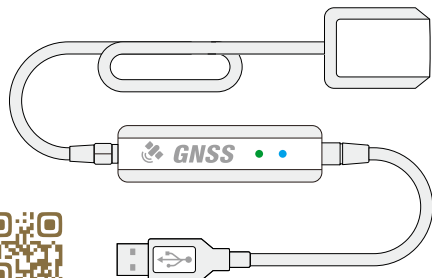**COLUMBUS™**

P-7 Pro
Professional HD GNSS Receiver
Quick Start

⚠ CAUTION

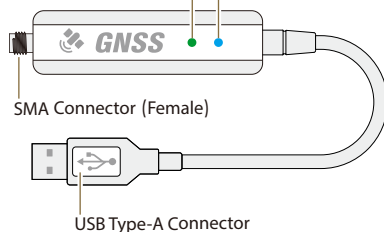**Thank you for choosing our product.**

This manual is intended to guide you through the safe and correct use of the product and its accessories, avoiding improper operations that may result in injury of yourself or any other person or cause device damage.

As a precision electronics, the product contains no component that can be repaired by your own. Any attempt to disassemble the product will void the original manufacturer's warranty.
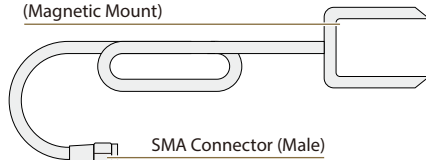
The protection class of the external active antenna is IP66, which can work normally in all-weather environments such as rain, snow and high dust, but do not immerse the antenna completely in water. The main unit of the P-7 Pro is not waterproof.

Parts Description

Power Lamp　　　　Bluetooth Lamp

GNSS

SMA Connector (Female)

USB Type-A Connector

External Active Antenna
(Magnetic Mount)

SMA Connector (Male)
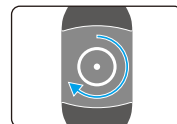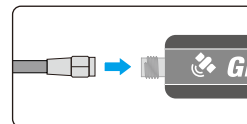
● **Power Lamp**
- Power on: Always on

● **Bluetooth Lamp**
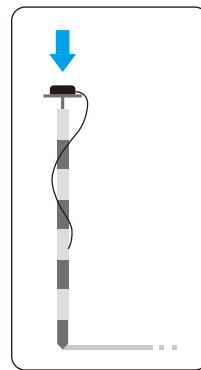- Connected: always on
- Disconnected: off

⚠ **The positioning status of the satellite needs to be viewed on the terminal device.**

Steps to Use

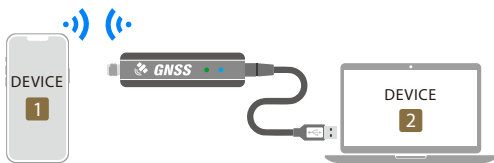**1** Connect the P-7 Pro to the external active antenna, and tighten the antenna connector clockwise.

2 Place the external active antenna in a position with a good view of the sky, such as the roof of the car, the top of the surveying pole.
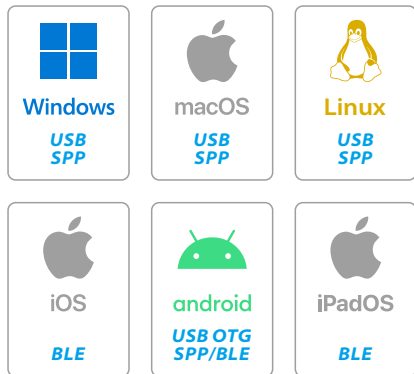
⚠ **The main unit of the P-7 Pro is not waterproof.**

⚠ **The placement of the antenna significantly affects the accuracy of the tracks. For more placement suggestions, please visit:** cbgps.com/p7/q

Connect to the Terminal Device

The P-7 Pro supports two connection modes: wired and wireless. Both connection modes are supported to connect the device simultaneously.
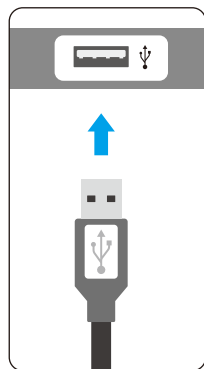

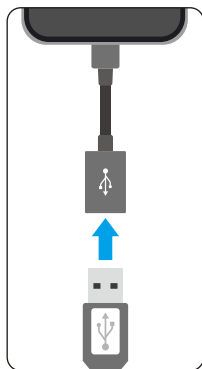The operating systems and connection modes supported by the P-7 Pro are as follows:

Windows	macOS	Linux
USB SPP	USB SPP	USB SPP

iOS	android	iPadOS
BLE	USB OTG SPP/BLE	BLE

---

1 Wired Connection

Plug the USB connector into the computer.

Plug the USB connector into the mobile device via an OTG cable.

When wired, it supports hardware-level dual serial ports: "Enhanced COM Port" and "Standard COM Port".

The P-7 Pro can be accessed by two programs simultaneously, and the parameters of the P-7 Pro can be configured through the Enhanced COM Port.

How to connect with terminal device please visit: **cbgps.com/p7/q**

∨ 🖥 Ports (COM & LPT)
   🖧 Silicon Labs Dual CP2105 USB to UART Bridge: Enhanced COM Port (COM5)
   🖧 Silicon Labs Dual CP2105 USB to UART Bridge: Standard COM Port (COM6)
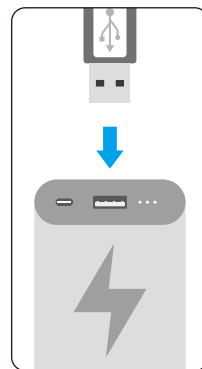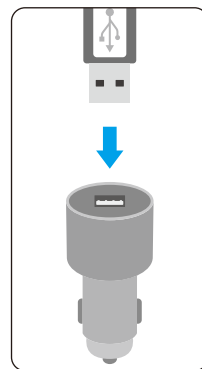

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2 Bluetooth Connection

Connect with the power bank during portable use.

Connect with the car charger while driving.

The P-7 Pro supports two Bluetooth protocols: BLE5.1 and SPP 2.1.

How to connect with the App, please visit:

cbgps.com/p7/q

iOS — BLE 5.1

android — SPP 2.1

How to Use the App

The P-7 Pro supports applications for multiple platforms, please refer to the support page for usage.

We will continuously update the list of supported App.

cbgps.com/p7/q

Bluetooth GNSS   Ovital maps

Specifications

Protection class	External Active Antenna IP66
Operating temperature	-20 ℃ to +50 ℃ / -4 ℉ to +122 ℉
Constellation	GPS (L1+L5), GLONASS, Galileo (E1+E5a), QZSS (L1+L5), BeiDou, IRNSS (L5), SBAS
Accuracy *	Horizontal: 0.5m/CEP(50%), 1.5m/CEP(95%) Vertical: ± 15m
Acquisition time *	Reacquisition: <2s, Cold start: <34s
Output sentences	Protocol: NMEA-0183 Baud Rate (Default): 57,600bps Messages: GNRMC, GNGGA, GNGSV, GNGSA (Default); GNGLL, GNVTG (Optional)
Geodesics	WGS84
Update rate	1Hz (Default), 5Hz
Bluetooth	SPP 2.1, BLE 5.1 Range: >20m (65 feet)
Connectors	USB device: USB 2.0 Type-A Antenna connectors: SMA
Power consumption	Main unit: DC 5V / 100mA Antenna: DC 3.3V / 20mA
Dimensions (WxHxD)	Main unit: 65 × 18 × 10mm / 2.6 × 0.7 × 0.4in Antenna feeder: 300cm / 9.8feet
Weight	Main unit: 21g / 0.74oz Antenna: 80g / 2.8oz

* The test was done outdoor, in an open area.

On content unmentioned in the instruction, please visit the official website at any time to learn about the latest use skill and information.

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