# MV-DP2300-03P

**3D Laser Profile Sensor**




## Introduction

With built-in high-accuracy algorithm, image process algorithm of wide dynamic range, and data integration algorithm, MV-DP2300-03P 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-DP2300-03P V2.0

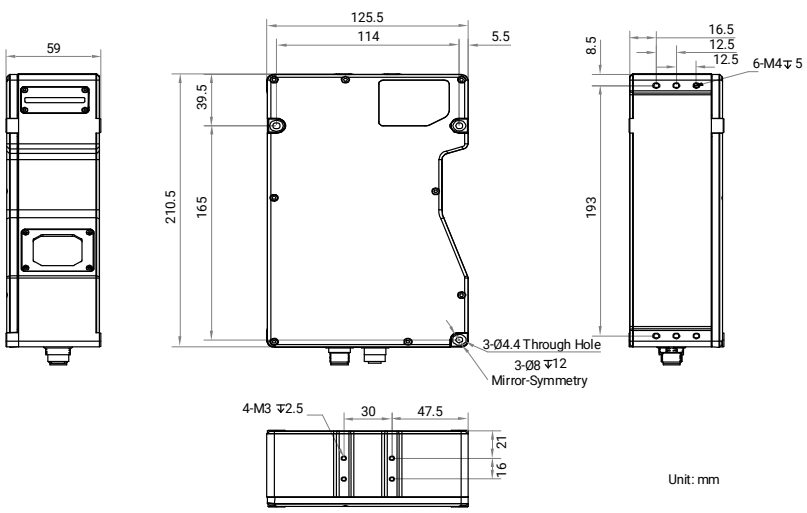
## Applicable Industry

Consumer electronics, electronics manufacturing, automobile, etc.

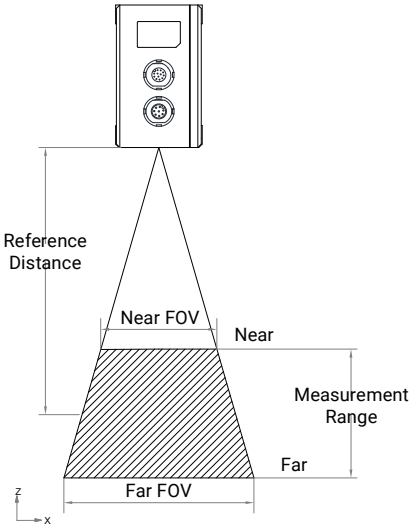
## Key Features

- Built-in high-accuracy algorithm and accuracy is up to submicron level.
- Adopts high frame rate chip with 23.9 kHz scan frame rate.
- Supports multiple exposure modes with good robustness.
- Adopts multiple-frame integration technology to provide complete profiles.
- Provides multiple filter modes with stable data.
- Supports ROI selection and auto setting for easier operation.

## Dimension




## Measurement Range Diagram



# Specification

| Model | MV-DP2300-03P |
|---|---|
| ***Performance*** | |
| **Data points/profile** | 3200 |
| **Reference distance** | 300 mm |
| **Measurement range (Z-axis)** | 210 mm |
| **Measurement range (X-axis)** | 130 mm @ near field of view<br>183 mm @ reference distance<br>236 mm @ far field of view |
| **Resolution (Z-axis)** | 9.36 μm to 26.27 μm |
| **Repeatability (Z-axis)*** | 2.20 μm @ data that sensor tests gauge block on optical platform* |
| **Linearity Z-axis (±% of MR)** | 0.01 |
| **Scan frame rate** | 1.7 kHz to 23.9 kHz (in high frame rate mode) |
| **Profile data interval** | 40.5 μm to 79.2 μm |
| **Data output** | Profile data, depth image, brightness image |
| **Trigger mode** | Software trigger, hardware trigger (differential encoder) |
| **Wavelength** | 650 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 × 2 (Line 0/9), differential input × 2 (Line 3/6), differential output × 1 (Line 1) |
| **Power supply** | 24 VDC |
| **Power consumption** | Typ. 15.2 W @ 24 VDC |
| ***Mechanical*** | |
| **Dimension** | 210.5 mm × 125.5 mm × 59 mm (8.3" × 4.9" × 2.3") |
| **Weight** | Approx. 1550 g (3.4 lb.) |
| **Ingress protection** | IP67 |
| **Temperature** | Working temperature: 0 °C to 45 °C (32 °F to 113 °F)<br>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 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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