CS10 single-point ranging LiDAR Instructions

➢ Product appearance

Product introduction

CS10 is a single-point ranging LiDAR, based on dToF principle. This product uses 815nm laser as the active light source, with 14m detection range and cm-level detection accuracy. It can be used in robot SLAM, UAV, material level detection, etc.

➢ Specifications and parameters

Parameter name	Describe
Measure range	0.05 ~ 14米 (indoor)
Accuracy	≤3CM @ 60% ~ 90% Reflectivity
Sunshine resistance	60Klux
Frame rate	1.8K / 3.6K / 7.2K
Light source	815nm
Eye safety	IEC 60825-1 Class 1
FOV	2°
Supply voltage	5V ~ 5.5V
Average current	<150mA
ESD	2kV (HBM)
Operating temperature	-10 ~ 50℃
Storage temperature	-20 ~ 85℃
Relative humidity	5 ~ 90%
Communication interface	UART (576000bps)
Weight	9g

➢ Electrical connection

Connector : GH1.25-4P

(Female pedestal)

Red: UART – RX

Black: GND

Yellow: UART – TX

Green: VCC - 5V

➢ Serial port protocol

1. UART setting:

Attribute	value
Baud rate	576000
Check bit	None
Data bit	8
Stop bit	1

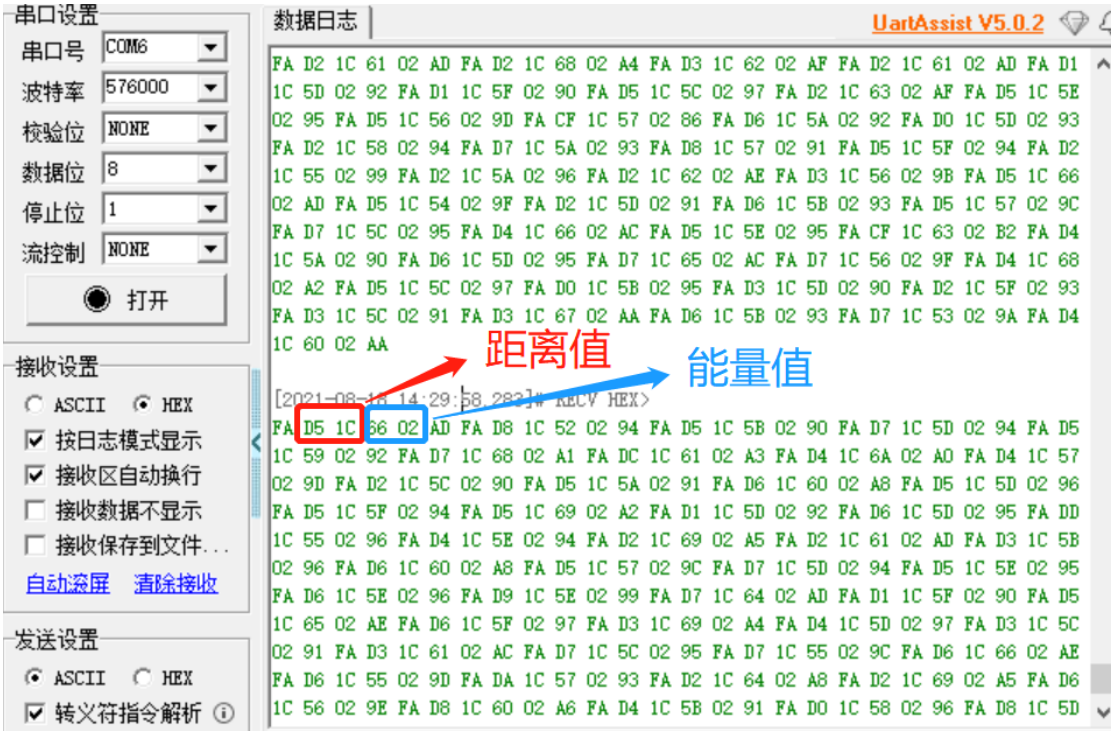
2. Data output mode:

1) Packet size: 6Byte

2) Data format:

Frame	Start character	Distance value		Energy value		Check bit
Byte	1	2		2		1
	FA	L	H	L	H	

Example:



Distance value 0x1CD5 = 7381mm (red word)

Energy value 0x0266 = 614 (blue word)

1) **Frame rate switching process**

2) ac ca 00 00 00 00 (Stop command)

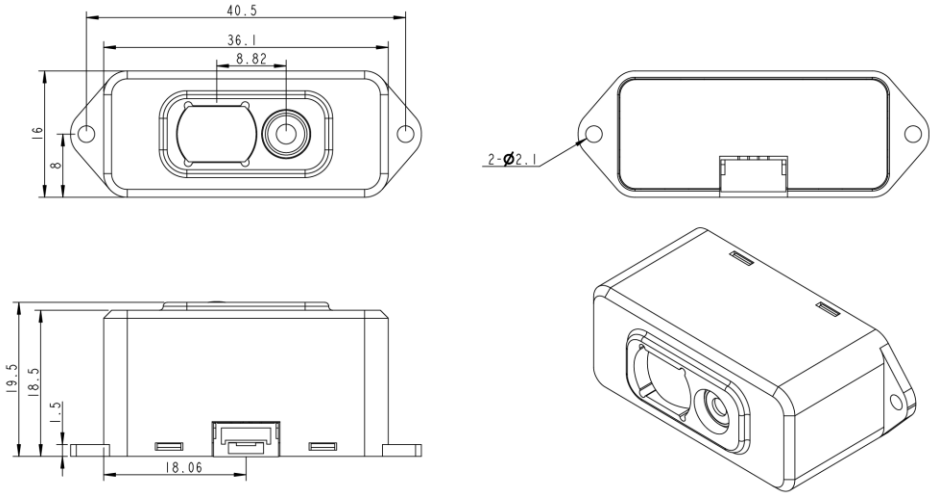
3) ac ca 05 01 00 04 (Handover command - 1.8k output mode)

// ac ca 05 02 00 07 (Handover command - 3.6k output mode)

// ac ca 05 03 00 06 (Handover command - 7.2k output mode)

4) ac ca 00 01 00 01 (Restart command)

➢ Dimension of module



➢ Document version

Edition	Modification time	Modified by
V1.0	2021/8/23	Haley