# Livox Mid-70
# 相关资料文档介绍


Livox Technology
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# Livox 官方网站资料

**Livox 官网链接**

- https://www.livoxtech.com/

**Livox 官网资料下载**

- 英文：https://www.livoxtech.com/downloads
- 中文：https://www.livoxtech.com/cn/downloads

**Livox Github**

- https://github.com/Livox-SDK

**Livox Wiki**

- 英文：https://livox-wiki-en.readthedocs.io/en/latest/
- 中文：https://livox-wiki-cn.readthedocs.io/zh_CN/latest/index.html

# Mid-70系列/ Mid-70 series

## Mid-70系列雷达常见的技术参数/Basic specifications of Mid-70

- 英文： https://www.livoxtech.com/mid-70/specs
- 中文： https://www.livoxtech.com/cn/mid-70/specs

## Mid-70资料下载中心/ Mid-70 document center

- 英文： https://www.livoxtech.com/mid-70/downloads
- 中文： https://www.livoxtech.com/cn/mid-70/downloads
- 资料说明/ Description：
  - Mid-70系列快速入门和用户手册 / Mid-70 quick start guide and user manual
  - 点云特点介绍 /Point cloud characteristics
  - Mid-70 系列3D数模/ Mid-70 3D model and FOV Shape
  - 相关软件和硬件固件/ Related software and firmware

# Mid-70系列/ Mid-70 series

## Mid-70快速入门指南(多语言版) / Mid-70 quick start guide(multi-language)

- https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/Mid-70/new/Livox%20Mid-70%20Quick%20Start%20Guide%20v1.0.pdf
- 资料说明/ Description：
  - Mid-70机械结构，安装说明/ Mechanical structure, guide for the installation
  - 硬件接口，电路连接/ Hardware interface, electrical structure
  - Mid-70基本技术参数/ Basic specifications of Mid-70

## Mid-70系列用户手册 / Mid-70 user manual

- 英文： https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/Mid-70/new/Livox%20Mid-70%20User%20Manual_EN.pdf
- 中文： https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/Mid-70/new/Livox%20Mid-70%20User%20Manual_CHS.pdf
- 资料说明/ Description：
  - Mid-70机械结构，安装说明/ Mechanical structure, guide for the installation
  - 硬件接口，电路连接/ Hardware interface, electrical structure
  - 不同工作模式介绍 /Introduction of different working mode
  - 时间同步方式介绍 /Introduction of time synchronization
  - 点云录制处理，雷达外参和Livox viewer介绍/ introduction of point cloud recording, extrinsic of lidars and software Livox viewer

# Mid-70系列/ Mid-70 series

## Mid-70系列常见问题与回答 / Mid-70 FAQ

- 英文： https://www.livoxtech.com/mid-70/faq
- 中文： https://www.livoxtech.com/cn/mid-70/faq

## Livox Mid-70数模文件 / 3D model of  Livox Mid-70

- https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/Mid-70/Livox%20Mid-70%203D%20Model%20and%20FOV%20Shape.stp

# Livox 上位机 / Livox Software

## 上位机软件下载 / Livox lidar software download

- Windows：https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/update/Livox%20Viewer%200.10.0.zip
- Ubuntu：https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/update/Livox_Viewer_For_Linux_Ubuntu16.04_x64_0.10.0.tar.gz
- 资料说明/ Description：
  - Livox Viewer 0.10.0 (64bit) – Windows 7 / 10
  - Livox Viewer 0.10.0 (64bit) – Ubuntu 16.04 / 18.04

## Livox Viewer 用户手册 / Livox Viewer user manual

- 英文: https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/update/Livox Viewer User Manual v1.2.pdf
- 中文：https://terra-1-g.djicdn.com/65c028cd298f4669a7f0e40e50ba1131/Download/update/Livox Viewer 用户手册 v1.2.pdf

# Livox SDK / Ros driver

## SDK下载链接 / SDK download：

- 英文：https://github.com/Livox-SDK/Livox-SDK
- 中文：https://github.com/Livox-SDK/Livox-SDK/blob/master/README_CN.md
- 资料说明 / Description： 支持Windows 7/10 64bit / Ubuntu 16.04 / 18.04 64bit / Support Windows 7/10 64bit / Ubuntu 16.04 / 18.04 64bit

## ROS平台的Livox ros driver / Livox ros driver on ROS platform

- Ubuntu: https://github.com/Livox-SDK/livox_ros_driver
- 资料说明 / Description：
  - 在ROS平台上使用的Livox 雷达驱动的安装和使用指 南 / Livox driver on ROS platform and the installation and user guide

## SDK通讯协议和数据格式 / SDK Communication protocol and data format

- https://github.com/Livox-SDK/Livox-SDK/wiki/Livox-SDK-Communication-Protocol
- 资料说明 / Description：
  - 通讯协议格式 / Communication protocol
  - 同步和时间戳格式 / Time synchronization and timestamp data format
  - 点云数据格式 / Point cloud data format
  - 雷达状态代码参考 / Lidar status code references

# 开源算法/ Open source algorithm

## Livox_Mapping

It’s a mapping package for Livox LiDARs. The package currently contains the basic functions of low-speed mapping.

- https://github.com/Livox-SDK/livox_mapping

## Horizon_Highway_Slam

It’s a robust, low drift, and real time highway SLAM package suitable for the Livox Horizon lidar, which is a high-performance LiDAR sensor built for Level 3 and Level 4 autonomous driving.

- https://github.com/Livox-SDK/horizon_highway_slam

## Livox-Horizon-LOAM

It’s a robust, low drift, and real time odometry and mapping package for Livox LiDARs, significant low cost and high performance LiDARs that are designed for massive industrials uses. Our package is mainly designed for low-speed scenes(~5km/h)

- https://github.com/Livox-SDK/livox_horizon_loam

# 开源算法/ Open source algorithm

## Livox_Camera_Lidar_Calibration

This solution provides a method for manually calibrating the extrinsic parameters between Livox LiDAR and camera, which has been verified on series Mid-40, Horizon and Tele-15.

- https://github.com/Livox-SDK/livox_camera_lidar_calibration

## Livox_Detection

Livox Detection is a robust,real time detection package for Livox LiDARs. The detector is designed for L3 and L4 autonomous driving. It can effectively detect within 200*100m range under different vehicle speed conditions(0~120km/h).

- https://github.com/Livox-SDK/livox_detection

## Livox_Automatic_Calibration

This technology mainly relies on the isomorphic constraint assumption model of the environment to realize automatic calibration, and only needs to use the original point cloud data of the base LiDAR and target LiDAR.

- https://github.com/Livox-SDK/Livox_automatic_calibration

# Many Thanks For Your Attention.