

# MV-DP2240-03P

## 3D Laser Profiler



## Introduction

With built-in high-accuracy algorithm, image process algorithm of wide dynamic range, and data integration algorithm, MV-DP2240-03P 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 3C industry, electronics manufacturing, automobile, etc.

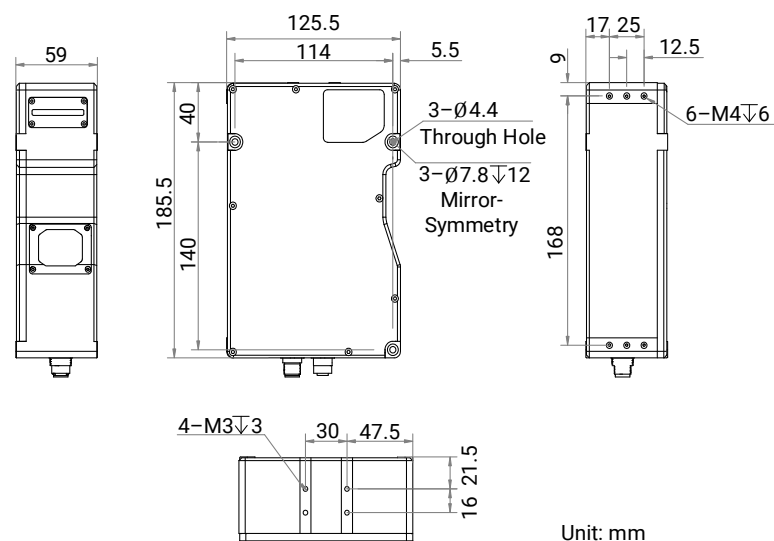
## Available Model

MV-DP2240-03P

## Applicable Industry

3C industry, electronics manufacturing, automobile, etc.

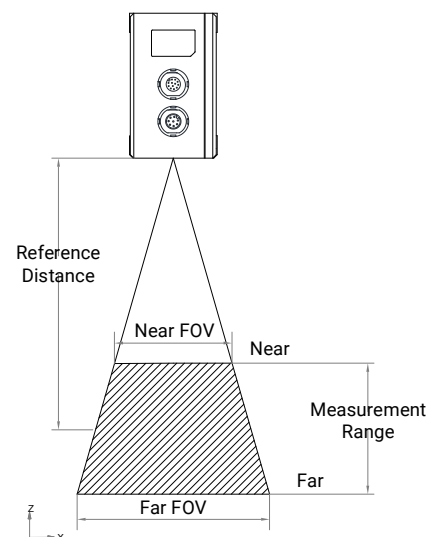
## Dimension



## Key Feature

- Built-in high-accuracy algorithm and accuracy is up to submicron level.
- Adopts high frame rate chip with 10 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.

## Measurement Range Diagram



## Specification

| Parameter                   | Model                                                                                                                                        | MV-DP2240-03P |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|                             | 3D Laser Profiler                                                                                                                            |               |
| Performance                 |                                                                                                                                              |               |
| Data points/profile         | 2048                                                                                                                                         |               |
| Reference distance          | 245 mm                                                                                                                                       |               |
| Z-axis measurement range    | 200 mm                                                                                                                                       |               |
| X-axis measurement range    | 101 mm @ near field of view<br>150 mm @ reference distance<br>200 mm @ far field of view                                                     |               |
| Z-axis resolution           | 6.60 μm to 11.59 μm                                                                                                                          |               |
| Z-axis repeatability*       | 2.28 μm @ data that sensor tests gauge block on optical platform                                                                             |               |
| Z-axis linearity (±% of MR) | 0.01                                                                                                                                         |               |
| Profile data interval       | 49.3 μm to 97.7 μm                                                                                                                           |               |
| Scan frame rate             | 700 Hz (within max. measurement range), max. 10 KHz                                                                                          |               |
| Data output type            | Profile data, depth image, brightness image                                                                                                  |               |
| Trigger mode                | Software trigger, external trigger (differential encoder)                                                                                    |               |
| Laser 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 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           | 15 W @ 24 VDC                                                                                                                                |               |
| Mechanical                  |                                                                                                                                              |               |
| Dimension                   | 185.5 mm × 125.5 mm × 59 mm (7.3" × 4.9" × 2.3")                                                                                             |               |
| Weight                      | Approx. 1450 g (3.2 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 (8 GB memory and i5 CPU)                                                                                              |               |

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