

OTS optical tool setter



Specification

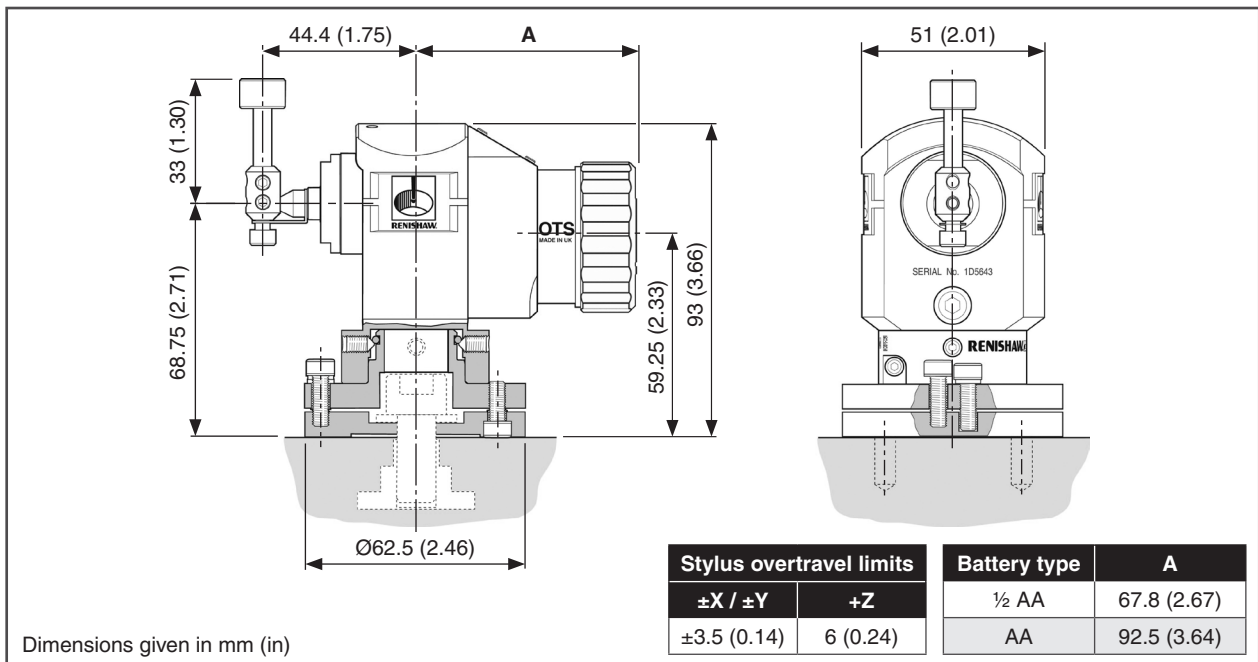
Variant		OTS (½ AA)	OTS (AA)
Principal application		Tool measuring and broken tool detection on small to medium machining centres	
Weight with disc stylus (including batteries)		870 g (30.69 oz)	950 g (33.51 oz)
Transmission type		Infrared optical transmission (modulated)	
Compatible interfaces		OMI-2, OMI-2T, OMI-2H or OMM-2C / OMM-2 with OSI or OSI-D	
Operating range		Up to 5 m (16.4 ft)	
Recommended styli		Disc stylus (tungsten carbide, 75 Rockwell C) or Square tip stylus (ceramic tip, 75 Rockwell C)	
Switch-on / switch-off options		Optical on → Optical off Optical on → Timer off	
Battery life (2 × ½AA or AA 3.6 V Lithium-thionyl chloride)	Standby life	1800 days	4100 days
	Continuous use	2150 hours	4750 hours
Sense directions		±X, ±Y, +Z	
Unidirectional repeatability		1.00 µm (40 µin) 2σ ¹	
Stylus trigger force ^{2 3}		1.30 N to 2.40 N, 133 gf to 245 gf (4.68 ozf to 8.63 ozf) depending on sense direction	
Stylus overtravel force		XY plane +Z plane	±3.5 mm (0.14 in) 6 mm (0.24 in)
Mounting		M10 / M12 T bolt (not supplied) Optional SPIROL® pins to allow accurate remounting (supplied)	
Environment		Storage temperature	–25 °C to +70 °C (–13 °F to +158 °F)
		Operating temperature	+5 °C to +55 °C (+41 °F to +131 °F)
		IP rating	IPX8, BS EN 60529:1992+A2:2013
		IK rating (typical)	IK01, BS EN 62262:2002+A1:2021 [for glass window]
		Indoor/outdoor use	Indoor use
		Altitude	≤ 3000 m (9843 ft)
		Relative humidity	5% to 95%
		Wet location	Yes, water/oil/coolant
		Pollution degree	Level 2

¹ Performance specification is tested at a standard test velocity of 480 mm/min (18.9 in/min) with a 35 mm stylus. Significantly higher velocity is possible depending on application requirements.

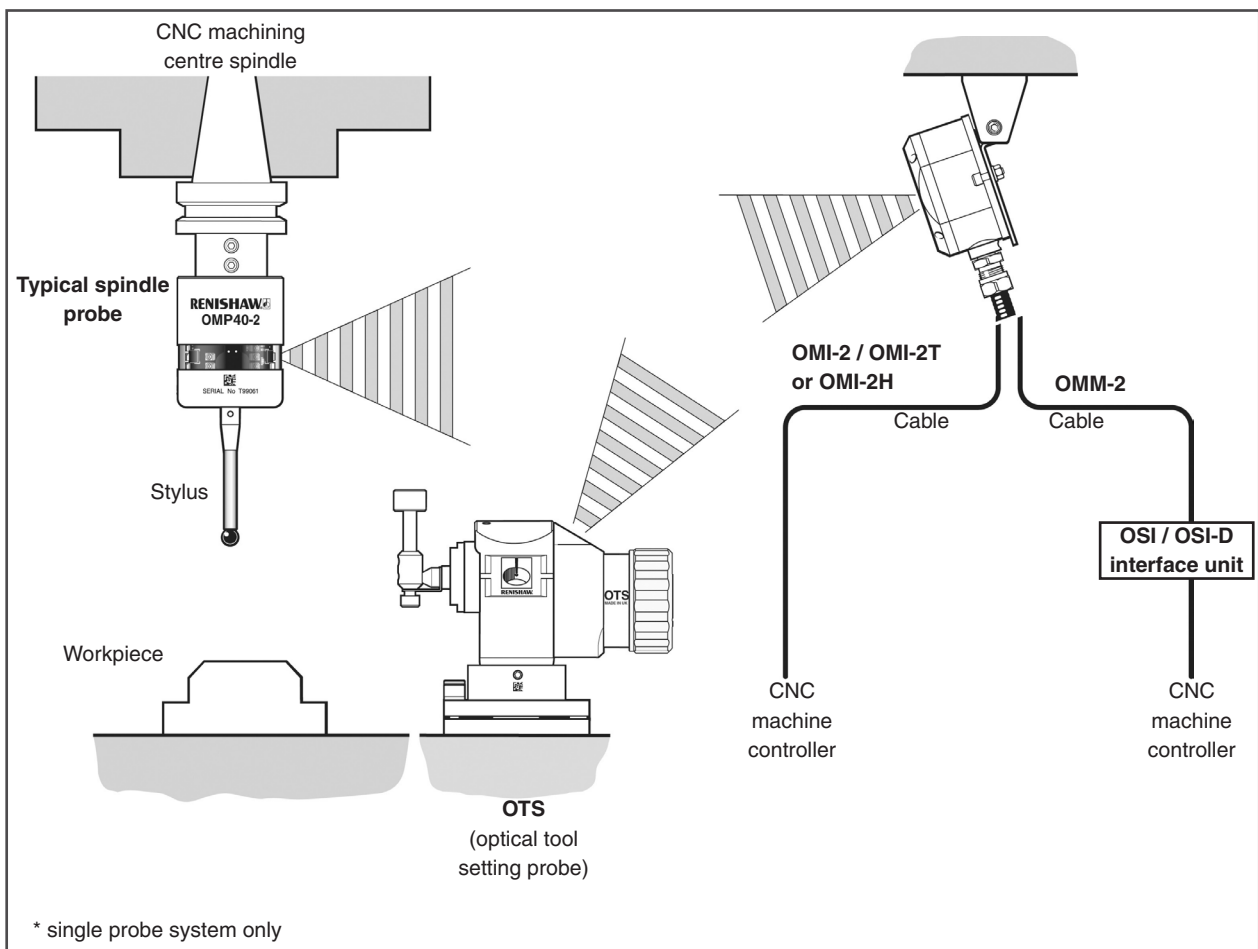
² Trigger force, which is critical in some applications, is the force exerted on the component by the stylus when the probe triggers. The maximum force applied will occur after the trigger point (overtravel). The force value depends on related variables including measuring speed and machine deceleration.

³ These are the factory settings; manual adjustment is not possible.

OTS dimensions



Installing the OTS with a OMI-2*, OMI-2T, OMI-2H interface, or OMM-2 receiver with OSI / OSI-D interface



Performance envelope when using the OTS with OMI-2, OMI-2T, OMI-2H interface, or OMM-2 receiver

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

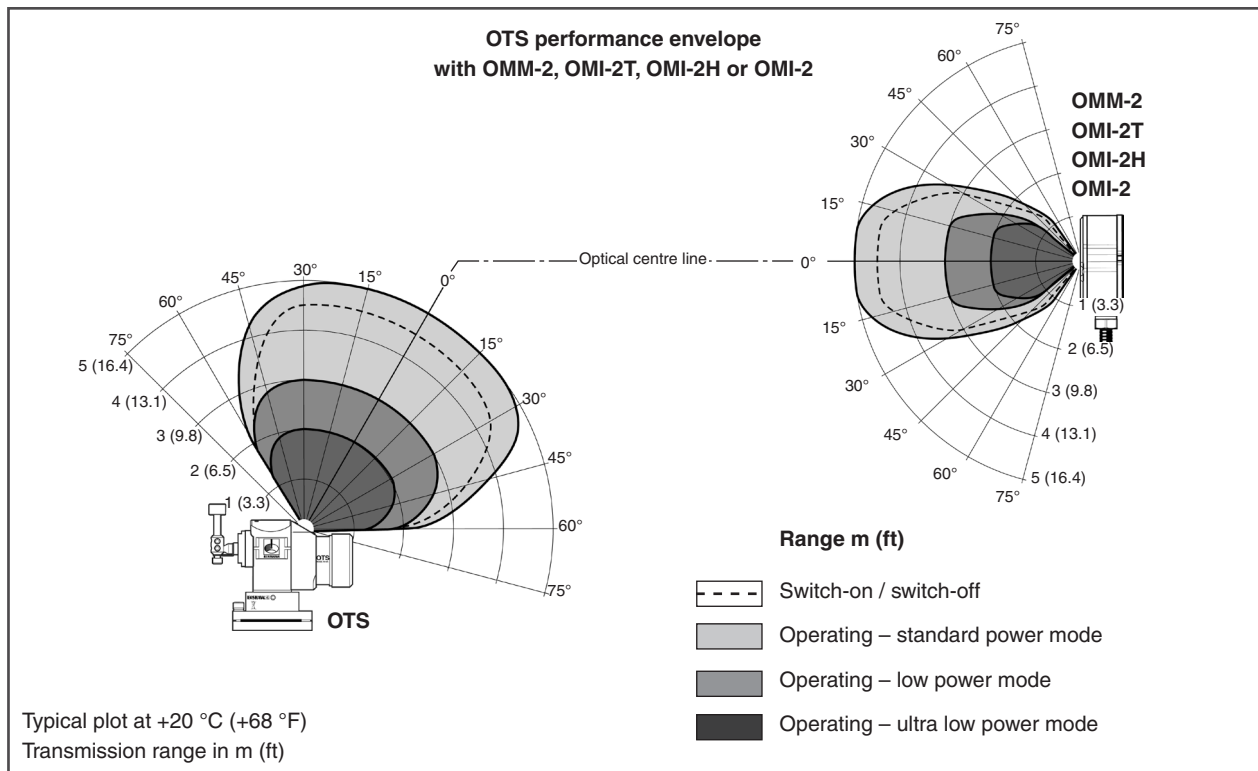
The probe system should be positioned so that the optimum range can be achieved over the full travel of the machine axis.

The OTS 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).

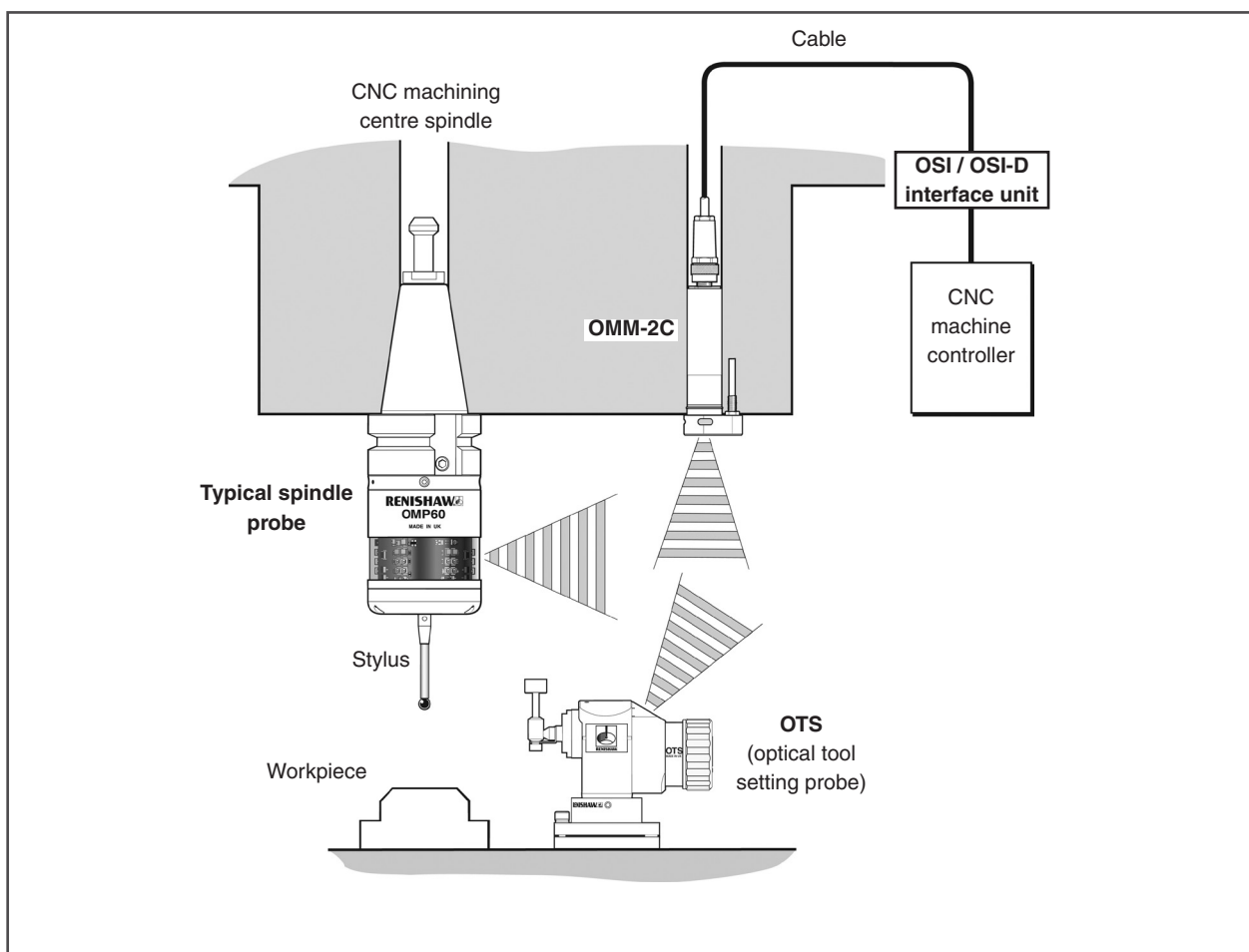
Natural reflective surfaces within the machine may affect the signal transmission range.

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.

OTS performance envelope



Installing the OTS with an OMM-2C receiver with OSI / OSI-D interface



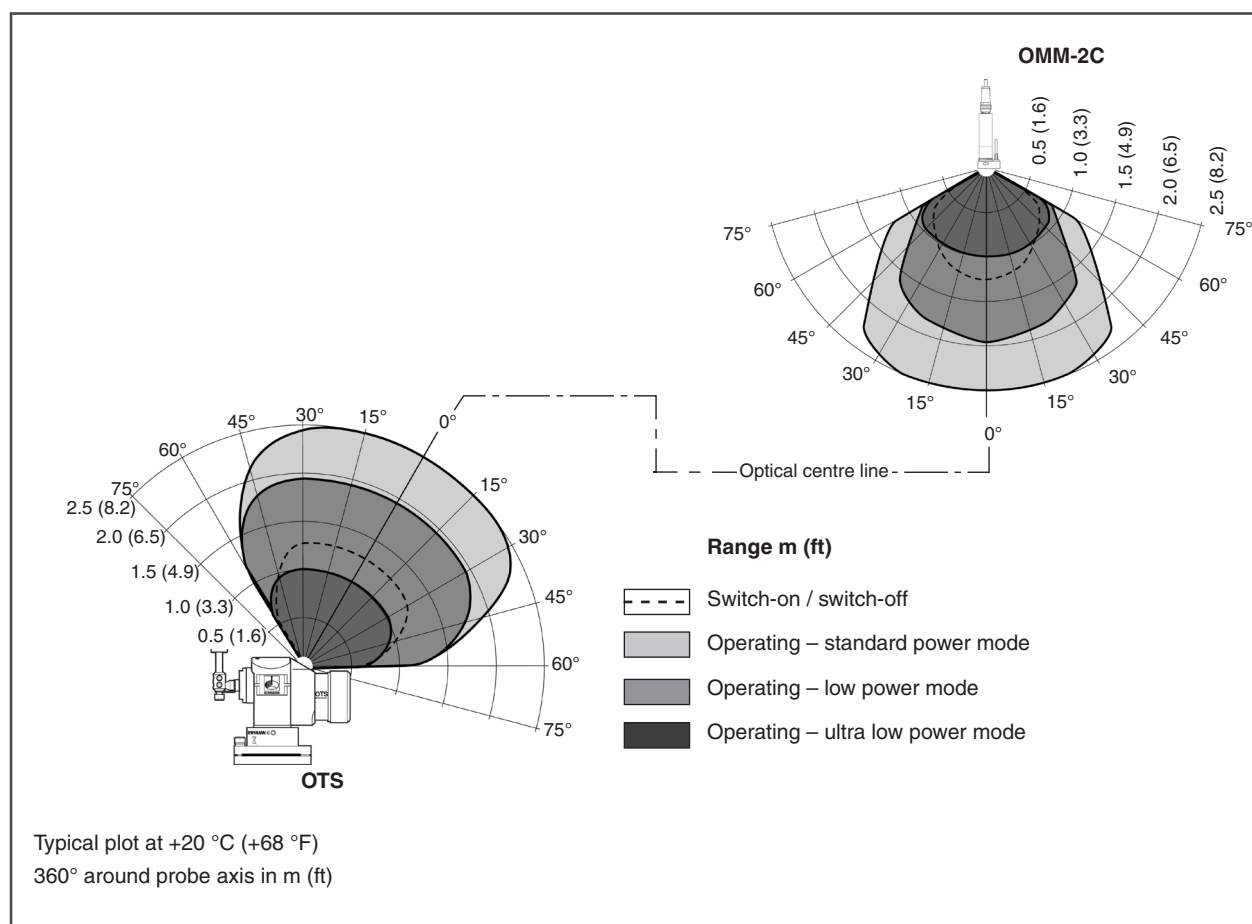
Performance envelope when using the OTS with a OMM-2C receiver

WARNING: Ensure the machine tool is in a safe condition and power is removed before removing covers. Only qualified persons should adjust switches.

The OMM-2C receiver should be mounted as near to the machine spindle as possible.

When mounting the OMM-2C receiver, it is important that the sealing ring forms a tight seal around the rim of the bore into which the body of the OMM-2C receiver is to be located.

The diodes of the OTS and the OMM-2C receiver must be in each other's field of view and within the performance envelope shown. The OTS performance envelope is based on the optical centre line of the OMM-2C receiver being at 0° and vice versa.



Spare parts and accessories

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

www.renishaw.com/contact



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