

APOLLO7 PRO user guide

Beijing CPDEVICE Technology Co., Ltd.
Shenzhen CPDEVICE Technology Co., Ltd.

1. Model Appearances



Front and back view of APOLLO 7 Pro

2. Packages & Accessories

Please note that when you receive our products, you would receive two packaging types, a large package and a small package. In addition to the tablet, there is only a 4G antenna included as part of the standard configuration (as shown in the picture). There is one accessory included in the box. In the case of a product with ordinary positioning accuracy, there will be another GNSS positioning antenna enclosed in the box (as shown in the picture). All wiring, mounting brackets, and other accessories are optional and should be purchased separately.



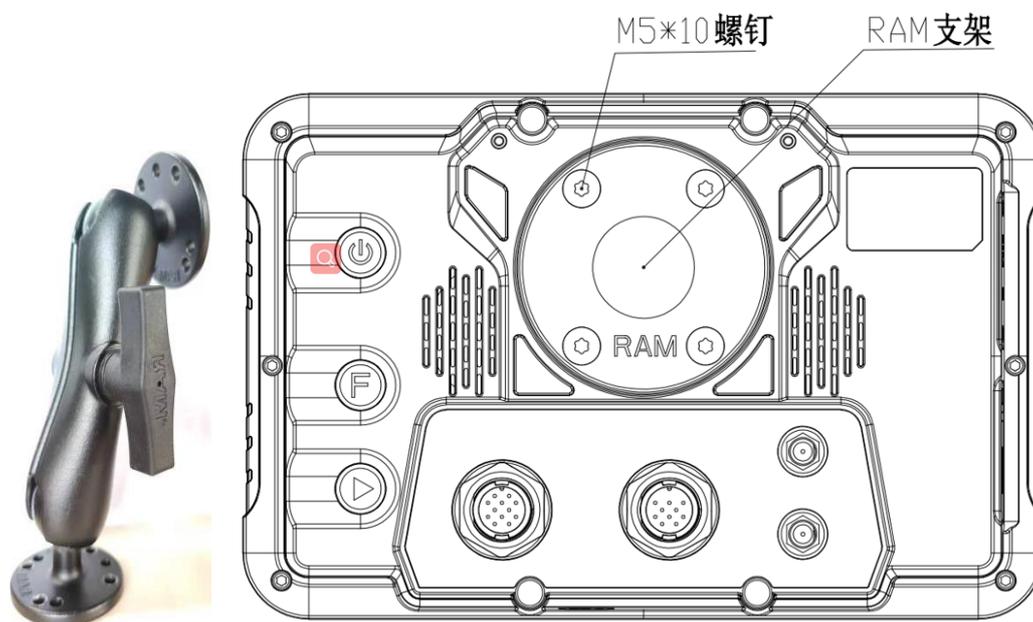
Individual Packaging



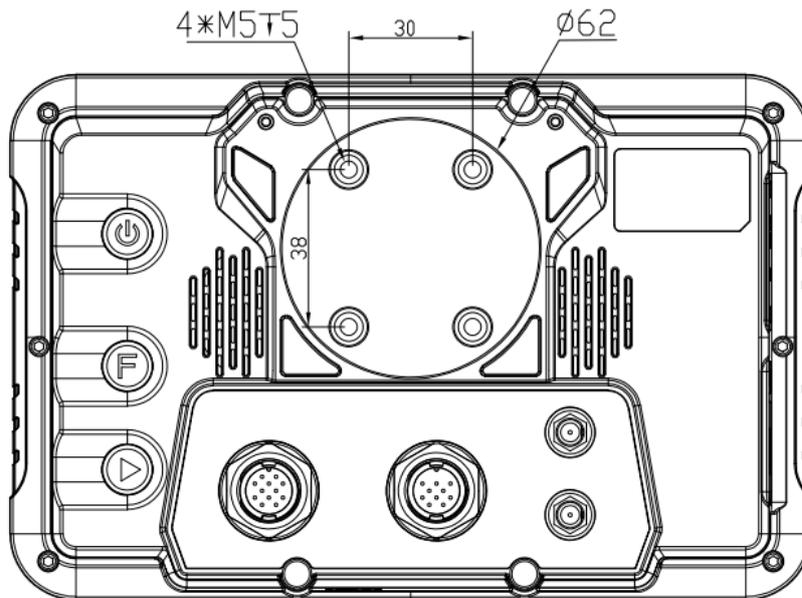
4G Antenna (Left) and GNSS Antenna (Right)

3. Installation Method

There are standard RAM bracket installation holes in the bottom shell of the Apollo series products. RAM-101U is the recommended RAM model, and the RAM bracket is installed as follows:



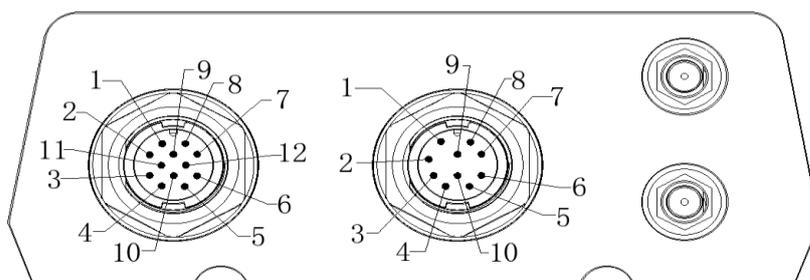
If you wish to select or customize the bracket on your own, please refer to the following installation dimension diagram:



Installation Dimensions

4. Definitions of Connector Interface

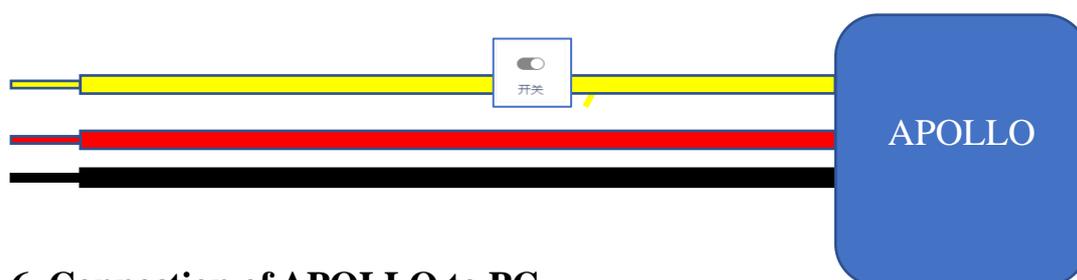




PORT1-12P	PIN Definition	PORT2-10P	PIN Definition
1	TX2	1	CAN2-H
2	RX2	2	CAN2-L
3	B-	3	GND
4	ACC+12V	4	CVBS+12V
5	B-	5	GND
6	TX1	6	CVBS1
7	RX1	7	CVBS0
8	12VOUT1	8	12out
9	CAN1-H	9	RS485-A
10	CAN1-L	10	RS485-B
11	B+12V		
12	B+12V		

5. Power On Method

All CP products are powered on and start up in the same manner. For taking power, three signal lines are used: B+, B-, and ACC. During startup, connect B+ and ACC to the positive stage of the power supply, and B- to the negative stage. There is a wide-voltage input on the tablet of 9-36V, and a power supply of at least 2A is recommended. Following is a diagram of the recommended power supply. Using the above method of taking power is beneficial in controlling the standby current of the entire machine, reducing the risk of data loss caused by sudden power failure of the tablet, and reducing the risk of the machine being burned out due to poor contact of the physical switch during booting.



6. Connection of APOLLO to PC

The APOLLO series only support USB2.0, thus a USB2.0 cable will be required to connect the PC and tablet. The USB2.0 male-to-male debugging cable is recommended.



After selecting the correct cable, you should connect both ends to the USB ports on your PC and tablet. For firmware programming or debugging, please change the USB

port of the tablet from host mode to debug mode first. Modifications to the APOLLO series are made through the settings

8. Connectors & Cables

1.Port2

Technical Requirements:

- The flame retardant grade of all adhesive materials of wire rod is VF-1
- 100% conduction and line sequence test
- All exposed parts of the plug shall pass the salt spray 24 hour test
- Wire material meets RoHS environmental protection standard
- Meet the service temperature of $-40/+105^{\circ}\text{C}$
- The insulation impedance shall be greater than or equal to 500V 5 megohm

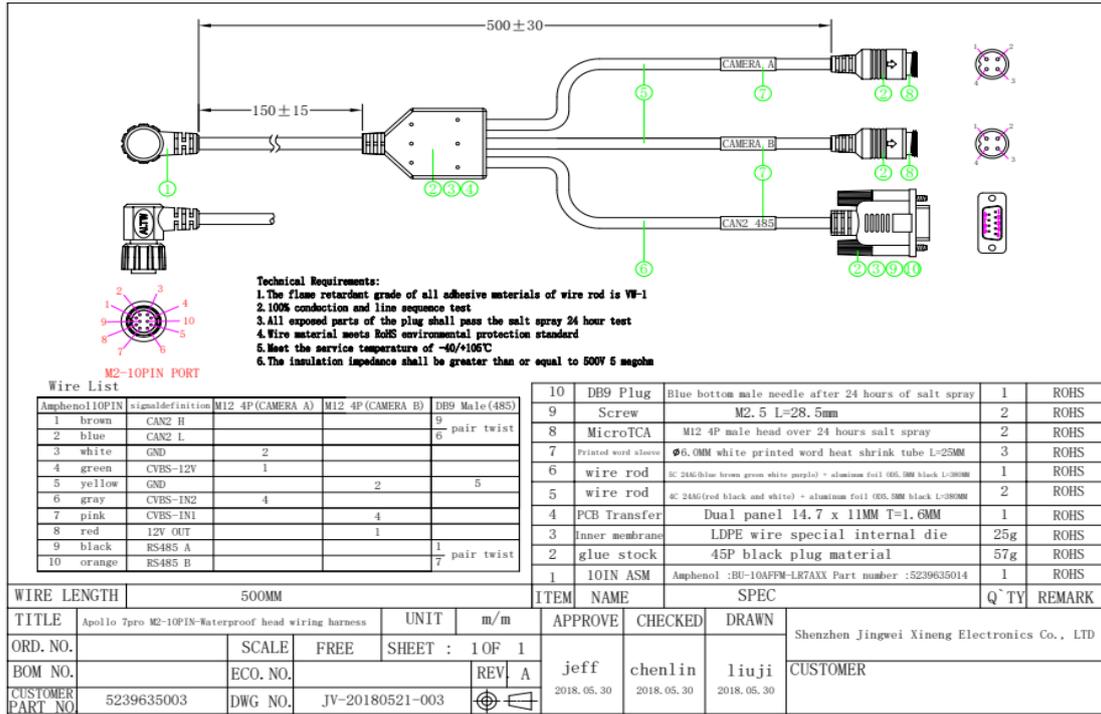
Wire List

Amphenol 12PIN	Signal Definition	DB9 Male (A)	DB9 Male (B)	M12 3P (POWER)	M12 4P (12VOUT)
1	brown	TX2	3		
2	blue	RX2	2		
3	white	B-	5	3	2
4	green	ACC		1	
5	yellow	B-	5	3	
6	gray	TX1	3		
7	pink	RX1	2		
8	red	MI-12VOUT			1
9	black	CAN2 H	9	pair twist	
10	orange	CAN2 L	6	pair twist	
11	purple	B+			2
12	reseda	B+			

ITEM	NAME	SPEC	QTY	REMARK
12	MicroTCA	M12 4P male head over 24 hours salt spray	1	ROHS
11	DB9 Plug	Blue bottom male needle after 24 hours of salt spray	2	ROHS
10	Screw	M2.5 L=28.5mm	4	ROHS
9	MicroTCA	M12 3P male head over 24 hours salt spray	1	ROHS
8	Printed word sleeve	Φ6.0MM white printed word heat shrink tube L=25MM	4	ROHS
7	wire rod	3C 24AG(red, black and yellow) + Aluminum foil 005.5MM black L=380MM	2	ROHS
6	wire rod	2C 24AG(blue brown green white purple) + aluminum foil 005.5MM black L=380MM	1	ROHS
5	wire rod	2C 24AG(red black) 3C 24AG(yellow) + aluminum foil 005.5MM black L=380MM	1	ROHS
4	PCB Transfer	Dual panel 14.7 x 11MM T=1.6MM	1	ROHS
3	Inner membrane	LDPE wire special internal die	38g	ROHS
2	glue stock	45P black plug material	67g	ROHS
1	10IN ASM	Amphenol SUN-FD-12AFPM-500 Part number : 5239635018	1	ROHS

WIRE LENGTH	500MM			UNIT	m/m	APPROVE	CHECKED	DRAWN	Shenzhen Jingwei Xineng Electronics Co., LTD CUSTOMER
TITLE	Apollo 7pro MI-12PIN-Waterproof head wiring harness			UNIT	m/m	APPROVE	CHECKED	DRAWN	
ORD. NO.	SCALE	FREE	SHEET : 1 OF 1	REV	A	jeff	chenlin	liuji	
BOM NO.	ECO. NO.					2018.05.30	2018.05.30	2018.05.30	
CUSTOMER PART NO.	5239635004	DWG NO.	JV-20180521-004						

2.Port2



9.Product Specs

System	Octa-core, 1.8GHz 2G RAM 16G ROM, Supports 256G TF Extension Android 9.0	Display	7", 1024*600p, 750cd/m ² 5-Points Capacitive Multi-touch Screen
Communication	2.4GHz/5.8GHz WiFi, IEEE 802.11 b/g/n, Supports WiFi Shared Hotspot BT2.1+EDR/3.0/4.1LE/4.2BLE 4G/LTE (Dual SIM Optional) GNSS (GPS/BDS/GLONASS), Optional Centi-meter Level GNSS OEM Board, Optional Interial Navigation Module Built-in MIC (Optional) Built-in Speaker	I/O Interface	RS-232*2 RS-485*1 CAN*2 (Supports J1939, CANopen, ISO15765) USB 2.0*1 720p*2 AHD Camera 12V DC OUT*2 Ethernet*1 (Optional)
Rugged Feature	IP65 Vibration & Shock: MIL-STD-810 Road Vehicle Standard: ISO16750 Humidity 95%, Non-condensing Operation Temperature: -20°C ~+70°C Storage Temperature: -40°C ~+85°C	Power Management	9-36V DC Input Ignition Control
		Mechanical Spec	Dimension (W*H*D) : 194*127*29 mm Weight : 0.7 kg
		Button	Power Key*1, Function Key*2
		Connector Type	Standard Industry Waterproof Connector SMA Female Connector*2 (GNSS&4G)

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Information

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.