

Shanghai Mini Deer Robot Co.,Ltd.

User Manual

Document number: _____

Product model: _____ DT101

Product name: _____

Preparation/Date: _____ Review/Date: _____ Approval/Date: _____

■ DT101

T101 solid type high precision car android tablet is Shanghai Mini Deer Robot Co.,Ltd., research and development production of an industrial car android tablet, can guarantee the harsh environment, built-in high precision positioning card, positioning precision up to cm level, reserved entity keys can make the operation more simple, widely used in agricultural machinery autopilot, satellite flat, engineering machinery and other harsh environment of high precision operation scenarios.



◆ technical feature

1. Strong, stable and reliable vehicle specification level processor, CPU: MT8768CA;
2. Carry out product design strictly according to industrial rules, comply with IP67 technical specifications, and adapt to the harsh working environment in the field;
- 3, super 8-core processor, main frequency 2GHz, onboard 2GB memory, 32GB storage;
4. Rich communication interfaces can meet any application requirements, including CANBus, Serial, LTE, etc.;
- 5, waterproof U disk data interface, U disk can be directly plugged;
- 6, the system supports wide voltage input, 36VDC, the vehicle ignition does not restart, has the overflow pressure protection and other functions;
- 7, compact fan-less design, reasonable internal structure design, good heat dissipation;
- 8, double card double wait;
- 9, convenient installation and fixation, can use RAM and other vehicle bracket fixed;
10. Adopt 10.1-inch capacitive touch screen, support 10 finger touch, resolution 1280 * 800P, brightness 750 nits, high screen brightness, visible under strong light;
11. The system adopts Android 10;

■ Technical parameter

◆ **Electrical parameters**

- Power consumption: 12.0W
- Power supply voltage: DC 36V, with positive and negative polarity reverse protection, support power off detection

◆ **physical property**

- Operating temperature: -20°C ~ + 60°C
- Storage temperature: -40°C ~ + 70°C
- Resolution: 1280 * 800P
- Screen size: 10.1 inch
- Weight: 1.7 Kg
- Protection level: IP67

◆ **Data interface**

- RS232*2
- RS485*1
- CAN*2
- USB2.0*1
- DI*2, DO*2
- 12VDCOUT*1
- Analog camera input * 4

◆ **Network frequency band**

Europe&Asia&Africa:

LTE Band 4G

B1/3/7/8/20/28/34/38/40

UMTS

B1/2/5/8

Latin & America:

LTE Band 4G

B2/4/5/7/12/17/25/26/38/41

UMTS

B1/2/4/5/8

◆ **WLAN Revision**

IEEE 802.11 a/b/g/n/ac/r, 2.4G&5G

◆ Bluetooth Revision

Ver 5.0 supports BLE

◆ Satellite positioning parameters

1. Frequency points: BDS B1I / B2I / B3I, GPS L1C / A / L2P (Y) / L2C / L5, Galileo E1 / E5a / E5b, GLONASS G1 / G2, QZSS L1 / L2 / L5
2. Channel: the 1408 channel, based on the NebulasIV
3. RTK (RMS): plane: 0.8cm + 1ppm, elevation: 1.5cm + 1ppm
4. Directional precision (RMS): 0.1° / 1m baseline
5. Speed Accuracy (RMS): 0.03m/s
6. Differential data: RTCM 3.X
7. Data format: NMEA-0183
8. Initialization time: <5 seconds (typical value)
9. Initialized reliability: > 99.9%
10. First positioning time: <25 seconds
11. Data update rate: 20Hz
12. The coverage range of the base station: 40km in radius
13. Rolling accuracy: 0.2 degrees / 1m baseline

◆ Transmitter-receiver

Frequency range: 410-470 MHz

Working mode: semi-duplex

Channel interval: GFSK mode: 12.5KHZ, 25 KHZ; LORA mode: 250 KHz

Modulation mode: GMSK, 4 FSK, GFSK, etc

power dissipation:

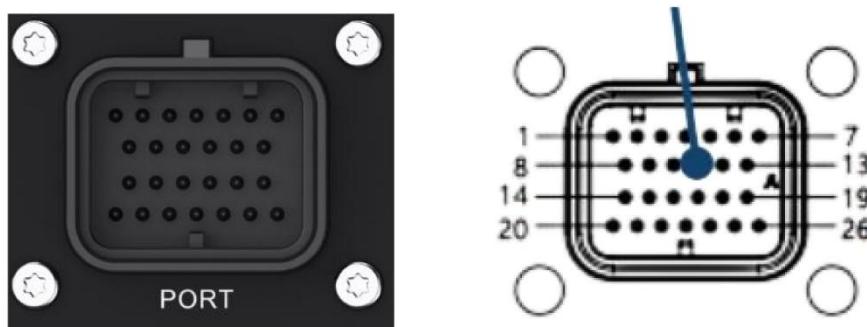
Emission high power: 6W @3.3V DC

Receiving mode: 0.5W@3.3V DC

Complete machine standby: 0.5W@3.3V DC

■ Interface Definition

AMP26P 接口定义



序号	定义	备注	序号	定义	备注
1.	B+	电源正级	14.	RS232_1-TX	
2.	B-	电源负级	15.	GPIO INPUT_2	
3.	ACC		16.	CAMERA-CVBS_1	
4.	CAN_1-H		17.	RS232_2-RX	
5.	CAN_1-L		18.	RS232_1-RXCAMERA/RJ45-TX-	
6.	12V-OUTPUT		19.	RS232_1-TXCAMERA/RJ45-RX-	
7.	CAMERA-CVBS_3		20.	RS232_1-RX	
8.	GND	信号地	21.	GPIO INPUT_1	
9.	RS485-A		22.	CAMERA-CVBS_0	
10.	RS485-B		23.	CAMERA-12V	
11.	CAN_2-H		24.	RS232_2-TX	
12.	CAN_2-L		25.	RS232_2-RXCAMERA/RJ45-TX+	
13.	CAMERA-CVBS_2		26.	RS232_2-TXCAMERA/RJ45-RX+	

■ Outline dimension



■ Install tablet display

WARNING: always read the safety information before installation.

Mount the tablet display in a user-friendly location in the vehicle cab using the RAM bracket.

When installing the RAM bracket, make sure that.

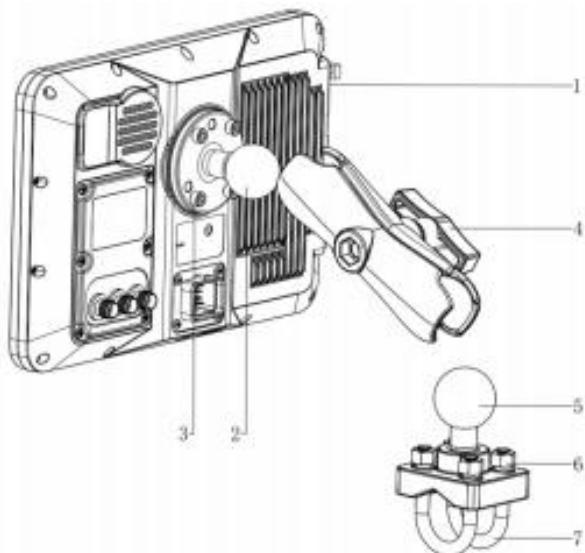
- Neither the tablet display nor the RAM bracket interferes with the driver's access to the cab and the operation of your gas pedal, gas pedal, brake, gears, or any other activity.
- The tablet display screen is clear.
- The tablet display will be within reach of the driver, so it is easy to touch the tablet display.
- The tablet display does not obstruct the driver's view.
- All bolts and screws are tightened stably to avoid loosening and damaging the device.
- The fixing angle and mounting position are convenient for cable connector connection and overall cable arrangement.

There are two ways to fix the tablet display into the cab:

- U-shaped bolts
- Self-tapping screws

U-shaped bolts

Accessories are required to install the tablet display:

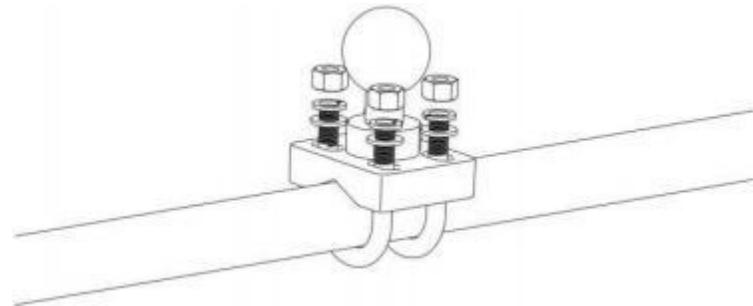


Item	Name	Description
1	Tablet display	
2	RAM bracket - tablet display pedestal	used to support and secure the tablet display.
3	RAM bracket bolts	used to secure the tablet display pedestal.
4	RAM bracket-coupler	Used to connect the pedestal and adjust the support Angle (rotate knob).
5	RAM bracket-cab pedestal	used to support and secure the tablet display to the cab.
6	U-shaped nuts	used to secure the cab pedestal.
7	U-shaped bolts	used to secure the cab pedestal.

Installation steps :

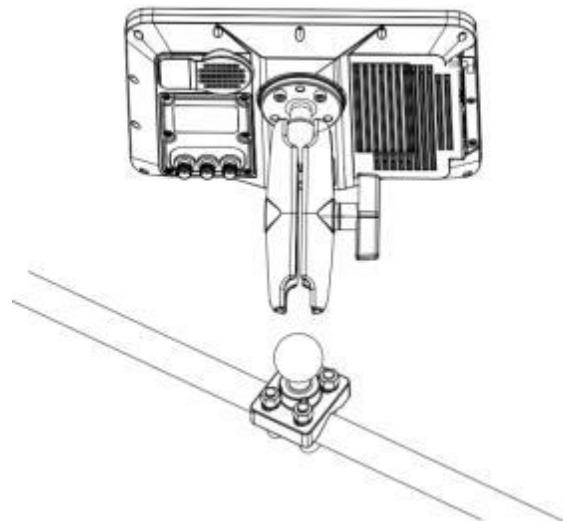
1. Fix the cab pedestal

Fix the cab pedestal to the suitable position (Normally armrest of the vehicle door on the right side of the cab) by U-shaped bolts and nuts.



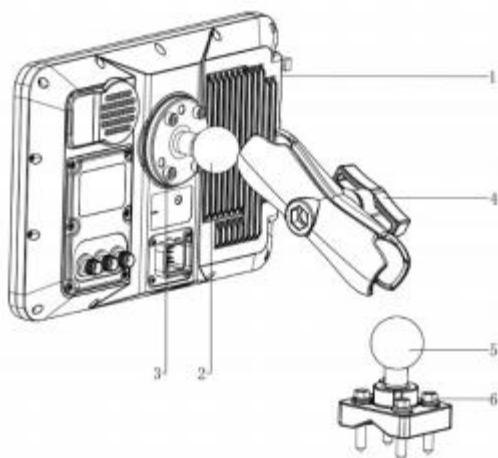
2. Connect tablet display pedestal and cab pedestal

Attach the tablet display to the cab pedestal via the RAM bracket coupler.



Self-tapping screws

Accessories are required to install the tablet display:

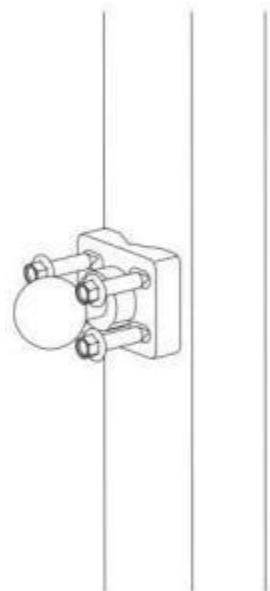


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5	RAM bracket-cab pedestal	used to support and secure the tablet display to the cab.
6	Self-tapping screws	used to secure the cab pedestal.

Installation steps :

1. Fix the cab pedestal

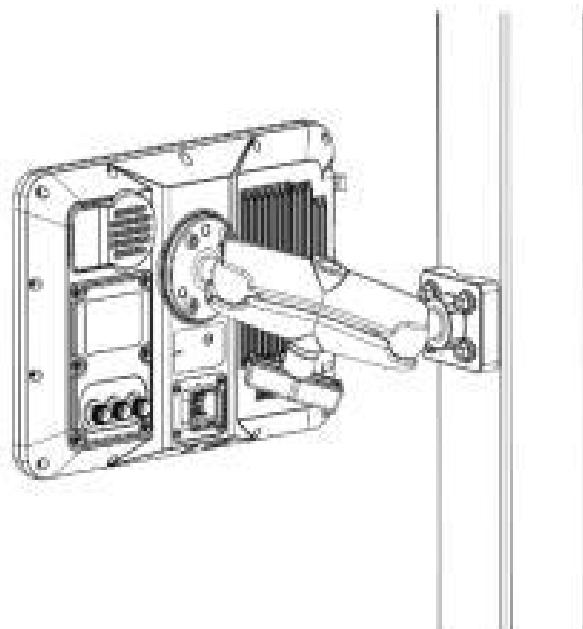
Fix the cab pedestal to the suitable position (Normally armrest of the vehicle door on the right side of the cab) by Self-tapping screws.



Notice: before installation, it is necessary to know if there are any air conditioning hoses, and so on. in that column that need to be avoided.

2. Connect tablet display pedestal and cab pedestal

Attach the tablet display to the cab pedestal via the RAM bracket coupler.





■ Notice

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: 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.

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 & your body