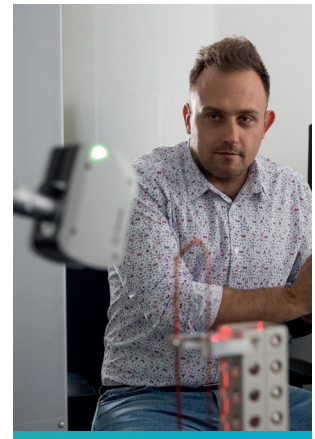


HP-L-10.10 Laser scanner

The ONE laser scanner for CMMs, combining speed, accuracy and flexibility

With HP-L-10.10, users don't have to choose between accuracy and speed. It delivers both with unprecedented ease of use. Cutting-edge laser scanning technology combined with unique software and features make the HP-L-10.10 the ONE laser scanner that can tackle the most complex CMM challenges with unequalled precision and efficiency

Whether users are creating measurement programs, executing laser scans on complex parts or need detailed reports and data for further processing, HP-L-10.10 in combination with PC-DMIS metrology software supports users with unique functions and features in each phase of the quality control and evaluation process.



The ACCURATE laser scanner

With a probing form error of 8 μm , HP-L-10.10 is closing the precision gap between tactile probing methods and non-contact laser scanners. Measurements are compliant with relevant ISO accuracy standards.

The VERSATILE laser scanner

HP-L-10.10 captures reliable measurement data on many surfaces, even reflective and shiny ones. It also offers unique options to meet a range of application and quality process needs.

The FAST laser scanner

HP-L-10.10 boosts the throughput of manufactures. It captures 2000 points at a speed of 300Hz, which equals up to 600 000 individual points per second.

The USER-FRIENDLY laser scanner

With features such as variable scanning speed, extended field-of-view or a build-in overview camera, HP-L-10.10 is a technology-lover's dream. This laser scanner doesn't just get the job done - it makes it fun to do so.

General technical data

Laser class	2 (EN / IEC 60825-1:2014)
Emitted wavelength	450 nm (visible blue)
Maximum average radiant power	≤1 mW
Declared accuracy temperature range	16 to 26 °C (61 to 79°F)
Protection against dust and water	IP51 (IEC/EN 60529) (except for warm-up terminal)
Ambient humidity	95% non-condensing
Operating temperature	16 to 32 °C (32 to 89.6°F)
Storage temperature	-30 to +70 °C (-22 to +158°F)
Weight	427 g

Performance data

Scanning frequency (Lines per second)	300 Hz
Data rate	600 000 pts/sec
Ambient light immunity of the sensor	10 000 lx
Standoff and depth (Z)	90 ± 30 mm (additional 30 mm with eFOV)
Laser line width	80 mm (At mid-field)

Accuracy

Standard	Artefact	Specification (MPE/MPL)	HP-L-10.10
ISO 10360-8:2013	Sphere	P[Form.Sph.D95%:Tr:ODS]	12 µm
		P[Form.Sph.1x25:Tr:ODS]	8 µm
		P[Size.Sph.All:Tr:ODS]	14 µm
		L[Dia.5x25:Art:ODS]	24 µm
ISO 10360-9:2013 (HP-L-10.10 + HP-THDe or HP-S-X1)	Plane	P[Form.Sph.D95%:Tr:ODS]	12 µm
	Sphere	L[Dia.2x25::MPS]	18 µm

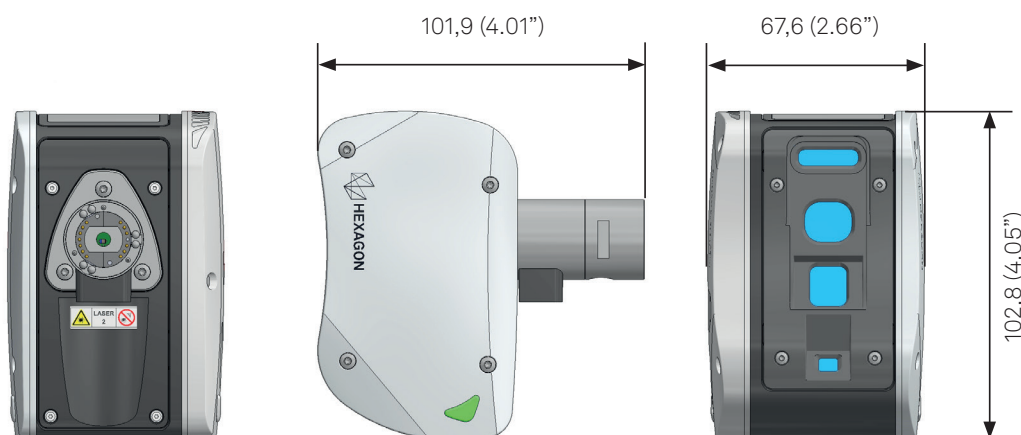
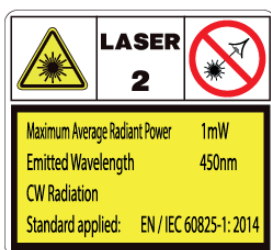
Side notes:

All specifications are applicable for bridge type CMMs with indexable wrist. Specifications include measurement uncertainty according ISO/TS 17865:2016 and are valid for:

- Constant CMM scanning speed of 25 mm/sec
- Tests performed with standard configuration without (e.g. angular) adapters or/and extensions
- Exposure setting of 22% (UD)
- Standard field of view (sFOV)
- Automatic probe exchange when applicable for the test
- Combination of HP-L-10.10 with tactile probing sensor using the same styli specified for the single probing error test according ISO13060-5 when applicable for the test
- Probing error test on spherical artifact performed on white matt sphere: (Properties according PN: HP-L-10.10-I-SPH-KIT)
 - Calibrated for form with 3 great circles and maximum form deviation of 0,5 µm and maximum calibration uncertainty U of 0,04 µm
 - Calibrated for size with 3 great circles and maximum calibration uncertainty U of 0,02 µm
- Probing error test on plane artifact performed on white plane: (Properties according PN: HP-L-10.10-I-PLN-KIT)
 - Calibrated for form with union jack strategy with approximately 3000 individual points with maximum form deviation of 1,5 µm and maximum calibration uncertainty U of 0,28 µm

Measurements performed within extended field of view (eFOV) will result in approximately doubled dispersion error in comparison to the standard field of view (sFOV). Extended field of view (eFOV) enablement does not affect accuracy of measurements generated within standard field of view (sFOV).

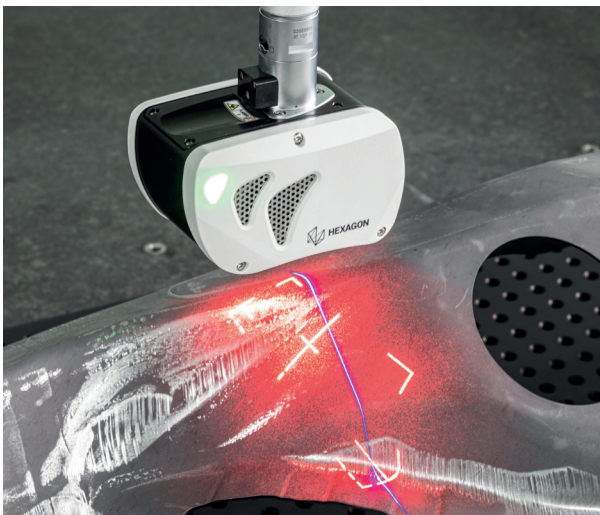
All stated values are subject to change without further notice.





Unique cutting-edge technologies, features and software possibilities

- **Overview Camera**
Integrated camera for remote operation, operator guidance and enhanced reporting.
- **Standoff features**
Flexible standoff for optimised scanning paths and 30 mm additional field-of-view for optimised path programming.
- **Variable Scanning Speed**
Vary the speed of the CMM, generate surface data and extract exact features quickly during the same measurement path.
- **UniScan**
Automated creation of measurement programs; simply select surfaces on the CAD model to populate scanning commands.
- **Visual Guide and Work Distance Indicator**
Immediate visual feedback informs operator about the status of the laser scanner and correct positioning for best measurement performance.
- **Acquisition modes**
HP-L-10.10 offers two options for point cloud acquisition. In SHINE mode, the system automatically adjusts the settings to the measured surface. In UD (user-defined) mode, users can adjust the settings to individual needs and challenges.
- **Cutting-edge mechanical design**
Unique features like the overview camera, the mechanical TKJ interface with warm-up connector, thermal compensation, the radial fan and the laser management make HP-L-10.10 the most advanced laser scanning sensor on the market.





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.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us [@HexagonAB](https://twitter.com/HexagonAB).