SEN0585 Upper Computer

Operator Manual

1. Foreword

Please read the operator manual carefully before using it, so as to avoid accidents caused by misoperation.

SEN0585 Upper Computer software and related information can be downloaded through the official website, and Windows10 and above systems are free from installation drive.

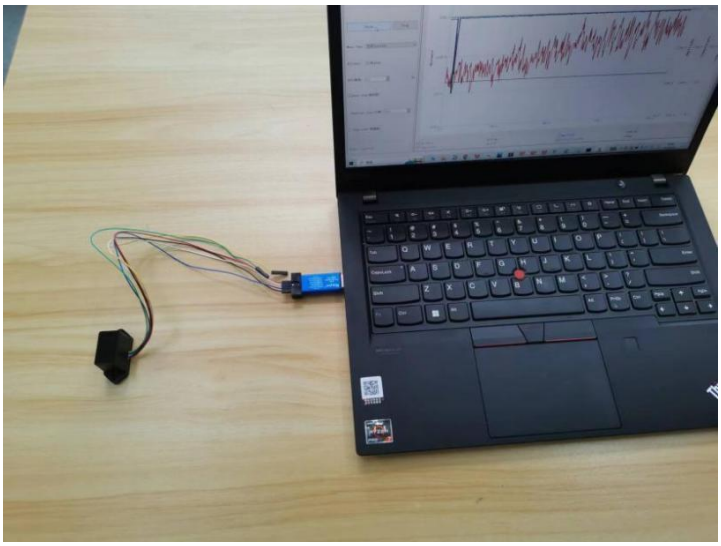
2. Preparation

2.1 Interface line sequence and function description

Pin NO	Definition	Function Description
1	Mode	Mode selection： selecting different communication interfaces based on different Electrical Level states 1: U ART mode (default mode) 0: IIC mode
2	DATA READY	In IIC mode, this port multiplexes as the interrupt notification function.
3	TX/SCL	In the UART mode, for the Tx communication line In the IIC mode, for the SCL communication line
4	RX/SDA	In the U ART mode, for the Rx communication line In the IIC mode, for the SDA communication line
5	GND	Ground wire
6	VCC	5V power supply

2.2 Method of application

includes XT-S1 module x1, connecting cable x1



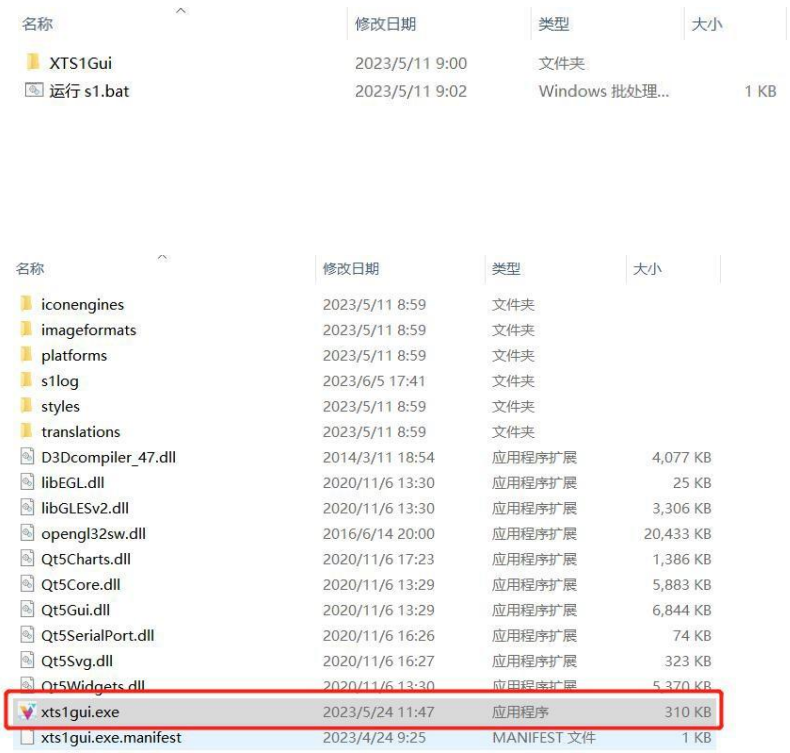
Connect to the computer via USB and supply power.(USB to serial converter, please contact sales or agent to purchase separately)

3. Introduction

XT-S1 upper computer, xts1 gui. exe is an installation free application program, which includes waveview of distance, amplitude, temperature, integration time information, data window display and command functions. It can effectively understand various information of LiDAR, helping testers and customers quickly understand LiDAR performance. Currently, it supports Windows 10 and above operating systems (recommended to use Windows 10).

4. Operating steps

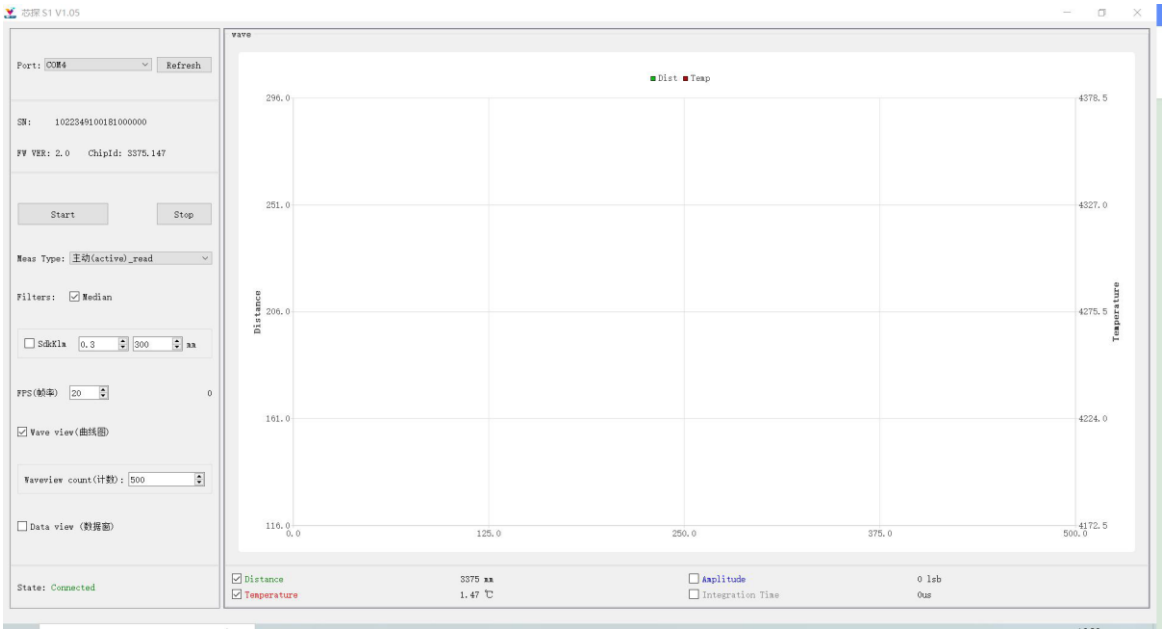
4.1 Find the XT-S1 software, see in the red box below, xts1gui. Exe is the upper computer software



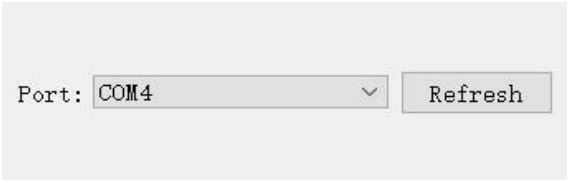
名称	修改日期	类型	大小
XTS1Gui	2023/5/11 9:00	文件夹	
运行 s1.bat	2023/5/11 9:02	Windows 批处理...	1 KB

名称	修改日期	类型	大小
iconengines	2023/5/11 8:59	文件夹	
imageformats	2023/5/11 8:59	文件夹	
platforms	2023/5/11 8:59	文件夹	
s1log	2023/6/5 17:41	文件夹	
styles	2023/5/11 8:59	文件夹	
translations	2023/5/11 8:59	文件夹	
D3Dcompiler_47.dll	2014/3/11 18:54	应用程序扩展	4,077 KB
libEGL.dll	2020/11/6 13:30	应用程序扩展	25 KB
libGLESv2.dll	2020/11/6 13:30	应用程序扩展	3,306 KB
opengl32sw.dll	2016/6/14 20:00	应用程序扩展	20,433 KB
Qt5Charts.dll	2020/11/6 17:23	应用程序扩展	1,386 KB
Qt5Core.dll	2020/11/6 13:29	应用程序扩展	5,883 KB
Qt5Gui.dll	2020/11/6 13:29	应用程序扩展	6,844 KB
Qt5SerialPort.dll	2020/11/6 16:26	应用程序扩展	74 KB
Qt5Svg.dll	2020/11/6 16:27	应用程序扩展	323 KB
Qt5Widgets.dll	2020/11/6 13:30	应用程序扩展	5,370 KB
xts1gui.exe	2023/5/24 11:47	应用程序	310 KB
xts1gui.exe.manifest	2023/4/24 9:25	MANIFEST 文件	1 KB

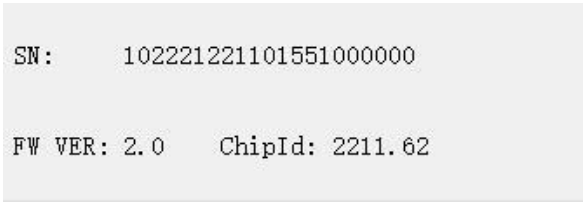
4.2 After opening the xts1gui. software, the main settings interface will appear



4.3 Serial port selection and refresh button

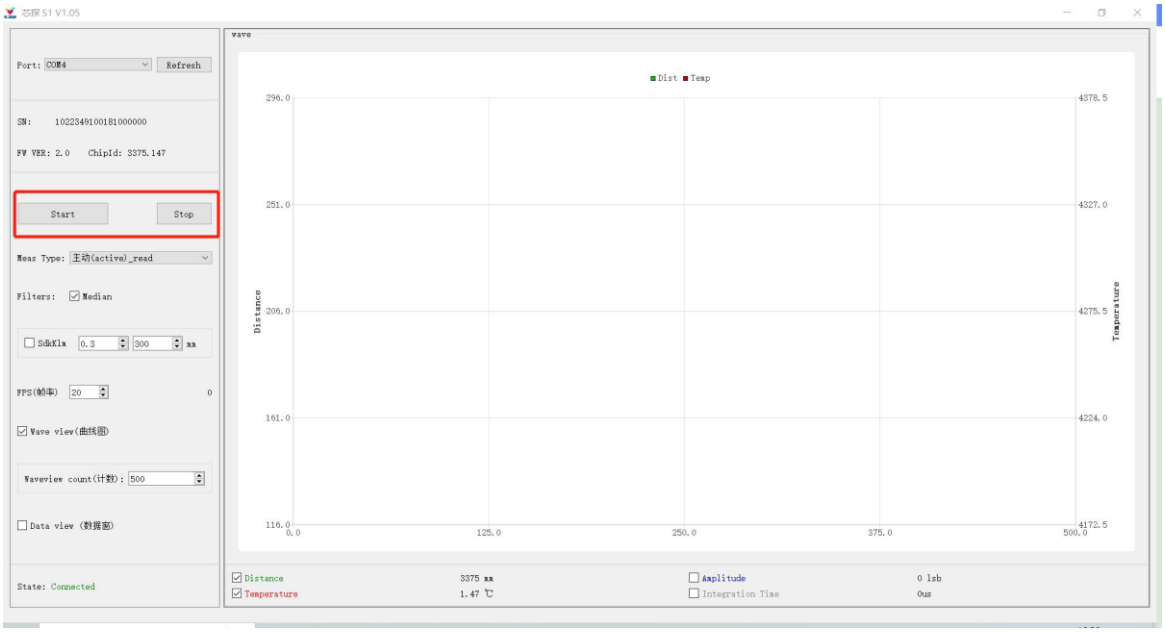


4.4 Product serial number, firmware version and ChipId



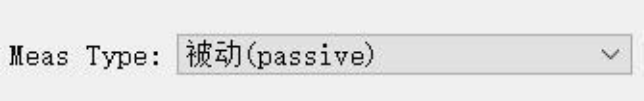
4.5 Button Start (Pause) and Stop

After the module displays Connected in the bottom left corner, clicking the Start button can display the current graphic data in real-time, clicking the Pause button can pause the display of the current graphic data, and clicking the Stop button can stop the real-time display of the screen. As shown in the following figure:

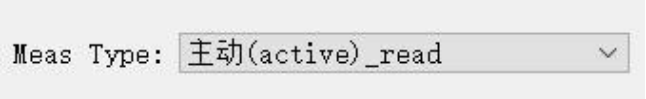


4.6 Selection of the ranging method

- Passive (passive): the host gives the ranging instruction through the communication port, and the module stops the test after completing one sampling, and returns the distance information measured.



- Active (active) _read: The host sets the output frequency of the module through the communication port. After the measurement is started, the module will make continuous measurement at a fixed frequency, but the data will not be returned in real time, and commands need to be issued to obtain (amplitude, integration time)



- Active (active) _receive: The host sets the output frequency of the module through the communication port. After the measurement is turned on, the module will be measured continuously at a fixed frequency. After completing the measurement, output the current result, and the host waits for the reception of the measurement results.

Suggestions for use:

1. Passive (passive) —— only requires a few sets of data for a fixed number of times per day

2. Active (active) _read —— Need to obtain real-time data (distance, temperature, amplitude, integration time) and analysis

3. Active (active) _ receive—— Need to obtain real-time data (distance, temperature) and does not pay attention to (amplitude, integration time)

4.7 Filter settings

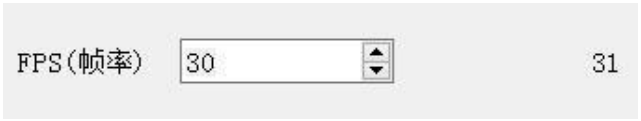
Median filter (set on or off)

Kalman Filter (set to open or off)

Parameter 1: the proportion of the current depth information

Parameter 2: effective distance range

4.8 Frame rate setting with real-time display



Frame rate range: 1 to 50 frames

4.9 Graph display ang data window display

You can choose to display the wave view, data window, or both

And set the waveview count.

4.10 connection status

```
State: Connected
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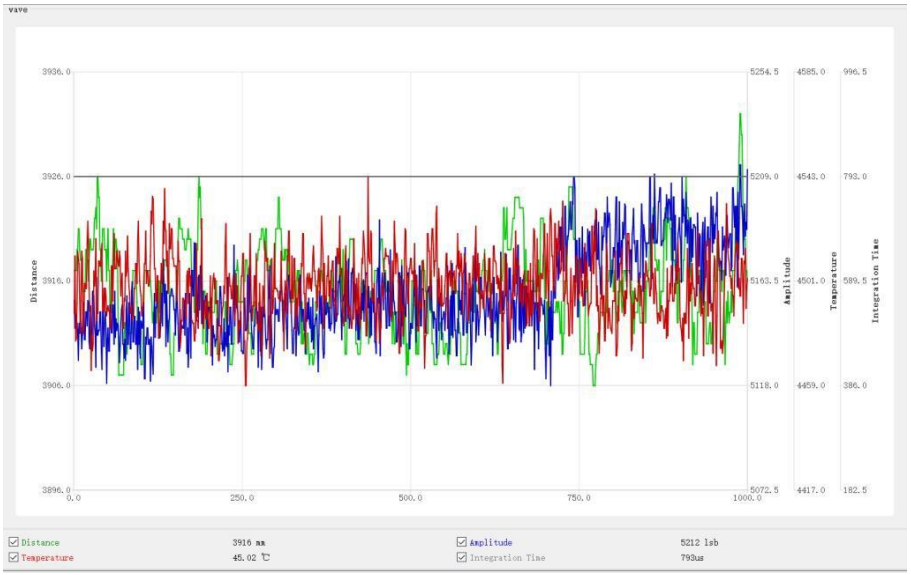
4.11 Main display interface

Wave view:



The horizontal axis represents the number of waveforms, and the vertical axis represents the specific information value. You can check to open or close each curve chart

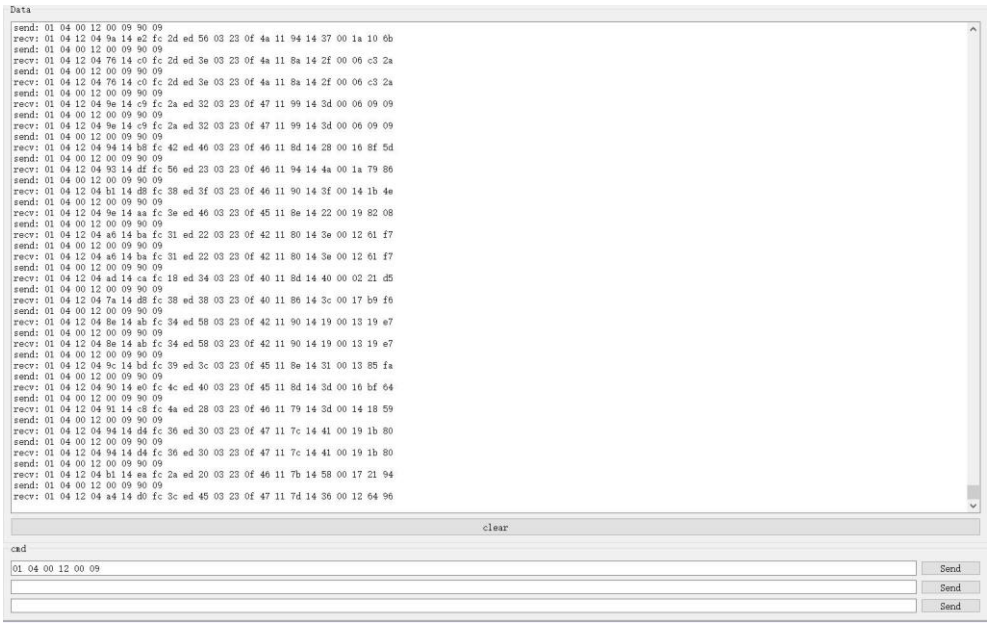
The green curve represents distance information

The blue curve represents amplitude information

The red curve represents temperature information

The Grey curve represents integral time information

Date window:



Displays the data sent and received

Click clear to clear the data window interface

The input box allows for command input, with a maximum of 3 commands simultaneously

Version update:

Edition	Description	Date
V1.0	found	20230606
V1.1	1、The active mode is divided into two types: read and receive 2. Add Kalman filter Based on the upper computer V1.05	20230629