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OLP40 optical lathe probe

www.renishaw.com/olp40

Specification

Principal application		Workpiece inspection and job set-up on all sizes of lathes and small multi-tasking machines.	
Transmission type		360° infrared optical transmission (modulated or legacy)	
Compatible interfaces		OMM-2 or OMM-2C with OSI or OSI-D or with OMI-2 / OMI-2T / OMI-2H / OMI-2C	
Operating range		Up to 5 m (16.4 ft)	
Recommended styli		Ceramic, lengths 50 mm (1.97 in) to 150 mm (5.91 in)	
Weight without shank (including batteries)		277 g (9.77 oz)	
Switch-on/switch-off options		Optical on → Optical off Optical on → Timer off	
Battery life (2 × ½ AA 3.6 V lithium-thionyl chloride)	**Standby life**	1500 days maximum, dependent on switch-on/switch-off option.	
	Continuous use	1350 hours maximum, dependent on switch-on/switch-off option.	
Sense directions		±X, ±Y, +Z	
Unidirectional repeatability		1.00 µm (40 µin) 2σ *(see note 1)*	
Stylus trigger force *(see notes 2 and 3)* XY low force XY high force +Z direction		 0.40 N, 40 gf (1.44 ozf) 0.80 N, 80 gf (2.88 ozf) 5.30 N, 540 gf (19.06 ozf)	
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)

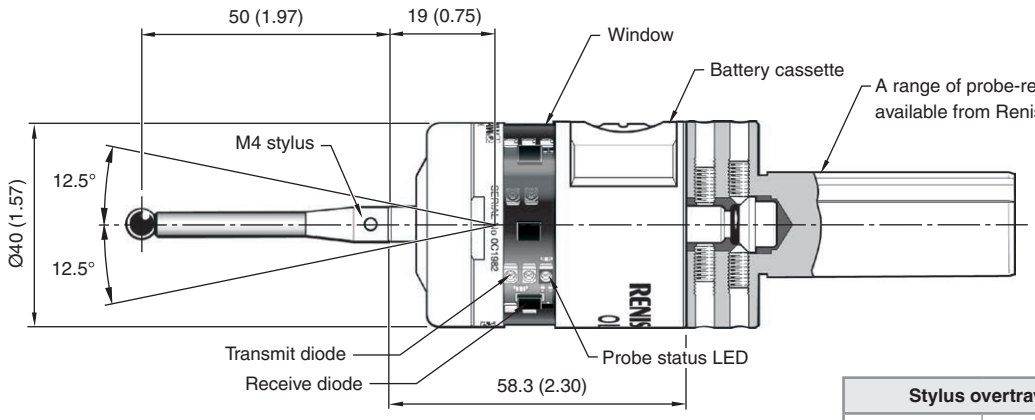
Note 1 Performance specification is tested at a standard test velocity of 480 mm/min (18.9 in/min) with a 50 mm stylus. Significantly higher velocity is possible depending on application requirements.

Note 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 and machine deceleration.

Note 3 These are the factory settings, manual adjustment is possible. For more details, refer to the *OLP40 optical lathe probe* installation guide (Renishaw part no. H-5625-8504).

For further information and the best possible application and performance support, contact Renishaw or visit **www.renishaw.com/olp40**

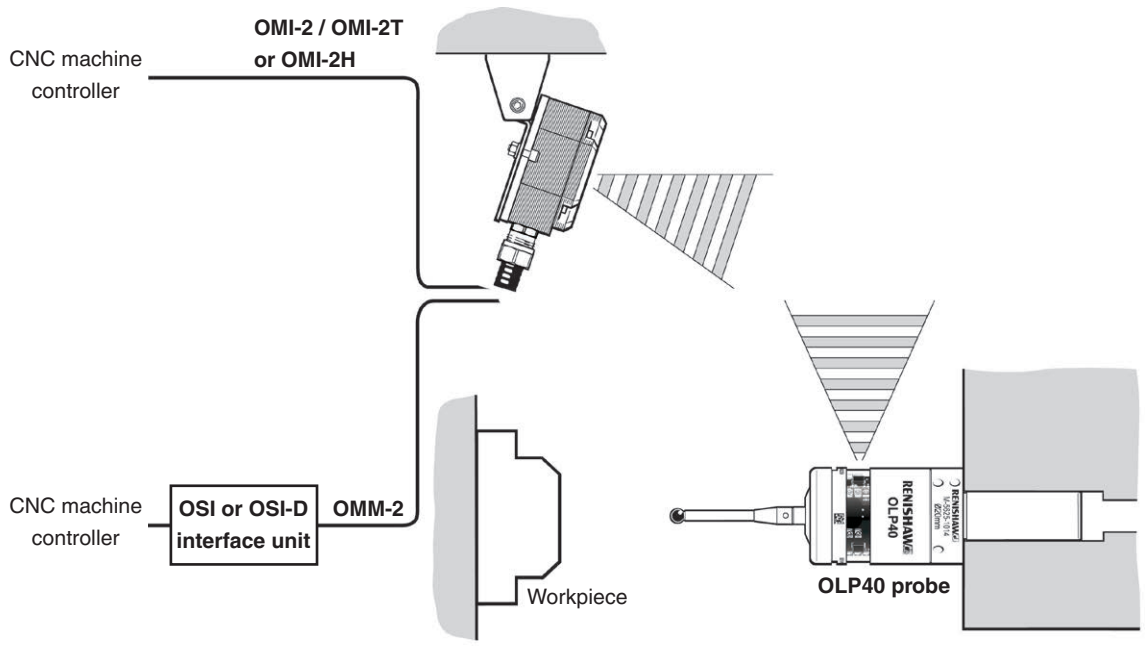
OLP40 dimensions



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)

Typical optical lathe probe system



OLP40 performance envelope

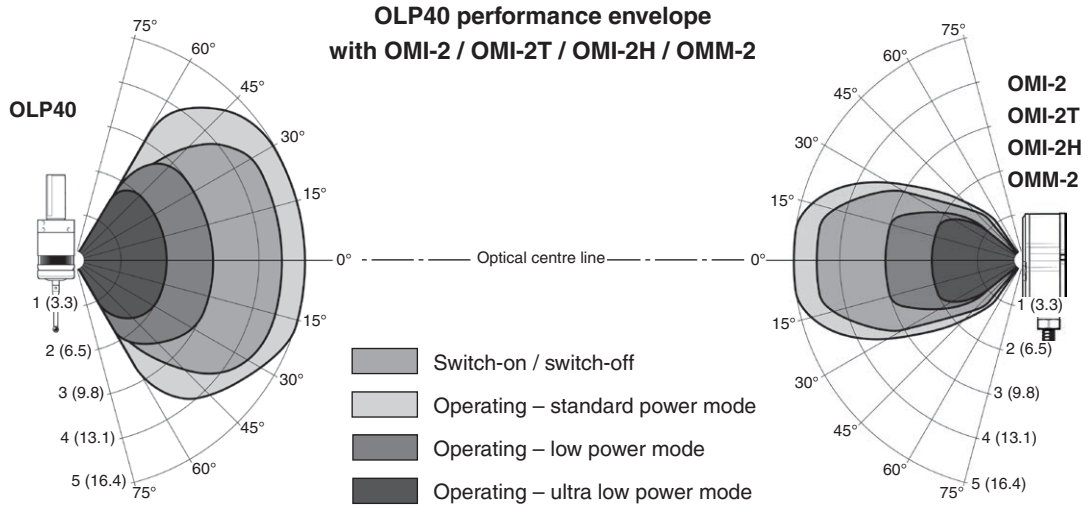
The OLP40 has a 360° transmission envelope over the ranges shown below.

The probe system should be positioned so that the optimum range can be achieved over the full travel of the machine axis.

The OLP40 and optical receivers may deviate from the optical centre line, provided opposing light cones always overlap, with transmitters and receivers in the other's field of view (line of sight).

Natural reflective surfaces within the machine may affect the signal transmission range.

Coolant residue accumulating on the receiver will have a detrimental effect on transmission performance. Wipe clean as often as is necessary to maintain unrestricted transmission.



Typical plot at 20 °C (68 °F) 360° transmission around probe axis in m (ft)

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Spare parts and accessories

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

For worldwide contact details, visit www.renishaw.com/contact

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