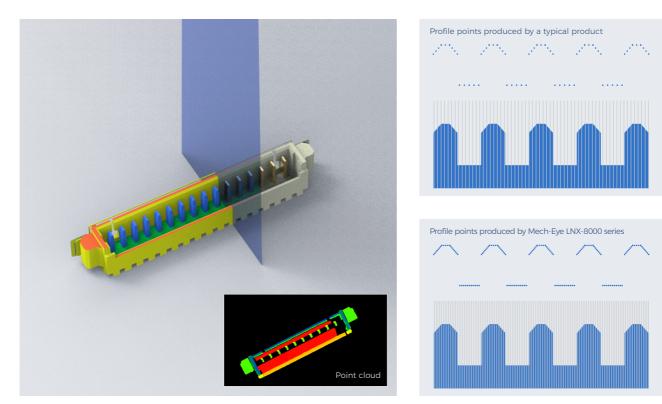


3D Laser Profilers Mech-Eye LNX Series

For inline measurement and inspection in electronics, EV battery, automotive and more industries.

4K+ Resolution Laser Profiling to see every detail and feature

Mech-Eye LNX series is a new-generation 3D laser profiler with high resolution. Leveraging advanced optical design and 3D algorithms, the Mech-Eye LNX produces up to **4,096 data points/profile**^[1] for accurate 3D inspection of targets (dents, gaps, edges, etc.), even for fine features.



Mech-Eye LNX-8030 scans pins.

When the X-axis scanning range is constant, the LNX-8000 series generates more profile points than other line profilers.

Micron Resolution and Precision to inspect the tiniest defects

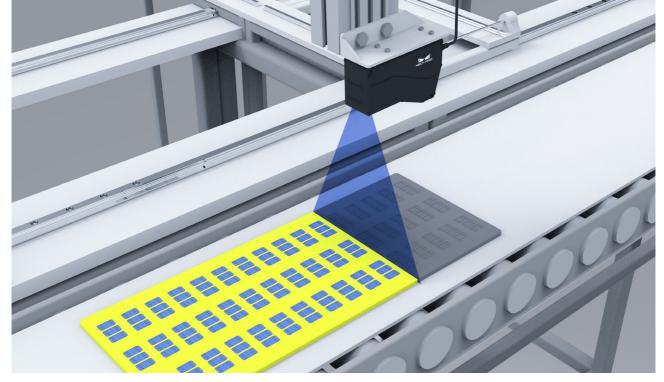
When maintaining a constant scanning range along the X-axis, the Mech-Eye LNX-8000 series outperforms other profilers by providing a higher density of profile points. It achieves an impressive Z repeatability at 0.2 μ m^[2] and \pm 0.02% of F.S. linearity^[2]. These features enable precise inspection, even on the tiniest details and most complex surfaces.

X-axis (width)			Z-axis (height)				
	typical product	LNX-8030					
Measurement range	35 mm (RD) ^[3]	35 mm (RD) ^[3]	Repeatability	typical product	LNX-8030		
Data points per profile	3,200	4,096	Linearity	0.5 µm	0.2 µm		
Profile data interval	12.5 µm	9 µm		± 0.03% of F.S.	± 0.02% of F.S.		

[1] Applicable to LNX-8000 series

[2] Applicable to Mech-Eye LNX-8030

[3] Reference distance



Mech-Eye LNX-8080 scans SIM card slots. It can scan multiple parts in a single capture, boosting production efficiency by over **50%** and significantly increasing production capacity.

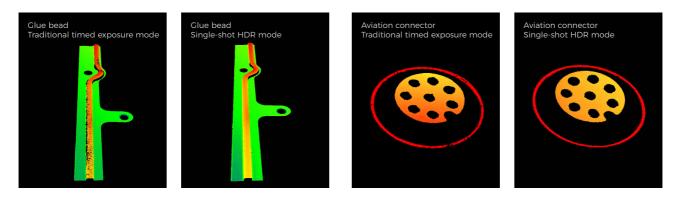
Ultra-High Scan Rates and Large FOVs to scan large parts and edge details at a fast speed

Do more with fast scan rates and large measurement ranges.

- Achieve scan rates of 3.3 kHz^[1] (a full field of view) and up to 15 kHz^[1] (a complete X measurement range). Generate high-resolution 3D data at an accelerated pace.
- The X measurement range reaches 430 mm^[2] and the Z measurement range reaches 305 mm^[2]. Scan large objects in one exposure or multiple small parts simultaneously, significantly boosting inspection speed and keeping up with the production pace.

Single-Shot HDR to scan dark and reflective surfaces in a single exposure

The Mech-Eye LNX series, equipped with a single-shot HDR function, makes it possible to scan both dark (low reflectivity) and reflective (high reflectivity) surfaces in one exposure and creates complete 3D point clouds.



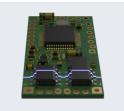
[1] Applicable to LNX-8000 series

^[2] Applicable to Mech-Eye LNX-8300

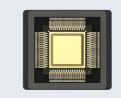
Advanced Optical Design and Algorithms to measure almost any material and surface

The Mech-Eye LNX series features an advanced optical design, incorporating a laser with a cylindrical lens, a large-aperture Scheimpflug lens, and an imaging sensor with a resolution of up to 10MP. These features enable more precise imaging of any surface and intricate detail.

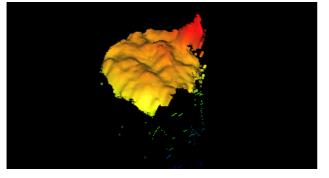
- Our self-developed laser, equipped with a uniquely designed cylindrical lens, emits light with a wide field of view and a narrow fan angle, minimizing blind spots effectively.
- A large-aperture Scheimpflug lens enhances received light intensity fourfold compared to conventional lenses. Its high-resolution, lowdistortion design significantly improves imaging quality.
- With up to 10MP resolution, the CMOS provides 4.096 data points per profile^[1], enabling precise measurement of even the most intricate features.



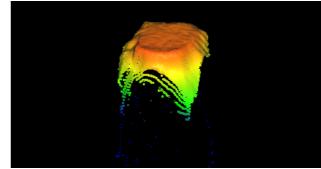




Point clouds: pin tip



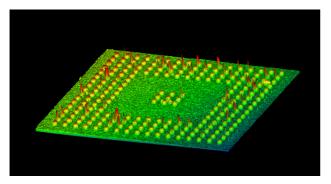
The point cloud generated by a conventional 3D line laser profiler has visible noisy data, like spikes, that can affect measurement accuracy.



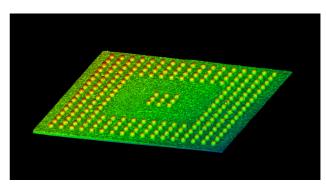
The Mech-Eye LNX series adopts high-resolution CMOS and advanced optical designs, allowing precise imaging of even the smallest pin tips.

With our robust algorithms, the Mech-Eye LNX series excels in handling interreflection, dead zones, and other challenging situations. Its enhanced resistance to interference ensures precise and reliable measurement results.

Point clouds: BGA



Traditional algorithms struggle with interference caused by interreflection. This results in point cloud outliers that affect measurement accuracy.



Robust anti-interreflection algorithms eliminate outliers and deliver high-quality point clouds, ensuring reliable measurement results.

^[1] Applicable to LNX-8000 series

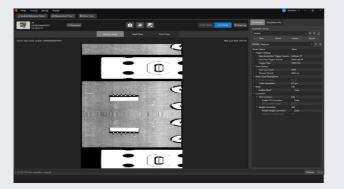
Open for Secondary Development

Users can use various SDK interfaces to seamlessly integrate with various development environments and third-party vision software.

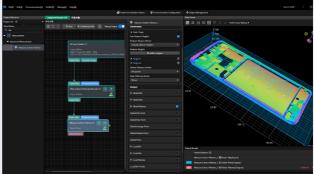
<text><text><text><text><text><image><image><image>

Easy and Quick to Deploy

Achieves quick setup, data collection and deployment with Mech-Eye Viewer and Mech-MSR. Realizes easy configuration with fewer steps and speeds up your project delivery.



Mech-Eye Viewer offers various configuration tools (e.g., brightness settings, profile extraction and mask tools), allowing for quick setup and image acquisition.



Mech-MSR 3D measurement and inspection software, with powerful algorithms and versatile functions, enables rapid application deployment.

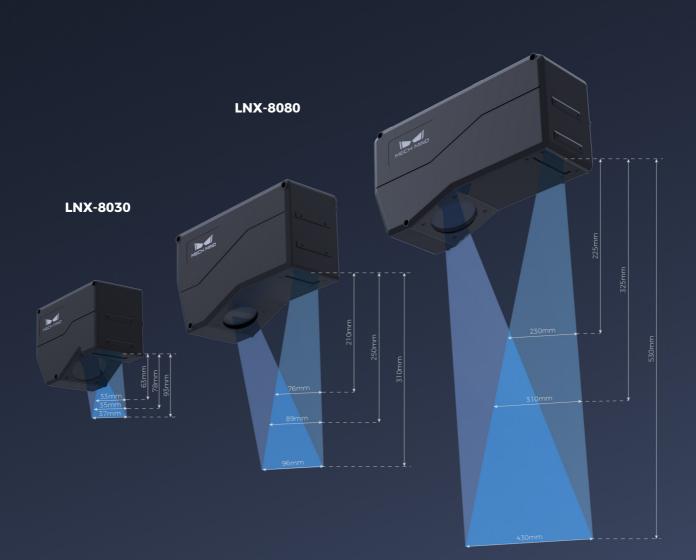
Mech-Eye LNX-8000 Series

4,096 points/profile

15 kHz blazing fast scan rates

Down to 9µm^[1] X resolution. Down to 0.2µm^[1] Z repeatability

Measurement range (X-axis): 33-430 mm. Measurement range (Z-axis): 30-305 mm



LNX-8300

[1] Applicable to Mech-Eye LNX-8030

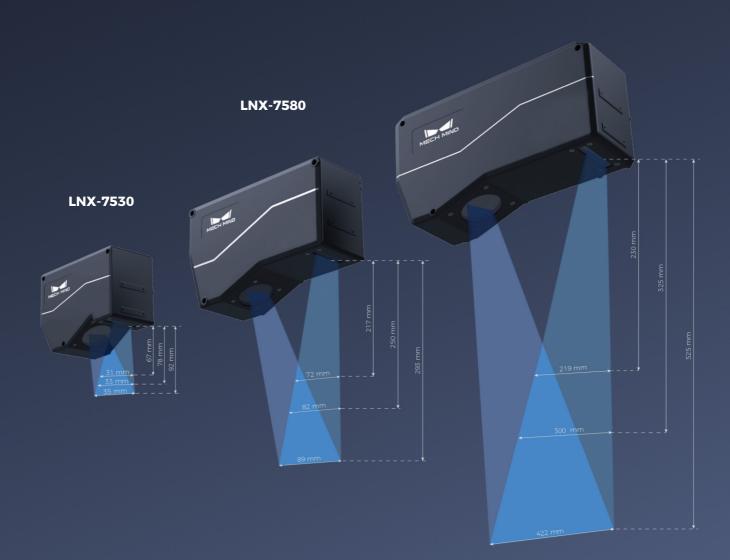
Mech-Eye LNX-7500 Series

3,200 points/profile

10 kHz fast scan rates

Down to 11µm^[1] X resolution. Down to 0.2µm^[1] Z repeatability

Measurement range (X-axis): 31-422 mm. Measurement range (Z-axis): 25-295 mm



LNX-75300

[1]Applicable to Mech-Eye LNX-7530

Proven Stable Performance

The Mech-Eye LNX, certified by CE, FCC, VCCI, KC, ISED, and NRTL, complies with international quality standards.



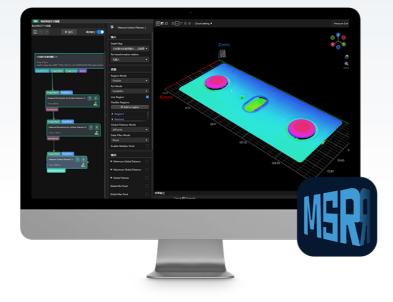
With an industry-ready design and an IP67 protection rating, it can deliver reliable performance in environments with dust, humidity, vibrations, high temperatures and electromagnetic interference.

ADDRESS: Sample Name : Model No. : Above information and sa assumes no responsibility information provided by of SGS Ref. No. : Date of Receipt : Testing Snd Date : Testing Snd Date : Testing Snd Date :	Mach-Med Michaels Technologies LM memory of the File Soft Compare RD Sangel Differentiation Industry Base, Hadrien Darkst, Berjing, P.R. China Mach-Sirg 20 Laker Profiler LMC48202, LM-Soft Compared and Complement by the class. 2005. Non-weak LMC48202, LM-Soft Compared and Complements of the samples and the samples of the samples of the samples Bull States of the samples of the samples of the samples Bull States of the samples of the samples of the samples Bull States of the samples of the samples of the samples of the samples Bull States of the samples of the samples of the samples of the samples Bull States of the samples of t	IEC 60529:1989+A1:1999+A2:2013+COR1:2019 IEC	sult result	Conclusion Pass Pass	ore Test			After Test		ore Test		AberTest	
Sample Name : Model No. : Above information and as assumes no responsibility information provided by cl SGS Ref. No. : Date of Receipt Testing Sant Date : Testing End Date : Test resull(s) :	Base, Hadden Darket, Berjog, P.R. Chwa Mach-Eyo 20 Loser Polfer Luck9200; LS-00 Loser Polfer Luck9200; LS-00 Loser Polfer House Charles and Confirmed and Confirmed Sci 200, Novewer, November 2000; San Sci 200, San Sci 200, San Sci 200, San Sci Basy 200, 2000 Bog 12, 2020 Bog 12, 2020 Bog 12, 2020 Bog 12, 2020 Bog 12, 2020	IEC See 60529:1989+A1:1999-A2:2013+COR1:2019 See 60529:1989+A1:1999-A2:2013+COR1:2019 See 60529:1989+A1:1999-A2:2013+COR1:2019 See 00529:1989+A1:1999-A2:2013+COR1:2019 See	result	Pass								•	
Sample Name : Model No. : Above information and sa assumes no responsibility information provided by di SGS Ref. No. : SGS Ref. No. : Casing Sant Date : Testing End Date : Testing End Date : Testing Sind Date : Test result(s) :	Much-Sip 3D Later Puffer LUK-6800; LUK-6800 BURGENDERS And State And State And State And State Mark State And State And State And State BURGENDERSEARCH State And State And State Bug 24, 2020 Bug 24, 2020 Bug 24, 2020	60529:1989+A1:1999+A2:2013+COR1:2019 See IEC 60529:1989+A1:2013+COR1:2019 See iEC 60529:1989+A1:2013+COR1:2019 See Jose not meet the requirements; Does not meet the requirements; See										•	
Model No. : Above information and as assumes no responsibility information provided by ol SGS Ref. No. : Date of Receipt : Testing End Date : Testing End Date : Testing End Date :	LUKK6002, EX-6400 Intel®) assives animational and confirment by the cleant, BGS1, however, by a way't he accuracy, adequary and completeness of the sample and: SURE20000000 TMT Sep 24, 2023 Sep 24, 2024 Sep 24, 2025 Sep 24, 2025 Se	60539:1989+A1:1999+A2:2013+COR1:2019 EC 60529:1989+A1:1999+A2:2013+COR1:2019 See : Meet the requirements; Does not meet the requirements;			-84	r -					 ,	•	
Model No. : Above information and as assumes no responsibility information provided by ol SGS Ref. No. : Date of Receipt : Testing End Date : Testing End Date : Testing End Date :	LUKK6002, EX-6400 Intel®) assives animational and confirment by the cleant, BGS1, however, by a way't he accuracy, adequary and completeness of the sample and: SURE20000000 TMT Sep 24, 2023 Sep 24, 2024 Sep 24, 2025 Sep 24, 2025 Se	60529:1989+A1:1999+A2:2013+COR1:2019 See : Meet the requirements; Does not meet the requirements;	result	Pass	-84	r -						•	
Above information and sa assumes no responsibility information provided by of SGS Ref. No. : Date of Receipt : Testing Start Date : Testing End Date : Testing End Date :	Implicity) assesses substitution and confidence by this class. SIGA however, to very the accouncy along when a substitution of the sample along	60529:1989+A1:1999+A2:2013+COR1:2019 : Meet the requirements; Does not meet the requirements;			-84	r -						•	
assumes no responsibility information provided by cl SGS Ref. No. : Date of Receipt : Testing Start Date : Testing End Date : Test result(s) :	(s) owith yea accuracy, adequary and completeness of the sample mint. SURER20000917AT Sep 24. 2023 Sep 24. 2023 Sep 24. 2023 Sep 24. 2023 Tor further deals, plasse effer to the Stowing spg(s) (Unless of dennies statid the result) shown in this fait sport refer only	Does not meet the requirements;			-84	r -		After Test				•	
SGS Ref. No. Date of Receipt Testing Start Date Testing End Date Test result(s)	SUER2090000*17 Sep 24, 2023 Sep 24, 2023 Sep 25, 2023 Sep 27, 2023 Sep 27, 2023 For further details, please refer to the following pape(s) (views otherwise stated the results shown in this test report refer only	Does not meet the requirements;			ore Test			After Test				After Test	
Date of Receipt : Testing Start Date : Testing End Date : Test result(s) :	Sep 24, 2023 Sep 24, 2023 Sep 28, 2023 Sef Juffer details, please refer to the following page(s) (Unless otherwise stated the results shoan in this test report refer only				ore Test			After Test		ore Test		After Test	1
Testing Start Date : Testing End Date : Test result(s) :	Sep 24, 2023 Sep 28, 2023 For further details, please refer to the following page(s) (Unless otherwise stated the results shown in this test report refer only	и крру ю ине родинент.			ore rest			After Test		ore test		After Test	
Testing End Date : Test result(s) :	Sep 28, 2023 For further details, please refer to the following page(s) (Unless otherwise stated the results shown in this test report refer only												
Test result(s) :	For further details, please refer to the following page(s) (Unless otherwise stated the results shown in this test report refer only												
	(Unless otherwise stated the results shown in this test report refer only				_				Next Calibration				Next Calibratio
					Mod			Calibration date	date	Model	Equipment No.	Calibration date	date
	Signed for SGS-CSTC Standards Technical Services Co., Ltd. Suzhou Branch				SC-0	010 SUZ	ZMR-277	2023-04-04	2024-04-03	1	MR-S-37	1	1
	Aaron Zhu							without CMA logo e internal quality cont					
	, w. o. 244					, and just for client			inor, product				
	Aaron Zhu				Perin, Orice, a	, and look the criteria							
	Authorized signatory					······ End	d of report*****						
1117	ten schweise septerie weitigt. Nie dessentet is based in the Company subject is in Senter Conditions of Service schedule.	Universe otherwise argument is writing. No document is instead by the Company subject to the Second Conditions	of Bendle primely	where a	Union others	make agreed in writing. The document	mentile leaved by the Contarty of	adjust to its descent Conditions of Ber	a landar of the land	Union of the wine agreed	in writing, this document is based by the Con	para subject to its Senaral Conditions of N	ferrite prime overheat.
Stand and		increased on register or accesses or programment and control forms and Conditions. Allertical to increase increasing on the standard standard formation (and standard the standard the information the Company's findings at the time of its intervention only and within the times of Cherl's individual to accessibility is thinking at the time of its intervention only and within the times of Cherl's individual to accessibility is the control of the intervention only and within the times of Cherl's individual to the standard of the control of the intervention of accessibility of the standard the intervention of the intervention of the standard of the intervention of accessibility of the standard of the intervention of the in	any The Company main rights and ob-	raturi (a suite (patiente	Instantiation of a	the register of acceleration of high life show and intradiction because realized in may's first free Chart and File discussion of the Inter-		content a schemed Bar offenset to Bar scheme of Clearf's Institutions, 7 any. a Units of Clearf's Institutions, 7 any.	trained tensor whether The Company's sole	analisation and pursue inclument/stations and pursue the Company's Brailings manufactory in to its One	interview of manufacture and content to a distance means include frames. Any bottom of the of the bine of the intervention only and with and and this from the intervention. Not economic parts	and containing resolution is there to the in-focularity is achieved that information con- tro the locals of Class's instructions, if any feer to a formation from sectoring of their	semanar haract rehats to The Company's with it rights and obligations
(* * *	parallelities is to the Dank and the document document according artifies its international here according of their spins and all allogations do not according to the document. The documents according artifies its international here according to the documents of the documents of automate advantum, the documents and the according stress according to the document is submatched and allogations automate advantum, the documents and the according stress according to the document is submatched and automate advantum. The documents and the according to the document is without and whether a set according to the document is the first according to the curves and according to the document is according to the other according to the document and the according to the documents according to the according to the document is according to the other the according to the document according to the according to the document according	Unless of the whole a queue of a setting, the descence of the two for setting standards of the former of calculate another one receiver or a suscential display them and a setting the physical display the setting and the calculated one of the setting standards and the setting and the setting standards and the setting standards and a setting standards and the setting standards and the setting standards and and the setting standards and the setting standards and the setting standards and the setting standards and and the setting standards and the setting standards and the setting standards and the setting standards and the setting standards and the setting standards and the setting standards and the setting standards and the setting standards and a setting standards and the setting standards and the setting standards and the setting standards and the setting standards and a setting standards and the setting standards and the setting standards and the setting standards and the setting standards and a setting standards and the setting standards and the setting standards and the setting standards are also as a setting standards and the setting standards are also as a setting standards and the setting standards are also as a	that rights and shi prove of the Comp Resident way to pro- mitable family and	ligations any, Ary minutesi and south	insponsibility of under the trans- transferring of to the filled a	by is to be Diant and the document of investigation documents. This property of alternation, forgary or balantination of a select of the law. Unless otherwise	ed does not acciments parties to ment cannot be reproduced enough a of the content of economics of who stathed the results shown in	exclusion in the feature of conditions of the Conditional. Advention is shown to the conditional is adventioned that information con- tribution of a constant that information of any information of the constant of the con- stant information of the constant of the information of the constant of the con- stant of the constant of the constant of the fact region of the constant of the information of the constant of the constant of the fact region of the constant of the constant of the fact region of the constant of the constant of the fact region of the constant of the constant of the fact region of the constant of the constant of the fact region of the constant of the constant of the fact of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the constant of the c	r rights and obligations at all the Company, Any last may be presented	responsibility is to its On under the Tampadian do unauthorized advector. I to the further solution of	In writing, first document is insured by the Con- annexesting of high-based again controls. Series, documents and the series of the series of the other series of the instruments on one will write and not the instrument document to series and with and and the document of an end in series of the construction. This document of an end in series of the series of the instrument of an end in series of the series of the instrument of an end in series of the series of the instrument of the series	fees to a transaction from exercising all their d except in full, without prior written approxi- nces of this incoment is unuseful offers who is the best report whereonly in the series	of rights and obligations of all the Company, Any data may be prosenited sphele, heated and such
Contraction of the	ngence was warmed for 20 days only memory, it's plandy the portanticity of baseling impaction report & cartificate, planes cannot as at integrates (80-700,0007.1000,	Advertisis: To check the softwarkerty of backing inspection report & contificate, phone contact us at the		87.1443,									
the second second	High C. Response, PA, 63 Toph Level, JP July, JPage, One 2001 106-02-020600 106-02-020620 www.spprop.com/m #121-84-228028481948197422.0019773 #6.2000 106-02-020001 106-02-020020 saturadosa.com	King C. Dogolany A. N. Tolghiller, JP, June, Angu, New 2021 1 (0-07) (208220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, Angu, New 2021 1 (0-07) (208220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, Angu, New 2021 1 (0-07) (208220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, Angu, New 2021 1 (0-07) (2088220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, JP, June, Angu, New 2021 1 (0-07) (2088220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, JP, June, Angu, New 2021 1 (0-07) (2088220 1 (0-07) (209 King V. Dogolany A. N. Tolghiller, JP, June, JP,	til weigepie	0.000.00	Hally Lines	REALIZED AND A DESCRIPTION OF SAME	ides, Jopa, Die 2122 1 (06-0 2105/7 8 88-2122 1 (06-0	013 4298250 1 38-012 4298212 013 4298280 1 38-012 4298212	www.approg.com.an apu.dew@apu.am	12 549912.000314.0-744. 08-22-28128228	No.7104-Dect.27.5ates. Anps. (No. 2021	04-012-0268820 1.04-012-0268212 06-012-0268820 1.04-012-0268212	www.spyros.com

IP67 protection certificates

Work with Mech-MSR 3D Measurement and Inspection Software for Comprehensive Inspection Solutions

- The Mech-Eye LNX, paired with Mech-MSR, will provide you with **all-in-one solutions**. You can carry out effective deployment of measurement and inspection applications.
- Running Mech-MSR on the Mech-Eye LNX series enables users to deploy applications **without coding**, greatly increasing efficiency.



NO CODE GUI





2-HOUR^[1] DEPLOYMENT

Users can conduct one-stop applications by using the project templates in the solution library.

ROBUST AI ALGORITHMS

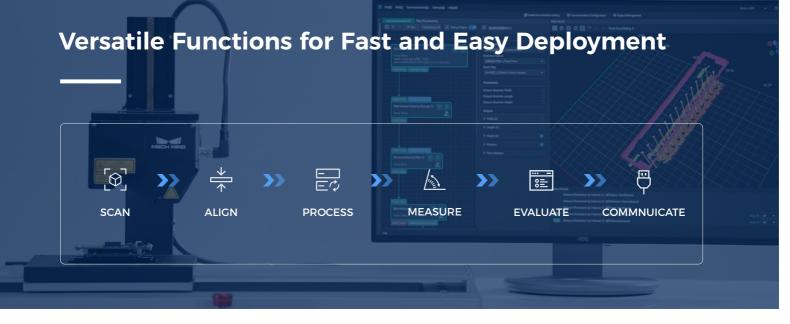
Powerful algorithms help you conduct dimensional measurement, defect detection and other inspection applications.

TECHNICAL SUPPORT

Technical documents and video tutorials are easily available for professional guidance.

[1]It is a case-by-case situation.

AI



Scan

Easily connect to and run on the Mech-Eye LNX 3D sensors for easy setup and real-time data collection.

Align

Measure

Align objects for quick positioning and ensure all are at the reference position for accurate and efficient measurement.

Process

Evaluate

Pretreat and optimize depth images, 3D data, and other image data to create the best point clouds.

Use single-index or comprehensive evaluation methods to meet various product quality standards.

Communicate

Connect PLCs and factory devices using ASCII for real-time monitoring.

Solve complex 3D inspection applications, driven

by robust measurement algorithms and tools.

Mech-MSR installation package can be downloaded at the documentation center, online community and company website. Technical documents, video tutorials and case studies are also available to give you professional guidance.



Website mech-mind.com Online Community community.mech-mind.com

[...]



Mech-Mind Documentation docs.mech-mind.net

Applications in the Consumer Electronics

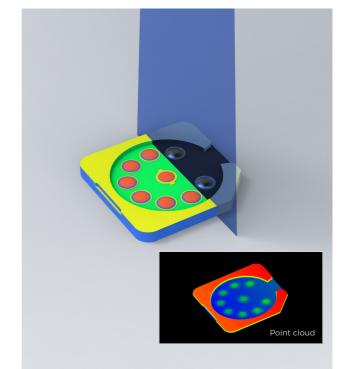
Solder Joint Inspection

The challenge

- Solder joints on the phone flashlight are tiny, typically ranging from tens to hundreds of micrometers in height.
- Solder joints have **reflective surfaces**, making precise 3D scanning and inspection more challenging.
- Solder joint defects are varied, including irregular shapes, bridging, and more. These defects significantly impact the device's functionality and performance.

The advantage

- Generate high-resolution 3D data (4,096 data points per profile and Z repeatability down to 0.2 μm) of each solder joint.
- Advanced algorithms effectively handle the reflection and generate detailed and high-density 3D data.
- Mech-MSR, driven by robust measurement algorithms, works with the sensor to inspect complex solder joint defects.



Recommended sensors: LNX-8030 & LNX-7530

Connector Pin Inspection

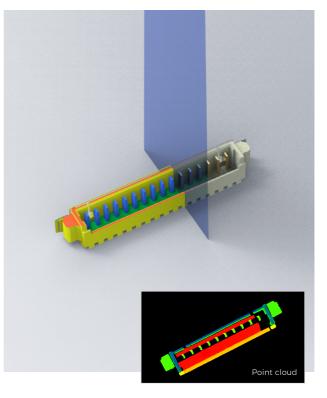
The challenge

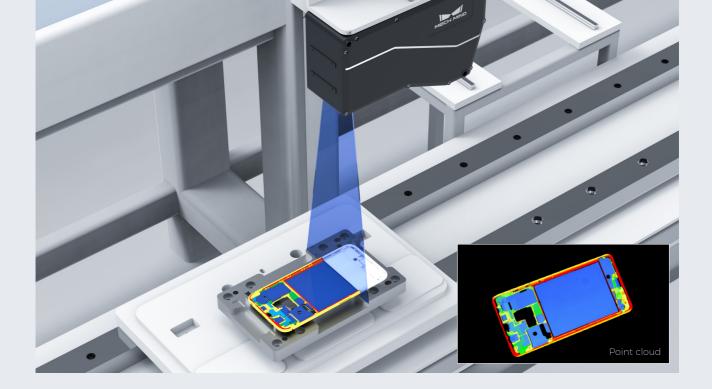
- Inspecting connector pins is a crucial step in the quality assurance process. Pin height, spacing, orientation and alignment must be verified before insertion.
- Pins are difficult to scan and measure because they are tiny, highly reflective, and come in varying heights and materials.
- Noise, such as spikes, in the 3D data regularly appears between pins.
- Pins of slightly incorrect height can result in short circuits and poor contact.

The advantage

- Generate high-resolution 3D data (4.096 data points per profile) of each tiny, highly reflective pin.
- Advanced optical design and algorithms effectively handle different types of noise, such as dead zones and spikes.
- Measurement repeatability: ± 0.01 mm
- Vision time: < 0.8 s

Recommended sensors: LNX-8030 & LNX-7530





Smartphone Midplate Inspection

- The challenge
- The smartphone midplate combines reflective and dark surfaces, posing challenges to imaging and recognition.
- Cycle time and inspection accuracy are extremely important in the electronics industry.
- Recommended sensors: LNX-8080 & LNX-7580

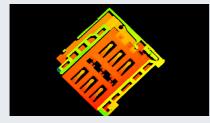
The advantage

- Single-shot HDR function: capture precise 3D data of both dark and reflective surfaces in one exposure.
- Acquire points on the surface to check whether all points are in the same plane.
- Measurement repeatability: ± 0.015 mm
- Vision time: < 0.5 s

More Applications



Shielding frame inspection



SIM card holder height measurement



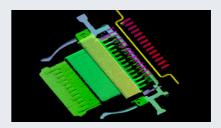
Smartphone camera module inspection



Fingerprint module height measurement



Bolt height measurement



Type-C connector inspection

Applications in the EV Battery

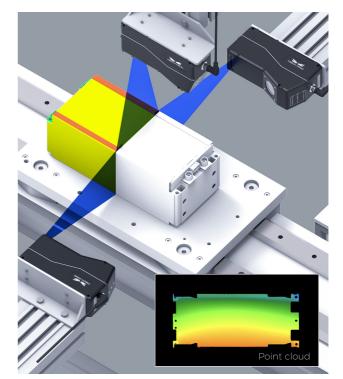
Dimensional Measurement of Battery Modules

The challenge

- There are many types of battery modules. Some are very large.
- There are various measurement items, including length, width, height, flatness and hole location.
- Measurements with high precision are essential to ensure proper fit and function within devices.

The advantage

- High resolution and fast scan rate: clear and fast imaging of module surfaces.
- Wide measurement ranges to scan large modules.
- Multi-sensor setup to effectively reduce errors caused by vibration.
- Fast deployment and setup with sensors and Mech-MSR combined.



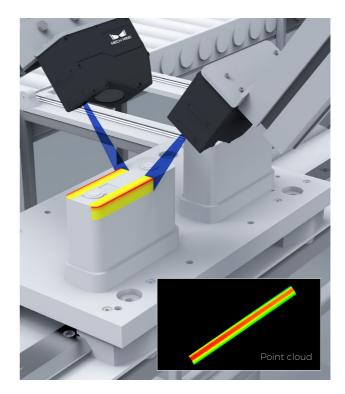
Recommended sensors: LNX-8300 & LNX-75300

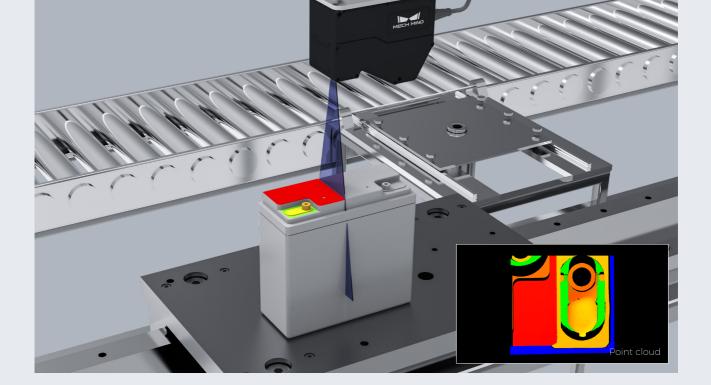
Cell Cap Welding Inspection

The challenge

- Defects occur on the battery cell cap, such as burns, dents, pinholes, broken and missing welds.
- Accuracy and cycle time are extremely important in the EV battery production.

- Clear imaging of tiny welding seams for accurate and efficient inspection.
- **Pixel-level** defect segmentation and inspection driven by robust algorithms.
- Stable and durable operation for efficient production and high productivity.
- Recommended sensors: LNX-8030 & LNX-7530





Battery Terminal Welding Inspection

The challenge

- 24/7 production in the industry requires consistency in inspection systems.
- There are many defects, such as missing welding and extra welding.
- Recommended sensors: LNX-8030 & LNX-7530

- High resolution and fast scan rate: measure the target with speed and accuracy.
- Fast deployment of defect inspection and height measurement applications with Mech-MSR.
- False positive rate: < 0.5%
- False negative rate: < 0.5%

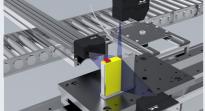


Cell cap inspection (flatness & height difference)

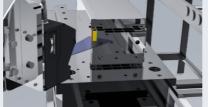




Busbar welding seam inspection



Battery cell appearance inspection



Side seam inspection



Battery adapter plate inspection

Applications in the Automotive

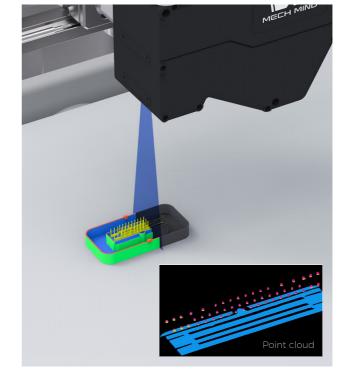
Connector Pin Inspection

The challenge

- Pins of slightly incorrect height can result in voltage drops and intermittency.
- The tiny pin inspection places high demands on accuracy and resolution.
- Noise resulting from interreflection between pins impacts the image quality.
- Intricate geometries of pins are easy to create curves in the 3D point clouds.

The advantage

- Produce high-density and high-resolution profiles and detailed 3D point clouds of tiny pins.
- The robust algorithms effectively deal with the noisy data resulting from reflection.
- Advanced algorithms and Al-powered tools precisely measure the height of the pins and separate the curved point clouds.



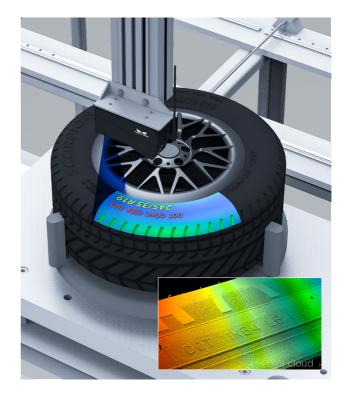
Recommended sensors: LNX-8030 & LNX-7530

Tire DOT Code Reading

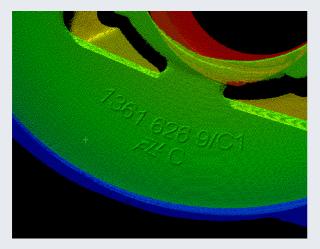
The challenge

- Various tire specs, with different tire heights, section heights and hub diameters.
- Dark surfaces make it difficult to clearly capture tire DOT codes.
- Deep field of view and depth of field are essential for scanning large tires.

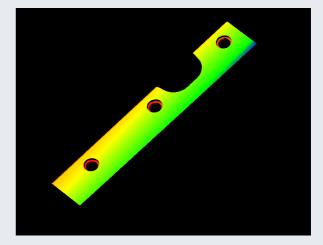
- Clearly capture DOT codes at a fast speed.
- Wide measurement range to scan large tires in one shot.
- Al algorithms ensure accurate locating and reading of DOT codes.
- 99.9% recognition accuracy
- Recommended sensors: LNX-8300 & LNX-75300



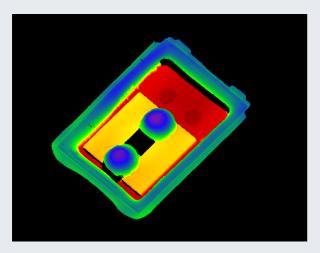
More Applications in the Automotive



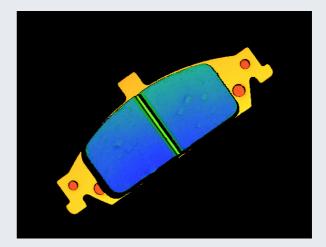
VIN code inspection



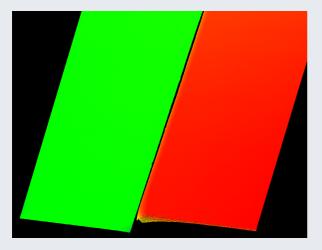
Battery tray inspection



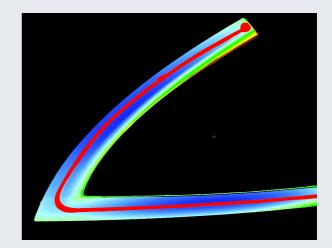
Automotive electronics glue bead inspection



Brake pad defect detection

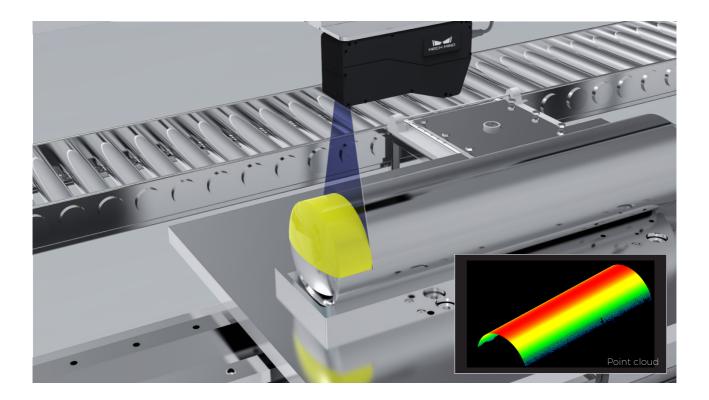


Door panel gap and flush inspection



Car window glue path inspection

Applications in the Photovoltaics



Diameter Measurement of Monocrystalline Silicon Rods

The challenge

- Many factors affect measurement accuracy, such as reflective surfaces, burrs, defects and bends.
- Requirements for fast imaging and measurement.

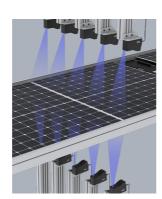
Recommended sensors: LNX-8300 & LNX-75300

The advantage

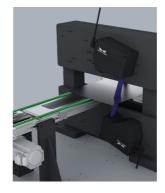
- Create high-resolution point clouds of silicon rods.
- Ultra-high scanning rate allows for clear imaging of silicon rods at a fast speed.
- Advanced imaging algorithms effectively tackle reflective surfaces, burrs and defects.
- The sensor works with Mech-MSR to measure diameters rapidly.



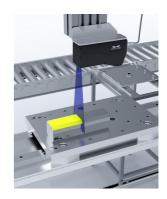
Growth line inspection



Silicon wafer flatness & overlap & dislocation detection



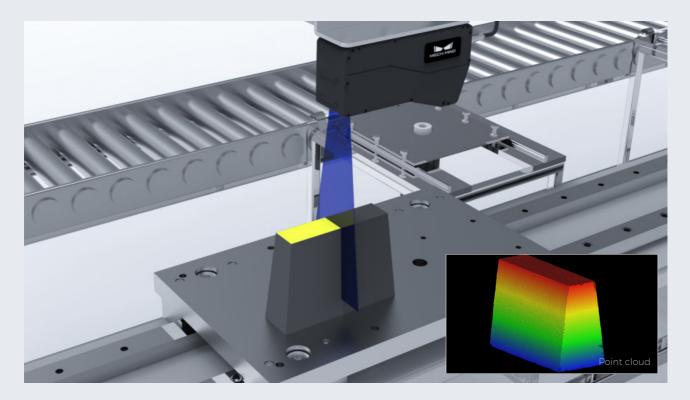
Silicon wafer thickness & flatness inspection



Silicon ingot flatness inspection

More Applications

in metal & machining, medical, home appliances and more



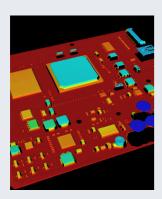
Dimensional Measurement of Refractory Bricks

The challenge

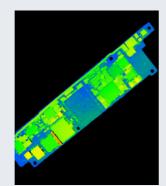
- The bricks come in various shapes (e.g., square, rectangular, trapezoidal, etc.).
- Bricks of all sizes, whether small or large, should be covered when measuring the parameters.

Recommended sensors: LNX-8300 LNX-75300

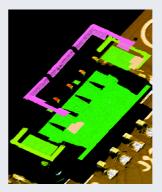
- High resolution in X-axis and high repeatability in Z-axis allow for accurate measurement.
- Scan a large brick **in a single shot** due to wide X- and Z-axis measurement ranges.
- Fast scan rates enable short cycle time and enhance efficiency.
- IP67 protection enables reliable performance in harsh environments.



PCB-mounted component height measurement



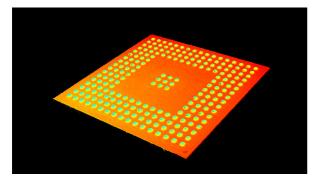
Component presence/absence detection



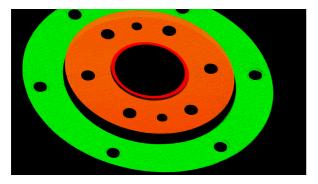
Pin height measurement



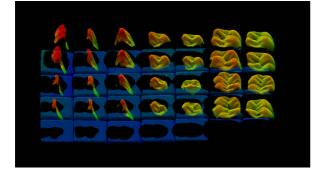
Metal plate flatness inspection



BGA inspection (height & coplanarity)



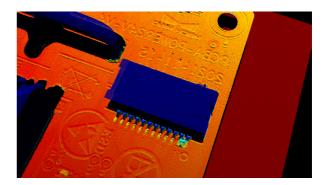
Round hole inspection (diameter & dislocation)



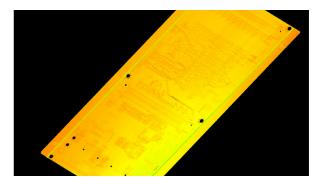
Object counting



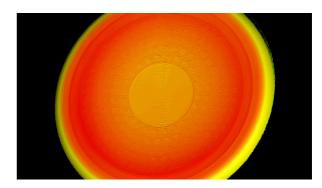
Small parts inspection (height & flatness)



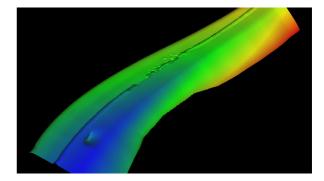
PCB solder joint height measurement



PCB flatness inspection

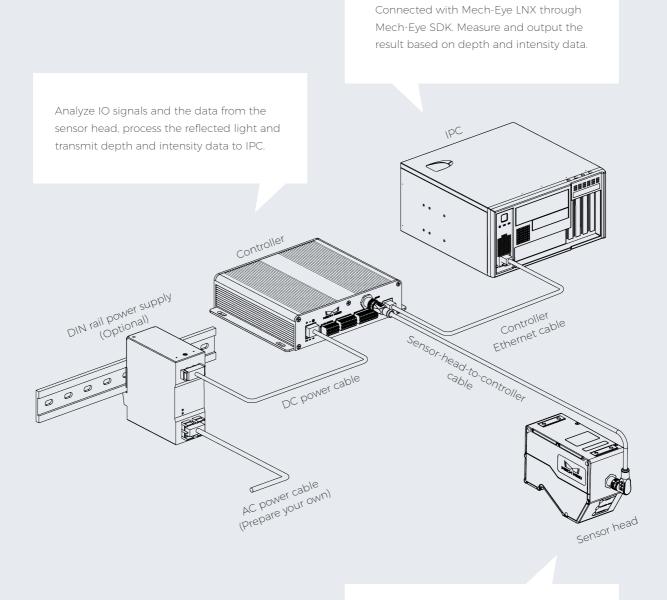


Pan flatness inspection



Welding seam inspection

System Configuration

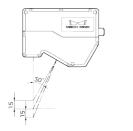


Extract the centerline from the captured image.

Key Specs of Mech-Eye LNX-8000 Series

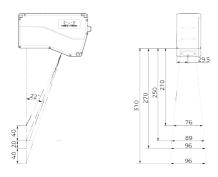
Model	LNX-8030	LNX-8080	LNX-8300			
Data points/profile	4.096					
Scan rate	3.3–15 kHz					
Reference Distance (RD)	78 mm 250 mm 325 r					
Measurement range Z	30 mm	100 mm	305 mm			
Measurement range X (near)	33 mm	76 mm	230 mm			
Measurement range X (RD)	35 mm	310 mm				
Measurement range X (far)	37 mm	430 mm				
Resolution X	9 µm	105 µm				
Repeatability Z	0.2 μm 0.5 μm 2 μm					
inearity Z	±0.02% of F.S.					
Weight	0.9 kg 1.2 kg					
Dimensions	133 × 61 × 102 mm 182 × 63 × 112 mm 195 × 61 × 109 m					
Laser	Blue (405 nm, Class 2) Blue (405 nm, Class 2M)					
Lens inclination	30° 22° 19°					
input voltage	24V DC					
Max. input power	48W (25W for sensor head)					
Communication interface	Gigabit Ethernet					
Encoder input	Single-ended and differentialencoders supported					
Operating temperature	0-45℃					
Safety and EMC	CE/FCC/VCCI/KC/ISED/NRTL					
IP rating	IP67					
Cooling	Passive					

Mech-Eye LNX-8030

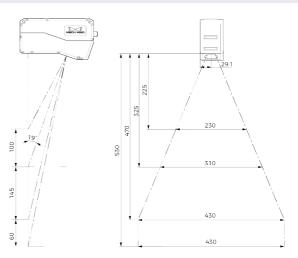




Mech-Eye LNX-8080

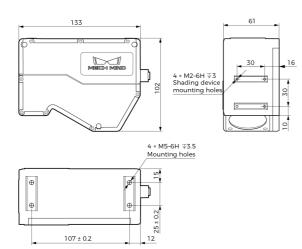


Mech-Eye LNX-8300



Dimensions

Mech-Eye LNX-8030

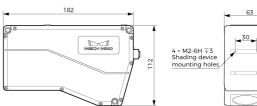


89.5±0.2

6.8

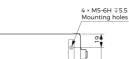
65

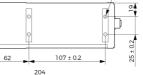
Mech-Eye LNX-8080

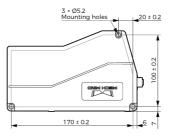












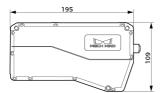
Mech-Eye LNX-8300

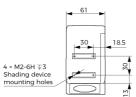
120 ± 0.2

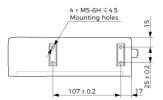
107 ± 0.2

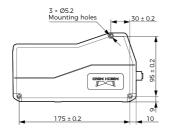
39 ± 0.2

3 × Ø5.2 Mounting holes

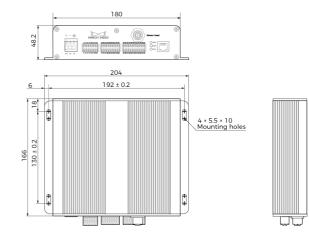








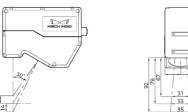
Mech-Eye LNX-8000C



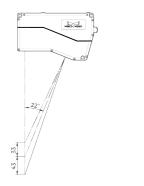
Key Specs of Mech-Eye LNX-7500 Series

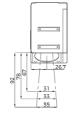
Model	LNX-7530	LNX-7580	LNX-75300			
Data points/profile	3.200					
Scan rate	2-10 kHz					
Reference Distance (RD)	78 mm	250 mm	325 mm			
Measurement range Z	25 mm	76 mm	295 mm			
Measurement range X (near)	31 mm	72 mm	219 mm			
Measurement range X (RD)	33 mm	82 mm	300 mm			
Measurement range X (far)	35 mm	422 mm				
Resolution X	11 µm	132 µm				
Repeatability Z	0.2 µm	2 µm				
inearity Z	±0.02% of F.S.					
Weight	0.9 kg 1.2 kg					
Dimensions	133 × 61 × 102 mm 182 × 63 × 112 mm 195 × 61 ×					
Laser	Blue (405 nm, Class 2) Blue (405 nm, Class 2M)					
Lens inclination	30°	19°				
nput voltage	24V DC					
Max. input power	48W (25W for sensor head)					
Communication interface	Gigabit Ethernet					
Encoder input	Single-ended and differentialencoders supported					
Operating temperature	0-45°C					
Safety and EMC	CE/FCC/VCCI/KC/ISED/NRTL					
IP rating	IP67					
Cooling	Passive					

Mech-Eye LNX-7530



Mech-Eye LNX-7580





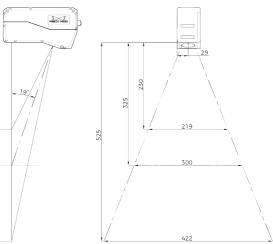
K

293

Mech-Eye LNX-75300

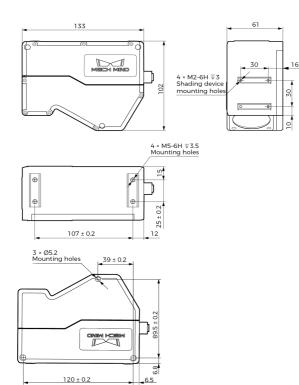
95

200

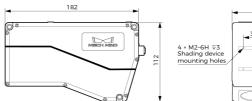


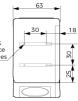
Dimensions

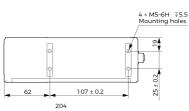
Mech-Eye LNX-7530

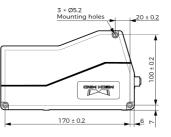


Mech-Eye LNX-7580

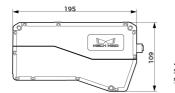


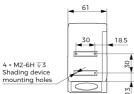


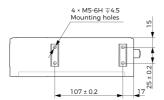


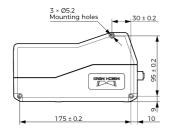


Mech-Eye LNX-75300

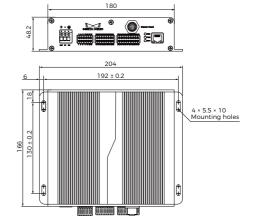








Mech-Eye LNX-7500C



Empowering Global Customers

Mech-Mind Self-owned Factory

- High-standard factory: spans 5,000 sqm; certified for ISO 9001, ISO 14001, and ISO 45001.
- Top-tier camera manufacturing: CE, FCC, VCCI, KC, UKCA, ISED, NRTL certified; MTBF (≥40,000 hours)
- Annual production capacity: 20,000+ units
- 100% factory inspection
- 2-week delivery



Mech-Mind Academy

- Online and offline learning: Whether remote learning or immersive in-person instruction, we've got you covered.
- Beginner-friendly courses: All can quickly get started on 3D vision applications through step-by-step video tutorials and clearly defined training.
- Multifaceted training: Students can master the expertise in setup, configuration, application deployment and project delivery.







About Mech-Mind

Mech-Mind is an industry-leading company focusing on industrial 3D sensors and software suites for intelligent robotics.

By combining 3D vision with AI technology, Mech-Mind brings automation to the next level and empowers partners and system integrators to manage the most challenging automation tasks, including bin picking, depalletizing & palletizing, picking & placing, and more.

One of the Highest-Funded AI + Robotics Companies

Founded in 2016, Mech-Mind has closed its Series C+ with total funding of > **USD 200 million**. Backed by Intel and other global top investors, Mech-Mind has been one of the highest-funded AI + robotics companies all over the world.

Create Success Together with Partners and Integrators

Excellent usability, approved quality, high flexibility, comprehensive service, and competitive price. that's what we stand for and how we help our customers and partners to exceed in their business. Our mature solutions empower system integrators and partners to solve the most demanding applications and bring automation to the next level.

World-Class Team with Deep Technical Knowledge

Mech-Mind assembles highly qualified experts with rich technical knowledge in **3D** sensing, vision and robotics algorithms, robotics software, and intelligent robotic solutions.

10,000+ Cameras Deployed

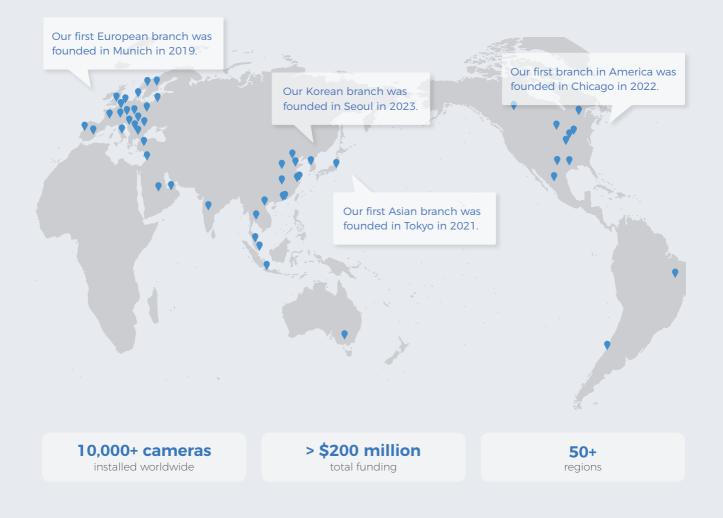
Mech-Mind partnered with industry-leading companies and has deployed applications in 50+ regions. By delivering cutting-edge technology and reliable solutions, Mech-Mind has created visible ROI for global customers across diverse industries, including **automotive**, **metal and machining**, **logistics**, **home appliances**, **food and beverage**, etc.

	arçelik Highlý
GMCC Midea Haier FGREE (intel) SIEMENS 🗐 BOSCH 🙏 🌍 🏵 TOYOTA 🦷	TISLA 🛞
Compatible with Major Robot Brands	
ABB KUKA YASKAWA FANUC IKawasaki NACHI DENSO Runiversal Stäue	IBLI EFORT
	fruitcore a

Customers and Partners

Your Trusted Partner in AI and 3D Vision

• Partners and branches



Find us all over the world

Germany

Industriestraße 15, 82110 Germering, Munich, Germany

South Korea

Room 1004, 10 F. 17th, Daereung Techno Town, 670 Gasandong, Geumcheon-gu, Seoul, South Korea

USA

1260 Iroquois Ave, Suite 300, Naperville, IL 60563, USA

Japan

702 KDX Hamamatsucho Place, 1-7-6 Shiba Koen, Minato-ku, Tokyo (Office), Japan

AE3-N, 3rd Floor, Distribution Building A, 6-1-1 Heiwajima. Ota-ku, Tokyo 143-0006, Japan

China

1st Floor, Building 2, Independent Innovation Building, No.6 Chuangye Road, Haidian District, Beijing, China

5# No.485 Xiangjiang Road, Jiading District, Shanghai, China

3D VISION & AI FOR ROBOTS AND MORE



Get the most from Mech-Mind's 3D vision - get in touch with us!

Website: www.mech-mind.com E-mail (business): info@mech-mind.net E-mail (PR & marketing): marketing@mech-mind.net Learning guidance to deploy your vision application STEP BY STEP, please visit

Documentation: docs.mech-mind.net Online community: community.mech-mind.com