

MV-DP3300-03P

3D Laser Profile Sensor



Introduction

With built-in high-accuracy algorithm, image process algorithm of wide dynamic range, and data integration algorithm, MV-DP3300-03P 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.

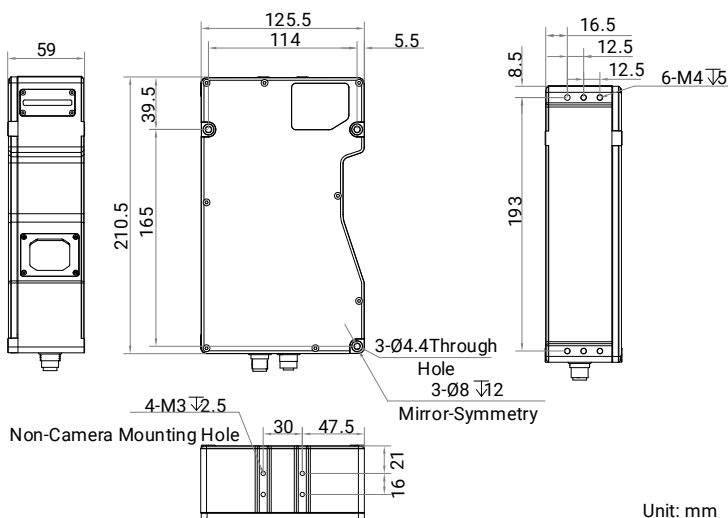
Available Model

- MV-DP3300-03P
- MV-DP3300-03P V2.0

Applicable Industry

Consumer electronics, electronics manufacturing, automobile, etc.

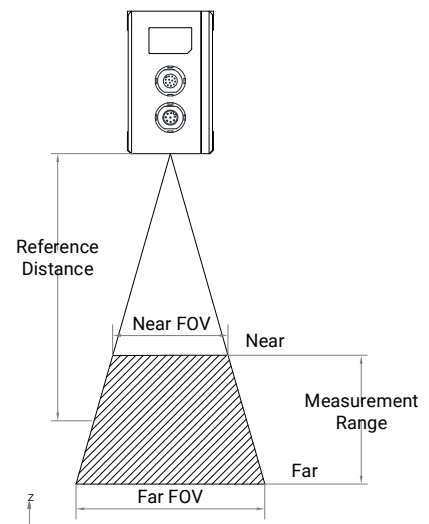
Dimension



Key Feature

- Built-in high-accuracy algorithm and accuracy is up to submicron level.
- Adopts high frame rate chip with 46.7 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

| | Model | MV-DP3300-03P | MV-DP3300-03P V2.0 |
|-----------------------------|-------|--|--|
| Parameter | | 3D Laser Profile Sensor | |
| Performance | | | |
| Data points/profile | | 3200 | |
| Reference distance | | 300 mm | |
| Measurement range (Z-axis) | | 210 mm | |
| Measurement range (X-axis) | | 122 mm @ near field of view 171 mm @ reference distance 220 mm @ far field of view | 130 mm @ near field of view 183 mm @ reference distance 236 mm @ far field of view |
| Resolution (Z-axis) | | 8.11 μm to 26.50 μm | 9.36 μm to 26.27 μm |
| Repeatability (Z-axis)* | | 2.03 μm @ data that sensor tests gauge block on optical platform | 2.20 μm @ data that sensor tests gauge block on optical platform |
| Linearity Z-axis (±% of MR) | | 0.01 | |
| Profile data interval | | 37.4 μm to 73.1 μm | 40.5 μm to 79.2 μm |
| 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) |
| Data output | | Profile data, depth image, brightness image | |
| Trigger mode | | Software trigger, hardware trigger (differential encoder) | |
| Laser safety class | | Class 3R | |
| Wavelength | | 650 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 | 12-pin M12 interface 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. 13.8 W @ 24 VDC | Typ. 17.2 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) 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.