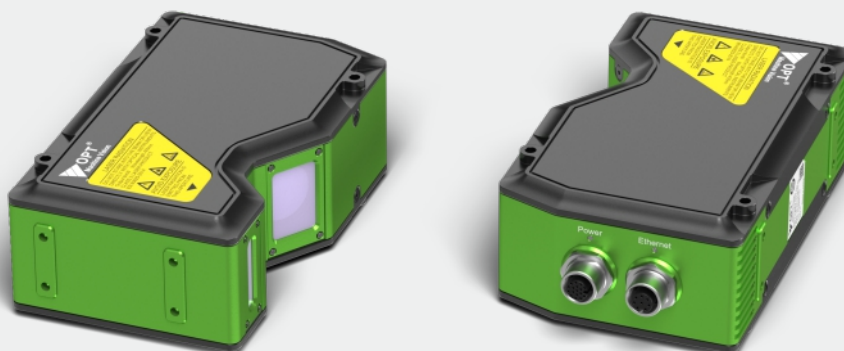


Series LPE2 Basic

OPT-LPE2-007-01

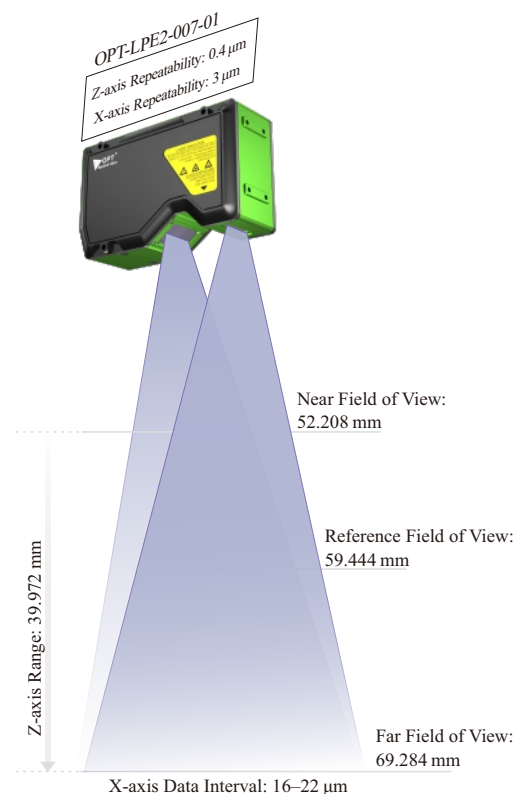


Product Features

- Integrated 3D camera design—no external controller required, operates independently for simple and rapid deployment.
- Cost-effective with up to 3,200 profile points on the X-axis, delivering higher precision and finer reproduction of product contours.
- Equipped with a high-performance chip and FPGA edge acceleration technology, achieving a maximum frame rate of 18 kHz to support high-speed point cloud data acquisition and output.
- HDR functionality, combined with anti-vibration interference correction and post-processing algorithms, ensures superior contour accuracy and adaptability for scanning products with varying background colors.
- Complete hardware-software solution—all 3D sensors are compatible with OPT's full-featured algorithm platform, Smart3, enabling zero-code, visual graphical programming for fast deployment of 3D project applications.
- Compliant with GigE Vision 2.0 protocol, GenICam standard, and certified for EMC and RoHS.

Product Model and Parameters

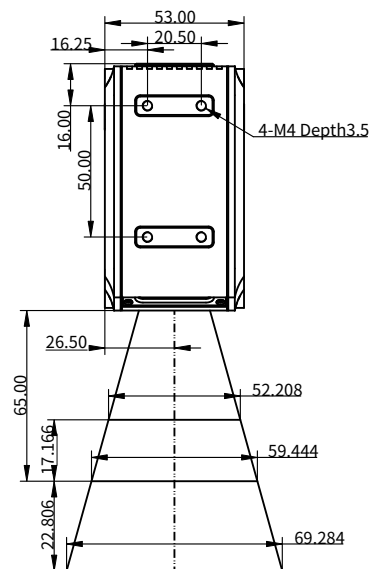
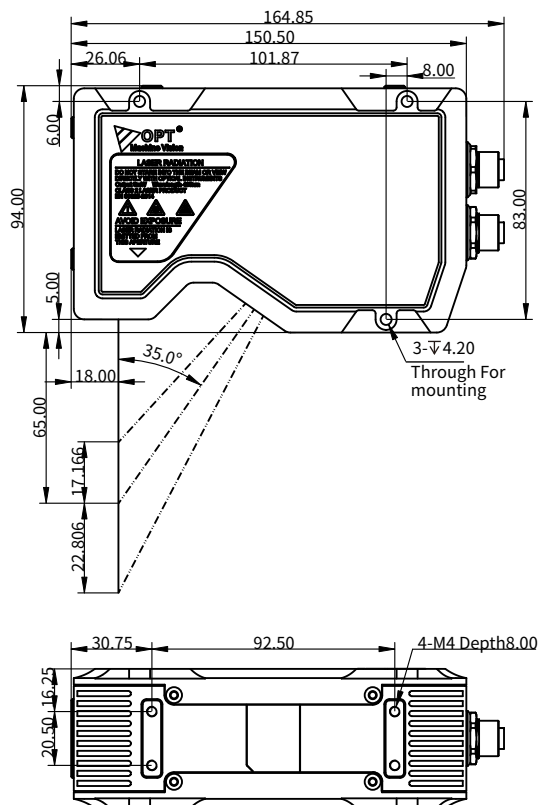
Model			OPT-LPE2-007-01
Performance	Reference Distance (CD)		65 mm
	Z-axis Range (FS)		39.972 mm
	X-axis Width	Near End	52.208 mm
		Standard	59.444 mm
		Far End	69.284 mm
	Z-axis Repeatability		0.4μm
	X-axis Repeatability		3μm
	X-axis Data Interval		16–22μm
	X-axis Profile Points		3200 points
	Z-axis Linearity		±0.03% * FS
	Scanning Speed (Frame Rate)		2000–18000 Hz
	Laser Wavelength		405 nm
	Laser Safety Class		Class 2
	Laser Output Power		6 mW
Structure	Dimensions (mm)		150.5 × 94 × 53
	Weight (kg)		1.041



Structure	Operating Temperature	0-50°C
	Storage Temperature	-20-70°C
	Operating Humidity	35%~85% non-condensing
	ESD Protection	Contact discharge 4 kV, air discharge 8 kV, compliant with IEC61000-4-2
	EFT Protection	Power port 2 kV/5 kHz or 100 kHz, signal port 1 kV/5 kHz or 100 kHz, compliant with IEC61000-4-4
	Vibration (Environmental Durability)	Frequency 12500 Hz, max amplitude ± 25.5 mm, max velocity ± 2 m/s, RMS acceleration 3 g, 2 hours random vibration in X, Y, Z directions
	Enclosure Protection Rating	IP55, compliant with IEC60529
Electrical Characteristics	Typical Power Consumption (W)	17.5 W (24 VDC full power operation at room temperature)
	Power Supply Requirements	24 VDC power supply
	I/O Interface	2 optocoupler inputs, 3 optocoupler outputs
Others	Supporting Software	3D sensor client software OPT LP Viewer, supporting algorithm platform software Smart3
	Operating System Requirements	Windows 7/10 32/64-bit, Windows 11 64-bit (recommended 8 GB RAM, i5 or equivalent processor)
	Secondary Development System Support	Linux/Windows

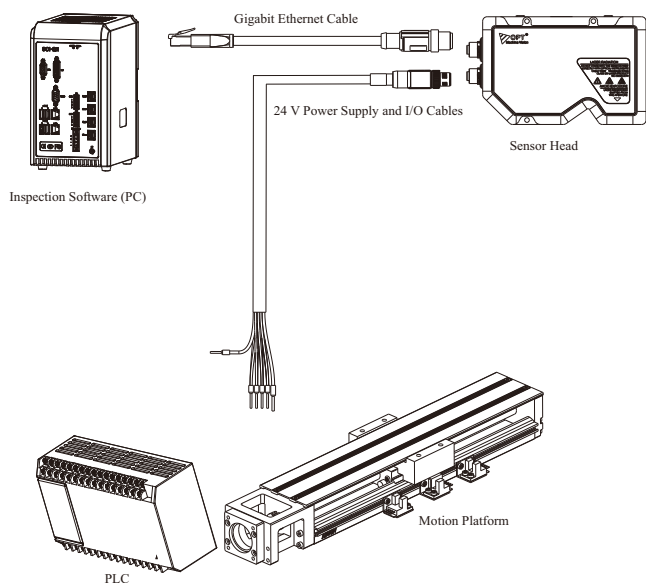
Dimensions(mm)

OPT-LPE2-007-01

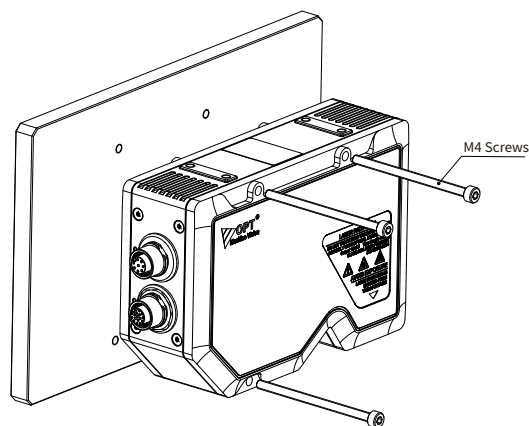


Multiple Interface Trigger Modes

Wiring Method

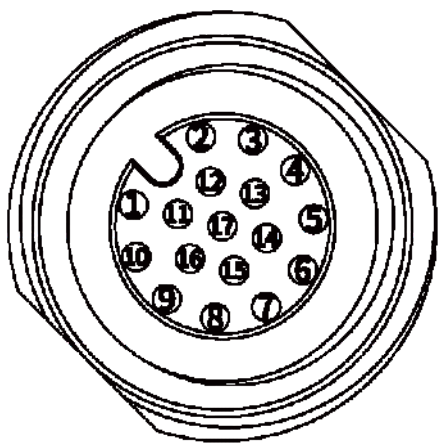


Assembly Method



Note: The recommended length for M4 through-hole locking nuts is the sum of the camera width plus the installation bracket thread depth.
(e.g., Camera width 53 mm + Thread depth 10 mm = 63 mm nut length)

I/O Interface Descriptions



Pin	Signal	Description
1	ENC_B-	Differential encoder phase B input negative, opto-isolated
2	ENC_A-	Differential encoder phase A input negative, opto-isolated
3	ENC_A+	Differential encoder phase A input positive, opto-isolated
4	OPT_OUT2	General-purpose digital output 2, opto-isolated
5	OPT_OUT1	General-purpose digital output 1, opto-isolated
6	OPT_OUT0	General-purpose digital output 0, opto-isolated
7	OPT_IN0	General-purpose digital input 0, opto-isolated
8	ENC_Z-	Differential encoder phase Z input negative, opto-isolated
9	ENC_Z+	Differential encoder phase Z input positive, opto-isolated
10	ENC_B+	Differential encoder phase B input positive, opto-isolated
11	24V_IN_GND	Power supply (0V) GND
12	24V_IN	Power supply (+24V)
13	OPT_OUT_GND	General-purpose digital output ground, GND
14	OPT_IN_GND	General-purpose digital input ground, GND
15	OPT_IN1	General-purpose digital input 1, opto-isolated
16	ENC_GND	Differential encoder signal ground, GND
17	Reserve	Reserved

