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OSI with OMM-2 optical interface system

The multiple probe optical system - improve part quality and reduce set-up times!

Following in the foot-steps of the highly successful OMI-2T, Renishaw has now developed a multiple probe system that allows up to three separate inspection probes and/or tool setting probes to be installed on a machine tool with a single optical interface system.

The new **OSI,** in conjunction with **OMM-2,** enables up to three probes to be used. Typical combinations can be:

1 x OMP60 / OMP40-2 / OMP400 with 2 x OTS or
2 x OMP40-2 / OMP400 with 1 x OTS or 3 x OTS.

Multiple OTS's, provide an ideal tool setting solution for pallet loaded machines.

The **OSI** with **OMM-2** utilises Renishaw's modulated optical transmission, thereby offering the highest level of resistance to light interference. The system is user configurable for operation in either single probe mode or multiple probe mode. In multiple probe mode the system will sequentially activate the spindle probe or tool-setting probe.

Choice of single or tandem OMM-2 application.

The new interface system allows the implementation of tandem OMM-2, making it an ideal solution for machines with exceptionally long spindle movements where increased range is required. In these applications the operating range of OMP60 will typically exceed 10 m. Tandem OMM-2 is also suited to applications with partitioned machining areas, where a receiver will be located in each area.

Different probe combinations

Flexible multiple probe system configurations, using a single or tandem receiver and up to three probes, can provide an easily integrated solution for on-machine inspection applications.

In single probe mode the interface system will operate with either a pulse or level machine output. In multiple probe mode, two or three probes can be operated using either two or three machine outputs.

When using two machine outputs (for three probes), a coded turn on technique is used to turn on/off the selected probe.

When using three machine outputs (for three probes) options are available to use either a dedicated level machine output per probe, or to use a common start mode in conjunction with a pulse or level start output.

LEDs on OMM-2 provide a visual indication of system status and identify the active probe.

The OSI with OMM-2 system operates using a modulated optical transmission mode and is compatible with all Renishaw's probes that operate in "modulated" mode.

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OMP40-2 spindle probe

Principal application	Small to medium machining centres and drill/tap machines
Dimensions	Length: 50 mm (1.97 in) Diameter: 40 mm (1.57 in)
Transmission type	360° infra-red optical transmission (modulated or legacy)
Operating range	Up to 5 m (16.4 ft)
Sense directions	Omni-directional: ± X, ± Y, +Z
Uni-directional repeatability	1.0 µm (0.00004 in)
Stylus overtravel	XY plane ±12.5° +Z direction 6 mm (0.24 in)
Battery type	1/2 AA 3.6 V Lithium Thionyl Chloride x 2

OMP400 spindle probe

Principal application	Small to medium machining centres and mould & die applications
Dimensions	Length: 50 mm (1.97 in) Diameter: 40 mm (1.57 in)
Transmission type	360° infra-red optical transmission
Operating range	Up to 5 m (16.4 ft)
Sense directions	Omni-directional: ± X, ± Y, +Z
Uni-directional repeatability	0.25 µm (0.00001 in)
Stylus overtravel	XY plane ±11° +Z direction 6 mm (0.23 in)
Battery type	1/2 AA 3.6 V Lithium Thionyl Chloride x 2

OMP40-2

OMP60

OMP400

OTS

OMP60 spindle probe

Principal application	Medium to large machining and mill-turn centres
Dimensions	Length: 76 mm (2.99 in) Diameter: 63 mm (2.48 in)
Transmission type	360° infra-red optical transmission
Operating range	Up to 6 m (19.7 ft)
Sense directions	Omni-directional: ± X, ± Y, +Z
Uni-directional repeatability	1.0 µm (0.00004 in)
Stylus overtravel	XY plane ±18° +Z direction 11 mm (0.43 in)
Battery type	AA 1.5 V alkaline x 2 AA 3.6 V Lithium Thionyl Chloride x 2

OTS tool setting probes

Principal application	Tool length and diameter checking on vertical machining centres
Dimensions	Length: 119 mm Height: 93 mm
Transmission type	Directable infra-red optical transmission
Operating range	Up to 5 m (16.4 ft)
Sense directions	Omni-directional: ± X, ± Y, +Z
Uni-directional repeatability	1.0 µm (0.00004 in)
Stylus overtravel	XY plane ± 3.5 mm +Z direction 6 mm (0.23 in)
Battery type	1/2 AA 3.6 V Lithium Thionyl Chloride x 2 or AA 1.5 V alkaline x 2 AA 3.6 V Lithium Thionyl Chloride x 2

More information

For further details on the products mentioned in this flyer, please visit www.renishaw.com/mtp

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

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