

LJ-X8080

2D/3D Laser Profiler Sensor Head

KEYENCE LJ-X8080 is a 2D/3D laser-profiler sensor head. It captures high-density surface profiles for dimensional and shape inspection by a compatible LJ-X8000 controller.

PRODUCT SNAPSHOT

BRAND
KEYENCE

FAMILY
LJ-X8000 laser profiling system

PART
LJ-X8080

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PRODUCT OVERVIEW

KEYENCE LJ-X8080 is a 2D/3D laser-profiler sensor head. It captures high-density surface profiles for dimensional and shape inspection by a compatible LJ-X8000 controller.

1

Projects a blue laser line across the measured surface

2

Captures 3200 profile points for height and shape reconstruction

3

Measures Z displacement across the stated X field

4

Supplies profile data to the paired LJ-X controller for inspection

SYSTEM COMPONENTS

LJ-X8000 series controller

approved sensor-head cable

rigid optical mount

shielded industrial Ethernet and I/O connections

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
GT2-H32	High-accuracy digital contact sensor head	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Reference distance	73 mm
Z measuring range	+/-20.5 mm
X range at near position	30 mm
X range at reference	35 mm
X range at far position	39 mm
Laser wavelength	405 nm
Laser class	Class 2M
Laser output	10 mW
Spot size	44 mm x 72 um approximately

PARAMETER	VALUE
X repeatability	1 um
Z linearity	+/-0.03% FS
Profile interval	12.5 um
Profile points	3200
HDR	Single-shot
Temperature characteristic	0.01% FS/degC
Degree of protection	IP67
Ambient light	10000 lux maximum
Operating temperature	0 to 45 degC

TECHNICAL NOTE

Mount LJ-X8080 on a rigid low-vibration structure, preserve the reference-distance geometry, configure laser safety controls, and verify Z calibration and profile stability on a traceable target.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Inline height and flatness measurement

Projects a blue laser line across the measured surface

Weld-bead and sealant profile inspection

Captures 3200 profile points for height and shape reconstruction

Extrusion width and thickness monitoring

Measures Z displacement across the stated X field

Component coplanarity and warpage inspection

Supplies profile data to the paired LJ-X controller for inspection

PRODUCT PRECAUTIONS

- 1 Verify LJ-X8080 and the assigned controller port before mounting.
- 2 Apply the required Class 2M laser-control and access procedures.
- 3 Keep the optical window clean and avoid contact with coated surfaces.
- 4 Maintain the 73 mm reference geometry and prevent bracket deflection.
- 5 Route the sensor cable separately from high-current switching conductors.
- 6 Configure the actual X/Z measurement region without clipping the workpiece.
- 7 Validate repeatability and linearity with a traceable target.
- 8 Confirm trigger timing, profile transfer, and reject logic at production speed.

ENGINEER FAQ

Q1 What commissioning evidence should be retained for LJ-X8080?

Retain the full LJ-X8080 identity, as-left wiring and settings, measured functional-test results, final diagnostics, and authorization to return the affected equipment to service.

Q3 How should the field connections for LJ-X8080 be recorded before replacement?

Record terminal or connector identity, polarity, shield, cable tag, channel assignment, and the as-found diagnostic state before disconnecting LJ-X8080.

Q5 Which configuration check is essential when commissioning LJ-X8080?

Restore only the approved model-specific channel, range, address, scale, or interface settings and compare them with the physical installation before enabling the process function.

Q7 What should be checked if LJ-X8080 reports an unstable or incorrect value?

Check seating, supply, grounding, shielding, matched components, mechanical installation, and the signal path before changing configuration or replacing additional hardware.

Q2 Which installed hardware must be matched before fitting LJ-X8080?

Match the complete LJ-X8080 marking to LJ-X8000 series controller and approved sensor-head cable, then confirm the assigned LJ-X8000 laser profiling system position and approved system configuration.

Q4 What isolation is required before installing LJ-X8080?

Place inline height and flatness measurement in the approved maintenance state, isolate every applicable power, signal, and stored-energy source, and prove the work area safe.

Q6 How can an engineer function-test LJ-X8080 after installation?

Apply a controlled input, reference, or limited output appropriate to 2d/3d laser profiler sensor head, observe the system indication and diagnostics, and confirm the intended process response.

Q8 Can LJ-X8080 be replaced by a visually similar model without review?

No. Verify the complete part number, electrical execution, connector arrangement, companion hardware, and approved software or rack configuration.