ORADAR MS200k Lidar Compatible with Robot User Guide

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Product Positioning Description

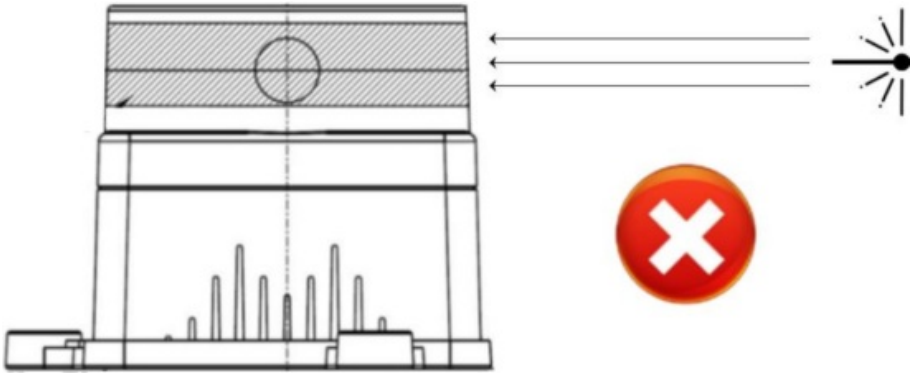
MS200k is an indoor consumer-grade product, not designed for industrial or other complex commercial scenarios. It is designed for home use environments, which means that the MS200k is suitable for use in environments that are not large and not harsh.

Recommended Application Scenarios

This product can be applied to fields including navigation and obstacle avoidance for home cleaning robots and indoor service robots, robot ROS research and education, and static scanning for volume measurement.

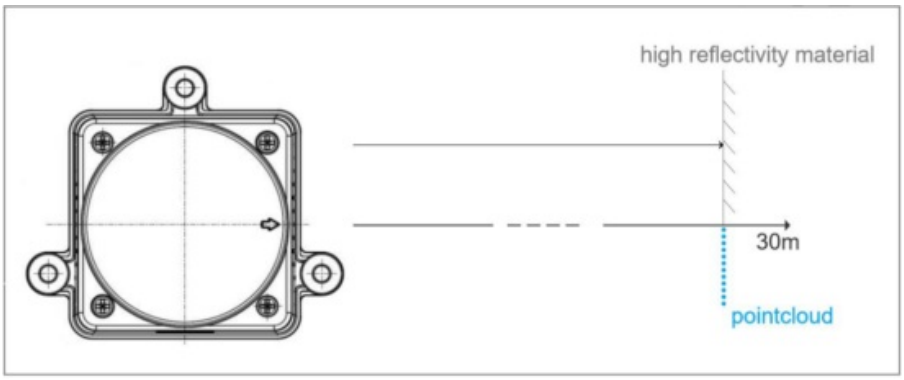
Restricted Scenarios and Suggested Usage Methods

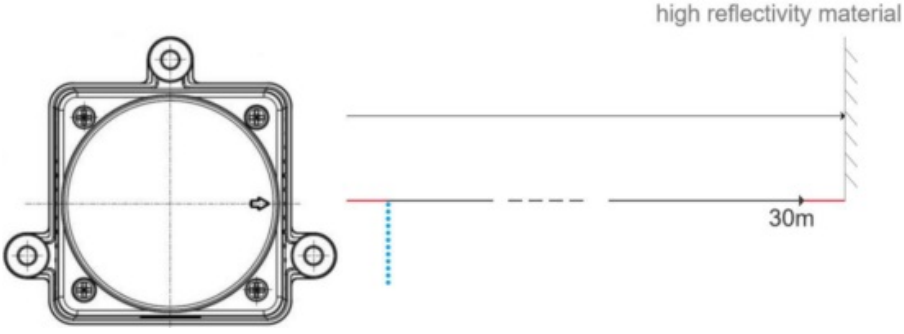
Do not directly face high-power laser sources
Due to the inherent characteristics of SPAD chips, when the operating site contains other high-power laser sources with wavelengths close to that of the MS200k, and the laser directly irradiates the SPAD chip of the MS200k, it can cause irreversible damage to the chip.



If the MS200k needs to be used in conjunction with other high-power laser equipment, it should be ensured that the use scenarios do not involve direct line-of-sight exposure between the MS200k and the other lasers, or that a certain height difference is maintained between them.

Avoid using in scenarios that are over 30 meters away and involve materials with high reflectivity
Due to chip design limitations, the maximum effective distance supported by the LIDAR is about 30 meters. When there are too many glass and high-reflectivity targets beyond this distance, it will interfere with the LiDAR's distance measurement judgment, forming point clouds across periods at close range.

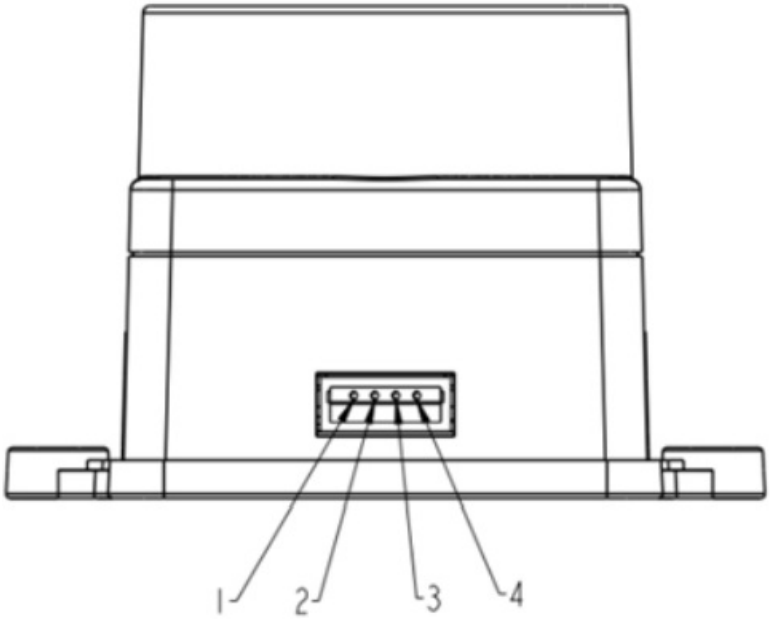




Objects beyond 30 meters cause point clouds to appear at closer distances due to cross cycle phenomenon

Prevent the RX pin from maintaining a high logic level when LiDAR is not powered

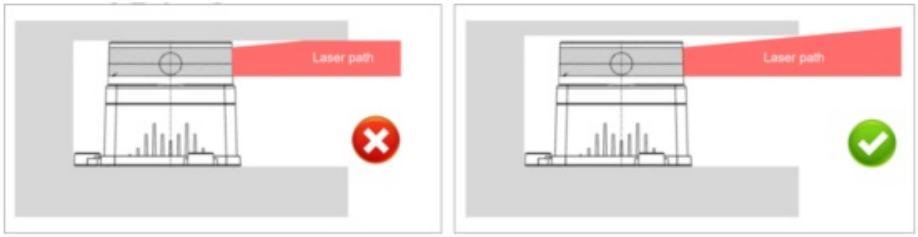
The MS200k's RX supports operation in a floating state. If the RX is connected and used, when the VCC pin is not powered, the RX must be kept in a low-level state. If, in a non-operational state and the RX is at a high level, it can cause a weak voltage at the VCC terminal, which may affect the working state of the MCU on the BOT board with a low probability, causing the MCU to fail to start after the normal VCC power-up, requiring a complete power-off and restart to recover.



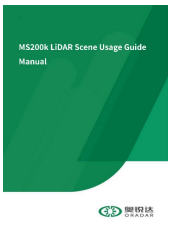
Pin	Signal	Properties	Description
1	Tx	Serial data sending	Tx (Local sending, 0V~3.3V)
2	Rx	Serial data receiving	Rx (Local receiving, 0V~3.3V)
3	GND	Input power negative	GND (0V)
4	VCC	Input power positive	DC 5.0V (4.7V~5.3V)

Be Aware of Structural Interference

To avoid the laser from irradiating the ground when installed at a low position, the LIDAR has a Pitch angle of 0.5°~2°. If the installation space is narrowat the top, it may cause the laser to irradiate external structures, forming noise points, which can affect actual use and judgment. For this reason, the 3D drawings we provide include the range of the laser path, and it is recommended to refer to these drawings for external structural design.



Documents / Resources

	**ORADAR MS200k Lidar Compatible with Robot** [pdf] User Guide MS200k Lidar Compatible with Robot, MS200k, Lidar Compatible with Robot, Compatible with Robot, with Robot, Robot

References

- **User Manual**