

Horn-X2 Pro Series Datasheet

High-performance 3D LiDAR

Benewake Horn-X2 Pro is a 3D LiDAR which combines high-performance, high safety and high reliability. This LiDAR can be applied in a variety of mass transportation application scenarios, such as Cooperative Vehicle Infrastructure System (CVIS), Intelligent airport, Intelligent railway, Intelligent shipping, and so on. Horn-X2 Pro generates a high-density point cloud of up to 600 lines due to the high vertical angle resolution, easily perceiving the surrounding environment. Because of its advanced design, Horn-X2 Pro LiDAR effectively resists strong ambient light interference and works steadily under severe weather conditions.

Horn-X2 Pro supports for multiple working modes, and its performance parameters can be tailored in order to satisfy various complex requirements of customers.

Product Characteristics

- ✓ **3D Long-range Measurement**
- ✓ **High-definition Resolution**
- ✓ **Vertical Fov Adjustable**
- ✓ **Against ambient light & Severe weather interference**

Applications Scenarios

- ✓ **CVIS**
- ✓ **Intelligent Railway**
- ✓ **Intelligent Airport**
- ✓ **Intelligent Shipping**
- ✓ **Others**



300m@10%

Long-range detection with full reflectivity

90°*30°

Large FoV (H*V)

1-20FPS

Frame Rate Scope

0.05°*0.05°

Ultra-high Resolution

1550nm

Class 1 Eye Safety

IP67

High Protection Level

** The above data are the optimal parameters. For more information, please consult the company's website: en.benewake.com*

Horn-X2 Pro Series Parameter Table

PRODUCT PERFORMAMNCE			
Range @100Klux ^①	@750K points/s	@830K points/s	@620K points/s
	2m~200m @10%Reflectivity	2m~250m @10%Reflectivity	2m~300m @10%Reflectivity
FoV	90° (Horizontal) * 30° (Vertical FoV Adjustable)		
Angle Resolution	0.05°~0.2° (Adjustable)		
Precision ^②	1σ=5cm		
Accuracy ^③	±5cm		
Frame Rate	1-20FPS		
Return Mode	Support Last/Further/Strongest return modes		
OPTICAL PERFORMANCE			
Laser Safe Class	Class 1 Eye safety 【IEC60825-1:2014】		
Laser Wavelength	1550nm		
Beam Divergence	1.1mrad		
DATA OUTPUT			
Network Interface	1000Base-T		
Data Protocol	UDP		
Time Synchronization	PPS+GPS、IEEE1588v2		
Working Platforms	Windows, Linux & ROS drives		
COMPEHENSIVE PARAMETERS			
Power Consumption	≤35W		
Operating Voltage	9-36V		
Dimensions	192.6*157*126mm		
Weight	≤3.8KG		
Network Connector	M12 X-code-8pin male		
Power Connector	M12 A-code-8pin female		
Operating Temperature	-40℃~85℃		
Storage Temperature	-40℃~90℃		
Ingress Protection	IP67		
Mounting	Refer to below exterior dimensions		

- ◆ This range is measured outdoors under 100Klux or less, and at an ambient temperature of 25℃. Changes in conditions may cause variations in the measurement results. The blind area is 2m within ±25° of the horizontal center FoV.
- ◆ This precision is measured at 10% reflectivity in the range of 2-50m at an ambient temperature of 25℃. Changes in conditions may cause variations in the measurement results.
- ◆ This accuracy is measured at 90% reflectivity in the range of 2-50m at an ambient temperature of 25℃. Changes in conditions may cause variations in the measurement results.

Exterior Dimensions (mm)

Top View: Overall dimensions 157mm (width) x 192.6mm (height). Mounting holes: 8XM4 (top flange), UNC 1/4-20 (internal), 4.5X8 (bottom flange). Internal dimensions: 136mm (inner width), 183mm (inner height), 12mm (flange thickness), 10.5mm (bottom flange offset), 97.5mm (internal vertical offset), 15mm (internal vertical offset).

Front View: Overall dimensions 157mm (width) x 126mm (height). Features a central "Window". Mounting holes: 4XM4 (top panel).

Side View: Overall dimensions 183mm (depth) x 98.4° (angle). Features a "Window".

Rear View: Overall dimensions 140mm (width) x 155mm (height). Mounting holes: 4XM4 (top panel). Features a "Window".

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- ◆ **Disclaimer:** As our products are constantly improving and updating, the specifications of Horn-X2 Pro are subject to change. Please refer to the official website for the latest version.