

Mech-Eye NANO ULTRA-GL Industrial 3D Camera

Compact design | High accuracy | Extended FOV
Strong ambient light resistance | Superior protection
Ideal for fine assembly, precision part picking and welding



MTBF (Mean Time Between Failures): $\geq 100,000$ hours

Accurate and anti-reflection

- Self-developed DLP projector technology and binocular structured light 3D imaging algorithms
- Resistance to strong ambient light ($> 60,000$ lx)
- Impressive anti-reflection capability
- High-quality imaging of reflective weldments and metal parts

Ultra compact and lightweight

- Compact body: $125 \times 46 \times 76$ mm
- Suitable for robot-mounted applications in compact workspaces

Industry-ready

- IP65 rating
- Protective shells keep the camera away from dust and debris
- Stable performance even in harsh environments (e.g., high temperatures)

Open and easy-to-deploy

- Various SDKs in common programming languages
- Compatible with GenICam and GigE Vision
- Seamlessly integrated with Halcon and other vision software

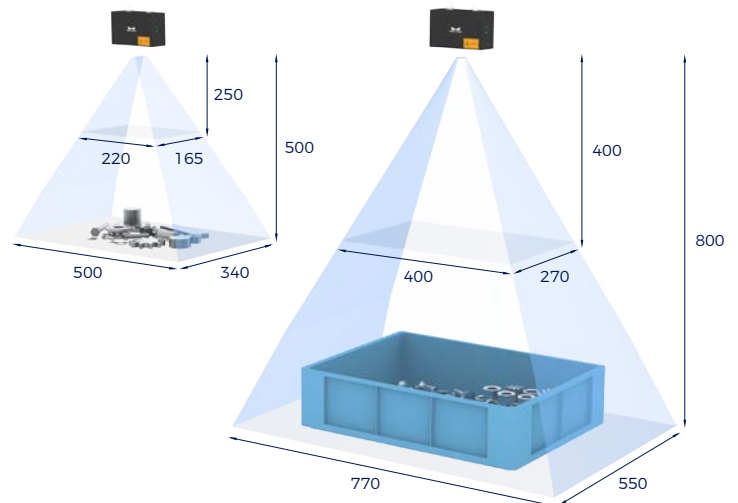
Specifications

Working distance: 250-500 mm/400-800 mm
Near FOV: 220×165 mm @ 0.25 m/ 400×270 mm @ 0.4 m
Far FOV: 500×340 mm @ 0.5 m/ 770×550 mm @ 0.8 m
Resolution: 2400×1800
Megapixels: 4.3 MP
Operating temperature: $0-45^{\circ}\text{C}$
Communication interface: Gigabit Ethernet
IP rating: IP65
Point Z-value repeatability (σ)^[1]: 0.1 mm @ 0.6 m
Measurement accuracy (VDI/VDE)^[2]: 0.1 mm @ 0.6 m

Field of View (mm)

Object Focal Distance: 350 mm

Object Focal Distance: 700 mm



Typical capture time: 0.5-0.9 s

Baseline: 86 mm

Dimensions: $125 \times 46 \times 76$ mm

Weight: 0.7 kg

Input: 24 V DC, 3.75 A

Safety and EMC: CE/FCC/VCCI/KC/ISED/NRTL

Cooling: Passive

Light source: Blue LED (440 nm, RG2)

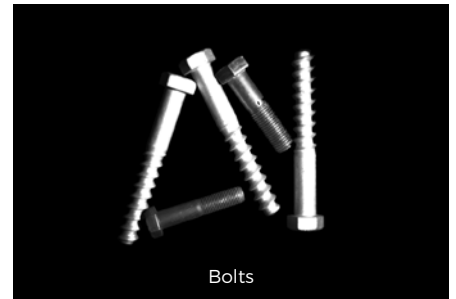
Mean Time Between Failures (MTBF): $\geq 100,000$ hours

[1] One standard deviation of 100 Z-value measurements of the same point. Measurement target was a ceramic plate.

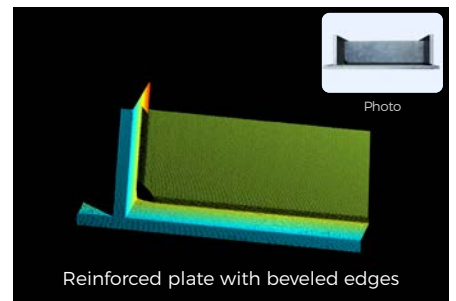
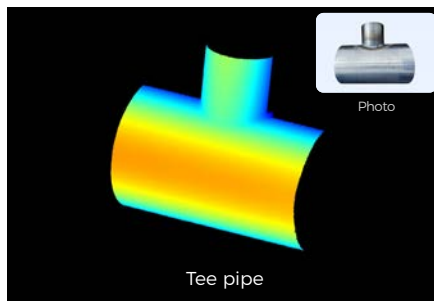
[2] According to VDI/VDE 2634 Part II.

High-Quality Point Clouds

- Create clear, accurate 3D point clouds under strong light (> 60,000 lx)
- Effectively tackle reflective or dark surfaces and complex structures
- Used to locate various weld seams of weldments (e.g., beam hangers, steel plates, and blast doors)



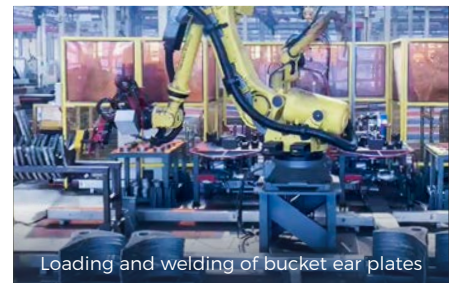
▲ Mech-Eye NANO ULTRA-GL @ 0.6 m, captured under strong ambient light (> 60,000 lx)



▲ Mech-Eye NANO ULTRA-GL @ 0.6 m, color rendered by height

For Fine Assembly, Precision Part Picking and Welding

- Installed on the robot's arm to conduct fine welding work in steel structure, machinery, shipbuilding, and automotive industries



- Work with cobots, AGVs, mobile and industrial robots for precision part picking, fine assembly, bolt tightening and grinding

