

ANCEL BT410, AD410PRO

ANCEL BT410 12V/24V Battery Tester & AD410PRO OBD2 Scanner User Manual

Comprehensive Guide for Automotive Diagnostics and Battery Analysis

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation of your ANCEL BT410 12V/24V Battery Tester and ANCEL AD410PRO OBD2 Scanner. These devices are designed to assist in diagnosing vehicle issues and assessing battery health. Please read this manual thoroughly before use and retain it for future reference.

2. PRODUCT OVERVIEW

The ANCEL BT410 and AD410PRO are versatile tools for automotive maintenance. The BT410 focuses on battery and charging system analysis, while the AD410PRO provides comprehensive OBD2 engine diagnostics and additional battery testing capabilities.

2.1. Package Contents

- 1x ANCEL BT410 Enhanced 12V/24V Battery Tester
- 1x ANCEL AD410 PRO 2-IN-1 OBD2 Scanner Battery Tester

2.2. Device Features

ANCEL BT410 Battery Tester



Image: The ANCEL BT410 Battery Tester, featuring a clear display and robust battery clamps for connection. This device is designed for comprehensive battery and charging system analysis.

- 4-in-1 Battery Testing: Health, Cranking, Charging, Voltmeter.
- Wide Compatibility: Supports 12V/24V systems and various battery types (AGM, GEL, EFB, Lithium-Ion, Flooded).

ANCEL AD410 PRO OBD2 Scanner



Image: The ANCEL AD410 PRO OBD2 Scanner, showcasing its dual functionality with both an OBD2 connector and battery clamps. The display shows various diagnostic options.

- 10 Advanced Diagnostic Modes: Read/Clear Codes, Live Data, I/M Readiness, etc.
- Integrated Battery Testing: Supports 6V/12V lead-acid batteries (CCA 100-2000A), engine diagnostics, starter tests, and charging system analysis.

3. SETUP AND CONNECTION

3.1. ANCEL BT410 Battery Tester Connection

1. Ensure the vehicle ignition is off.
2. Connect the red clamp to the positive (+) terminal of the battery.
3. Connect the black clamp to the negative (-) terminal of the battery.
4. The device will power on automatically.

3.2. ANCEL AD410 PRO OBD2 Scanner Connection

1. Locate the vehicle's 16-pin Data Link Connector (DLC), typically under the dashboard on the driver's side.
2. Ensure the vehicle ignition is off.
3. Plug the AD410 PRO's OBD2 connector firmly into the vehicle's DLC.
4. Turn the vehicle ignition to the 'ON' position (engine off). The device will power on automatically.

4. OPERATING INSTRUCTIONS

4.1. ANCEL BT410 Battery Tester Operations

The BT410 offers comprehensive battery and charging system analysis.



Image: The ANCEL BT410 screen showing a 'GOOD BATTERY' status with detailed metrics like Health, Charge, Internal Resistance, and Rated CCA. It also illustrates recommended actions based on battery condition (Charge & Retest, Replace, Bad Cell).

1. **Battery Test:** Select 'Battery Test' from the main menu. Follow on-screen prompts to input battery type (e.g., Regular Flooded, AGM, GEL, EFB, Lithium-Ion) and Cold Cranking Amps (CCA). The tester will display battery health, charge, internal resistance, and a recommendation (e.g., Good, Good-Recharge, Replace).
2. **Cranking Test:** Select 'Cranking Test'. The device will prompt you to start the engine. It measures the cranking

voltage and time to assess the starter motor's performance.

3. **Charging Test:** Select 'Charging Test'. This test evaluates the alternator's performance under unloaded, loaded, and ripple conditions to ensure stable charging.
4. **Voltmeter:** Provides real-time voltage readings of the battery.

4.2. ANCEL AD410 PRO OBD2 Scanner Operations

The AD410 PRO provides extensive OBD2 diagnostic functions.



Image: The ANCEL AD410 PRO screen illustrating a range of OBD2 diagnostic functions, including Read Codes, Clear Codes, Live Data Stream, I/M Readiness, and O2 Monitor Test, all contributing to turning off the check engine light.

1. **Read Codes:** Retrieves Diagnostic Trouble Codes (DTCs) from the vehicle's Engine Control Unit (ECU).
2. **Erase Codes:** Clears DTCs from the ECU and turns off the Check Engine Light (MIL). Ensure the underlying issue is resolved before clearing codes.
3. **I/M Readiness:** Checks the status of emission-related monitoring systems to determine if the vehicle is ready for an emissions test.
4. **Data Stream:** Displays real-time data parameters from the vehicle's sensors, such as engine RPM, vehicle speed, coolant temperature, and O2 sensor readings.

5. **Freeze Frame:** Captures a snapshot of sensor data at the moment a DTC was set, providing valuable information for diagnosis.
6. **O2 Sensor Test:** Retrieves O2 sensor monitoring test results for the most recently completed tests.
7. **EVAP Leak Test:** Initiates a test of the Evaporative Emission Control System (EVAP) for leaks.
8. **Vehicle Information:** Retrieves vehicle information such as VIN (Vehicle Identification Number), CIN (Calibration Identification Number), and CVN (Calibration Verification Number).
9. **DTC Lookup:** Provides definitions for generic and manufacturer-specific DTCs directly on the device.

5. MAINTENANCE

- Keep the devices clean and free from dirt, grease, and moisture. Use a soft, dry cloth for cleaning.
- Store the devices in a dry, cool environment away from direct sunlight and extreme temperatures.
- Regularly inspect cables and connectors for any signs of damage. Replace if necessary.
- No user-serviceable parts inside. Refer to qualified personnel for repairs.

6. TROUBLESHOOTING

6.1. Device Does Not Power On

- Ensure proper connection to the vehicle's OBD2 port or battery terminals.
- For AD410 PRO, confirm the vehicle ignition is in the 'ON' position.
- Check the vehicle's battery for sufficient charge.

6.2. Link Error/Communication Failure

- Verify the OBD2 connector is securely plugged into the DLC.
- Ensure the vehicle ignition is 'ON' and the engine is off.
- Check for any blown fuses in the vehicle's fuse box related to the OBD2 port.
- Confirm the vehicle is OBD2 compliant (most vehicles 1996 and newer in the US).

6.3. Screen Display Issues

- Adjust screen contrast in the device's setup menu if available.
- If the screen is blank or frozen, try disconnecting and reconnecting the device.

7. SPECIFICATIONS

- **Brand:** ANCEL
- **Model:** BT410, AD410PRO
- **Battery Tester Compatibility (BT410):** 12V/24V Lead-Acid (AGM, GEL, EFB, Flooded), Lithium-Ion Batteries
- **OBD2 Scanner Compatibility (AD410PRO):** Most 1996 and newer US-based vehicles, 2000 and newer EU-based and Asian vehicles.
- **Battery Testing Range (AD410PRO):** 6V/12V Lead-Acid (CCA 100-2000A)
- **Display:** Backlit LCD (specific size may vary by model variant)
- **Operating Temperature:** 0°C to 60°C (32°F to 140°F)
- **Storage Temperature:** -20°C to 70°C (-4°F to 158°F)

8. WARRANTY AND SUPPORT

Your ANCEL product is covered by a limited warranty against defects in materials and workmanship. For specific warranty details, technical support, or service inquiries, please refer to the warranty card included with your product or visit the official ANCEL website. Do not attempt to repair the device yourself, as this may void the warranty.

