

PRODUCT SPECIFICATION

产品规范

适用于 For

CDL7 数据链
CDL7 Data Chain



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REVISION HISTORY / 修订历史

Revision/版本	Modification/更改	Date/日期
1.0	New Release / 新发	2023/09/25

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1. Introduction / 简介

CDL7 high-power data chain is a high-performance product designed by QinNav Technology Ltd for GNSS differential data transmission, it is suitable for real-time data transmission in the field such as RTK, adopts advanced radio frequency communication technology and digital processing technology, and is manufactured in strict accordance with industrial-grade product technology to ensure stable and reliable data transmission performance in harsh working environments. Many functional designs in the QinNav CDL7 high-power data chain effectively ensure product safety.

CDL7 大功率数据链是钦天导航为GNSS差分数据传输设计的高性能产品，适用于RTK等野外实时数据传输。采用先进的射频通信技术和数字处理技术，严格按照工业级产品工艺制造，保证在恶劣的工作环境中拥有稳定可靠的数据传输性能。钦天CDL7 大功率数据链中的很多功能设计，有效地保障了产品安全。

1.1. Product Characteristics / 产品特性

Table 1. Product Characteristics / 产品特性

Characteristics	CDL7
Channel Spacing 信道间隔	250KHz
Work Pattern 工作模式	Half duplex 半双工
Working Frequency 工作频率	410MHz -470MHz
Frequency Stability 频率稳定度	±1.5ppm
Receiving Sensitivity 接收灵敏度	-120dBm
Modulation System 调制方式	CSS
Air Baud Rate	500bps/11000bps/12500bps/15500bps/18000bps

空中波特率		
Protocol Type 协议类型	LoRa	
Electrical Characteristics 电气特性	Power supply range 供电范围	+10V~ +14.5V DC
Receiver Performance 接收机性能	Neighborhood selection 邻道选择	>65dB
	Intermodulation suppression 互调抑制	>70dB
	Clutter suppression 杂散抑制	>70dB
	Receive Power 接收功耗	0.6W
Transmitter Performance 发射机性能	Neighborhood suppression Ratio 邻道抑制比	55dB
	Output Signal Power 输出信号功率	5W/25W Max: 30W 最高可支持 30W
	Emission Current 发射电流	< 6A
Physical Characteristics	Antenna Interface 天线接口	N-K

物理特性	Antenna Impedance 天线阻抗	50Ω
	Volume 体积	110mmx180mmx93mm
	Weight 重量	1.3kg
Environmental Characteristics 环境特性	Working Temperature 工作温度	-35 °C~+65 °C
	Storage Temperature 存储温度	-45 °C~+85 °C
	Humidity 湿度	100%, fully sealed, anti-condensation 100%，全密封，防冷凝
	Waterproof Dustproof 防水防尘	IP67

2. CDL7 Product Size / CDL7 尺寸

In this section, product photo and the dimension of CDL7 is provided for customers' further hardware design and installation.

本节提供了CDL7的实物图和对应的物理尺寸，便于用户进一步系统硬件设计和安装。



Figure 1. CDL7 Product Photo / CDL7 实物图

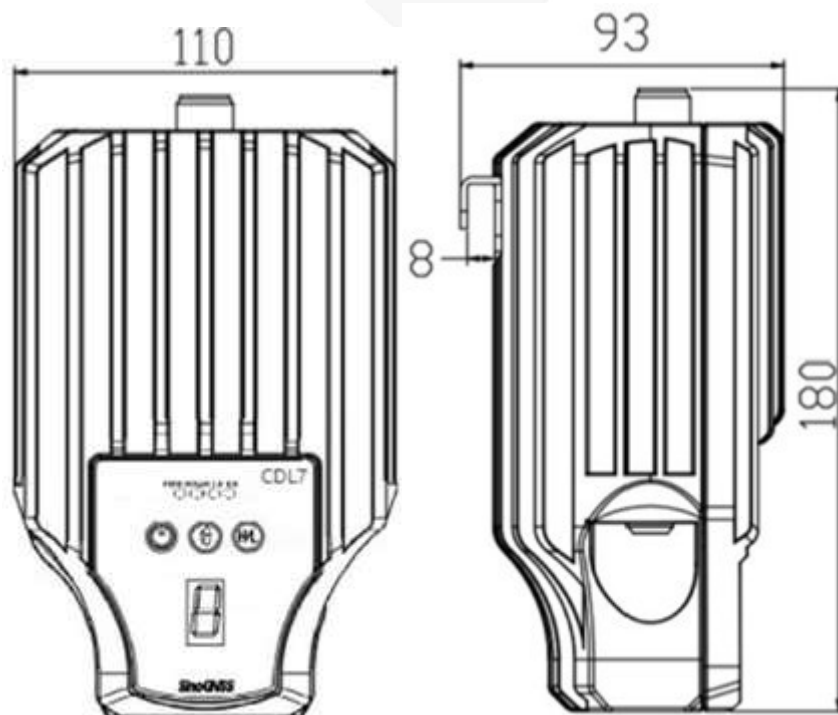


Figure 2. The dimension of CDL7 / CDL7物理尺寸

3. Interface Definition / 接口定义

CDL7 high-power data chain has two interfaces, including a two-core power input interface and a seven-core data interface.

CDL7 大功率数据链产品有两个接口，分别为两芯的电源输入接口和七芯的数据接口。

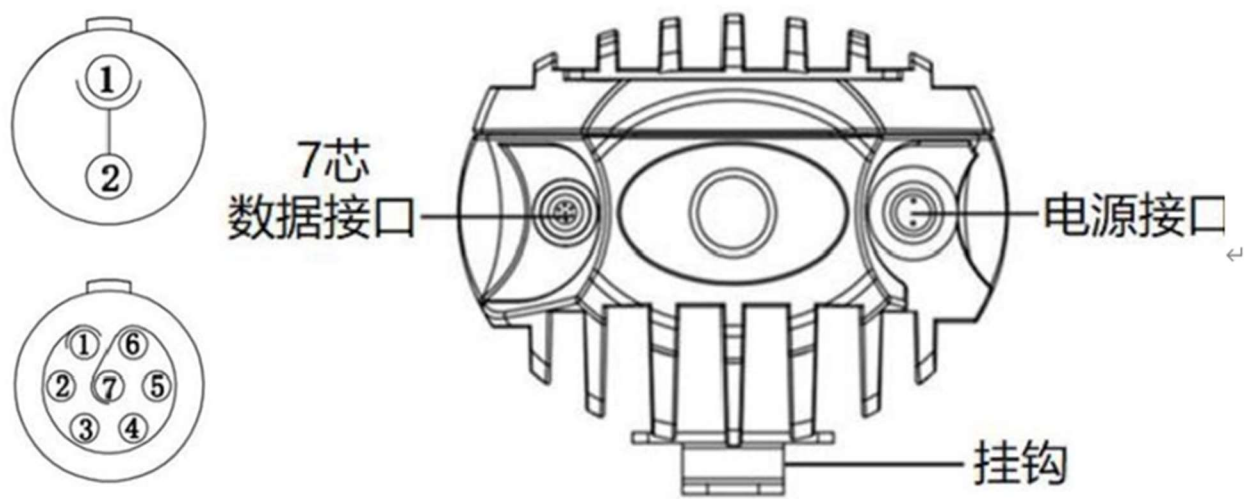


Figure 3. CDL7 Bottom interface / CDL7 底部接口示意图

Table 2. Two-core power interface definition /两芯电源接口定义

PIN	SIGNAL	DESCRIPTION	
1	VCC	Positive power supply	电源正极
2	GND	Negative power supply	电源负极

Table 3. Seven-core power interface definition /七芯电源接口定义

PIN	SIGNAL	DESCRIPTION	
1	GND	Ground Reference	地
2	GND	Ground Reference	地
3	TXD	RS232 serial port to send data	RS232串口发送数据
4	DATA+	USB data+	USB数据+
5	DATA-	USB data-	USB数据-
6	DCOUT	8V/2A voltage output	8V/2A电压输出
7	RXD	RS232 serial port to receive data	RS232串口接收数据

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