

MR CARTOOL M80

MR CARTOOL M80 GPS Inclinometer and Head-Up Display User Manual

Model: M80 | Brand: MR CARTOOL

1. INTRODUCTION

The MR CARTOOL M80 is an intelligent multi-function vehicle head-up display designed for automotive use. It combines GPS and OBD functionalities to provide real-time vehicle data, including speed, pitch and roll angles, and navigation information. This device aims to enhance driving safety by presenting crucial data directly in the driver's line of sight.



Image: Front view of the MR CARTOOL M80 display, showing pitch, roll, speed, compass, and other vehicle data.

2. KEY FEATURES

- **Dual Data Modules:** Supports both GPS satellite positioning and OBD interface for comprehensive data acquisition.
- **Real-time Inclinometer:** Displays vehicle pitch and roll angles for safe navigation on uneven terrain.
- **Head-Up Display (HUD):** Projects essential gauges onto your windshield for improved visibility and reduced distraction.
- **Multi-functional Display:** Includes speedometer (MPH/KPH), compass, altitude, longitude, latitude, driving time, coolant temperature, battery voltage, RPM, and more.
- **Compact and Durable:** Measures 17 x 6 x 7 cm, constructed from plastic and metal, weighing 210 grams.

- **Automatic Light Sensor:** Adjusts display brightness automatically for optimal readability in various lighting conditions.
- **Alarm Functions:** Features roll angle alarm, pitch angle alarm, and fatigue driving alarm.



Image: Detailed breakdown of the MR CARTOOL M80 display, highlighting various data points like speed, RPM, angles, and GPS information.

3. PACKAGE CONTENTS

Upon opening the package, verify that all items are present and in good condition:

- MR CARTOOL M80 Main Unit
- Power Cable (Cigarette Lighter Adapter)
- OBD Connection Cable
- Mounting Bracket with 3M Adhesive Tape
- User Manual



Image: Contents of the MR CARTOOL M80 package, including the main unit, cables, and mounting accessories.

4. SETUP AND INSTALLATION

4.1 Mounting the Device

1. Select a suitable flat surface on your vehicle's dashboard that does not obstruct your view or interfere with driving controls.
2. Clean the chosen surface thoroughly to ensure proper adhesion of the mounting bracket.
3. Attach the 3M adhesive tape to the bottom of the mounting bracket.
4. Securely press the mounting bracket onto the cleaned dashboard surface.
5. Attach the MR CARTOOL M80 main unit to the mounting bracket using the tripod-style attachment point. Adjust the angle for optimal viewing.

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Video: Installation guide for the MR CARTOOL M60 Inclinometer, demonstrating bracket attachment and device placement on the dashboard.

4.2 Power Connection

The device can be powered via the vehicle's cigarette lighter or hardwired using the provided cables.

1. Cigarette Lighter Connection:

- Connect the power cable with the cigarette lighter adapter to the device.
- Insert the cigarette lighter adapter into your vehicle's 12V power outlet.

2. OBD Connection (if applicable):

- Locate your vehicle's OBD-II port (typically under the dashboard on the driver's side).
- Connect the OBD connection cable to the device and then to the OBD-II port.
- Route the cable neatly to avoid obstruction.

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Video: Heads Up Display P8 Installation Steps, showing how to connect the device to the OBD-II port and route the cable.

5. OPERATING INSTRUCTIONS

5.1 Powering On/Off

The device will automatically power on when the vehicle starts and power off when the vehicle is turned off (if connected via OBD or a switched cigarette lighter port). Manual power buttons are located on the top of the unit.

5.2 Calibration

For accurate readings, especially for pitch and roll angles, the device needs to be calibrated after installation or if moved.

1. Ensure your vehicle is parked on a level surface.
2. With the device powered on, short press the right button (Power key) to reset the slope parameters to zero. The display will show "00°" for both roll and pitch.

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Video: GPS Car Digital Inclinometer for Off Road Vehicles, demonstrating the calibration process for pitch and roll angles.

5.3 Display Modes and Settings

The device offers various display modes and customizable settings. Use the left and right buttons on the top of the unit to navigate and adjust.

- **Changing Display:** Short press the left button (M key) to cycle through different display interfaces (e.g., racing

theme, blue theme, digital theme, vehicle slope meter, acceleration time).

- **Entering Settings:** Press and hold the left button (M key) to enter the setting interface.
- **Navigating Settings:** Use the left button to move between settings options and the right button to adjust values or confirm selections.
- **Exiting Settings:** Press and hold the right button to exit the setting interface and save changes.
- **Adjusting Brightness:** The device features an automatic light sensor. Manual adjustment may be available in settings.
- **Speed Unit Switch:** Change between MPH and KPH in the settings menu.

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Video: P21 heads up display, showing various display modes and how to navigate settings.

6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the display and exterior of the device. Avoid abrasive cleaners or solvents.
- **Storage:** If storing the device for an extended period, disconnect it from the power source and store it in a cool, dry place.
- **Firmware Updates:** Check the official MR CARTOOL website for any available firmware updates to ensure optimal performance and new features.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	No power supply or loose connection.	Check power cable connection to the device and vehicle's power outlet/OBD port. Ensure vehicle ignition is on.
Inaccurate pitch/roll readings.	Device not calibrated or not level.	Recalibrate the device on a level surface as described in Section 5.2. Ensure the device is mounted securely and level.
No GPS signal.	Obstructed view of the sky or weak signal area.	Ensure the device has a clear view of the sky. Move to an open area if inside a garage or tunnel. Allow time for GPS acquisition.
Display is too dim/bright.	Automatic light sensor interference or manual setting.	Check for obstructions over the light sensor. Adjust brightness manually in the settings if needed.

8. SPECIFICATIONS

Feature	Detail
Model	M80
Dimensions (L x W x H)	170 x 60 x 70 mm (6.69 x 2.36 x 2.76 inches)
Weight	210 grams (0.46 pounds)
Power Supply	DC 10V-30V

Feature	Detail
Pitch Angle Range	-40° ~ +40°
Roll Angle Range	-40° ~ +40°
Speed Accuracy	<0.36km/h
GPS Cold Start Time	32s (average)
GPS Hot Start Time	1s (average)
GPS Data Refresh Rate	1s
Operating Temperature	-40°C ~ +80°C



Power supply	DV 10V~30V
Pitch angle & Roll angle	-40° ~ +40°
Clock error	<1minute
Wireless transmission frequency	2.4GHz
supporting agreement	Support 9 major protocols
Voltage measurement accuracy	0.5V
Product Size	170*70*60(mm)
Weight	210g
Operating temperature	-40°C ~ +80°C
Voltage measurement range	DC 5V~30V
Speed accuracy	<0.36Km/h
GPS cold start time	32s (average)
GPS hot start time	1s (average)
GPS data refresh rate	1s

Image: Technical specifications and dimensions of the MR CARTOOL M80 device.

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official MR CARTOOL website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Manufacturer: MR CARTOOL

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