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 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, automotive industry, etc. for 3D information acquisition.

Available Model

MV-DP3060-01D

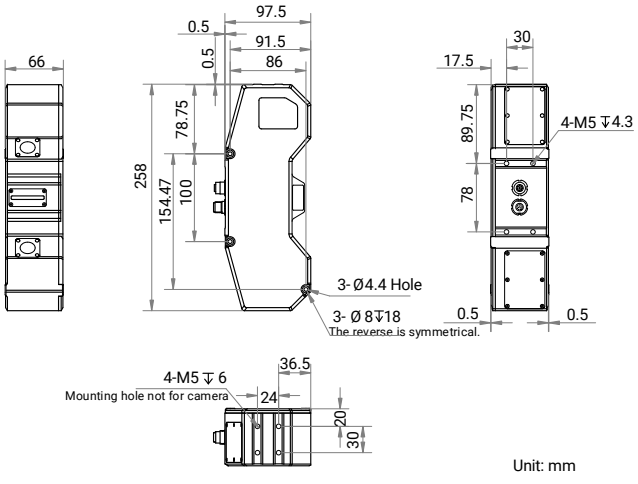
Applicable Industry

Consumer electronics, electronics manufacturing, automotive industry, etc.

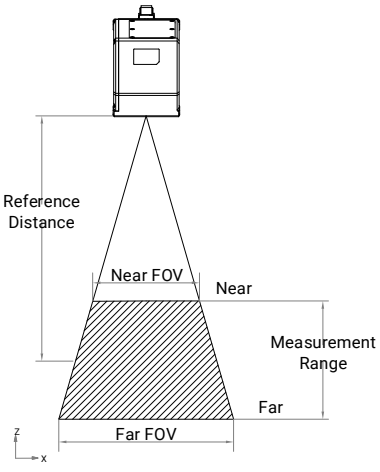
Key Feature

- 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 19 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.

Dimension



Measurement Range Diagram



Specification

Model / Parameter	MV-DP3060-01D 3D Laser Profile Sensor
Performance	
Data points/profile	3200
Reference distance	60 mm
Measurement range (Z-axis)	20.5 mm
Measurement range (X-axis)	27.5 mm @ near field of view 30.5 mm @ reference distance 33.5 mm @ far field of view
Resolution (Z-axis)	1.45 μm to 2.17 μm
Repeatability (Z-axis)*	0.44 μm @ data that sensor tests gauge block on optical platform
Linearity Z-axis (±% of MR)	0.008
Profile data interval	8.9 μm to 11.1 μm
Scan frame rate	1.3 kHz (within max. measurement range), max. 19 kHz (in ROI mode)
Data output	Profile data, depth image, brightness image, width image
Trigger mode	Software trigger, hardware trigger (differential encoder)
Laser safety class	Class 3R
Wavelength	405 nm
Electrical feature	
Data interface	Gigabit Ethernet (1000 Mbit/s), compatible with Fast Ethernet (100 Mbit/s)
Digital I/O	12-pin M12 interface provides power and I/O, including differential input × 3 (Line 0/3/6), differential output × 1 (Line 1), and RS-232 × 1
Power supply	24 VDC
Power consumption	Typ. 21 W @ 24 VDC
Mechanical	
Dimension	258 mm × 97.5 mm × 66 mm (10.2" × 3.8" × 2.6")
Weight	Approx. 1510 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)
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.*

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