

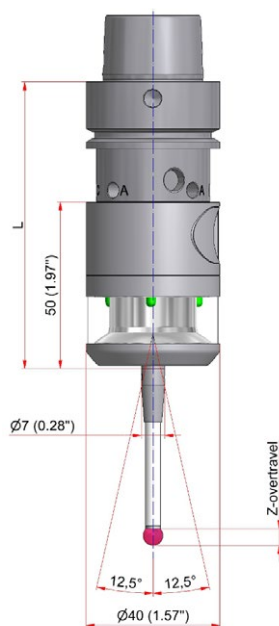
Infrared probing system IRP40.02

The probing system for mass production
Robust - fast - precise - reliable

Mass production places the highest demands on the production process. The IRP40.02 infrared touch probe system meets all these requirements in the machine tool. Extreme accelerations, high positioning speeds, constant vibrations, hard tool changes, increased temperatures and aggressive coolants pose no problems for Hexagon touch probes. Hexagon's precision mechanics can continue to switch without wear and extremely precisely for years under all these conditions.

Thanks to its extremely compact and robust design, the IRP40.02 touch probe only needs a very small space in the machine and can also be used for applications in extremely limited spaces.

- Robust and easy to handle - thanks to the workshop oriented design
- Short measurement times and highest precision - by one-touch strategy and ITE technology
- No downtimes by interfering signals - because of highly-secure HDR+ infrared transmission
- Reduction of production costs - up to 800 hours battery lifetime in continuous operation



Technical data	
Sensing Directions	±X; ±Y; -Z
Maximum Stylus Overtravel	XY = ±12,5°; Z = -5 mm
Trigger Force with 50 mm Stylus	XY = 0,8N; Z = 5,7 N
Recommended Probing Feedrate	Max. 2000mm/min
Power Supply	2x battery (3,6V / ½ AA), Standby 12 month
Maximum Battery lifetime	Approx. 800h (during continuous operation)
Material	Stainless steel
Weight without Shank	Approx. 235 g
Temperature Range	Operation: 5° – 55°C Storage : 5° – 70°C
Unidirectional Repeatability	max. 0,5 µm (2 Sigma) with 50 mm Stylus and 254 mm/min
Sealing	IP68: EN60529 (15 m) tested
Maximum Probing Frequency	50Hz = 50 Points/s
Shock tested	in ±X; ±Y; -Z, 50G für 7ms (5000 times)
Resonant Frequency Test	Passed



No compromises in mass production

Extremely short cycles within a non-stop production require highest process reliability and lowest manual interventions. The m&h IRP40.02 easily meets these requirements.

The robust construction with a stainless steel housing and natural glass ring is easily up to the task of performing in the rough environment of mass production while constantly being doused with coolant or hit by swarf. Thanks to the Z-Crash detection, it is immediately visible that the measuring unit should be checked, even though the probe is still ready for use.

Intelligent trigger evaluation (ITE) technology supports the shortest cycle times without losing process reliability. Fast and precise probing (up to 2,000 mm/min.) as a result of the One Touch strategy permits the highest degree of precision. The unprecedented battery life ensures that manual interventions occur less frequently and the automatic process will not be disrupted. This minimizes expensive machine downtime, which not only reduces process costs, but also operational expenses.

- Z-Crash Detection guarantees process reliability
- Shorter measurement times without loss of process reliability
- Precise measurements with only one probing
- Up to 800 hours battery lifetime in continuous operation

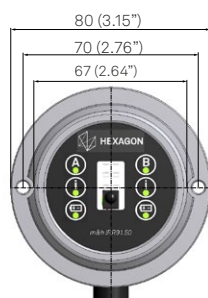
Innovative HDR+ infrared-transmission

The HDR+ infrared-transmission ensures, that only the system's own signals are processed. There's no interference from ambient light. Thanks to mirrored surfaces, best possible transmission characteristics have been achieved.

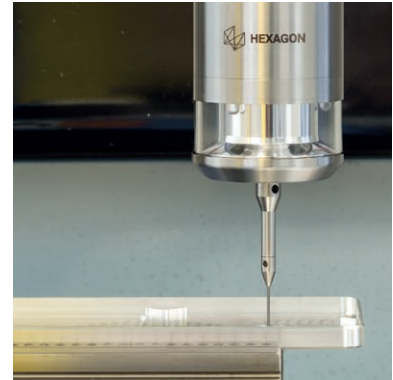
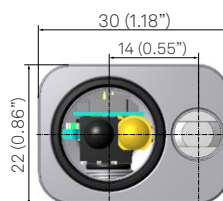
The IRR91.50 infrared receiver has large transmission and receiving angles and can be used with additional m&h tool setters inside the machine

- Extremely process reliable and dependable
- Optimised radiation by innovative mirrored surfaces

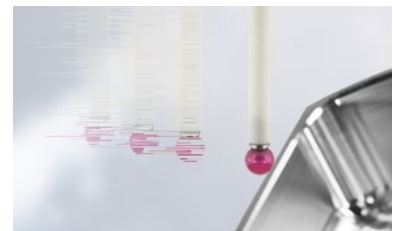
IRR91.50



IRR91.42



With the original accessories, the IRP40.02 can be adjusted to all kinds of applications.



Thanks to extremely fast pre-positioning, measurement times can be dramatically reduced.



All system components transmit with the innovative HDR+ transmission. This ensures highest process reliability.

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications.

Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that utilise data from design and engineering, production and metrology to make manufacturing smarter. For more information, visit hexagonmi.com.

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