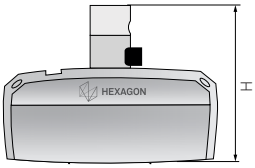
Laser scanners
HP-L-10.6T | HP-L-10.6A | HP-L-20.8T

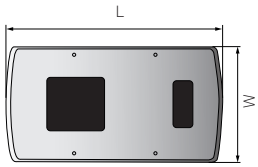


HP-L-10.6T



HP-L-20.8T





HP-L-10.6 and HP-L-20.8T laser scanning sensors deliver maximum performance for complex surfaces and workpieces made of materials that are difficult to measure. These versatile laser scanners record precisely even at the highest speeds and are particularly well-suited to inspecting the characteristics of thin-walled components, sheet metal parts, freeform surfaces, and reverse engineering. The accuracy of the sensors is certified to the standard ISO 10360-8:2013.

Offering excellent measurement flexibility, the laser line width can be varied as needed from 24 mm to 124 mm (HP-L-10.6) and up to 220 mm (HP-L-20.8). The laser power is automatically adjusted in real time.

The HP-L-10.6T can be used on almost all Hexagon CMMs. HP-L-10.6A and HP-L-20.8T can be used on a CMM with adapters.

Warming post for HR-R Probe Changer Rack 03939507
Manual warm-up station (TKJ) G32438600 / **Manual warm-up station** (autojoint) G3243800
Set of 4 TKJ Angular Adapters (to be used only with HP-L-10.6T) 03969394

HP-L-20.8T on a CMM the following additional items should be ordered: **HP-LC-210 Controller** (P/N 03939534), **1x Power unit 24 VDC with cables** (03939505), **1x TKJ key** (03969357), **1x HA-C-T Adapter TKJ for HP-L-20.8T** (03939526) or **1x HA-C-A Adapter AJ for HP-L-20.8T** (03939527), **1x Sphere** (03939542)

		HP-L-10.6T TKJ connection	**HP-L-10.6A** Autojoint connection	**HP-L-20.8T** TKJ connection
Laser scanners	Part no.	03939500	03939501	03939535
	Size L x W x H	134 x 72 x 60 (98) mm	134 x 72 x 60 (87) mm	137 x 76 x 85 mm
	Weight	379 g	360 g	410 g
	Standoff and depth (Z)	170 ±30 mm	170 ±30 mm	180 ±40 mm
	Measuring accuracy ISO 10360-8:2013* (GLOBAL CMMs) PForm.Sph.D95%:Tr:ODS (MPL) Probe dispersion value PForm.Sph.1x25:Tr:ODS (MPE) Probing form error	 34 µm 22 µm	 34 µm 22 µm	 36 µm 25 µm
	Lines per second (max.)	53 Hz	53 Hz	100 Hz
	Laser line width (at mid-field)	24, 60 or 124 mm	24 , 60 or 124 mm	25, 51, 63, 130 or 220 mm
	Data rate (max.)	30 000 pts/sec	30 000 pts/sec	150 000 pts/sec
	Ambient light of the sensor	40 000 lx	40 000 lx	40 000 lx
	Laser protection class	2 ICE 60825 -1 :2007	2 ICE 60825 -1 :2007	2 ICE 60825 -1 :2007
	Laser	Visibly red, (690 nm)	Visibly red, (690 nm)	Visibly red, (690 nm)
	Operating temperature	+5 to +45°C (41 to 113°F)	+5 to +45°C (41 to 113°F)	+5 to +45°C (41 to 113°F)
	Declared accuracy temperature range	+15 to +32°C (59 to 90°F)	+15 to +32°C (59 to 90°F)	+15 to +32°C (59 to 90°F)
	Relative humidity	90% non-condensing	90% non-condensing	90% non-condensing
	Power supply	All: DC 18 to 28 V, 170 to 200 mA, protected against polarity reversal	All: DC 18 to 28 V, 170 to 200 mA, protected against polarity reversal	All: DC 18 to 28 V, 170 to 200 mA, protected against polarity reversal
	Protection against dust and water	All: IP64 (IEC 60529) except for warm-up connection	All: IP64 (IEC 60529) except for warm-up connection	All: IP64 (IEC 60529) except for warm-up connection
	Storage temperature	All: -25 to +70 °C (-13 to 158° F)	All: -25 to +70 °C (-13 to 158° F)	All: -25 to +70 °C (-13 to 158° F)
	Laser safety			

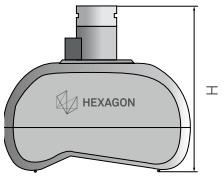
* Values include expanded measurement uncertainty according to ISO/TS 17865:2016.
Measured using a manufacturer supplied sphere- and plane artefact, each certified by an independent accredited lab.

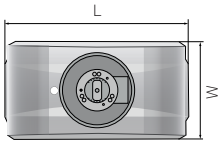
Laser scanners

HP-L-5.8T | HP-L-5.8A



HP-L-5.8T





The HP-L-5.8 laser scanning sensor makes it easy and affordable to begin creating point clouds on a CMM. The fixed-line blue laser can measure a wide range of surfaces, from very dark through to very shiny. The rugged and compact design makes it ideal for laser scanning on smaller CMMs and where accessibility is restricted.

The HP-L-5.8T is equipped with Hexagon's kinematic joint, making it compatible with Hexagon probe heads and accessories, including automatic sensor changing racks and extensions.

Warming post for HR-R Probe Changer Rack 03939507
Manual warm-up station (TKJ) G32438600 / **Manual warm-up station** (autojoint) G3243800
Set of 4 TKJ Angular Adapters (to be used only with HP-L-5.8T) 03969394

		HP-L-5.8T TKJ connection	**HP-L-5.8A** Autojoint connection
Laser scanners	Part no.	HP-L-5.8T-SYSTEM	HP-L-5.8A-SYSTEM
	Size L x W x H	116 x 62 x 86.5 (106.5) mm	116 x 62 x 81 (101) mm
	Weight	380 g	360 g
	Standoff and depth (Z)	140 ± 40 mm	140 ± 40 mm
	Measuring accuracy ISO 10360-8:2013* (Global CMM except Global extra) PForm.Sph.D95%:Tr:ODS (MPL) Probe dispersion value PForm.Sph.1x25:Tr:ODS (MPE) Probing form error	 34 µm 22 µm	 34 µm 22 µm
	Lines per second (max.)	40 Hz	40 Hz
	Laser line width (at mid-field)	47 mm	47 mm
	Data rate (max.)	36,000 pts/sec	36,000 pts/sec
	Ambient light of the sensor	5 000 lx	5 000 lx
	Laser protection class	2 (IEC 60825-1: 2014)	2 (IEC 60825-1: 2014)
	Laser	Visible blue - 450 nm	Visible blue - 450 nm
	Operating temperature	5 to 45° C (41° to 113°F)	5 to 45° C (41° to 113°F)
	Declared accuracy temperature range	15 to 32° C (59° to 90°F)	15 to 32° C (59° to 90°F)
	Relative humidity	90% non-condensing	90% non-condensing
	Power supply	All: DC 18 to 28 V, 170 to 200 mA, protected against the polarity reversal	All: DC 18 to 28 V, 170 to 200 mA, protected against the polarity reversal
	Protection against dust and water	All: IP64 (IEC 60529) (except for warm-up terminal)	All: IP64 (IEC 60529) (except for warm-up terminal)
	Storage temperature	All: -25° to +70° C(-13° to +158° F)	All: -25° to +70° C(-13° to +158° F)
	Laser safety		

* Values include expanded measurement uncertainty according to ISO/TS 17865:2016.
Measured using a manufacturer supplied sphere- and plane artefact, each certified by an independent accredited lab.

Vision sensor
HP-C-VE





The versatile HP-C-VE vision sensor is a general purpose image analysis tool for enhancing the measurement capabilities of a CMM.
The HP-C-VE contains a customisable illumination system, making it a self-contained measuring system, suitable for a wide range of applications. Due to its general-purpose nature, the HP-C-VE sensor uses fixed magnification and is designed for taking data points in a static condition. It provides oblique overhead illumination of the feature being inspected.

The HP-C-VE is compatible with the HR-R probe changer rack. This system allows the CMM to automatically change the sensor being used, enabling the HP-C-VE to be integrated within multiple sensor part programs while removing the need for any operator intervention.

		HP-C-VE
Vision sensor	Part no.	CMMV-Set
	Field of view (FOV)	Approx. 6 mm x 5 mm (on the work piece being inspected) Area: >35 mm^2
	Optical magnification	The image at the CCD is 75% of the Field of view (FOV) (on the workpiece)
	Object to camera standoff	75 mm
	Illumination	LED-illuminator Oblique and targeted at the optical plane centre
	Type	High intensity green for optimum reflection
	Inner LED ring	4 radially spaced at 90° at 0° inclination
	Outer LED ring	8 radially spaced at 45° and at 16° inclination (The spacing of these 8 is also staggered radially 22.5° to the 4 LED pattern)
	Selective illumination	Rings are split into four segments – intensity of both rings can be adjusted independently

HP-C-VE Specification according to ISO-10360-7:2011
ISO 10360-7:2011 specifications are valid for the vertical orientation (A0B0 tip)

	Acceptance Test	Symbol	Specificaton (µm)
HP-C-VE	Probing error (with CMM motion)	PF2D,MPE	10.0
	Probing error of the imaging probe (without CMM motion)	PFV2D,MPE	6.0
	Imaging probe length measurement error (without CMM motion, L in mm)	EUV,MPE	4.0 + 2.0 L

Optical sensor
HP-O FLEX



HP-O delivers excellent speed, precision, and part access. This sensor combines highly accurate interferometric, optical HP-O technology with the flexibility of an automatic indexing probe head, indexing in steps of 2.5° and capable of achieving up to 12 240 unique positions. The probe head offers high speed operation and high rotational torque.

Optical sensor
HP-O HYBRID



This fixed sensor system enables users to combine optical and tactile styli in one configuration. The high precision interferometric, optical HP-O technology offers accuracy and reliability comparable to tactile scanning probes, while also delivering the higher scanning speed, increased measurement range and flexibility of non-contact measurement.



Laser radiation
Do not look into the beam
Class 2 Laser Product
620-690 nm / 1 mW cw | 1500-1600 nm / 10 mW max.
applied standard: IEC 60825-1:2014