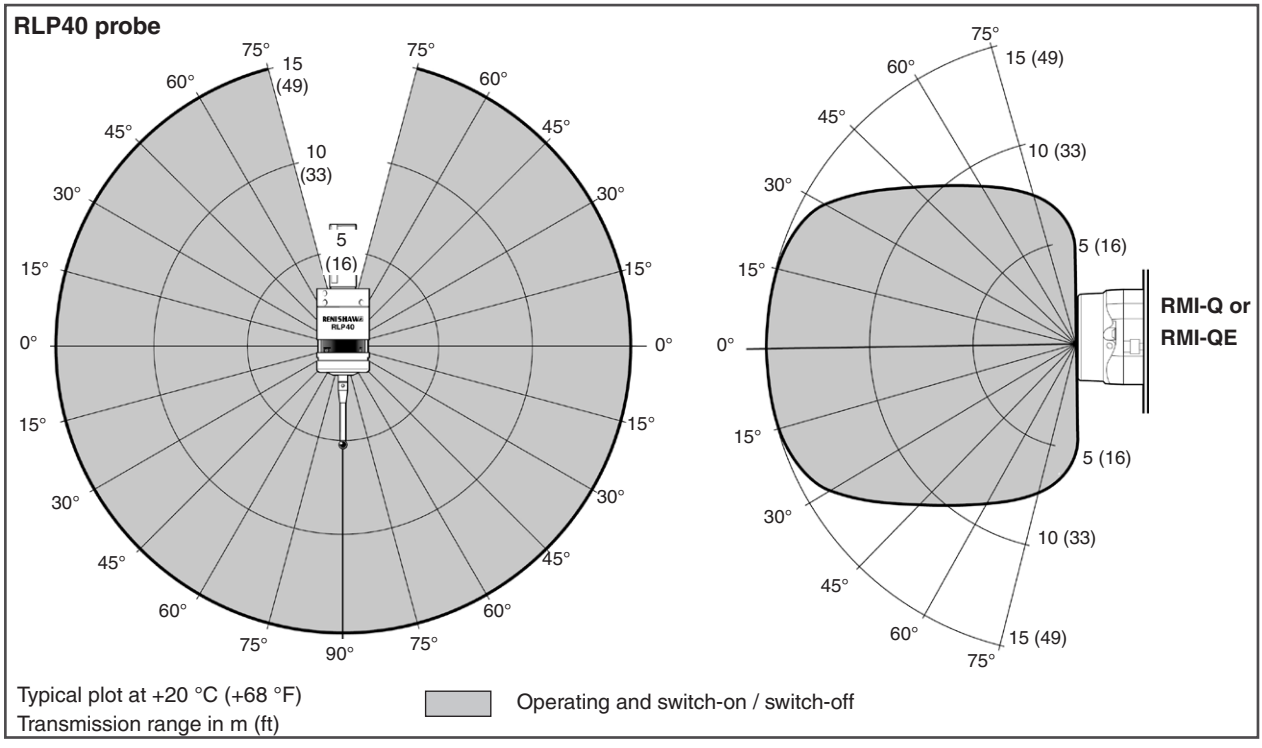
Installing the RLP40 with a RMI-Q or RMI-QE



RLP40 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/rlp40

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