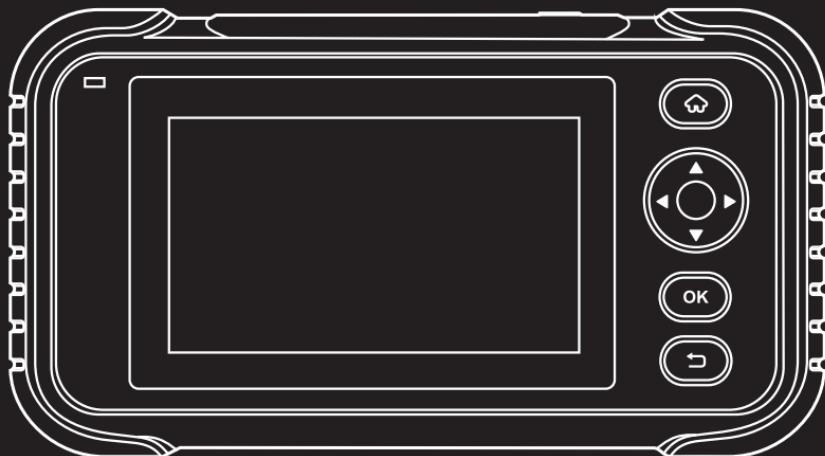


*C*read*e*r Professional
123i/129i/Millennium Master

USER'S MANUAL



LAUNCH
www.x431.com
www.cnlaunch.com

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Disclaimer

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Safety Precautions and Warnings

To prevent personal injury or damage to vehicles and/or this tool, please read this user's manual first carefully and observe the following safety precautions at a minimum whenever working on a vehicle:

- Always perform automotive testing in a safe environment.
- Do not attempt to operate or observe the tool while driving a vehicle. Operating or observing the tool will cause driver distraction and could cause a fatal accident.
- Wear safety eye protection that meets ANSI standards.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well-ventilated work area: Exhaust gases are poisonous.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while running tests.

- Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
- Put the transmission in P (for A/T) or N (for M/T) and make sure the parking brake is engaged.
- Keep a fire extinguisher suitable for gasoline/chemical/ electrical fires nearby.
- Don't connect or disconnect any test equipment while the ignition is on or the engine is running.
- Keep this tool dry, clean, free from oil/water or grease. Use a mild detergent on a clean cloth to clean the outside of the tool, when necessary.
- Please use the DC 5V power adaptor to charge this tool. No responsibility can be assumed for any damage or loss caused as a result of using power adaptors other than the right one.

Table of Contents

1. Introduction.....	1
2. General Information	2
2.1 On-Board Diagnostics (OBD) II	2
2.2 Diagnostic Trouble Codes (DTCs).....	2
2.3 Location of the Data Link Connector (DLC).....	3
2.4 OBD II Readiness Monitors.....	4
2.5 OBD II Monitor Readiness Status.....	5
2.6 OBD II Definitions.....	5
3. Product Descriptions	7
3.1 Outline of Creader Professional 123i/129i.....	7
3.2 Technical Specifications	8
3.3 Accessories Checklist.....	9
4. Initial Use.....	10
4.1 Charging The Tool	10
4.2 Getting Started	10
5. Diagnose	13
5.1 Connection	13
5.2 System Diagnosing.....	13
5.2.1 Smart Diagnosis (Auto-Detect).....	13
5.2.2 Manual Diagnosis	15
5.3 OBDII Diagnosis	21
5.4 History	23
5.5 Resetting (Only applies to Creader Professional 129i).....	24
6. Update	25
7. Data.....	26
7.1 Diagnostic Report	26
7.2 Diagnostic Record	26
7.3 DTC Library	27
7.4 DLC(Data Link Connector) Location.....	27
7.5 Feedback.....	27
7.6 Firmware Fix.....	28

7.7 User Manual	28
8. Settings	29
8.1 Units of measurement	29
8.2 Automatic detection on connect.....	29
8.3 Display & Brightness	29
8.4 Sound	29
8.5 Network	29
8.6 Date/Time	29
8.7 Language.....	30
8.8 Email Setup	30
8.9 Recovery	30
8.10 Clean Up.....	30
8.11 About.....	30
9. FAQ	31

1. Introduction

Creader Professional 123i/129i/Millennium Master is an evolutionary smart solution for passenger car diagnosis. It inherits from LAUNCH's advanced diagnosing technology and is characterized by covering a wide range of vehicles, featuring powerful functions, and providing precise test result.

Creader Professional 123i/129i/Millennium Master has the following functions and advantages:

- **Smart(Auto-Detect) Diagnosis:** Once the tool and the vehicle are properly connected, the system starts auto-detect process. Once the whole process is successfully finished, a diagnostic report will be automatically generated and sent to your email box (if bound).
- **Manual Diagnosis:** If Auto-Detect failure occurs, manual diagnosis is also available. Diagnosis functions include: Version Information, Read DTCs, Clear DTCs and Read Data Stream (supports 3 display modes: Value, Graph and Merged).
- **OBDII Diagnosis:** 10 modes of OBD II test are supported, including EVAP, O2 Sensor, I/M Readiness, MIL Status, VIN Info, and On-board monitors testing etc.
- **Reset:** Frequently used maintenance and reset items including Oil lamp reset, Electronic parking brake reset, Steering angle calibration and Battery maintenance system reset can be done (*Note: This function only applies to the Creader Professional 129i).
- **One-click Update:** Let you update your diagnostic software and APK online.
- **Diagnostic History:** This function provides a quick access to the tested vehicles and users can choose to view the test report or resume from the last operation, without the necessity of starting from scratch.
- **Diagnostic Feedback:** Use this option to submit the vehicle issue to us for analysis and troubleshooting.
- **DTC Library:** Allows you to retrieve the definition of the diagnostic trouble code from the abundant DTC database.
- Displays battery real-time voltage once properly connected to the vehicle.
- Touch & Keypad input are supported.

2. General Information

2.1 On-Board Diagnostics (OBD) II

The first generation of On-Board Diagnostics (OBD I) was developed by the California Air Resources Board (ARB) and implemented in 1988 to monitor some of the emission control components on vehicles. As technology evolved and the desire to improve the On-Board Diagnostic system increased, a new generation of On-Board Diagnostic system was developed. This second generation of On-Board Diagnostic regulations is called “OBD II”.

The OBD II system is designed to monitor emission control systems and key engine components by performing either continuous or periodic tests of specific components and vehicle conditions. When a problem is detected, the OBD II system turns on a warning lamp (MIL) on the vehicle instrument panel to alert the driver typically by the phrase of “Check Engine” or “Service Engine Soon”. The system will also store important information about the detected malfunction so that a technician can accurately find and fix the problem. Here below follow three pieces of such valuable information:

- 1) Whether the Malfunction Indicator Light (MIL) is commanded ‘on’ or ‘off’;
- 2) Which, if any, Diagnostic Trouble Codes (DTCs) are stored;
- 3) Readiness Monitor status.

2.2 Diagnostic Trouble Codes (DTCs)

OBD II Diagnostic Trouble Codes are codes that are stored by the on-board computer diagnostic system in response to a problem found in the vehicle. These codes identify a particular problem area and are intended to provide you with a guide as to where a fault might be occurring within a vehicle. OBD II Diagnostic Trouble Codes consist of a five-digit alphanumeric code. The first character, a letter, identifies which control system sets the code. The second character, a number, 0-3; other three characters, a hex character, 0-9 or A-F provide additional information on where the DTC originated and the operating conditions that caused it to set. Here below is an example to illustrate the structure of the digits:

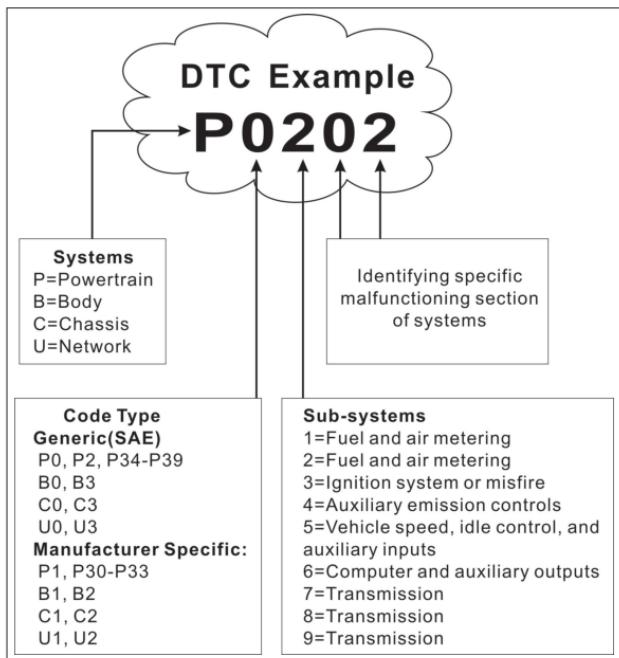


Figure 2-1

2.3 Location of the Data Link Connector (DLC)

The DLC (Data Link Connector or Diagnostic Link Connector) is typically a 16-pin connector where diagnostic code readers interface with the vehicle's on-board computer. The DLC is usually located 12 inches from the center of the instrument panel (dash), under or around the driver's side for most vehicles. If Data Link Connector is not located under dashboard, a label should be there telling location. For some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. If the DLC cannot be found, refer to the vehicle's service manual for the location.

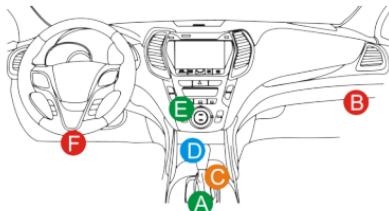


Figure 2-2

2.4 OBD II Readiness Monitors

An important part of a vehicle's OBD II system is the Readiness Monitors, which are indicators used to find out if all of the emissions components have been evaluated by the OBD II system. They are running periodic tests on specific systems and components to ensure that they are performing within allowable limits.

Currently, there are eleven OBD II Readiness Monitors (or I/M Monitors) defined by the U.S. Environmental Protection Agency (EPA). Not all monitors are supported in every vehicles and the exact number of monitors in any vehicle depends on the motor vehicle manufacturer's emissions control strategy.

Continuous Monitors -- Some of the vehicle components or systems are continuously tested by the vehicle's OBD II system, while others are tested only under specific vehicle operating conditions. The continuously monitored components listed below are always ready:

1. Misfire
2. Fuel System
3. Comprehensive Components (CCM)

Once the vehicle is running, the OBD II system is continuously checking the above components, monitoring key engine sensors, watching for engine misfire, and monitoring fuel demands.

Non-Continuous Monitors -- Unlike the continuous monitors, many emissions and engine system components require the vehicle to be operated under specific conditions before the monitor is ready. These monitors are termed non-continuous monitors and are listed below:

- 1) EGR System
- 2) O₂ Sensors
- 3) Catalyst
- 4) Evaporative System
- 5) O₂ Sensor Heater

- 6) Secondary air Injection
- 7) Heated Catalyst
- 8) A/C system

2.5 OBD II Monitor Readiness Status

OBD II systems must indicate whether or not the vehicle's PCM's monitor system has completed testing on each component. Components that have been tested will be reported as "Ready", or "Complete", meaning they have been tested by the OBD II system. The purpose of recording readiness status is to allow inspectors to determine if the vehicle's OBD II system has tested all the components and/or systems.

The Powertrain Control Module (PCM) sets a monitor to "Ready" or "Complete" after an appropriate drive cycle has been performed. The drive cycle that enables a monitor and sets readiness codes to "Ready" varies for each individual monitor. Once a monitor is set as "Ready" or "Complete", it will remain in this state. A number of factors, including erasing of Diagnostic Trouble Codes (DTCs) with a code reader or a disconnected battery, can result in Readiness Monitors being set to "Not Ready". Since the three continuous monitors are constantly evaluating, they will be reported as "Ready" all of the time. If testing of a particular supported non-continuous monitor has not been completed, the monitor status will be reported as "Not Complete" or "Not Ready."

In order for the OBD monitor system to become ready, the vehicle should be driven under a variety of normal operating conditions. These operating conditions may include a mix of highway driving and stop and go, city type driving, and at least one overnight-off period. For specific information on getting your vehicle's OBD monitor system ready, please consult your vehicle owner's manual.

2.6 OBD II Definitions

Powertrain Control Module (PCM) -- OBD II terminology for the on-board computer that controls engine and drive train.

Malfunction Indicator Light (MIL) -- Malfunction Indicator Light (Service Engine Soon, Check Engine) is a term used for the light on the instrument panel. It is to alert the driver and/or the repair technician that there is a problem with one or more of vehicle's systems and may cause emissions to exceed federal standards. If the MIL illuminates with a steady light, it indicates that a problem has been detected and the vehicle should be serviced as soon as possible. Under certain conditions, the dashboard light will blink or flash. This indicates a severe problem and flashing is intended to discourage vehicle operation. The vehicle onboard diagnostic system cannot turn the MIL off until the necessary repairs are completed or the condition no longer exists.

DTC -- Diagnostic Trouble Codes (DTC) that identifies which section of the emission control system has malfunctioned.

Enabling Criteria -- Also termed Enabling Conditions. They are the vehicle-specific events or conditions that must occur within the engine before the various monitors will set, or run. Some monitors require the vehicle to follow a prescribed "drive cycle" routine as part of the enabling criteria. Drive cycles vary among vehicles and for each monitor in any particular vehicle. Please refer to the vehicle's factory service manual for specific enabling procedures.

OBD II Drive Cycle -- A specific mode of vehicle operation that provides conditions required to set all the readiness monitors applicable to the vehicle to the "ready" condition. The purpose of completing an OBD II drive cycle is to force the vehicle to run its onboard diagnostics. Some form of a drive cycle needs to be performed after DTCs have been erased from the PCM's memory or after the battery has been disconnected. Running through a vehicle's complete drive cycle will "set" the readiness monitors so that future faults can be detected. Drive cycles vary depending on the vehicle and the monitor that needs to be reset. For vehicle specific drive cycle, consult the service manual.

Freeze Frame Data -- When an emissions related fault occurs, the OBD II system not only sets a code but also records a snapshot of the vehicle operating parameters to help in identifying the problem. This set of values is referred to as Freeze Frame Data and may include important engine parameters such as engine RPM, vehicle speed, air flow, engine load, fuel pressure, fuel trim value, engine coolant temperature, ignition timing advance, or closed loop status.

Fuel Trim (FT) - Feedback adjustments to the base fuel schedule. Short-term fuel trim refers to dynamic or instantaneous adjustments. Long-term fuel trim refers to much more gradual adjustments to the fuel calibration schedule than short-term trim adjustments. These long-term adjustments compensate for vehicle differences and gradual changes that occur over time.

3. Product Descriptions

3.1 Outline of Creader Professional 123i/129i/Millennium Master

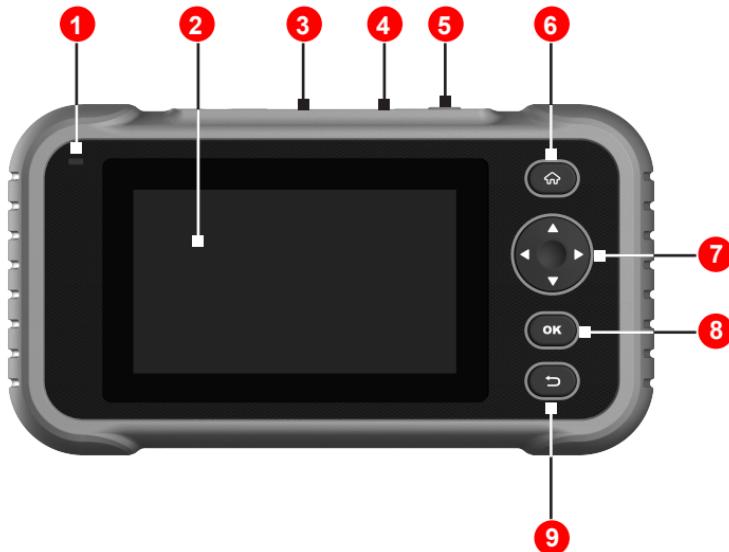


Figure 3-1

*Note: Creader Professional 123i features the same external appearance as Creader Professional 129i.

No.	Name	Descriptions
1	Charging LED	Red means Charging and Green means Fully charged.
2	LCD	Indicates test results.
3	DB-15 diagnostic connector	To connect to vehicle's DLC (Data Link Connector) via diagnostic cable.
4	5V Charging port	To connect to external DC power for charging the tool.

5	 Power	<ul style="list-style-type: none"> In Off mode, press it for about 5 seconds to turn the handset on. In On mode: <ul style="list-style-type: none"> Press it to activate the LCD if the LCD is off. Press it to turn off the LCD if the LCD lights up. Press it for 3 seconds to turn it off.
6	 HOME	Press to the home(Job menu) screen.
7	 ▲/▼	Move cursor up and down for selection.
	 ◀▶	Move cursor left or right for selection; Or turn page up and down when more than one page is displayed.
8	 OK	Confirms a selection (or action) from a menu list.
9	 Return	Exit the current program or return to the previous screen.

3.2 Technical Specifications

- Screen: 5" touch screen
- RAM: 1G
- ROM: 8GB
- Battery: 4000mAh rechargeable Li-battery
- OBDII input voltage range: 9~18V
- Touch & Keypad input
- Charging via:
 - DC 5V charging cable or
 - Diagnostic cable through connection to vehicle's DLC
- Dimension: 228mm x 125mm x 34.5mm
- Net weight: <565g
- Working temperature: -10 to 50°C (14 to 122 F°)
- Storage temperature: -20 to 70°C (-4 to 158 F°)

3.3 Accessories Checklist

For detailed accessory items, please consult from the local agency.

1. Creader Professional 123i/129i/Millennium Master handset
2. OBD II diagnostic cable
3. DC 5V charging cable
4. User manual