AMHVMU P2

AMHVMU P2 HUD Display User Manual

Model: P2 - OBD2 + GPS Smart Speedometer with Alarm and Voltmeter

1. Introduction

The AMHVMU P2 HUD (Head-Up Display) is a multifunctional vehicle instrument designed to project essential driving information directly into the driver's line of sight. This device integrates OBD2 and GPS dual systems, providing comprehensive data such as speed, RPM, voltage, water temperature, and more. It also includes an electronic slope gauge and various alarm functions to enhance driving safety and awareness.

2. Safety Information

- Ensure the device is securely mounted and does not obstruct the driver's view or interfere with vehicle controls.
- Do not attempt to operate or adjust the device while driving. Make all adjustments when the vehicle is stationary.
- Operating voltage is 11V ~ 18V DC (12Vdc/200mA). If your vehicle's voltage exceeds 24V, use the provided USB cable for power.
- Keep the device away from water and extreme temperatures.

3. Package Contents

Verify that all items are present in the package:

- P2 Body Unit
- OBD Cable (approx. 1.70 m)
- USB-A Cable (approx. 2.40 m, for vehicles without OBD2 port or high voltage)
- Non-slip Mat
- User Manual



Figure 3.1: Included components of the P2 HUD Display.

4. Product Features

The AMHVMU P2 HUD Display offers a wide range of features:

- **Dual System (OBD2 + GPS):** Automatically selects the appropriate mode or allows manual selection.
- **Multifunction Display:** Shows speed, RPM, voltage, water temperature, oil level, clock, driving time, driving distance, satellite count, outdoor temperature, driving direction, latitude, longitude, altitude, average fuel consumption, transmission oil temperature, intake temperature, oil temperature, instantaneous fuel consumption, engine load, oil pressure, acceleration test, and more.
- **Electronic Slope Gauge / G-Sensor:** Built-in 6-axis sensors (3-axis gyroscope, 3-axis accelerometer) provide real-time body attitude changes (pitch and roll angles).
- **Alarm Functions:** Includes over-speed alarm, RPM alarm, water temperature alarm, voltage alarm, oil temperature alarm, and ambient light alarm reminders.
- **Automatic/Manual Brightness Adjustment:** Adjusts display brightness based on external light intensity for clear visibility

in various conditions.

- **Customizable Ambient Lighting:** Choose from blue, red, purple, and other colors for the atmosphere lamp.
- **Multiple Display Interfaces:** Offers 12 different display styles to suit user preference.



Figure 4.1: Overview of the P2 HUD Display's integrated functions.



Figure 4.2: Main functions icon.

5. Setup

5.1 Installation

1. **Placement:** Choose a suitable location on your dashboard that does not obstruct your view of the road or interfere with

airbags.

2. **Secure Mounting:** Use the provided non-slip mat to secure the device on the dashboard. Ensure it is stable and will not move during driving.
3. **Connection:**
    - **For OBD2 compatible vehicles:** Locate your vehicle's OBD2 port (typically under the dashboard near the steering wheel). Connect the provided OBD cable to the port and to the P2 HUD Display.
    - **For non-OBD2 compatible vehicles or vehicles with voltage > 24V:** Connect the provided USB-A cable to the P2 HUD Display and to a USB power source in your vehicle.

5.2 Initial Power-On and Mode Selection

Upon connecting the device and starting your vehicle, the P2 HUD Display will power on. It will automatically attempt to detect the OBD2 system. If detection is successful, it will operate in OBD2 mode. If not, or if you prefer, you can manually select the mode:

- Before the OBD icon on the screen stops flashing, press the '**+**' button to select between OBD or GPS system.
- The device will automatically save your last selected option and enter that mode on subsequent power-ons.



Figure 5.1: P2 HUD Display installed on a dashboard.



Figure 5.2: OBD and GPS dual system indicator.

6. Operating Instructions

6.1 Display Information

The P2 HUD Display reflects various vehicle and driving information. The primary function is to provide dashboard information

(e.g., speed, RPM, water temperature, voltage, travel distance) without requiring the driver to look down at the instrument cluster.

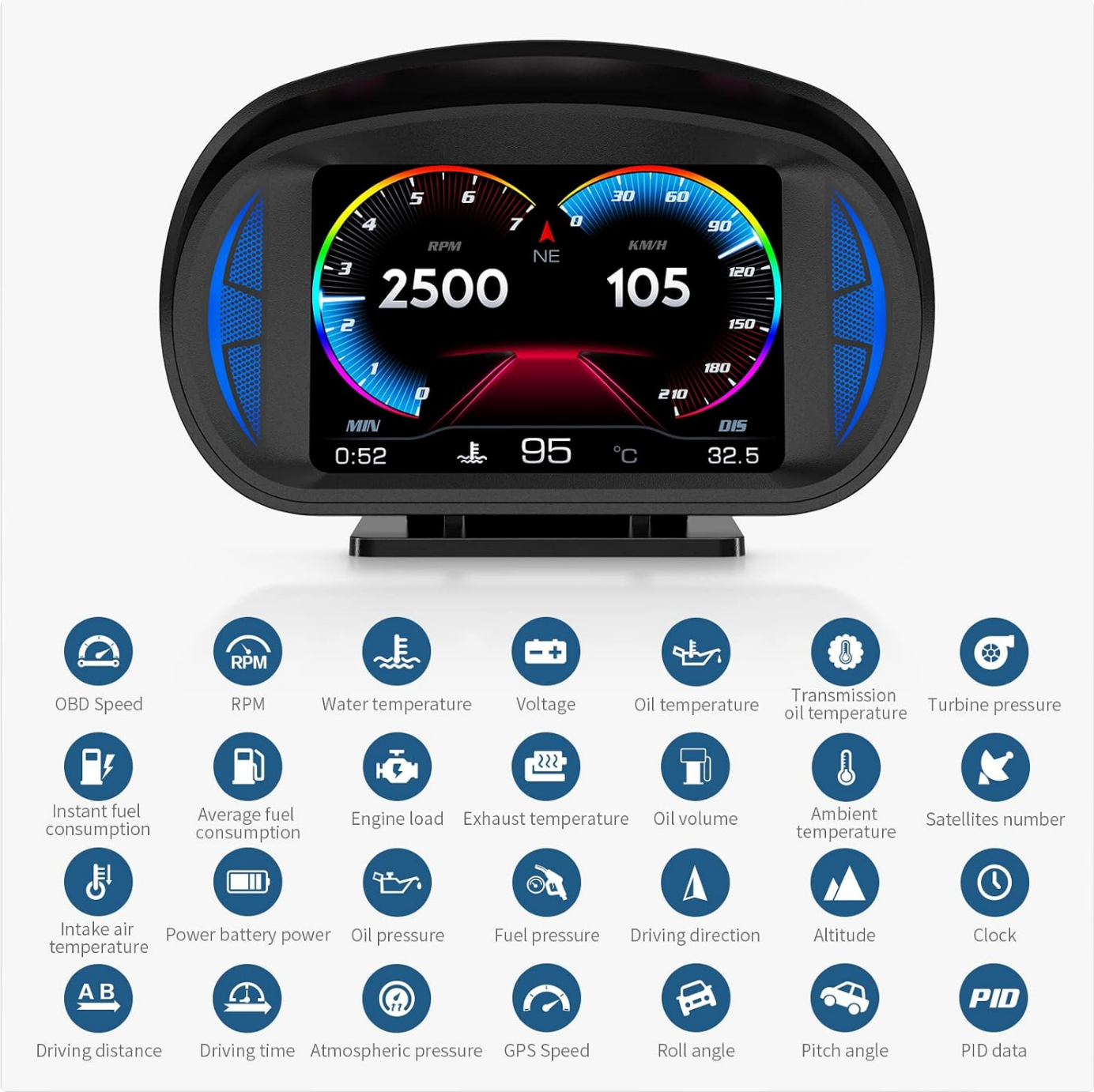


Figure 6.1: All available functions and data displayed by the P2 HUD.

6.2 Brightness Adjustment

The device features automatic brightness adjustment. It adapts the display intensity based on the ambient light conditions. Manual adjustment is also available:

- **Automatic Mode:** Setting 0 (default). The display automatically adjusts brightness.
- **Manual Mode:** Settings 1-11. Adjust brightness manually through the device's settings menu.



Figure 6.2: Automatic brightness adjustment in different lighting conditions.

7. Display Interfaces

The P2 HUD Display offers 12 different interface styles. You can cycle through these interfaces using the control button (typically a scroll wheel or '+' button) on the device to find your preferred layout.



Figure 7.1: Examples of the 12 available display interfaces.



Figure 7.2: Interface selection icon.

8. Alarm Functions

The P2 HUD Display includes several alarm functions to alert the driver to potential issues or conditions:

- **Over-speed Alarm:** Alerts when the vehicle exceeds a set speed limit.
- **RPM Alarm:** Warns if engine RPMs reach a critical level.
- **Water Temperature Alarm:** Indicates if the engine's water temperature is too high.
- **Voltage Alarm:** Alerts to abnormal vehicle battery voltage.

- **Oil Temperature Alarm:** Notifies if engine oil temperature is too high.
- **Ambient Light Alarm Reminder:** A red flashing warning light is displayed for over-speed or other driving abnormalities, improving driving safety.



Figure 8.1: Atmosphere lamp alarm reminder and various alarm icons.



Figure 8.2: Alarm function icon.

9. Electronic Slope Gauge

The integrated electronic slope gauge utilizes 6-axis sensors (3-axis gyroscope, 3-axis accelerometer) to provide real-time information on your vehicle's body attitude. This includes pitch and roll angles, which can be crucial for off-road driving or navigating uneven terrain.

- **Pitch Angle:** Indicates the vehicle's inclination forward or backward (uphill/downhill).
- **Roll Angle:** Indicates the vehicle's inclination sideways (tilt left/right).

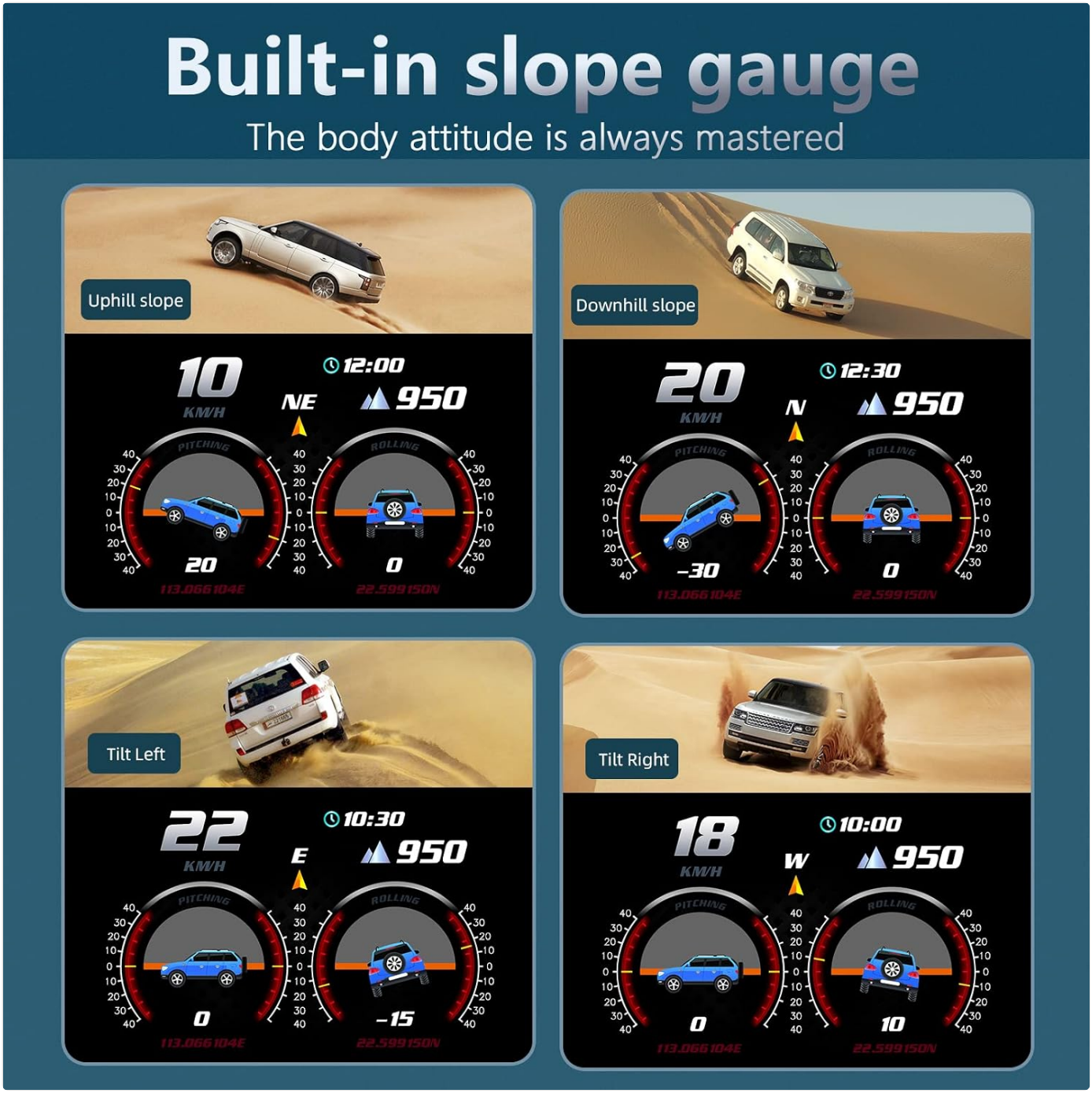


Figure 9.1: Electronic slope gauge displaying vehicle attitude.

10. Maintenance

- Clean the display screen with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- Ensure all cable connections are secure.
- Avoid exposing the device to direct sunlight for extended periods when not in use, as this may affect its lifespan.
- Store the device in a cool, dry place if removed from the vehicle.

11. Troubleshooting

11.1 Common Issues and Solutions

Problem	Possible Cause	Solution
Device does not power on.	No power supply; loose cable connection.	Check OBD2 or USB cable connection. Ensure vehicle ignition is on. If using USB, verify power source.
No data displayed in OBD2 mode.	Vehicle not OBD2 compatible; incorrect mode selected; faulty OBD2 port.	Ensure your vehicle is OBD2 compatible (most vehicles manufactured after 2000). Try switching to GPS mode. Consult a mechanic if OBD2 port is suspected faulty.
Inaccurate speed/GPS data.	Poor GPS signal; initial calibration needed.	Ensure the device has a clear view of the sky for GPS signal. Allow a few minutes for GPS to acquire satellites. Check settings for speed calibration if available.
Display is too dim/bright.	Brightness setting incorrect; ambient light sensor obstructed.	Adjust brightness manually in settings (modes 1-11) or ensure automatic mode (0) is selected. Clear any obstructions from the ambient light sensor.
Alarms trigger incorrectly.	Alarm thresholds set too low/high.	Access the alarm settings menu and adjust the thresholds for speed, RPM, voltage, etc., to appropriate values for your driving conditions.

12. Specifications

- **Manufacturer:** AMHVMU
- **Model Number:** P2
- **Product Dimensions (L x W x H):** 11.5 x 2.8 x 8.2 cm
- **Weight:** 230 Grams
- **Material:** Polycarbonate (PC)
- **Operating Voltage:** 11V ~ 18V DC (12Vdc/200mA)
- **Connectivity:** OBD2, USB
- **UPC:** 743430814051

13. Warranty and Support

AMHVMU is committed to providing high-quality automotive safety electronics. If you encounter any difficulties during use, please do not hesitate to contact us. We will respond promptly to assist you.

- **Spare Parts Availability:** 10 Years
- **Contact:** Refer to your purchase documentation or the manufacturer's official website for customer support contact information.

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Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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