



Vision systems PLB

PLB-500



Model Name > [PLB-500](#)
Part No. > [1058009](#)



SICK's PLB vision system is designed for precise localization of randomly orientated parts in bins and boxes. It enables the easy introduction of new parts into existing work cells and short part changeover time by using CAD-based 3D shape matching part localization software. The PLB's performance supports high production rates. The vision system consists of a 3D camera, part localization software and tools for easy integration and communication. The system's advanced 3D camera ensures superior image quality and provides high immunity to ambient light. Field-proven tools and functions for calibration, communication with a robot and PLC, as well as checking for free gripping position, make it easier to integrate the system into production. The hardware and software are already integrated and pre-set for the application.

At a glance

- 3D vision system for robotic part handling
- Localization of randomly oriented parts in bins and boxes
- 3D camera with superior image quality
- High immunity to ambient light conditions
- CAD-based 3D shape matching
- Combination of pre-set software and hardware
- Integrated tools for calibration and robot communication
- Verifies free gripping position based on end-effector model

Your benefits

- PLB vision system facilitates cost-effective design of robotic part handling systems
- Field-proven tools make it easier for robot integrators to develop the complete application
- The combination of precise 3D shape matching and short measurement times supports relevant production rates
- Advanced SICK 3D camera technology ensures reliable results even under varying site conditions
- Flexible part localization makes it possible handling parts with a variety of shapes and sizes at various positions within the bin
- CAD-based shape matching makes it easy to introduce new parts in existing work cells



Features

Type of system:	Part localization
Applications:	Localization of blanks, casted or forged metal parts stored in bins
System features:	3D camera plus software package for part localization
Laser class:	2M
Light source ¹⁾ :	Laser, red, 660 nm
Camera:	Snap-shot 3D
Example volume of view (L x W x H):	1,000 mm x 1,200 mm x 750 mm (max. image area), 800 mm x 1,200 mm x 1,000 mm (max. height range)
Image resolution (X, Y, Z):	1 mm ... 4 mm, depending on distance to camera
3D CAD format:	IGES

¹⁾ ± 15 nm

Performance

Part localization time:	5 s ... 10 s (typical)
Part localization accuracy:	< +/- 2 mm and < +/- 1° (typical)
Part size:	(approx.) > 100 mm x 100 mm x 100 mm
Part characteristics:	Irregular 3D-shape variations visible to the camera in all relevant part orientations

Interfaces

Digital I/O:	24 V DC I/O 1 input, 1 output
Ethernet ¹⁾ :	✓
Function (Ethernet):	Camera PC, PC robot
Data transmission rate (Ethernet):	Gbit/s (camera), 10/100 Mbit/s (robot)
Protocol (Ethernet):	UDP/IP (camera), TCP/IP (robot)

¹⁾ Two Ethernet interfaces

Mechanics/electronics

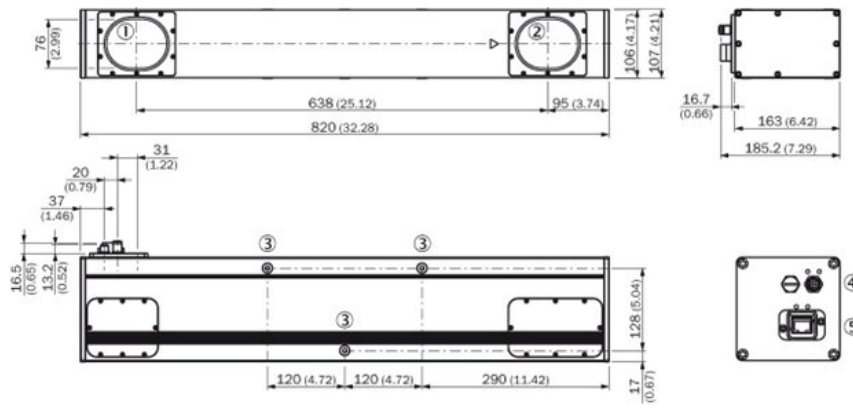
Supply voltage:	24 V DC, < 1 A
Weight:	13.5 kg
Enclosure rating:	IP 65
Dimensions (L x W x H):	820 mm x 107 mm x 145 mm
Housing material:	Aluminum
Housing color:	Gray, varnished
Connectors:	Power I/O: connector M12, 8-pin, Ethernet: RJ45

Ambient data

Ambient operating temperature ¹⁾ :	0 °C ... 40 °C
Shock load ²⁾ :	15 g, 3 x 6 directions
Vibration load ³⁾ :	5 g, 58 Hz ... 150 Hz

¹⁾ Non-condensing ^{2) 3)} Not while scanning

Dimensional drawing



- |1| Image sensor
- |2| Laser unit and rotating mirror
- |3| Fastening threads (M8 x 15 mm)
- |4| Power I/O: M12, 8-pin
- |5| Gigabit Ethernet

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