

MV-DP2060-01D

3D Laser Profile Sensor



Introduction

With dual-mode image sensor, MV-DP2060-01D can eliminate blind area of FOV and suppress stray light. With built-in high-accuracy 3D 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. for 3D information acquisition.

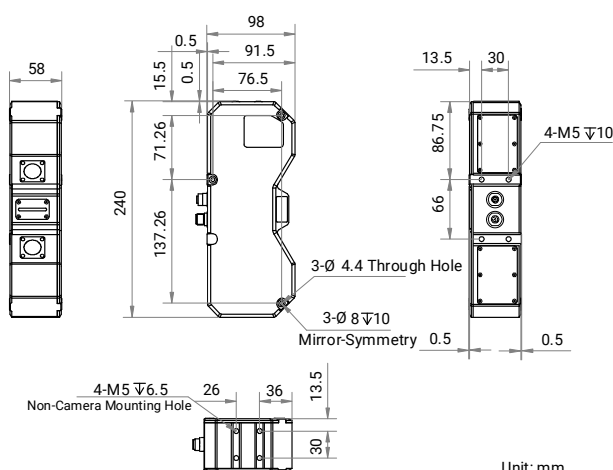
Available Model

MV-DP2060-01D V2.0

Applicable Industry

Consumer electronics, electronics manufacturing, automobile, etc.

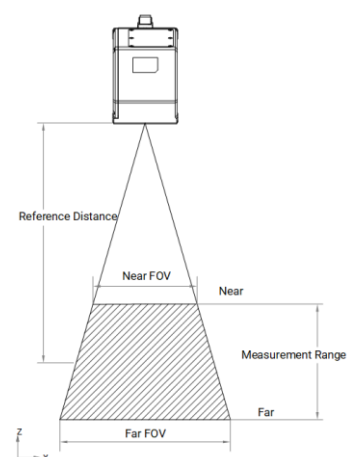
Dimension



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 image chip up to 23.9 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.

Measurement Range Diagram



Specification

Model	MV-DP2060-01D
Performance	
Data points/profile	3200
Reference distance	63.5 mm
Measurement range (Z-axis)	26 mm
Measurement range (X-axis)	26.5 mm @ near field of view 31 mm @ reference distance 35.5 mm @ far field of view
Resolution (Z-axis)	1.51 μm to 2.68 μm
Repeatability (Z-axis)*	0.49 μm @ data that sensor tests gauge block on optical platform*
Linearity Z-axis ($\pm\%$ of MR)	0.008
Scan frame rate	1.7 kHz to 23.9 kHz (in high frame rate mode)
Profile data interval	8.5 μm to 11.6 μm
Data output	Profile data, depth image, brightness image, width image
Trigger mode	Software trigger, hardware trigger (single-ended, differential, 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 opto-isolated input $\times 2$ (Line 0/9), differential input $\times 2$ (Line 3/6), differential output $\times 1$ (Line 1)
Power supply	24 VDC
Power consumption	Typ. 21 W @ 24 VDC
Mechanical	
Dimension	240 mm $\times$ 98 mm $\times$ 58 mm (9.4" $\times$ 3.9" $\times$ 2.3")
Weight	Approx. 1500 g (3.3 lb.)
Ingress protection	IP67
Temperature	Working temperature: 0 $^{\circ}\text{C}$ to 45 $^{\circ}\text{C}$ (32 $^{\circ}\text{F}$ to 113 $^{\circ}\text{F}$) Storage temperature: -30 $^{\circ}\text{C}$ to 80 $^{\circ}\text{C}$ (-22 $^{\circ}\text{F}$ to 176 $^{\circ}\text{F}$)
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.