Machine tool probes

Inspection probes for machining centers

MP11

The MP11 is a hard-wired probe ideal for small machine tools with manual tool changing. The probe is mounted in the machine spindle with the signal transmission cable connected to the machine control. With the MP11, the illuminated LED switches off every time the probe stylus contacts the workpiece.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±17.5°
	Z:	8 mm (0.31 in)
Stylus trigger force	X and Y:	50 gf – 150 gf
	Z:	180 gf – 700 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

MP11 retrofit kit

Includes: MP11 probe with cable and connectors
Remote socket kit
50 mm and 100 mm ceramic styli
Renishaw Inspection Plus software
Installation and applications support

A shank is not included in this kit. See the section entitled Shanks and Toolholders for price and part number information.

**Part number:** MP11-NS-S   (Available at fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

MP11 hardware only kit

Includes: MP11 probe with cable and connectors
Remote socket kit
50 mm and 100 mm ceramic styli

A shank is not included in this kit. See the section entitled Shanks and Toolholders for price and part number information.

Part number: MP11-NS-KIT   **Price:** $3,558
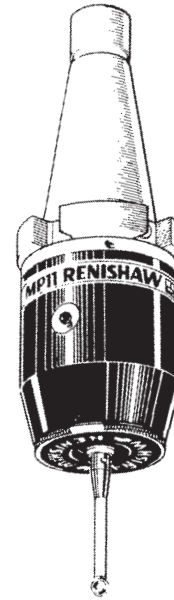
MP11 probe

Includes: MP11 probe with cable and connectors

Part number: A-2045-0001   **Price:** $3,079

MP11 replacement parts

Spare MP11 cable

Part number: A-2045-0051   **Price:** $132

4 pin connector for MP11 cable

Part number: MP11 PLUG KIT   **Price:** $64

4 pin socket for MP11

Part number: P-CN21-0304   **Price:** $60
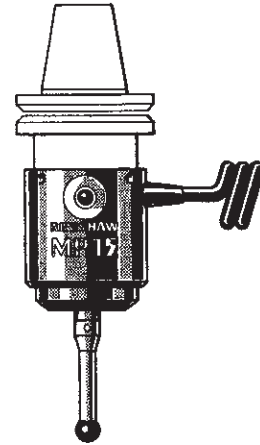
Outer diaphragm kit

Part number: A-2051-7105   **Price:** $100

MP15

The MP15 probe is used on small CNC machines with limited Z travel and manual tool changing.

The probe is mounted in the machine spindle with the signal transmission cable connected to the machine control. With the MP15, the illuminated LED switches off every time the probe stylus contacts the work piece.

MP15 hard-wired probe kit

Part number: A-2116-1802   **Price:** $2,114

MP15/MP11 adaptor

Part number: M-2116-1356   **Price:** $225

HSI interface

**Part number:** A-5500-1000   **Price:** $198

Machine tool probes

MP700

The MP700 is an optical transmission part probing system for use on machining centers. The MP700 is specifically designed to deliver high-accuracy CMM type probe performance. The MP700 uses strain gage sensors and and an internal microprocessor to provide a solid state sensor mechanism with unprecedented life and reliability. Low trigger force and consistent pre-travel results in high accuracy with long styli.

The MP700 is available with either 35° or 70° output. An M code must be supplied to turn the probe on. An internal timer or M code is used to turn the probe off.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±16.5°
	Z:	11 mm (0.45 in)
Stylus trigger force	X and Y:	19 gf
	Z:	325 gf
Unidirectional repeatability	0.25 μm (0.00001 in)	
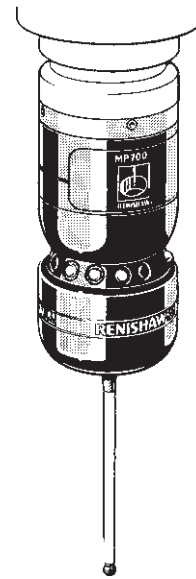
MP700 retrofit kit

Includes: MP700 probe with 70° OMP
OMM
Receiver mounting bracket
MI12 interface
50 mm and 100 mm carbon fiber styli
Sealtite conduit
9 V alkaline battery
TK1 tool kit
Renishaw Inspection Plus software
Installation and applications support

A shank is not included in this kit. See the section entitled Shanks and Toolholders for price and part number information.

Part number: MP700-NS-S   (Available at fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

MP700 hardware only kit

Includes: MP700 probe with 70° OMP
OMM
Receiver mounting bracket
MI12 interface
50 mm and 100 mm carbon fiber styli
Sealtite conduit
9 V alkaline battery
TK1 tool kit

A shank is not included in this kit. See the section entitled Shanks and Toolholders for price and part number information.

Part number: MP700-NS-KIT   **Price:** $6,942

MP700 probe

Includes: MP700 probe
Adjusting plate
9 V alkaline battery
Tool kit

Part number: A-2107-0035 (35°)   **Price:** $4,564
Part number: A-2107-0070 (70°)   **Price:** $4,564

MP700 probe module

Part number: A-2108-0001   **Price:** $4,010

MP700 OMP only

Part number: A-2107-0036 (35°)   **Price:** $849
Part number: A-2107-0071 (70°)   **Price:** $849

OMM optical receiver

Part number: A-2033-0576   **Price:** $986

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

MI12 interface

Part number: A-2075-0142   **Price:** $931

Sealtite conduit

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

OMP40

The OMP40 is an ultra-compact optical transmission part probing system. Measuring just 40 mm diameter and 50 mm in length, the OMP40 is suitable for all machining and mill-turn centers. Utilizing a revised state-of-the-art modulated optical transmission method, the system offers the highest level of resistance to light interference when used with the OMI-2/OMI-2T. The OMP40 probe is also backwards compatible with existing OMM/MI12 and OMI receivers, enabling current MP7, MP8, MP9 and MP10 system users to benefit from its innovative features.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	6 mm (0.23 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

OMP40 retrofit kit

Includes: OMP40 probe
           OMM-2
           Receiver mounting bracket
           OSI interface
           50 mm and 100 mm ceramic styli
           Sealtite kit
           Renishaw Inspection Plus software
           Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: OMP40-NS-S   (Available at fixed price)
                                   Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

OMP40 hardware only kit

Includes: OMP40 probe
           OMM-2
            Receiver mounting bracket
            OSI interface
            50 mm and 100 mm ceramic styli
            Sealtite kit

Part number: OMP40-NS-KIT   **Price:** $6,126

OMP40 probe kit

Includes: OMP40
           ½ AA battery (2)
           Tool kit

Legacy

Part number: A-4071-0001   **Price:** $3,803

Modulated

Part number: A-4071-2001   **Price:** $3,803

OMP40 upgrade kit

Current users of MP7, MP8, MP9 or MP10 optical transmission probes may upgrade to OMP40. A complete working system (probe module plus transmission system) must be exchanged.

Includes: OMP40 probe system

Part number: RI-4071-0001   **Price:** $1,902

OMP40 accessories and replacement parts

½AA battery (2 pack)

Part number: P-BT03-0007   **Price:** $43

OMP60/RMP60 style shank adaptor

Part number: A-4071-0031   **Price:** $171

OMP40 continued

OMM optical receiver

Part number: A-2033-0576   **Price:** $986

OMM-2 optical receiver

Part number: A-5492-0051   **Price:** $986

OMI-2 optical receiver/interface

With 8 m cable.

Part number: A-5191-0049   **Price:** $1,582

OMI-2 optical receiver/interface

With 15 m cable.

Part number: A-5191-0050   **Price:** $1,664

OMI-2T optical receiver/interface

With 8 m cable.

Part number: A-5439-0049   **Price:** $1,582

OMI-2T optical receiver/interface

With 15 m cable.

Part number: A-5439-0050   **Price:** $1,664

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

MI12 interface

Part number: A-2075-0142   **Price:** $931

OSI interface

Part number: A-5492-2000   **Price:** $931

Sealtite conduit for OMM or OMI

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 meter long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

OMP400

OMP400 is an ultra-compact optical transmission probe using strain gage technology. Measuring just 40 mm diameter × 50 mm in length, OMP400 is suitable for all machining and mill-turn centers requiring uncompromised 3D metrology performance. Utilizing a revised state-of-the-art modulated optical transmission method, the system offers the highest level of resistance to light interference when used with OMI-2. The OMP400 probe is also backwards compatible with existing OMM/MI12 and OMI receivers, enabling current MP7, MP8, MP9 and MP10 system users to benefit from its innovative features.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±18°
	Z:	11 mm (0.43 in)
Stylus trigger force	X and Y:	6 gf
	Z:	260 gf
Unidirectional repeatability	0.25 µm (0.00001 in)	

OMP400 retrofit kit

Includes: OMP400 probe
OMM-2
Receiver mounting bracket
OSI interface
50 mm and 100 mm carbon fiber styli
Sealtite kit
Renishaw Inspection Plus software
Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: OMP400-NS-S   (Available at fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

OMP400 hardware only kit

Includes: OMP400 probe
OMM-2
Receiver mounting bracket
OSI interface
50 mm and 100 mm carbon fiber styli
Sealtite kit

Part number: OMP400-NS-KIT   **Price:** $6,954

OMM optical receiver

Part number: A-2033-0576   **Price:** $986

OMM-2 optical receiver

Part number: A-5492-0051   **Price:** $986

OMP400 probe kit

Includes: OMP400 probe
½ AA battery (2)
Tool kit

Legacy

Part number: A-5069-0001   **Price:** $4,564

Modulated

Part number: A-5069-2001   **Price:** $4,564

OMP400 upgrade kit

Current users of MP700 optical transmission probes may upgrade to OMP400. A complete working system (probe module plus transmission system) must be exchanged.

Includes: OMP400 probe

Part number: RI-5069-0001   **Price:** $2,282

Note: A new shank is required. See section entitled Shanks and Toolholders for price and part number information.

OMP400 continued

OMI-2 optical receiver/interface

With 8 m cable.

Part number: A-5191-0049   **Price:** $1,582

OMI-2 optical receiver/interface

With 15 m cable.

Part number: A-5191-0050   **Price:** $1,664

OMI-2T optical receiver/interface

With 8 m cable.

Part number: A-5439-0049   **Price:** $1,582

OMI-2T optical receiver/interface

With 15 m cable.

Part number: A-5439-0050   **Price:** $1,664

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

MI12 interface

Part number: A-2075-0142   **Price:** $931

OSI interface

Part number: A-5492-2000   **Price:** $931

Sealtite conduit for OMM or OMI

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

To obtain optimal metrology performance, the following carbon fiber styli are recommended. Refer to the Styli section for more details.

Stylus	Part number	Price
6 × 50 mm CF	A-5003-7306	$128
6 × 100 mm CF	A-5003-6510	$145
6 × 150 mm CF	A-5003-6511	$274
6 × 200 mm CF	A-5003-6512	$289

OMP60

OMP60 is an optical transmission probing system suitable for medium to large machining and mill-turn centers. Utilizing a revised state-of-the-art modulated optical transmission method, the system offers the highest level of resistance to light interference. The OMP60 probe is also backwards compatible with existing OMM/MI12 and OMI receivers. OMP60 also supports all methods of probe activation – shank switch, spin and M code – enabling current MP7, MP8, MP9 and MP10 users to benefit from some of its innovative features.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±18°
	Z:	11 mm (0.43 in)
Stylus trigger force	X and Y:	75 gf – 140 gf
	Z:	530 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

OMP60 retrofit kit

Includes: OMP60 probe
OMM-2
Receiver mounting bracket
OSI interface
50 mm and 100 mm ceramic styli
Sealtite kit
Renishaw Inspection Plus software
Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: OMP60-NS-S   (Available at a fixed price)
                                                          Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

OMP60 hardware only kit

Includes: OMP60 probe
OMM-2
Receiver mounting bracket
OSI interface
50 mm and 100 mm ceramic styli
Sealtite kit

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: OMP60-NS-KIT   **Price:** $6,126

OMP60 probe kit

Includes: OMP60 probe
AA battery (2)
Tool kit

Legacy

Part number: A-4038-0001   **Price:** $3,803

Modulated

Part number: A-4038-2001   **Price:** $3,803

OMP60 upgrade kit

Current users of MP7, MP8, MP9 or MP10 optical transmission probes may upgrade to OMP60. A complete working system (probe module plus transmission system) must be exchanged.

Includes: OMP60 probe system

Part number: RI-4038-0001   **Price:** $1,902

Machine tool probes

OMP60 continued

OMM optical receiver

Part number: A-2033-0576 **Price:** $986

OMM-2 optical receiver

Part number: A-5492-0051 **Price:** $986

OMI-2 optical receiver/interface

With 8 m cable.

Part number: A-5191-0049 **Price:** $1,582

OMI-2 optical receiver/interface

With 15 m cable.

Part number: A-5191-0050 **Price:** $1,664

OMI-2T optical receiver/interface

With 8 m cable.

Part number: A-5439-0049 **Price:** $1,582

OMI-2T optical receiver/interface

With 15 m cable.

Part number: A-5439-0050 **Price:** $1,664

Receiver mounting bracket

Part number: A-2033-0830 **Price:** $119

MI12 interface

Part number: A-2075-0142 **Price:** $931

OSI interface

Part number: A-5492-2000 **Price:** $931

Sealtite conduit for OMM or OMI

¼ in conduit, 5 ft long. Includes one fitting.

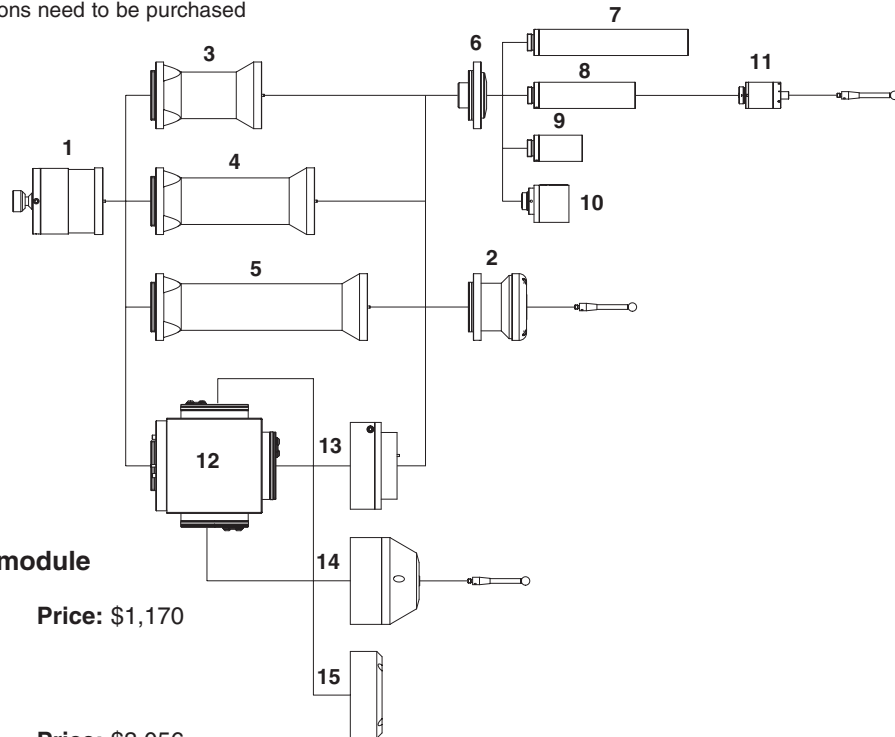**Part number:** SEALTITE, 7455 **Price:** $23

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306 **Price:** $27

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OMP60M

OMP60M is a modular version of the OMP60. The OMP60M, probe module, adaptors and extensions need to be purchased separately.

1 – OMP60M transmission module

Part number: A-4038-1003   **Price:** $1,170

2 – OMP60M probe module

Part number: A-4038-1002   **Price:** $3,056

3 – OMP60M 100 mm extension

Part number: A-4038-1010   **Price:** $618

4 – OMP60M 150 mm extension

Part number: A-4038-1027   **Price:** $801

5 – OMP60M 200 mm extension

Part number: A-4038-1028   **Price:** $832

6 – OMP60M LP2 adaptor

Part number: A-4038-0212   **Price:** $618

7 – LPE3 150 mm extension

Part number: A-2063-7003   **Price:** $285

8 – LPE2 100 mm extension

Part number: A-2063-7002   **Price:** $285

9 – LPE1 50 mm extension

Part number: A-2063-7001   **Price:** $285

10 – MA4 90° adaptor

Part number: A-2063-7600   **Price:** $464

11 – LP2 probe assembly

Part number: A-2063-6098   **Price:** $2,961

12 – OMP60M 3-way adaptor

Part number: A-4113-0784   **Price:** $1,248

13 – OMP60M probe module adaptor

Part number: A-4113-0771   **Price:** $707

14 – MP3 probe

Part number: A-2053-5358   **Price:** $3,098

15 – Shorting cover

Part number: A-2053-6468   **Price:** $137

OMP60M upgrade kit

Current users of MP7, MP8, MP9 or MP10 optical transmission probes may upgrade to OMP60M. A complete working probe must be exchanged.

Includes: OMP60M module
              OMP60M probe module

Part number: RI-4038-1003   **Price:** $2,422

RMP40

RMP40 is an ultra-compact radio transmission part probe, ideal for use on small to medium machining centers. RMP40 features an integrated probe module delivering exceptional robustness and generous overtravel. RMP40 complies with FCC regulations and operates in the 2.4 GHz range. RMP40 delivers interference-free transmission through the use of FHSS (frequency hopping spread spectrum).

RMP40 supports two methods of probe activation:

Radio-on The probe is turned on via an RF signal produced by the RMI and initiated by an M code. The probe is turned off via an RF signal or the internal timer.

Spin-on The probe is turned on via an internal centrifugal switch. The probe is turned off via the centrifugal switch or the internal timer.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	6 mm (0.24 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

RMP40 retrofit kit

Includes: RMP40 probe and transmission system
              RMI radio machine interface
              Receiver mounting bracket
              50 mm and 100 mm ceramic styli
              Sealtite kit
              Renishaw Inspection Plus software
              Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: RMP40-NS-S   (Available at a fixed price)
                                    Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

RMP40 hardware only kit

Includes: RMP40 probe and transmission system
              RMI radio machine interface
              Receiver mounting bracket
               50 mm and 100 mm ceramic styli
               Sealtite kit

Part number: RMP40-NS-KIT   **Price:** $8,085

RMP40 probe kit

Includes: RMP40 probe
              ½AA battery (2)
              Tool kit

Part number: A-5480-0001   **Price:** $5,120

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

RMP60

RMP60 is a radio transmission part probing system ideal for use on all machine tools. RMP60 features an integrated probe module delivering exceptional robustness and generous overtravel. RMP60 complies with FCC regulations and operates in the 2.4 GHz range. RMP60 delivers interference-free transmission through the use of FHSS (frequency hopping spread spectrum).

RMP60 supports three methods of probe activation:

Radio-on The probe is turned on via an RF signal produced by the RMI and initiated by an M code. The probe is turned off via an RF signal or the internal timer.

Spin-on The probe is turned on via an internal centrifugal switch. The probe is turned off via the centrifugal switch or the internal timer.

Switch-on The probe is turned on and off via a switch incorporated into the shank, activated when the probe is loaded into the spindle.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±18°
	Z:	11 mm (0.43 in)
Stylus trigger force	X and Y:	75 gf – 140 gf
	Z:	530 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

RMP60 retrofit kit

Includes: RMP60 probe and transmission system
RMI radio machine interface
Receiver mounting bracket
50 mm and 100 mm ceramic styli
Sealtite kit
Renishaw Inspection Plus software
Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: RMP60-NS-S   (Available at a fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

RMP60 hardware only kit

Includes: RMP60 probe and transmission system
RMI radio machine interface
Receiver mounting bracket
50 mm and 100 mm ceramic styli
Sealtite kit

Part number: RMP60-NS-KIT   **Price:** $8,085

RMP60 probe kit

Includes: RMP60 probe
AA battery (2)
Tool kit

Part number: A-4113-0001   **Price:** $5,120

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

RMP60 upgrade kit

Current users of MP14, MP16 or MP18 radio probes may upgrade to RMP60. A complete working system (MP3 probe, transmission system, MI14 or MI16 interface and RMM antennas) must be exchanged.
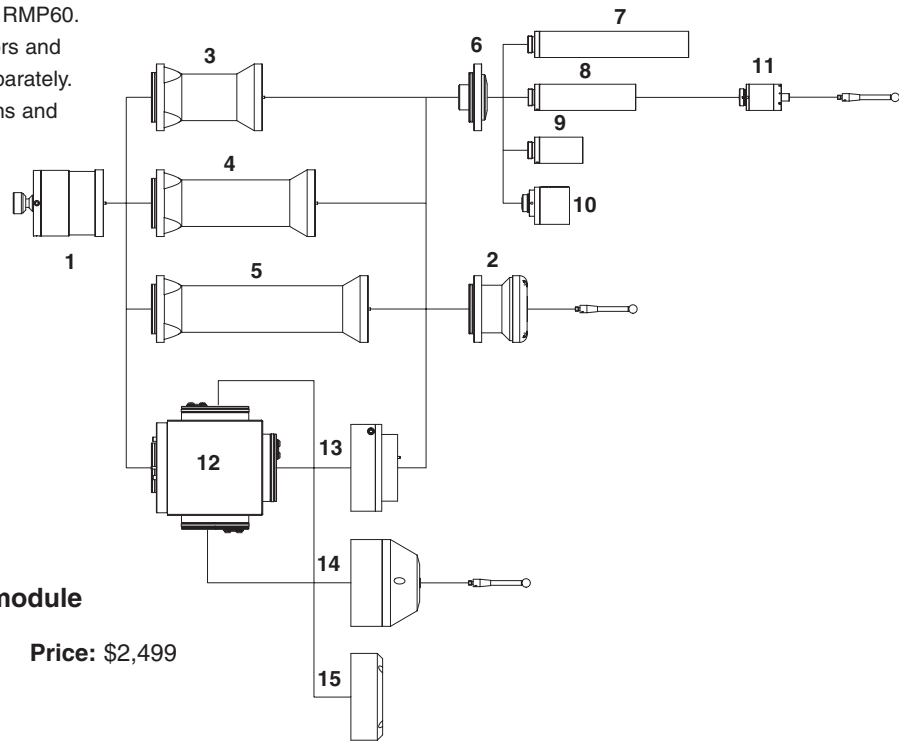
Includes: RMP60 probe
RMI radio machine interface
Receiver mounting bracket
Sealtite kit

Part number: RI-4113-0001   **Price**: $5,200

Machine tool probes

RMP60M

RMP60M is a modular version of the RMP60. The RMP60M, probe module, adaptors and extensions need to be purchased separately. RMP60 complies with FCC regulations and operates in the 2.4 GHz range.

1 – RMP60M transmission module

Part number: A-4113-1003   **Price:** $2,499

2 – RMP60M probe module

Part number: A-4038-1002   **Price:** $3,056

3 – RMP60M 100 mm extension

Part number: A-4038-1010   **Price:** $618

4 – RMP60M 150 mm extension

Part number: A-4038-1027   **Price:** $801

5 – RMP60M 200 mm extension

Part number: A-4038-1028   **Price:** $832

6 – RMP60M LP2 adaptor

Part number: A-4038-0212   **Price:** $618

7 – LPE3 150 mm extension

Part number: A-2063-7003   **Price:** $285

8 – LPE2 100 mm extension

Part number: A-2063-7002   **Price:** $285

9 – LPE1 50 mm extension

Part number: A-2063-7001   **Price:** $285

10 – MA4 90° adaptor

Part number: A-2063-7600   **Price:** $464

11 – LP2 probe assembly

Part number: A-2063-6098   **Price:** $2,961

12 – RMP60M 3-way adaptor

Part number: A-4113-0784   **Price:** $1,248

13 – RMP60M probe module adaptor

Part number: A-4113-0771   **Price:** $707

14 – MP3 probe

Part number: A-2053-5358   **Price:** $3,098

15 – Shorting cover

Part number: A-2053-6468   **Price:** $137

RMP60M upgrade kit

Current users of MP14, MP16 or MP18 radio probes may upgrade to RMP60M. A complete working system (probe, MI14 or MI16 interface and RMM antennas) must be exchanged.

Includes: RMP60M module
              RMP60M probe module
              RMI radio machine interface
              Receiver mounting bracket
              Sealtite kit

Part number: RI-4113-1003   **Price:** $5,720

RMP600

RMP600 is a radio transmission probe using strain gage technology. Measuring only 63 mm in diameter and 76 mm in length, with an omni-directional transmission distance of 15 m, it is ideal for use on all machine tools. RMP600 features an integrated probe module delivering exceptional robustness and generous overtravel. It delivers interference-free transmission through the use of FHSS (frequency hopping spread spectrum). RMP600 complies with FCC regulations and operates in the 2.4 GHz range.

RMP600 supports three methods of probe activation:

Radio-on   The probe is turned on via an RF signal produced by the RMI and initiated by an M code. The probe is turned off via an RF signal or the internal timer.

Spin-on   The probe is turned on via an internal centrifugal switch. The probe is turned off via the centrifugal switch or the internal timer.

Switch-on   The probe is turned on and off via a switch incorporated into the shank, activated when the probe is loaded into the spindle.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±15°
	Z:	11 mm (0.43 in)
Stylus trigger force	X and Y:	20 gf
	Z:	193 gf
Unidirectional repeatability	0.25 µm (0.00001 in)	

RMP600 retrofit kit

Includes: RMP600 probe
RMI radio machine interface
Receiver mounting bracket
50 mm and 100 mm carbon fiber styli
Sealtite kit
Renishaw Inspection Plus software
Installation and application support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: RMP600-NS-S (Available at a fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

RMP600 hardware only kit

Includes: RMP600 probe
RMI radio machine interface
Receiver mounting bracket
50 mm and 100 mm carbon fiber styli
Sealtite kit

Part number: RMP600-NS-KIT   **Price:** $10,032

RMP600 probe kit

Includes: RMP600 probe
AA battery (2)
Tool kit

Part number: A-5312-0001   **Price:** $7,000

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

RMP600 upgrade kit

Current users of MP14, MP16 or MP18 radio probes may upgrade to RMP600. A complete working system (MP3 probe, transmission system, MI14 or MI16 interface and RMM antennas) must be exchanged.

Includes: RMP600 probe
RMI radio machine interface
Receiver mounting bracket
Sealtite kit

Part number: RI-5312-0001   **Price**: $6,440

Shanks and Toolholders

Shanks for OMP60, MP11, MP700, RMP60 and RMP600 (spin-on, optical-on, radio-on) systems

Part number	Description	Price
M-2045-0068	CAT30	$368
M-2045-0069	CAT40	$368
M-2045-0138	CAT45	$818
M-2045-0071	CAT50	$368
M-2045-0292	CAT60	$1,700
M-2045-0077	BT30	$368
M-2045-0027	BT40	$368
M-2045-0038	BT45	$818
M-2045-0073	BT50	$368
M-2045-0186	HSK A40	$693
M-2045-0187	HSK A50	$826
M-2045-0188	HSK A63	$887
M-2045-0189	HSK A80	$1,074
M-2045-0190	HSK A100	$1,077
A-2045-0243	½ in straight shank	$218
A-2030-0252	1 in straight shank	$218
A-2030-0211	25 mm straight shank	$218
M-2045-0313	CAPTO C4	$750
M-2045-0346	CAPTO C5	$995
M-2045-0310	CAPTO C6	$676
M-2045-0311	CAPTO C8	$1,672
M-2045-0335	KM63	$1,388
M-2045-1831591	KM63Y (Mazak)	$1,388

Calibration masters

Calibration tools

Part number	Description	Price
M-2253-0954	CAT40	$431
M-2253-0955	CAT50	$539
M-2253-1562	BT30	$697
M-2253-1263	BT40	$431
M-2253-1262	BT50	$539

Shanks for OMP40, OMP400 and RMP40

Part number	Description	Price
M-4071-0050	CAT30	$413
M-4071-0058	CAT40	$368
M-4071-0072	CAT50	$368
M-4071-0049	BT30	$425
M-4071-0057	BT40	$368
M-4071-0071	BT50	$368
M-4071-0048	ISO30 DIN69871	$413
M-4071-0069	ISO40 DIN69871	$395
M-4071-0044	HSK E25	$482
M-4071-0055	HSK E32	$482
M-4071-0054	HSK E40	$482
M-4071-0045	HSK A32	$482
M-4071-0046	HSK A40	$482
M-4071-0047	HSK A50	$649
M-4071-0129	HSK A63	$568
M-4071-0141	CAPTO C4	$791
M-4071-0066	CAPTO C5	$822
M-4071-0067	CAPTO C6	$822
M-4071-0065	KM63	$822

OMP40, OMP400 and RMP40 shank kits

CAT40 shank kit

Includes: CAT40 shank
 OMP60/RMP60 shank adaptor

Part number: M-4071-0058-RI   **Price:** $539

BT40 shank kit

Includes: BT40 shank
 OMP60/RMP60 shank adaptor

Part number: M-4071-0057-RI   **Price:** $539

Shanks for OLP40 and RLP40

Part number	Description	Price
A-5625-1003	25 mm straight shank	$218
A-5625-1004	½ in straight shank	$218
A-5625-1007	1 in straight shank	$218

Tool setting probes for machining centers

NC3 tool setter

NC3 is a non-contact tool setter, available in a fixed configuration and offered in a single size. NC3 is compact and designed to accommodate tools up to 80 mm diameter making it ideal for small to medium machining centers and special applications.

Repeatability			±0.15 µm (0.000006 in)
Tool diameter	Measurement	Min:	0.20 mm (0.008 in)
		Max:	80 mm (3.15 in)
		Off-center	100 mm (3.94 in)
	Breakage	Min:	0.10 mm (0.0039 in)

NC3 fixed system kit

Includes: NC3 fixed unit with 10 m integral cable
NCi-5 interface
Air regulator kit
Ø17 mm OD × 4 m conduit
Mounting plate

Part number: A-4179-1100 **Price:** $4,531

NC3 fixed unit only

Includes: NC3 fixed unit with 10 m integral cable

Part number: A-4179-1500 **Price:** $3,631

NC3 fixed system retrofit kit

NC3 retrofit kit includes all items above plus the following:

Tool setting software
Installation and application support

Part number: NC3-F135-S **Price:** Call for details

NCi-5 interface

Part number: A-5259-2000 **Price:** $226

NC3 air regulator kit

Part number: A-4179-1600 **Price:** $443

NC3 air filter service kit

Part number: P-FI01-S002 **Price:** $147

Steel sheath conduit

Ø17 mm OD × 1 m length, for cable protection.

Part number: P-HO01-0008 **Price:** $23

45° mounting bracket

Part number: A-4179-1501 **Price:** $97

NC3 air nozzle kit

Part number: A-4179-0450 **Price:** $81

Machine tool probes

NC4 tool setter

NC4 is a non-contact tool setter and our most compact design. NC4 is available in fixed or separate configurations. NC4F (fixed) is available in four different sizes. NC4S (separate) systems are user-configurable operating between 500 mm and 5 m.

Repeatability		±1.0 µm (0.00004 in)
Minimum tool diameter	Measurement	0.03 mm (0.0012 in)
	Breakage	0.03 mm (0.0012 in)

NC4 fixed system retrofit kits

Include: NC4 fixed unit with 12.5 m cable
NCi-5 interface
Air regulator kit
Ø22 mm OD steel braided conduit
Mounting plate
Tool setting software
Installation and application support

Part numbers: NC4-F300-Modular-S *
NC4-F300-S *
NC4-F230-S *
NC4-F145-S *
NC4-F115-S *
NC4-F95-S *

NC4 separate system retrofit kits

Include: NC4 separate unit with 12.5 m cable
NCi-5 interface
Air regulator kit
Ø17 mm OD steel braided conduit
Tool setting software
Installation and application support

Part numbers: NC4-S800-S *
NC4-S1500-S *
NC4-S2000-S *
NC4-S3000-S *
NC4-S5000-S *

Note: When ordering a separate system retrofit kit, the customer must select an NC4 based on its operating range. In addition, the customer must select tool setting software based on the control type. Brackets and an adjusting method (see following page) are also needed for NC4 separate systems. These are not included with NC4 separate systems and must be ordered additionally. Mounting brackets for various machines are continually developed. Contact Renishaw for the latest list of compatibility. Bracket installation is **not** included with the standard separate system retrofit price, this service can be quoted upon request.

* Available at a fixed price. Call for details.

NC4 fixed kits

NC4 F300/225 with NCi-5 kit

Separation 225 mm

Part number: NC4-F300-Modular-kit   **Price:** $4,781

NC4 F300/240 with NCi-5 kit

Separation 240 mm

Part number: NC4-F300-kit   **Price:** $4,781

NC4 F230/170 with NCi-5 kit

Separation 170 mm

Part number: NC4-F230-kit   **Price:** $4,781

NC4 F145/85 with NCi-5 kit

Separation 85 mm

Part number: NC4-F145-kit   **Price:** $4,781

NC4 F115/55 with NCi-5 kit

Separation 55 mm

Part number: NC4-F115-kit   **Price:** $4,781

NC4 F95/23 with NCi-5 kit

Separation 23 mm

Part number: NC4-F95-kit   **Price:** $4,781

NC4 separate kits

NC4 S800 with NCi-5 kit

Separation 500 mm – 800 mm

Part number: A-4114-5060   **Price:** $4,747

NC4 S1500 with NCi-5 kit

Separation 800 mm – 1500 mm

Part number: A-4114-5065   **Price:** $4,747

NC4 S2000 with NCi-5 kit

Separation 1500 mm – 2000 mm

Part number: A-4114-5070   **Price:** $4,747

NC4 S3000 with NCi-5 kit

Separation 2000 mm – 3000 mm

Part number: A-4114-5075   **Price:** $4,747

NC4 S5000 with NCi-5 kit

Separation 3000 mm – 5000 mm

Part number: A-4114-5080   **Price:** $4,747

NC4 tool kit

Part number: A-4114-4110   **Price:** $43

NC4 air regulator kit

Part number: A-2253-5120   **Price:** $443

NC4 air filter service kit

Part number: P-FI01-S002   **Price:** $147

NCi-5 interface

Part number: A-5259-2000   **Price:** $226

NC4 access panel 0.2

Part number: A-4114-0082   **Price:** $22

NC4 access panel 0.4

Part number: A-4114-0084   **Price:** $22

NC4 access panel 0.6

Part number: A-4114-0086   **Price:** $22

Steel sheath conduit 22 mm OD × 1 m

For NC4 fixed cable protection.

Part number: P-HO01-0011   Price: $23

Steel sheath conduit 17 mm OD × 1 m

For NC4 separate cable protection.

Part number: P-HO01-0008   **Price:** $23

NC4F 90-degree cable exit kit

Part number: P-CA61-0068   **Price:** $22
Part number: P-CA61-0069   **Price:** $22

NC4F air blast nozzle and bracket

Part number: A-5450-0480   **Price:** $305

Solenoid kit

Part number: A-5450-0490   **Price:** $850

Machine tool probes

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NC4 set-up tool
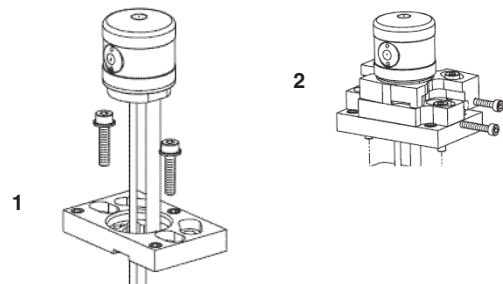
Part number: A-4114-8000   **Price:** $342

NC4S mounting hardware options

1. NC4 spacer plate – separate

Part number: A-4114-4400   **Price:** $102

2. NC4 adjuster pack – separate

Part number: A-4114-3100   **Price:** $228

Machine tool probes

OTS

The OTS is a new optical transmission tool setter for vertical and horizontal machining centers. Modeled on the TS27R, OTS can set tool length and diameter of rotating tools and perform broken tool detection. OTS is available in two configurations – OTS ½AA and OTS AA. OTS can be used with the OMI-2, OMI-2T or OMM-2/OSI interface. OMI-2T or OMM-2/OSI must be used if OTS is to be paired with another optical transmission probe.

OTS ½AA

OTS AA

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±10°
	Z:	5.5 mm (0.21 in)
Stylus trigger force	130 gf – 240 gf	
Unidirectional repeatability	1.0 µm (0.00004 in)	

OTS retrofit kit

Includes: OTS ½AA or OTS AA probe
OMI-2T
Receiver mounting bracket
Sealtite kit
Renishaw tool setting software
Installation and application support

Part number: OTS-S (½AA configuration)
Part number: OTSAA-S (AA configuration)

Available at fixed price – call for details.

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

OTS hardware only kit

Includes: OTS ½AA probe or OTS AA probe
OMI-2T
Receiver mounting bracket
Sealtite kit

Part number: OTS-KIT   **Price:** $4,388
Part number: OTSAA-KIT   **Price:** $4,388

OTS ½AA probe kit

Includes: OTS probe
½ AA battery (2)
Tool kit

Part number: A-5401-2001   **Price:** $2,271

OTS AA probe kit

Includes: OTS probe
AA battery (2)
Tool kit

Part number: A-5514-2001   **Price:** $2,271

OMM-2 optical receiver

Part number: A-5492-0051   **Price:** $986

OMI-2 optical receiver/interface

With 8 m cable.

Part number: A-5191-0049   **Price:** $1,582

OMI-2 optical receiver/interface

With 15 m cable.

Part number: A-5191-0050   **Price:** $1,664

OMI-2T optical receiver/interface

With 8 m cable.

Part number: A-5439-0049   **Price:** $1,582

OMI-2T optical receiver/interface

With 15 m cable.

Part number: A-5439-0050   **Price:** $1,664

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

OSI interface

Part number: A-5492-2000   **Price:** $931

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

RTS

The RTS is a radio transmission tool setter for vertical and horizontal machining centers. Modeled after the OTS, RTS can set tool length and diameter of rotating tools and perform broken tool detection. RTS uses AA batteries (identical to RMP60). RTS can be used with either the RMI or the RMI-Q. The RMI-Q must be used if RTS is to be paired with another radio transmission probe.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±10°
	Z:	5.5 mm (0.21 in)
Stylus trigger force	130 gf – 240 gf	
Unidirectional repeatability	1.0 µm (0.00004 in)	

RTS retrofit kit

Includes: RTS AA probe
RMI-Q
Receiver mounting bracket
Sealtite kit
Renishaw tool setting software
Installation and application support

Part number: RTSAA-S

Available at fixed price – call for details.

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

RTS hardware only kit

Includes: RTS AA probe
RMI-Q
Receiver mounting bracket
Sealtite kit

Part number: RTSAA-KIT   **Price:** $5,711

RTS AA probe kit

Includes: RTS probe
AA battery (2)
Tool kit

Part number: A-5646-0001   **Price:** $2,952

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

RMI-Q radio machine interface

Part number: A-5687-0050   **Price:** $2,559

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

Machine tool probes

TS27R

The TS27R is a tool setter for vertical machining centers that enables the user to set both tool length and diameter of rotating tools, and to carry out broken tool detection.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±10°
	Z:	5.5 mm (0.21 in)
Stylus trigger force	130 gf – 240 gf	
Unidirectional repeatability	1.0 µm (0.00004 in)	

TS27R retrofit kit

Includes: TS27R probe
HSI interface
Sealtite kit
Renishaw toolsetting software
Installation and application support

Part number: TS27R-S (Available at fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

TS27R hardware only kit

Includes: TS27R probe
HSI interface
Sealtite kit

Part number: TS27R-KIT   **Price:** $1,403

TS27R probe, stylus, and holder kit

Part number: A-2008-0368   **Price:** $1,136

HSI interface

Part number: A-5500-1000   **Price:** $198

OTS, RTS or TS27R replacement parts and accessories

Tungsten carbide stylus (0.5 in disk)

Part number: A-2008-0382   **Price:** $111

Ceramic stylus (19 mm square)

Part number: A-2008-0384   **Price:** $260

Retrofit stylus kit

Includes: Break protection
Tether
Screws

Part number: A-5003-5171   **Price:** $35

Break protect link

Part number: A-5003-0661   **Price:** $25

Stylus holder with 4 set screws

Part number: A-2008-0389   **Price:** $25

Stylus holder set screws

Part number: P-SC13-0403   **Price:** $1

Crank for horizontal machining centers

Part number: A-2008-0448   **Price:** $120

100 mm riser

Part number: M-2008-0866-RI-KIT   **Price:** $129

TS27 stylus (0.5 in disk)

For TS27 probes shipped prior to July 1995.

Part number: M-5003-1033 (steel)   **Price:** $111
Part number: M-2008-0197 (ceramic)   **Price:** $111

TRS2

TRS2 is a cost-effective laser-based solution for high-speed broken tool detection. Working with the reflective properties of a rotating tool, TRS2 can detect broken tools at a distance of between 300 mm and 2 m, but optimized for use between 300 mm and 1 m. Toolwise™ Electronics makes TRS2 especially effective with tiny, easily broken tools down to 0.019 in (0.5 mm) diameter. TRS2 is suitable for solid profile tools including drills, taps, reamers and end mills.

TRS2 hardware kit

Includes: TRS2 laser system with integral interface
           Tool kit
           Air regulator kit
           Sealtite kit
           Mounting bracket
           Renishaw TRS2 BTD software

Part number: TRS2-KIT   **Price:** $2,600

TRS2 probe only

Includes: TRS2 laser system with integral interface

Part number: A-5450-0400   **Price:** $2,008

TRS2 retrofit kit

Includes: TRS2 laser system with integral interface
           Tool kit
           Air regulator kit
           Sealtite kit
           Mounting bracket
           Renishaw TRS2 BTD software
           Installation and application support

Part number: TRS2-S   (Available at fixed price)
                                 Call for details

Special pricing available for multiple systems.

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

TRS2 air regulator kit

Part number: A-2253-5120   **Price:** $443

TRS2 air filter service kit

Part number: P-FI01-S002   **Price:** $147

Sealtite conduit for TRS2

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

TRS2 replacement air cap

Part number: A-4178-0440   **Price:** $26

Machine tool probes

TS34

TS34 is a hard-wired tool setter for vertical and horizontal machining centers that enables users to set both length and diameter of rotating tools and perform broken tool detection.

Sense directions		±X, ±Y, +Z
Stylus overtravel	X and Y:	±9°
	Z:	4 mm (0.157 in)
Stylus trigger force	X and Y:	65 gf – 142 gf
	Z:	550 gf
Unidirectional repeatability		1.0 µm (0.00004 in)

TS34 probe, stylus and holder kit

Rear exit

Part number: A-2197-2100   **Price:** $3,364

Side exit

Part number: A-2197-3000   **Price:** $3,364

HSI interface

Part number: A-5500-1000   **Price:** $198

Inspection probes for turning centers

OLP40

OLP40 is a compact optical transmission part probe, ideal for use on turning centers. OLP40's compact design features an integrated probe module delivering exceptional robustness and generous overtravel. Utilizing a revised state-of-the-art modulated optical transmission method, the system offers the highest level of resistance to light interference. The OLP40 probe is also backwards compatible with existing OMM/MI12 and OMI receivers. OLP40 supports two methods of probe activation – M code and spin-on.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	6 mm (0.24 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

OLP40 retrofit kit

Includes: OLP40 probe and transmission system
OMI-2 optical machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit
Renishaw lathe inspection software
Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: OLP40-NS-S (Available at fixed price)
Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to us before a retrofit order can be processed.

OLP40 hardware only kit

Includes: OLP40 probe and transmission system
OMI-2 optical machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit

Part number: OLP40-NS-KIT **Price:** $6,060

OLP40 probe kit

Includes: OLP40 probe
½ AA battery (2)
Tool kit

Legacy

Part number: A-5625-0001 **Price:** $3,803

Modulated

Part number: A-5625-2001 **Price:** $3,803

OLP40 continued

OMM optical receiver

Part number: A-2033-0576   **Price:** $986

OMM-2 optical receiver

Part number: A-5492-0051   **Price:** $986

OMI-2 optical receiver/interface

With 8 m cable.

Part number: A-5191-0049   **Price:** $1,582

OMI-2 optical receiver/interface

With 15 m cable.

Part number: A-5191-0050   **Price:** $1,664

OMI-2T optical receiver/interface

With 8 m cable.

Part number: A-5439-0049   **Price:** $1,582

OMI-2T optical receiver/interface

With 15 m cable.

Part number: A-5439-0050   **Price:** $1,664

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

MI12 interface

Part number: A-2075-0142   **Price:** $931

OSI interface

Part number: A-5492-2000   **Price:** $931

Sealtite conduit for OMM or OMI

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 meter long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

OMP40M

OMP40M is a modular version of the OLP40. The LP2 probe module, adaptors and extensions need to be purchased separately.
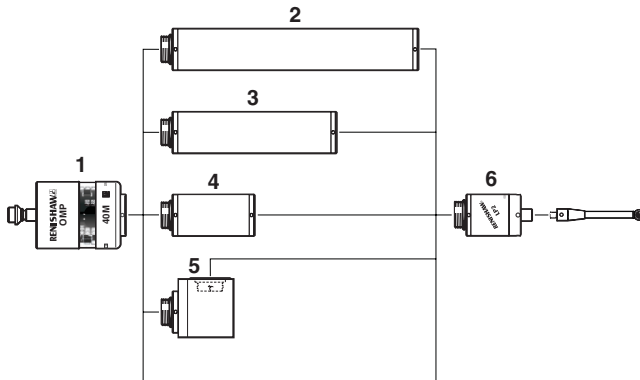
1 – OMP40M transmission module

Legacy

Part number: A-5626-0001   **Price:** $1,320

Modulated

Part number: A-5626-2001   **Price:** $1,320

2 – LPE3 extension 150 mm

Part number: A-2063-7003   **Price:** $285

3 – LPE2 extension 100 mm

Part number: A-2063-7002   **Price:** $285

4 – LPE1 extension 50 mm

Part number: A-2063-7001   **Price:** $285

5 – MA4 90° adaptor

Part number: A-2063-7600   **Price:** $464

6 – LP2 probe assembly

Part number: A-2063-6098   **Price:** $2,961

OMP40M retrofit kit

Includes: OMP40M transmission system
LP2 probe
OMI-2 optical machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit
Renishaw lathe inspection software
Installation and applications support

Part number: OMP40M-NS-S (Available at fixed price)
Call for details

OMP40M hardware only kit

Includes: OMP40 transmission system
LP2 probe
OMI-2 optical machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit

Part number: OMP40M-NS-KIT   **Price:** $6,538

A shank is not included in the above kits. See section entitled Shanks and Toolholders for price and part number information.

OMM optical receiver

Part number: A-2033-0576   **Price:** $986

OMM-2 optical receiver

Part number: A-5492-0051   **Price:** $986

OMI-2 optical receiver/interface

Part number: A-5191-0049   **Price:** $1,582

OMI-2T optical receiver/interface

Part number: A-5439-0049   **Price:** $1,582

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

MI12 interface

Part number: A-2075-0142   **Price:** $931

OSI interface

Part number: A-5492-2000   **Price:** $931

Sealtite conduit for OMM or OMI

¼ in conduit, 5 ft long. Includes one fitting.

Part number: SEALTITE, 7455   **Price:** $23

Sealtite conduit for OMM-2, OMI-2 or OMI-2T

5/16 in conduit, 1 meter long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

Machine tool probes

RLP40

RLP40 is a compact radio transmission part probe, ideal for use on turning centers. RLP40's compact design features an integrated probe module delivering exceptional robustness and generous overtravel. RLP40 complies with FCC regulations and operates in the 2.4 Ghz range. RLP40 delivers interference-free transmission through the use of FHSS (frequency hopping spread spectrum).

RLP40 supports two methods of probe activation:

Radio-on   The probe is turned on via an RF signal produced by the RMI and initiated by an M code. The probe is turned off via an RF signal or the internal timer.

Spin-on   The probe is turned on via an internal centrifugal switch. The probe is turned off via the centrifugal switch or the internal timer.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	6 mm (0.24 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

RLP40 retrofit kit

Includes: RLP40 probe and transmission system
RMI radio machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit
Renishaw lathe inspection software
Installation and applications support

A shank is not included in this kit. See section entitled Shanks and Toolholders for price and part number information.

Part number: RLP40-NS-S   (Available at fixed price) Call for details

Note: The retrofit questionnaire at the end of this section must be filled out and returned to Renishaw before a retrofit order can be processed.

RLP40 hardware only kit

Includes: RLP40 probe and transmission system
RMI radio machine interface
Receiver mounting bracket
30 mm stainless steel stylus (×2)
Sealtite kit

Part number: RLP40-NS-KIT   **Price:** $7,499

RLP40 probe kit

Includes: RLP40 probe
½ AA battery (2)
Tool kit

Part number: A-5627-0001   **Price:** $4,600

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

Receiver mounting bracket
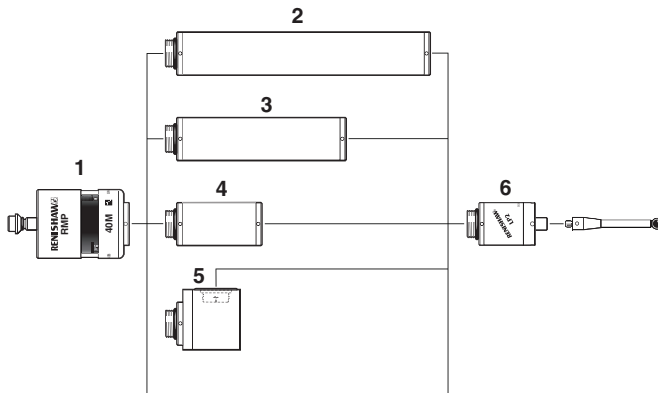
Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

RMP40M

RMP40M is a modular version of the RLP40. The LP2 probe module, adaptors and extensions need to be purchased separately.

1 – RMP40M transmission module

Part number: A-5628-0001   **Price:** $2,000

2 – LPE3 extension 150 mm

Part number: A-2063-7003   **Price:** $285

3 – LPE2 extension 100 mm

Part number: A-2063-7002   **Price:** $285

4 – LPE1 extension 50 mm

Part number: A-2063-7001   **Price:** $285

5 – MA4 90° adaptor

Part number: A-2063-7600   **Price:** $464

6 – LP2 probe assembly

Part number: A-2063-6098   **Price:** $2,961

RMP40M retrofit kit

Includes: RMP40M transmission system
                    LP2 probe
                    Receiver radio machine interface
                    Receiver mounting bracket
                    30 mm stainless steel stylus (×2)
                    Sealtite kit
                    Renishaw lathe inspection software
                    Installation and applications support

Part number: RMP40M-NS-S (Available at fixed price)
                                        Call for details

RMP40M hardware only kit

Includes: RMP40 transmission system
                    LP2 probe
                    RMI radio machine interface
                    Receiver mounting bracket
                    30 mm stainless steel stylus (×2)
                    Sealtite kit

Part number: RMP40M-NS-KIT   **Price:** $7,860

A shank is not included in the above kits. See section entitled Shanks and Toolholders for price and part number information.

RMI radio machine interface

Part number: A-4113-0050   **Price:** $2,559

Receiver mounting bracket

Part number: A-2033-0830   **Price:** $119

Sealtite conduit

5/16 in conduit, 1 m long. Includes one fitting.

Part number: A-4113-0306   **Price:** $27

LP2

The LP2 probe is used on CNC lathes for workpiece inspection and tool setting. It is also used in special applications where its small body makes it suitable for gaging workpiece features with restricted access.

The LP2 is universal and can be fitted to optical, inductive, hard-wired and radio transmission systems. An array of sockets and adaptors is available to support these applications. Please contact Renishaw for further details.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	6.5 mm (0.25 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

Includes: LP2 probe
2 C spanners
TK1 tool kit

Part number: A-2063-6098   **Price:** $2,961

LP2H

The LP2H probe is used on CNC lathes for workpiece inspection and tool setting. It is designed for heavier duty applications where machine vibration or heavy stylus arrangements may cause unexpected triggers.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±12.5°
	Z:	5 mm (0.20 in)
Stylus trigger force	X and Y:	200 gf – 400 gf
	Z:	3000 gf
Unidirectional repeatability	2.0 µm (0.00008 in)	

Includes: LP2H probe
2 C spanners
TK1 tool kit

Part number: A-2064-0002   **Price:** $2,961

LP2DD

The LP2DD probe is based on the LP2 design, but incorporates a revised diaphragm assembly. This probe is recommended for grinding machines and other installations where dust-filled coolant is abundant.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±15°
	Z:	6.5 mm (0.25 in)
Stylus trigger force	X and Y:	50 gf – 90 gf
	Z:	585 gf
Unidirectional repeatability	1.0 µm (0.00004 in)	

Includes: LP2DD probe
2 C spanners
TK1 tool kit

Part number: A-2063-8020   **Price:** $2,961

LP2/LP2DD replacement parts

Conversion kit

This kit allows the conversion of your existing LP2 probe to LP2DD.

Includes: 2 C spanners
Front ring
Outer diapragm
O ring

Part number: A-2063-8023   **Price:** $170

LP2DD diaphragm replacement kit

An outer diaphragm replacement kit for the LP2DD.

Includes: Diaphragm
O ring

Part number: A-2063-8030   **Price:** $40

Chip deflector

This deflector is recommended if the LP2DD is subjected to continual exposure to hot chips.

Part number: M-2063-8003   **Price:** $40

C spanner

A C spanner is required for fitting an LP2 to your machine.

Part number: A-2063-7587   **Price:** $17

LP2 service kit (DK2)

Includes: Front cap
Metal eyelid
Spring
O ring

Part number: A-2063-7542   **Price:** $75

TK1 tool kit

Includes: Stylus tool
1.5 mm A/F hex key
2.0 mm A/F hex key
2.5 mm A/F hex key
3.0 mm A/F hex key
4.0 mm A/F hex key

Part number: A-2053-7531   **Price:** $36

Machine tool probes

LP2 accessories

FS1 adjustable female socket

Provdies ±4° of angular rotation about the centerline of the LP2. Supplied with 500 mm long cable, protective cover and adjusting screws.

Part number: A-2063-6697   **Price:** $136

FS2 fixed female socket

Designed for rigid mounting of an LP2. Supplied with 500 mm long cable and protective cover.

Part number: A-2063-5431   **Price:** $136

FS3 single axis adjustable holder

The socket pivots on two balls, this provides ±4° of pitch adjustment about the centerline of the LP2. Supplied with 500 mm long cable, protective cover and adjusting screws.

Part number: A-2063-5308   **Price:** $238

MA4 90° adaptor

Part number: A-2063-7600   **Price:** $464

COS to LP2 adaptor

This adaptor allows the use of the LP2 on the MP7/MP8/MP9/MP10 OMP.

Part number: A-2063-7774   **Price:** $603

IMP inductive module

Part number: A-2028-7574   **Price:** $623

MI5 interface

Part number: A-2019-0006   **Price:** $583

MI8 interface

Part number: A-2037-0010   **Price:** $198

LPE1 extension

A 50 mm long extension which can be fitted between the LP2 and holder.

Part number: A-2063-7001   **Price:** $285

LPE2 extension

100 mm long.

Part number: A-2063-7002   **Price:** $285

LPE3 extension

150 mm long

Part number: A-2063-7003   **Price:** $285

LP2 straight shanks

LP2 straight shanks are fitted with FS2 socket assemblies to accommodate the LP2 probe. An MI8 interface is also required.

LP2 0.75 in straight shank with FS2 and cable assembly

Part number: A-2063-8326   **Price:** $1,223

LP2 1 in straight shank with FS2 and cable assembly

Part number: A-2063-8328   **Price:** $1,223

LP2 22 mm straight shank with FS2 and cable assembly

Part number: A-2063-8366   **Price:** $1,223

MP250

MP250 is the next generation compact probe. Measuring just 25 mm in diameter and 40 mm in length, MP250 is identical in size to the popular LP2. MP250 uses Rengage™ strain gage sensing technology and delivers superior metrology performance. MP250 is aimed at the tool cutter grinder and special CNC lathe markets. MP250 is supported via hard-wired only and must be used with the HSI interface and FS sockets designed specifically for the MP250. MP250 is not suitable for use with inductive, optical or radio transmission.

Sense directions	±X, ±Y, +Z	
Stylus overtravel	X and Y:	±15°
	Z:	6.5 mm (0.25 in)
Stylus trigger force	X and Y:	11 gf
	Z:	220 gf
Unidirectional repeatability	0.25 µm (0.00001 in)	

MP250 probe kit

Includes: MP250 probe
             Tool kit

Part number: A-5500-1600   **Price:** $4,420

MP250 accessories

FS1 adjustable female socket for MP250

Part number: A-5500-1710   **Price:** $226

FS2 fixed female socket for MP250

Part number: A-5500-1810   Price: $226

HSI interface for MP250

Part number: A-5500-1000   **Price:** $198

Tool setting for turning centers

High precision removable arm (HPRA)

The HPRA is a 'plug-in', cost effective, precision tool setting system for use on CNC lathes. When needed, the arm is manually introduced to the machine envelope and held in place through the use of the machine resident HPRA base. The arm is locked in position through the duration of the tool setting cycle. After use, the arm is removed and stored on the HPRA storage stand.

Unidirectional repeatability

Max 2 sigma value:	5.0 µm (0.0002 in) for arms supporting 6 in to 15 in chucks
	8.0 µm (0.0003 in) for arms supporting 18 in to 24 in chucks
Max arm dimensions:	A=580 mm B=450 mm
Min arm dimensions:	A=250 mm B=211 mm

HPRA is available to fit most common chuck sizes from 6 in to 24 in. Each HPRA standard kit (see below) is supplied complete with:

• RP3 probe (A-2197-0049)
• 90° probe holder
• TSi2 interface (A-2176-0010)
• HPRA storage stand (A-2176-0019)
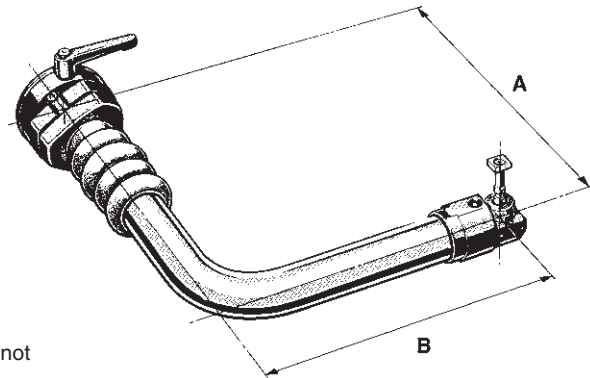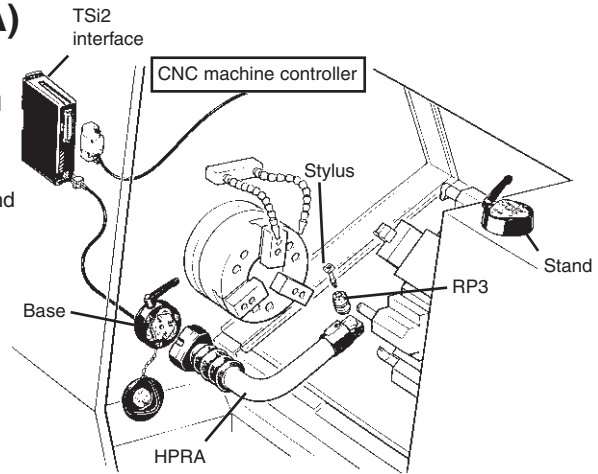
Standard kits

Part number: See below   **Price:** $3,538*

* A stylus assembly and base (R/E or S/E) rear exit or side exit are not included and must be ordered separately.

Part description	Part number	A-dimension	B-dimension
HPRA 6 in chuck with RP3 kit	A-2176-0883	250	211
HPRA 8 in chuck with RP3 kit	A-2176-0884	280	241
HPRA 10 in chuck with RP3 kit	A-2176-0885	325	290
HPRA 12 in chuck with RP3 kit	A-2176-0886	355	290
HPRA 15 in chuck with RP3 kit	A-2176-0887	455	335
HPRA 18 in chuck with RP3 kit	A-2176-0888	510	375
HPRA 24 in chuck with RP3 kit	A-2176-0889	580	450

Custom kits

The HPRA can also be designed for specific applications. The customer must specify arm length, probe holder, stylus configuration etc. The items below depict some of the options. Please contact Renishaw for pricing.

1	A-2176-0268	PCB/LED housing
2	A-2176-0018	90° holder fixed
3	A-2176-0257	I/L holder fixed
4	A-2048-0523	LP2 adaptor
5	A-2176-1291	I/L adj RP3 holder
6	A-2176-1290	30° adj RP3 holder
7	A-2176-0269	45° adj RP3 holder
8	A-2176-1289	60° adj RP3 holder
9	A-2176-1288	90° adj RP3 holder
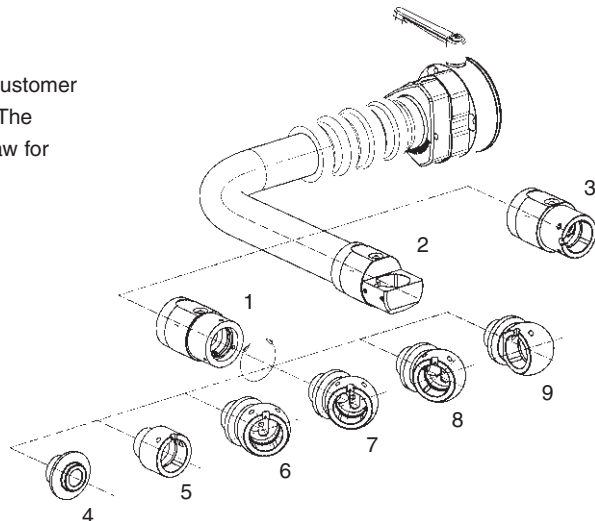
HPRA bases

The HPRA base is designed to provide a repeatable location for fixing the HPRA arm during tool setting cycles. The base is designed to stay resident within the machine and is supplied with a cover to protect the unit from coolant and debris when the arm is not in use. HPRA bases are available in rear and side exit configurations and are supplied with 3 meters of cable.

HPRA rear exit base

Part number: A-2176-0025   **Price:** $748

HPRA side exit base

Part number: A-2176-0187   **Price:** $748

HPRA storage stand

Part number: A-2176-0019   **Price:** $297

HPRA/HPPA/HPMA stylus kits

There are six primary configurations of styli to support HPRA. Each is designed to be compatible with standard sizes of block tooling ranging from 5/8 in to 2 in. Each stylus kit is supplied complete with:

- 15×15×4 stylus assembly
- Break stem
- Stylus extension/adaptor

Part number: A-2197-0157 (16 mm tooling)   **Price:** $116
Part number: A-2197-0158 (20 mm tooling)   **Price:** $116
Part number: A-2197-0159 (25 mm tooling)   **Price:** $116
Part number: A-2197-0160 (32 mm tooling)   **Price:** $116
Part number: A-2197-0161 (40 mm tooling)   **Price:** $116
Part number: A-2197-0162 (50 mm tooling)   **Price:** $116

Stylus assembly

Break stem

HPRA/HPPA/HPMA break stems and tool kits

Part number: M-2197-0156 (16 mm and 20 mm tooling)   **Price:** $25
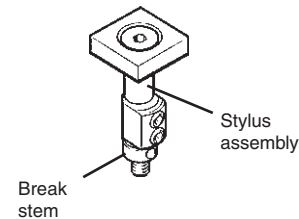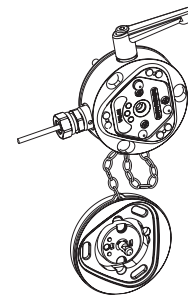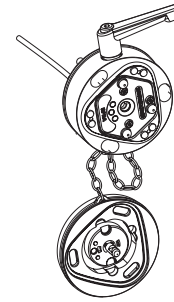**Part number:** M-2197-0150 (25 mm to 50 mm tooling)   **Price:** $25
Part number: A-2176-0639 (16 mm to 20 mm tooling)   **Price:** $26
Part number: A-2176-0636 (25 mm to 50 mm tooling)   **Price:** $26

Machine tool probes

2-35

High precision pull-down arm (HPPA)

High precision motorized arm (HPMA)

The HPPA is a manual 'pull-down' 'push-up' tool setting system for use on CNC lathes. The HPMA is an 'automatic' servo driven system. Both products are designed to permanently reside in the machine envelope.

When needed, the HPPA is manually 'pulled-down' into position. After use, the arm is 'pushed-up' away from the cutting volume. HPMA requires the use of CNC M codes to drive the arm to its active and stowed positions.

All HPPA and HPMA systems are supplied with an enclosure to protect the probe and stylus assembly when not in use. HPPA and HPMA hubs are available in both R/E (rear exit) and S/E (side exit) configurations. S/E hubs are supplied with a fixed 5 m cable. **R/E hubs are supplied with a bulkhead connector and require the purchase of a separate cable.**

Specifications

Unidirectional repeatability

|	
max 2σ value in machine XZ axis:	5.0 µm (0.0002 in) for arms supporting 6 in to 15 in chucks 8.0 µm (0.0003 in) for arms supporting 18 in to 24 in chucks
HPPA max arm dimensions:	A=555 mm B=458 mm
HPPA min arm dimensions:	A=250 mm B=219 mm
HPMA max arm dimensions:	A=555 mm B=458 mm
HPMA min arm dimensions:	A=250 mm B=219 mm

HPPA and HPMA are available to fit most common chuck sizes from 6 in to 24 in. Each 'standard' kit (see below) is supplied complete with:

* Arm
* HPPA or HPMA hub
* RP3 probe (A-2197-0049)
* 90° probe holder
* TSi2 interface for HPPA (A-2176-0010)
* TSi3 interface for HPMA (A-2181-0465)
* Probe enclosure (A-2275-0098)
* Cable (supplied with S/E systems only, **purchase separately for R/E systems**)
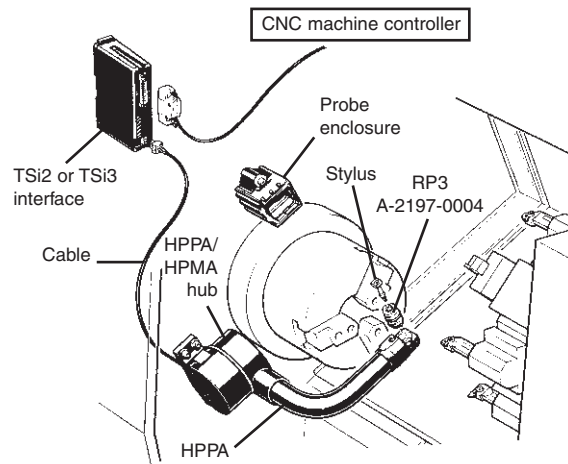
HPPA standard kits

Part number: See below   **Price:** $4,181*

* A stylus assembly is not included and must be ordered separately. In addition HPPA
and HPMA R/E systems require the separate purchase of a cable.

| Part description	Part number	A-dimension	B-dimension
HPPA 6 in R/E with RP3 kit	A-2275-0181	250	219
HPPA 8 in R/E with RP3 kit	A-2275-0182	286	249
HPPA 10 in R/E with RP3 kit	A-2275-0183	335	298
HPPA 12 in R/E with RP3 kit	A-2275-0184	368	298
HPPA 15 in R/E with RP3 kit	A-2275-0185	400	343
HPPA 18 in R/E with RP3 kit	A-2275-0186	469	383
HPPA 24 in R/E with RP3 kit	A-2275-0187	555	458
HPPA 6 in S/E with RP3 kit	A-2275-0188	250	219
HPPA 8 in S/E with RP3 kit	A-2275-0189	286	249
HPPA 10 in S/E with RP3 kit	A-2275-0190	335	298
HPPA 12 in S/E with RP3 kit	A-2275-0191	368	298
HPPA 15 in S/E with RP3 kit	A-2275-0192	400	343
HPPA 18 in S/E with RP3 kit	A-2275-0193	469	383
HPPA 24 in S/E with RP3 kit	A-2275-0194	555	458

A
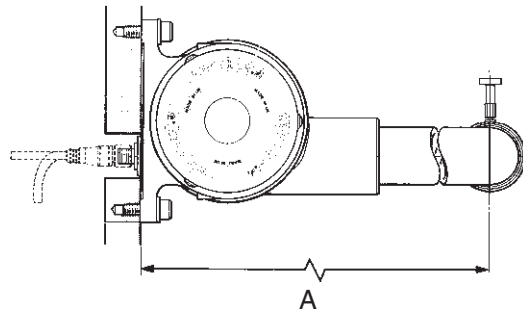
HPMA standard kits

Part number: See below   **Price:** $4,718

Part description	Part number	A-dimension	B-dimension
HPMA 6 in R/E with RP3 kit	A-2181-0645	250	219
HPMA 8 in R/E with RP3 kit	A-2181-0646	286	249
HPMA 10 in R/E with RP3 kit	A-2181-0647	335	298
HPMA 12 in R/E with RP3 kit	A-2181-0648	368	298
HPMA 15 in R/E with RP3 kit	A-2181-0649	400	343
HPMA 18 in R/E with RP3 kit	A-2181-0650	469	383
HPMA 24 in R/E with RP3 kit	A-2181-0651	555	458
HPMA 6 in S/E with RP3 kit	A-2181-0652	250	219
HPMA 8 in S/E with RP3 kit	A-2181-0653	286	249
HPMA 10 in S/E with RP3 kit	A-2181-0654	355	298
HPMA 12 in S/E with RP3 kit	A-2181-0655	368	298
HPMA 15 in S/E with RP3 kit	A-2181-0656	400	343
HPMA 18 in S/E with RP3 kit	A-2181-0657	469	383
HPMA 24 in S/E with RP3 kit	A-2181-0658	555	458

B
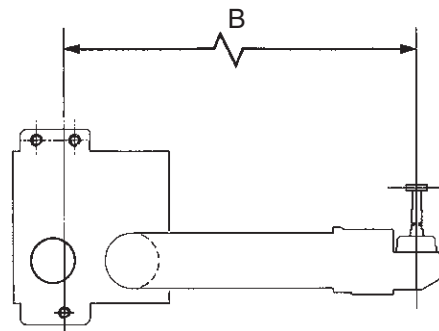
Custom kits

The HPPA and HPMA can also be designed for specific applications. The customer
must specify arm length, probe holder, stylus configuration, hub type etc. The items
below depict some of the options. Please contact Renishaw for pricing**.**

1	A-2176-0268	PCB/LED housing
2	A-2176-0018	90° holder fixed
3	A-2176-0257	I/L holder fixed
4	A-2048-0523	LP2 adaptor
5	A-2176-1291	I/L adj RP3 holder
6	A-2176-1290	30° adj RP3 holder
7	A-2176-0269	45° adj RP3 holder
8	A-2176-1289	60° adj RP3 holder
9	A-2176-1288	90° adj RP3 holder

Machine tool probes

2-37
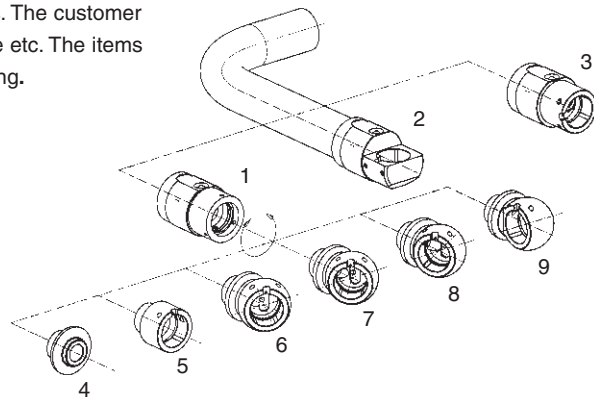
Machine tool probes

HPPA/HPMA cables

The HPPA and HPMA R/E systems require the use of one of the cables below:

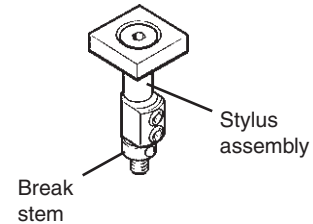**Part number:** P-CA82-1010 (2 meters)   **Price:** $32
Part number: P-CA82-1009 (5 meters)   **Price:** $52
Part number: P-CA82-1011 (10 meters)   **Price:** $73

HPRA/HPPA/HPMA stylus kits

There are six primary configurations of styli to support HPPA and HPMA. Each is designed to be compatible with standard sizes of block tooling ranging from 5/8 in to 2 in. Each stylus kit is supplied complete with:

- 15×15×4 stylus assembly
- Break stem
- Stylus extension/adaptor

Part number: A-2197-0157 (16 mm tooling)   **Price:** $116
Part number: A-2197-0158 (20 mm tooling)   **Price:** $116
Part number: A-2197-0159 (25 mm tooling)   **Price:** $116
Part number: A-2197-0160 (32 mm tooling)   **Price:** $116
Part number: A-2197-0161 (40 mm tooling)   **Price:** $116
Part number: A-2197-0162 (50 mm tooling)   **Price:** $116

Stylus assembly

Break stem

HPRA/HPPA/HPMA M4 break stems and tool kits

Part number: M-2197-0156 (16 mm and 20 mm tooling)   **Price:** $25
Part number: M-2197-0150 (25 mm to 50 mm tooling)   **Price:** $25
Part number: M-2048-2093 (Mori Seiki)   **Price:** $25
Part number: A-2176-0639 (16 mm to 20 mm tooling)   **Price:** $26
Part number: A-2176-0636 (25 mm to 50 mm tooling)   **Price:** $26

Legacy HPA stylus kits

TS20 replacement stylus kit

Includes stylus 10×10×4, break protect link, adaptor and screw.

Part number: A-2008-0601 (25 mm tooling)   **Price:** $116
Part number: A-2008-0602 (32 mm tooling)   **Price:** $116
Part number: A-2008-0603 (40 mm tooling)   **Price:** $116

TS20 break protect link

Part number: M-2008-0333 (25 mm tooling)   **Price:** $25
Part number: M-2008-0604 (32 mm tooling)   **Price:** $25
**Part number:** M-2008-0605 (40 mm tooling)   **Price:** $25

RP1, RP2 and RP3 tool setting probes

The RP1, RP2 and RP3 probes are suitable for OEM installation into purpose-built holders, or for use with Renishaw's automatic or manual tool setting arms.

RP1 – Tool setting/inspection probe and tool kit

For use on OEM installation into purpose-built holders.

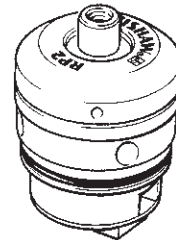**Part number:** A-2154-0007   **Price:** $1,470
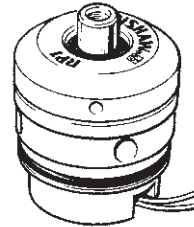
RP1 DD – RP1 double diaphragm version and tool kit

For use on OEM installation into purpose-built holders.

Part number: A-2154-0008   **Price:** $1,470

RP2 – Probe for tool setting arm (TSA) only

Part number: A-2116-0149   **Price:** $1,470
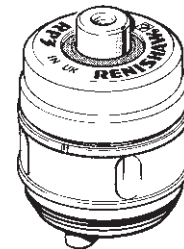
RP2DD – RP2 double diaphragm version for TSA only

Part number: A-2116-0150   **Price:** $1,470

RP3 – Probe for HPRA, HPPA and HPMA arms

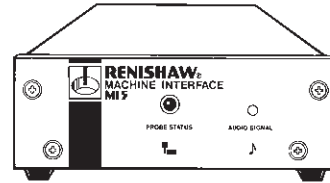**Part number:** A-2197-0049   **Price:** $1,470

Interfaces

MI5 interface

The MI5 interface is required for use with Renishaw's inductive transmission probe systems. The MI5 converts probe signals into an acceptable form for the CNC machine control. This interface has solid state relay outputs.

Part number: A-2019-0006   **Price:** $583

MI5 board only (SSR)

Part number: A-2084-0500   **Price:** $498

MI12 interface

The MI12 interface is required for use with Renishaw optical probes using Legacy transmission. The MI12 converts signals received from the OMM receiver into an acceptable form for the CNC machine control. This interface has solid state relay outputs.

Part number: A-2075-0142   **Price:** $931

MI12 board only (SSR)

Part number: A-2075-0141   **Price:** $798

OSI interface

The OSI interface is required for use with Renishaw optical probes using Modulated transmission. The OSI works exclusively with the OMM-2 receiver.

Part number: A-5492-2000   **Price:** $931

HSI interface

The HSI interface is required for use with Renishaw's MP250 and TS34 probes. The HSI converts signals received from the probe into an acceptable form for the CNC machine control. The HSI has solid state relay output.

Part number: A-5500-1000   **Price:** $198

NCi-5 interface

An NCi-5 interface is required for use with Renishaw non-contact tool setting systems. The interface converts probe signals into an acceptable form for the CNC machine control. This interface has solid state relay outputs.

Part number: A-5259-2000   **Price:** $226

Receivers and interfaces

OMI, OMI-2 and OMI-2T are optical receivers that transmit signals between the probe and CNC control. These interfaces differ from the OMM as they include machine interface circuitry that eliminates the MI12 interface. All three systems offer visual indicators of probe status, start signal status, battery condition and error condition.

OMI

OMI is compatible with all Renishaw optical transmission systems including the new OMP60, OMP40 and OMP400 when configured for Legacy transmission (does not work with the OTS).

Part number: A-2115-0001   **Price:** $1,582
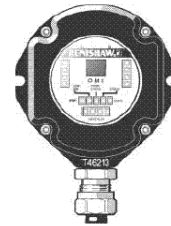
OMI-2

OMI-2 offers increased resistance to light interference and is exclusively compatible with Renishaw optical transmission systems operating in Modulated transmission mode (OMP60, OMP40, OMP400 or OLP40).

Part number: A-5191-0049 (8 m cable)   **Price:** $1,582
Part number: A-5191-0050 (15 m cable)   **Price:** $1,664

OMI-2T

OMI-2T is identical to the OMI-2 and is the exclusive interface supporting the twin probe system. OMI-2T is capable of communicating with multiple optical probes. CNC must have supporting M codes. This interface should be used when combining an OTS with an OMP60, OMP40 or OMP400.

Part number: A-5439-0049 (8 m cable)   **Price:** $1,582
Part number: A-5439-0050 (15 m cable)   **Price:** $1,664

OMM optical machine module

The OMM receiver is required for use with Renishaw optical probes using Legacy transmission. The OMM works exclusively with the MI12 interface.

Part number: A-2033-0576 (25 m cable)   **Price:** $986

OMM-2 optical machine module

The OMM-2 receiver is required for use with Renishaw optical probes using Modulated transmission. The OMM-2 works exclusively with the OSI. OMM-2 is capable of communicating with multiple optical probes.

Part number: A-5492-0051 (25 m cable)   **Price:** $986

Machine tool probes

RMI radio machine interface

The RMI interface is required for use with Renishaw's radio transmission probes. The RMI converts RF signals into an acceptable form for the CNC machine control. The RMI has solid state relay output.

Part number: A-4113-0050 (15 m cable)   **Price:** $2,559

RMI accessories

RMI 30 m replacement cable

Part number: A-4113-0303   **Price:** $378

RMI 50 m replacement cable

Part number: A-4113-0304   **Price:** $515

RMI antenna cover

Part number: A-4113-0305   **Price:** $120

RMI-Q radio machine interface

RMI-Q is identical to RMI and is the exclusive interface supporting multiple (up to four) probe systems. RMI-Q is capable of communicating with multiple radio probes. CNC must have supporting M codes. This interface should be used when combining an RTS with an RMP40, RMP60 or RMP600.

Part number: A-5687-0049 (8 m cable)   **Price:** $2,559
Part number: A-5687-0050 (15 m cable)   **Price:** $2,559

RMI-Q accessories

RMI-Q 30 m replacement cable

Part number: A-5687-0303   **Price:** $378

RMI-Q 50 m replacement cable

Part number: A-5687-0304   **Price:** $515

RMI-Q antenna cover

Part number: A-5687-0305   **Price:** $120

Lathe tool setting arm interfaces

There are two primary configurations of interfaces supporting lathe arms. The TSi2 and TSi3 deliver OCT (active high) output for probe status and arm positions, while the TSi2-C and TSi3-C interfaces deliver SSR solid state relay outputs for probe status and arm positions. The TSi2 and TSi2-C support the HPRA and HPPA lathe arms. The TSi3 and TSi-3C support the HPMA lathe arm.

TSi2

Part number: A-2176-0010   **Price:** $185

TSi2-C

Part number: A-2176-1152   **Price:** $185

TSi3

Part number: A-2181-0465   **Price:** $226

TSi3-C

Part number: A-2181-2239   **Price:** $226

Machine tool software

Macro based programming

Renishaw probing and tool setting software is a set of macros that control probing motion and data manipulation for a number of routines with input of a few parameters. Some capabilities may vary by specific software package and individual controller. All software is supplied on CD-ROM with electronic user's guide.

Inspection Plus software for machining centers

Available measurement cycles include:

- X or Y or Z single surface measure
- Any angle web/pocket
- 3 or 4 point bore/boss
- Internal/external corner
- 4th or 5th axis measure
- Feature to feature measure
- Print data via RS232

Description	Memory	Part number	Price
Brother 32A (June 2002 and above)	35K/87M	A-4012-0908	$1,076
Brother 32B	35K/87M	A-4012-1028	$1,076
Fanuc 0-31	47K/117M	A-4012-0516	$1,076
Haas	47K/117M	A-4012-0880	$1,076
Mazak Fusion	47K/117M	A-4013-0023	$1,076
Mazak Matrix	65K/163M	A-4013-0112	$1,076
Meldas	47K/117M	A-4012-0516	$1,076
Mori Seiki (Fanuc control)	47K/117M	A-4012-0936	$1,076
Okuma OSP	53K/133M	A-4016-1035	$1,076
Siemens 810D/840D (Ver 4 or less)	77K/190M	A-4014-0075	$1,076
Siemens 810D/840D (Ver 5 and above)	77K/190M	A-4014-0356	$1,076
Toshiba Tosnuc 888	47K/117M	A-4012-0610	$1,076
Yasnac I80, MX3, J50, J300	47K/117M	A-4014-0070	$1,076

Inspection Plus software for machining centers using strain gage probes

Available measurement cycles include:

- X or Y or Z single surface measure
- XYZ vector measure
- Any angle web/pocket
- 3 or 4 point bore/boss
- Internation/external corner
- 4th or 5th axis measure
- Feature to feature measure
- Print data via RS232

Description	Memory	Part number	Price
Fanuc 0-31	47K/117M	A-4012-0685	$1,076
Haas	47K/117M	A-4012-0890	$1,076
Mazak Fusion	47K/117M	A-4013-0040	$1,076
Meldas	47K/117M	A-4012-0685	$1,076
Mori Seiki (Fanuc control)	47K/117M	A-4012-0942	$1,076
Okuma OSP	53K/133M	A-4016-1035	$1,076
Siemens 810D/840D (Ver 4 or less)	77K/190M	A-4014-0152	$1,076
Siemens 810D/840D (Ver 5 and above)	77K/190M	A-4014-0362	$1,076
Yasnac I80, MX3, J50, J300	47K/117M	A-4014-0104	$1,076

Tool setting software for machining centers

Renishaw tool setting software allows you to set tool length and diameter offsets for single point and multiple point tools, perform in-cycle broken tool detection and manual or automatic (programmed) positioning.

Contact tool setting

Description	Memory	Part number	Price
Brother 32A (June 2002 and above)	13K/32M	A-4012-1007	$431
Brother 32B	13K/32M	A-4012-1103	$431
Fadal	13K/32M	A-4016-0043	$431
Fanuc 0-31	9K/23M	A-4012-0584	$431
Haas	9K/23M	A-4012-0886	$431
Mazak 640M, M32, M+	9K/23M	A-4013-0036	$431
Meldas	9K/23M	A-4013-0007	$431
Okuma OSP	9K/23M	A-4016-1039	$431
Siemens 810/840D (Ver 4 or less)	9K/23M	A-4014-0090	$431
Siemens 810/840D (Ver 5 and above)	9K/23M	A-4014-0396	$431
Yasnac J50, J300, I80/MX3	9K/23M	A-4014-0018	$431

Non-contact tool setting

Description	Memory	Part number	Price
Brother 32A (June 2002 and above)	27K/67M	A-4012-0904	$646
Brother 32B	27K/67M	A-4012-1035	$646
Fadal	27K/67M	A-4016-0061	$646
Fanuc 0-31	24K/67M	A-4012-0820	$646
Haas	24K/67M	A-4012-0895	$646
Makino	27K/67M	A-4012-0900	$646
Mazak Fusion	24K/67M	A-4013-0062	$646
Mazak Matrix	57K/143M	A-4013-0119	$646
Meldas	24K/67M	A-4013-0050	$646
Okuma OSP	27K/67M	A-4016-1021	$646
Siemens 810/840D (Ver 4 or less)	34K/84M	A-4014-0157	$646
Siemens 810/840D (Ver 5 and above)	27K/67M	A-4014-0401	$646
Yasnac MX3, I80, J50, J300	27K/67M	A-4014-0020	$646

Special non-contact tool setting

Description	Memory	Part number	Price
Fanuc angle beam 0-31	27K/67M	A-4012-0821	$646
Makino angle beam	27K/67M	A-4013-0900	$646
Mazak angle beam Fusion	27K/67M	A-4013-0088	$646
Mazak Matrix angle beam	57K/143M	A-4013-0119	$646
Mazak E-Series Matrix	52K/130M	A-4013-0123	$646
Mazak E-series Fusion	27K/67M	A-4013-0092	$646
Mazak Mark III Fusion	27K/67M	A-4013-0567	$646
Yasnac angle beam	27K/67M	A-4014-0025	$646

Machine tool probes

Inspection software for turning centers

Renishaw's Inspection software for turning centers offers macros for:

- single-point (radial) measurement
- two-point (diameter) measurement
- rib/groove measurement
- single Z-surface measurement

It can update tool offsets and work offsets. It has an upper tolerance band which can be set for no offset correction. On completion of each measurement cycle it is possible to print out the results.

Description	Memory	Part number	Price
Fanuc 0-31	11K/27M	A-4012-0541	$861
Haas	11K/27M	A-4012-0874	$861
Mazak Fusion	11K/28M	A-4013-0071	$861
Siemens 810D/840D	19K/47M	A-4014-0137	$861
Yasnac LX3	10K/26M	A-4014-0011	$861

Inspection software for multi-axis turning centers

- horizontal and vertical head orientations
- X, Y and Z single surface measure
- bore/boss
- web/pocket
- C axis find

Description	Memory	Part number	Price
Mazak Mark III Fusion	45K/113M	A-4013-0030	$1,076
Mazak E-series Fusion	75K/188M	A-4013-0083	$1,076
Mori Seiki MTNT	43K/106M	A-4012-0834	$1,076
Hitachi Hi-Cell	75K/188M	A-4012-0843	$1,076
Nakamura NTX	46K/113M	A-4012-1074	$1,076
Mazak Mark IV and E-series Matrix	110K/275M	A-4013-0106	$1,076
Doosan MT	43K/106M	A-4012-1016	$1,076

Tool setting software for turning centers

The Renishaw tool setting software for turning centers sets tool length and/or diameter for static and powered tools. It has manual or automatic (programmed) positioning capability.

Description	Memory	Part number	Price
Fanuc 0-31	4K/8M	A-4012-0528	$431
Haas	4K/8M	A-4012-0877	$431

AxiSet™ Check-Up

Compatible with common formats of 5-axis machines, AxiSet™ Check-Up provides machine users a fast and accurate method for determining rotary axis pivot points. The system is comprised of macro software, dedicated calibration artifact and PC-based data analysis software. Performance analysis is reported graphically via Microsoft® Excel®, compared against user-defined tolerances and stored for historical comparison.

The solutions defined below are compatible with 5-axis table-table machines. New solutions are being developed. Contact Renishaw for the latest list of compatibility. Each solution includes:

•   CNC specific macro

•   Artifact with magnetic base

•   PC-based data analysis software

AxiSet™ Check-Up Mazak Variaxis

Part number: A-5642-1000   **Price:** $2,500

AxiSet™ Check-Up Fanuc (Table-Table)

Part number: A-5642-1100   **Price:** $2,500

AxiSet™ Check-Up Mori Seiki NMV NMH

Part number: A-5642-1400   **Price:** $2,500

AxiSet™ Check-Up Siemens (Table-Table)

Part number: A-5642-1500   **Price:** $2,500

AxiSet™ Check-Up Mazak Mark IV

Part number: A-5642-1005   **Price:** $2,500

AxiSet™ Check-Up Mazak eV/eH

Part number: A-5642-1009   **Price:** $2,500

AxiSet™ Check-Up Hurco Winmax (Table-Table)

Part number: A-5642-1105   **Price:** $2,500

AxiSet™ Check-Up Haas

Part number: A-5642-1600   **Price:** $2,500

AxiSet™ Check-Up Mori Seiki NT

Part number: A-5642-1405   **Price:** $2,500

AxiSet™ Check-Up Siemens (Head-Head)

Part number: A-5642-1515   **Price:** $2,500

Off-line programming

Productivity+™ is a new software module designed to simplify the process of integrating probing cycles into the CNC machining program. Productivity+™ Active Editor Pro runs standalone, while the Productivity+™ GibbsCAM® plug-in runs in the GibbsCAM® environment and requires GibbsCAM® version 7 or above.

Productivity+™:

• Imports the native CAD model

• Creates and edits probing programs

• Allows simulation of inspection routines in a virtual environment

• Requires no detailed knowledge of macro codes

• Is compatible with many popular controls

Productivity+™ comes with three CAD importers as standard: IGES, STEP and Parasolid®. Other CAD importers are available (select from the list below).

Productivity+™ is supplied with one post processor (select from the list below).

The Productivity+™ GibbsCAM® plug-in requires the GibbsCAM® machine post processor to be upgraded to allow compatibility. The first post processor upgrade is included.

Productivity+™ GibbsCAM® plug-in

Part number: A-4007-1000   **Price:** $4,995

Productivity+™ Active Editor Pro

Part number: A-4007-1400   **Price:** $4,995

Productivity+™ multi-axis option for Active Editor Pro

Part number: A-5226-2000   **Price:** $2,500

Productivity+™ post processors

Control	Part number	Price
Brother	A-4007-5900	$1,500
Fanuc Macro B	A-4007-5100	$1,500
Haas	A-4007-5200	$1,500
Heidenhain	A-4007-6000	$1,500
Hitachi Seicos	A-4007-5300	$1,500
Hurco	A-4007-6800	$1,500
Makino	A-4007-5400	$1,500
Mazatrol ISO	A-4007-5500	$1,500
Mitsubishi Meldas	A-4007-5600	$1,500
Mori Seiki	A-4007-6600	$1,500
Okuma	A-4007-6300	$1,500
Siemens	A-4007-6700	$1,500
Yasnac	A-4007-5700	$1,500

Productivity+™ CAD importers

CAD system	Part number	Price
Pro-E	A-5226-0007	$1,500
CATIA	A-5226-0008	$1,500
UG/NX	A-5226-0009	$1,500
ACIS	A-5226-0010	$1,000
SolidWorks®	A-5226-0011	$1,500
Inventor™	A-5226-0012	$1,500
All of the above	A-5226-0020	$2,000

GibbsCAM® post processor upgrade service

Part number: A-4007-1000-RI   **Price:** $300

Productivy+™ maintenance

The first year's maintenance is included in the purchase price.

One-year maintenance contract for GibbsCAM® plug-in

Part number: YI-4007-1000   **Price:** $840

One-year maintenance contract for Active Editor Pro

Part number: YI-4007-1400   **Price:** $840

One-year maintenance contract for multi-axis option for Active Editor Pro

Part number: YI-A-5226-2000   **Price:** $480

Productivity+™ Active Editor Pro 90-day trial

Part number: A-4007-8999   **Price:** FOC

CNC Reporter

Part number: A-4007-1500   **Price:** $2,500

Renishaw CappsNC

Renishaw CappsNC is a comprehensive part verification software package for machine tools, designed to give confidence to the user that the part produced conforms to the CAD model.

- Generate measurement programs from the CAD model, offline, in a virtual PC environment.

- Using the comprehensive probe builder, various shanks, Renishaw probes and styli can be modeled.

- Generate probe paths for 3-axis machines measuring 2D and 3D prismatic features and 3D free-form surfaces.

- Collision avoidance automatically detects obstructions and generates avoidance paths.

- Supports a variety of CNCs and machine communication protocols (RS232, Ethernet, FOCAS, Mnet, TNCDirect, Siemens OPC, MTConnect).

- Uses industry-standard DMIS code to generate machine motion, construction, dimensioning and tolerance instructions.

- Generate comprehensive measurement reports with full GD&T.

- Using the optional 4th/5th axis module, CappsNC supports a variety of multi-axis machine configurations.

- Using the optional tool and work offset module, tool compensation commands and work offset shifts can be incorporated into the post processed output.

- First year maintenance and support included.

CappsNC Advanced

CappsNC Advanced is a single software license designed for the user who intends to program inspection cycles and capture measurement results on a single PC.

Includes: Complete CappsNC license
                    Machine interface option*
                    CAD importers (IGES and STEP)
                    One-year CappsNC maintenance and support

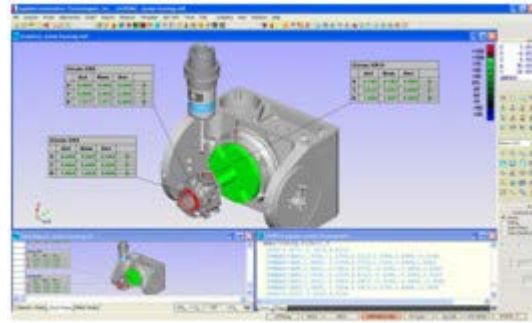**Part number:** A-5722-1000   **Price:** $15,345

CappsNC Advanced Programming Server

CappsNC Advanced Programming Server is a modular configuration designed for users who have the requirement to program remotely while capturing measurement results locally, at the machine tool.

Includes: Complete CappsNC license
                    CappsNC execution module*
                    CAD importers (IGES and STEP)
                    One-year CappsNC maintenance and support

Part number: A-5722-1001   **Price:** $16,445

*   specify control type (Fanuc, Mazak, Haas, Siemens or Heidenhain) and interface type (RS232, FOCAS, TNCDirect, Mnet or MT Connect)

CappsNC options

Additional machine interface option

Part number: A-5722-3000   **Price:** $1,650

Additional execution module

Includes one machine interface option.

Part number: A-5722-1100   **Price:** $6,545

4th-axis option

Part number: A-5722-6000 (ADV)   **Price:** $3,190
Part number: A-5722-6100 (PROGSTA)   **Price:** $2,145
Part number: A-5722-6200 (EXECMOD)   **Price:** $1,045

5th-axis option

Part number: A-5722-6001 (ADV)   **Price:** $3,190
Part number: A-5722-6101 (PROGSTA)   **Price:** $2,145
Part number: A-5722-6201 (EXECMOD)   **Price:** $1,045

Work offset and tool compensation

Part number: A-5722-6002 (ADV)   **Price:** $6,490
Part number: A-5722-6102 (PROGSTA)   **Price:** $2,145
Part number: A-5722-6202 (EXECMOD)   **Price:** $4,345

Work offset only

Part number: A-5722-6005 (ADV)   **Price:** $3,465
Part number: A-5722-6105 (PROGSTA)   **Price:** $1,045
Part number: A-5722-6205 (EXECMOD)   **Price:** $2,145

Tool compensation only

Part number: A-5722-6006 (ADV)   **Price:** $3,245
Part number: A-5722-6106 (PROGSTA)   **Price:** $1,375
Part number: A-5722-6206 (EXECMOD)   **Price:** $2,475

AAT SPC

Part number: A-5722-6003   **Price:** $2,695

AAT Modify Bestfit for NC part program correction

Part number: A-5722-6004   **Price:** $8,500

Machine tool probes

CappsNC CAD importers

Catia4 Direct Import

Part number: A-5722-5000   **Price:** $4,345

Catia5 Direct Import

Part number: A-5722-5001   **Price:** $4,345

Pro-E Direct Import

Part number: A-5722-5002   **Price:** $4,345

Unigraphics Import

Part number: A-5722-5003   **Price:** $4,345

Parasolid Import

Part number: A-5722-5004   **Price:** $1,650

Solid Works Import

Part number: A-5722-5005   **Price:** $1,650

VDA Import

Part number: A-5722-5006   **Price:** $1,045

CappsNC maintenance

The first year's maintenance is included. Subsequent years' maintenance is offered at 15% of the list price for all components.

Part number: A-5722-4000   **Price:** Varies

CappsNC networking options

CappsNC License MGR – Programming Server

Includes three connections.

Part number: A-5722-3100   **Price:** $4,950

CappsNC License MGR – Execution Module

Includes two connections.

Part number: A-5722-3101   **Price:** $2,475

CappsNC License MGR 1 – additional connections

When purchased with initial installation.

Part number: A-5722-3102   **Price:** $550

CappsNC License MGR 2 – additional connections

When purchased after initial installation.

Part number: A-5722-3104   **Price:** $2,000

Renishaw services

Renishaw has set up a series of part numbers which should be referenced when ordering Renishaw services. These part numbers will appear on your invoice.

Part number	Description	Price
RI-6000-0001	Hourly labor	$140/hour
RI-6000-0002	Hourly travel	$140/hour
RI-6000-0003	Expenses	as incurred

Probe retrofit questionnaire

Customer information (location of installation)

⚠ **Important! This document consists of four pages. Please be sure to read all information before returning.**

Address of installation:

Company name _____   Contact name _____

Street _____

City _____   State _____   Zip _____

Telephone _____   Fax _____   E-mail _____

Product being purchased _____

Machine information

Machine make _____   Control make _____

Machine model _____   Control model _____

Machine type (i.e. VMC, HMC, lathe, gantry etc.) _____

Tool holder type/size (i.e. CAT50, BT40, HSK A80, VDI, other) _____

Axis/Axis travels: X _____   Y _____   Z _____   B _____   Other _____

Is the machine still in warranty?   Yes ☐   No ☐   Serial # _____

Is the machine installed?   Yes ☐   No ☐   If no, when will installation be complete? _____

Spindle orientation: Yes ☐   No ☐

Pallet shuttle: Yes ☐   No ☐   If Yes, indexer ☐   or full 4th axis ☐

Is there currently a probe system on the machine (i.e. tool post, part probe, tool eye)?   Yes ☐   No ☐

If yes, please explain _____

Is a safety briefing required to work at location of installation?   Yes ☐   No ☐

Note: If a non-disclosure form is required to enter the facility, please provide at least two weeks prior to the scheduled visit.

Application information _____

_____

_____

Machine tool probes

Note: The machine must be operational at the time of installation. A pull stud is required for spindle-mounted probes, but is not provided by Renishaw. A calibration device is not supplied.

The following options must be installed and activated (turned on) by your OEM, machine distributor or control manufacturer prior to Renishaw's arrival.

Required control features/options

Indicate which options are installed on your control.

Fanuc/Yasnac/Mitsubishi/Mazak						**Haas**				
G31 skip	Yes	☐	No	☐		Promac	Yes	☐	No	☐
G31 high speed skip	Yes	☐	No	☐						
G31 multi-skip	Yes	☐	No	☐						
Custom macro	Yes	☐	No	☐						

Connector type/pin location of skip signal _____

• 24 V dc required to power probe interface

• M codes may be required – see the following information pages for details

Note: Controls not listed may have similar features/options. Contact Renishaw regarding support for other controls.

IMPORTANT

This questionnaire is intended for information purposes for installation only and shall in no event constitute a binding contract with Renishaw.

Please note – The issuer of the purchase order is responsible for all information provided to Renishaw. Please make sure that the information is as accurate and current as possible, as this will expedite the installation. If additional time or hardware is required, due to incorrect information, additional costs may be billed to you.

The installation timeframe is 2 to 3 weeks. Please keep in mind that your installation is not considered for scheduling until this form is completed and returned to us. At that time, the form will be reviewed and you will be contacted as to the acceptability of the retrofit and dates available for installation.

I have read and understood the preceding information.

⚠ **Important – this document consists of four pages. Please be sure to read all information before returning.**

Signed _____   Date _____

Purchase order issued to Renishaw by:

Company name _____   Contact name _____

Street _____

City _____   State _____   Zip _____

Telephone _____   Fax _____

Additional retrofit customer information

Machine tool software requirements

Machining center:	Inspection Plus	46.5 Kb	117 m
	Tool setting	9 Kb	23 m
	NC4 tool setting	15 Kb	38 m
Lathe software:	Inspection	11 Kb	28 m
	Tool setting	6 Kb	15 m

Program number requirements

Renishaw program numbers range from 9002 through 9100, and 9700 through 9900.

Macro variables required	#100–#149 (only used while macro is running)
	#500–#565 (some variables in this range required and must be dedicated)

Training

Training will be provided after installation on the use and application of Renishaw probing cycles. Training will **not** include the incorporation of probe cycles into the customer's current manufacturing programs. Any special applications or additional software training which requires additional time or visits to the original scheduled installation/training will be charged at Renishaw Inc standard service rates.

Note: Please indicate any additional training requirements on your purchase order.

Part probe system details

OMP40/OMP60/RMP60 — Turn on (via optical or RF) / Turn off (via optical or RF) or time out — Installation time: Up to 8 hours — Training time: Up to 6 hours

Turn on methods	Auto start (OMP40/OMP60) sends a start signal every second until a probe command is received. This method can only be used if the probe is stored outside the machine enclosure when not in use.
	Machine start (OMP40/OMP60/RMP60) requires that an M code be available for use to issue the start command.
	Spin start (OMP60/RMP60) uses an internal switch. The probe will turn on after being spun at 650 RPM for 1 second.
Turn off methods	Time out (OMP40/OMP60/RMP60). A timer automatically switches the power off 12, 33 or 134 seconds (selectable) after turn on. Each time the probe is triggered, the timer is reset to the selected value.
	Optical off (OMP40/OMP60) / RF off (RMP60) requires that an M code be available to initiate the turn off sequence.

OMP400 — Optical (flash) on/optical off or time out (optical transmission) — Installation time Up to 8 hours — Training time Up to 6 hours

Turn on method	Machine start (optical on) requires that an M code be available for use to issue the start command. Auto start cannot be used with the strain gage probes.
Turn off methods	Time out. A timer automatically switches the power off 33 or 134 seconds (selectable) after turn on. Each time the probe is triggered, the timer is reset to 33 or 134 seconds.
	Optical off. Requires the use of an M code as stated for machine start above.

RMP40M OLP40M — Turn on (via optical or RF) / Turn off (via optical or RF) or time out — Installation time Up to 8 hours — Training time Up to 6 hours

Turn on method	Machine start requires that an M code be available for use to issue the start command. Auto start cannot be used with these probes (for lathe applications).
Turn off method	Optical off. Requires the use of an M code as stated for machine start above.

Machine tool probes

Tool setting probe details

TS27R	Hard-wired	Installation time	Up to 6 hours
		Training time	Up to 6 hours

OTS   Machine start requires that an M code be available for use to issue the start command. Auto start cannot be used with these probes.

These probes are fixed either to a T slot in the machine bed, or can be mounted on a riser if required to allow tools to reach the stylus. A riser is not provided by Renishaw unless specified on the quotation. The TS27R is wired to the probe interface via a tough cable conduit. The TS27R cannot be mounted on pallets or rotary tables.

NC4 or TRS2	Hard-wired	Fixed installation time	Up to 8 hours
		Training time	Up to 6 hours

Fixed system   The probe is fixed either to a T slot in the machine bed, or can be mounted on a riser if required to allow tools to reach the laser beam. A riser is not provided by Renishaw unless specified on the quotation. The NC4 is wired to the probe interface via a tough cable conduit. **The NC4 cannot be mounted on pallets or rotary tables.**

		Separate installation time	Up to 12 hours *
		Training time	Up to 6 hours

Separate system   The probe transmitter and receiver are mounted to brackets which attach to the machine. Brackets and their installation are not provided by Renishaw unless specifically stated in the quotation. Brackets not provided by Renishaw must be mounted prior to the arrival of a Renishaw engineer. The brackets should allow for complete machine motion (pallet shuttles, rotary tables, axis travels etc), laser beam alignment and expected system performance.

* Depending on bracket mounting requirements, additional time may be required.

Fixed or separate   The NC4 must be mounted in such a way that the tool can access the laser beam and move in all three axes (X, Y, Z) with respect to the beam. For basic functionality (length, diameter, basic broken tool), no M code is required. For additional features (missing/broken insert, profile checking, rapid broken tool check) a level M code pair is required.

HPRA   Hard-wired   The HPRA must be mounted to a bracket which attaches to the machine. The brackets and their installation are not provided by Renishaw unless specifically stated in the quotation. Brackets not provided by Renishaw must be mounted prior to the arrival of a Renishaw engineer. The brackets should allow for complete machine and expected system performance.

Dual probe installations (part and tool probe on same machine)

Requires either two independent probe inputs (multi-channel skip) or an M code driven relay. The M code driven relay must be installed and available prior to the probe installation.

Example   M51 – part probe (selected)   M61 – tool setter (selected)

M51 energize relay (coil latches and stays energized) program continues
M61 de-energize relay (coil resets) program continues

M code for flash (optical) on and off

M71 pulse (momentarily energize relay) program continues

Example: Pulse M code   M71 (flash on and flash off)