

MV-DP3060-01D

3D Laser Profile Sensor



Introduction

With dual-mode image sensor, MV-DP3060-01D can eliminate blind area of FOV and suppress stray light. With built-in high-accuracy algorithm, image process algorithm of wide dynamic range, and data integration algorithm, it can output high accurate 3D point cloud data in real-time by combining high frame rate chip and accurate laser control. With compact structure, high integration, and easy operation, it is widely applied into consumer electronics, electronics manufacturing, automobile, etc.

Available Model

MV-DP3060-01D

MV-DP3060-01D V2.0

Applicable Industry

Consumer electronics, electronics manufacturing, automobile, etc.

Key Features

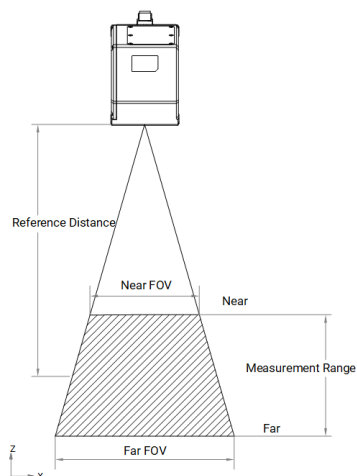
- Dual-mode image sensor to eliminate blind area of FOV and suppress stray light.
- Built-in high-accuracy 3D algorithm and accuracy is up to submicron level.
- Adopts high frame rate chip with 46.7 kHz scan frame rate.
- Supports multiple exposure modes with wider dynamic range.
- Adopts image integration algorithm technology to provide complete point cloud data.
- Provides multiple filter modes with stable point cloud data.

Specification

Model	MV-DP3060-01D	MV-DP3060-01D V2.0
Performance		
Data points/profile	3200	
Reference distance	60 mm	63.5 mm
Measurement range (Z-axis)	20.5 mm	26.0 mm
Measurement range (X-axis)	27.5 mm @ near field of view 30.5 mm @ reference distance 33.5 mm @ far field of view	26.5 mm @ near field of view 31.0 mm @ reference distance 35.5 mm @ far field of view
Resolution (Z-axis)	1.45 μm to 2.17 μm	1.51 μm to 2.68 μm
Repeatability (Z-axis)*	0.44 μm @ data that sensor tests gauge block on optical platform	0.49 μm @ data that sensor tests gauge block on optical platform
Linearity Z-axis (±% of MR)	0.008	
Scan frame rate	1.3 kHz (within max. measurement range), max. 19 kHz (in ROI mode)	3.4 kHz to 46.7 kHz (high frame rate mode)
Profile data interval	8.9 μm to 11.1 μm	8.5 μm to 11.6 μm
Data output	Profile data, depth image, brightness image, width image	
Trigger mode	Software trigger, hardware trigger (differential encoder)	
Wavelength	405 nm	
Laser safety class	Class 3R	
Electrical feature		
Data interface	Gigabit Ethernet (1000 Mbit/s), compatible with Fast Ethernet (100 Mbit/s)	
Digital I/O	12-pin M12 connector provides power and I/O, including differential input × 3 (Line 0/3/6), differential output × 1 (Line 1), and RS-232 × 1	12-pin M12 connector provides power and I/O, including opto-isolated input × 2 (Line 0/9), differential input × 2 (Line 3/6), and differential output × 1 (Line 1)
Power supply	24 VDC	
Power consumption	Typ. 21 W @ 24 VDC	Typ. 28 W @ 24 VDC
Mechanical		
Dimension	258 mm × 97.5 mm × 66 mm (10.2" × 3.8" × 2.6")	240 mm × 98 mm × 58 mm (9.4" × 3.9" × 2.3")
Weight	Approx. 1510 g (3.3 lb.)	Approx. 1500 g (3.3 lb.)
Ingress protection	IP67	
Temperature	Working temperature: 0 °C to 45 °C (32 °F to 113 °F) Storage temperature: -30 °C to 80 °C (-22 °F to 176 °F)	Working temperature: 0 °C to 40 °C (32 °F to 104 °F) Storage temperature: -30 °C to 80 °C (-22 °F to 176 °F)
Humidity	20% RH to 85% RH (no condensation)	
General		
Client software	3DMVS, VM3D, or third-party 3D software	
Operating system	32/64-bit Windows 7/10, 64-bit Windows 11 (8 GB memory and above, and i5 CPU recommended)	

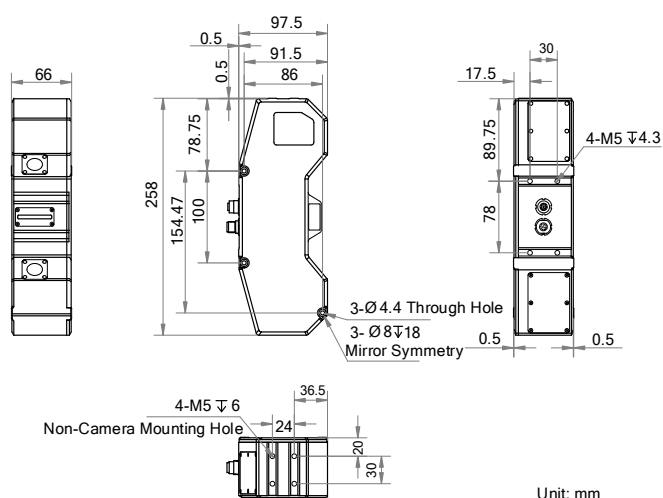
*This data is obtained via testing gauge blocks in a laboratory, and it is an average from 4096 tests.

Measurement Range Diagram



Dimension

MV-DP3060-01D



MV-DP3060-01D V2.0

