Clarke®

ENGINE FAULT CODE READER
MODEL NO: COBDIIR-2
PART NO: 4501139

USER INSTRUCTIONS

ORIGINAL INSTRUCTIONS   DL0623

INTRODUCTION

Thank you for purchasing this CLARKE Engine and Transmission Fault Code Reader.

Please read this manual thoroughly, before attempting to operate and carefully follow all instructions given.

It is vitally important that ALL precautions are taken, as specified, which will not only provide protection for yourself and that of others around you, but will also ensure that the code reader will give you long and satisfactory service.

GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

ENVIRONMENTAL RECYCLING POLICY

Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility.

If disposing of this product or any damaged components, do not dispose of with general waste. This product contains valuable raw materials. Metal products should be taken to your local civic amenity site for recycling of metal products.

PRODUCT OVERVIEW

1	2.4" TFT LCD Colour Display	6	Enter Button
2	Green LED: Indicates correct engine operation, no Diagnostic Trouble Code (DTC)	7	Exit Button
3	Yellow LED: Indicates a possible problem. Some diagnostics could not be performed and/or a DTC is pending	8	Scroll Up Button
4	Red LED: Indicates a problem with the engine. The MIL (Malfunction Indicator Light) may be on.	9	Scroll Down Button
5	One Click Function Key	10	OBDII 16 Pin Connector

SPECIFICATIONS

Model Number	COBDIIR-2
Operating Voltage	8V - 25V
Operating Current	52mA
Operating Temperature	-20°C to 70°C
Storage Temperature	-30°C to 80°C
Display	2.4" TFT Colour Screen
Support Data Stream Type	249 Sensor Parameters
Fault Code Analysis Quantity	16929
Dimensions (HxWxD)	24mm x 84mm x 131mm
Weight	198g

FUNCTION DESCRIPTION

1. Dual system diagnostic, optional engine and transmission.

2. Quickly indicate engine faults with green/yellow/red LED indicators as fault lights

3. You can read or clear the engine fault code and view DTC definition.

4. Display of sensor data stream information, supporting 249 types of parameters

5. You can view freeze frame data and I/M status information.

6. You can read vehicle information:

    • Vehicle Identification Number (VIN)

    • Calibration Identification Number (IDs)

    • Calibration Verification Number (CVNs)

7. Multi Language (English, Spanish, French, German, Polish, Finnish, Italian, Dutch & Russian).

8. Codes Compliant: OBDII, EOBD & JOBD

9. Protocols Supported: SAE J1850 VPW, SAE J1850 PWM, ISO 9141-2, ISO 14230-4(KWP FAST), ISO 14230-4(KWP 5BAUD), ISO 15765-4(CAN 11/250), ISO 15765-4(CAN 11/500), ISO 15765-4(CAN 29/250), ISO 15765-4(CAN 29/500).

SAFETY PRECAUTIONS

PLEASE READ BEFORE USING THIS UNIT

1. **ALWAYS** perform automotive testing in a safe environment.

2. Keep clothing, hair, hands, tools, test equipment, etc, away from all moving or hot engine parts.

3. Operate the vehicle in a well-ventilated work area; Exhaust gases are poisonous.

4. Put chocks under drive wheels and **NEVER** leave the vehicle unattended while running tests.

5. **ALWAYS** 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.

6. Put transmission in **PARK** (for automatic transmission) or **NEUTRAL** (for manual transmission) and make sure the parking brake is engaged.

7. Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.

8. **DO NOT** connect or disconnect any test equipment with ignition on or engine running.

CARE AND MAINTENANCE

Keep the code reader dry, clean and free from oil, water and grease. Use a mild detergent on a clean cloth to clean the outside of the code reader, when necessary.

Keep the 16 pin connector clean and the cable tidy.

ALWAYS check for splits or cuts in the cable.

GENERAL INFORMATION

VEHICLE COVERAGE

The OBDII Code Reader is specially designed to work with all OBDII compliant vehicles, including those equipped with the next-generation protocol -- Control Area Network (CAN). All 2000 and later vehicles are OBDII compliant and this includes all USA, Asian and European vehicles.
A small number of 1994 and 1995 model year petrol vehicles are OBDII compliant. To verify if a 1994 or 1995 vehicle is OBDII compliant, check the Vehicle Emissions Control Information (VECI) Label which is located under the bonnet or by the radiator of most vehicles. If the vehicle is OBDII compliant, the label will designate "OBDII Certified". Additionally, regulations mandate that all OBDII compliant vehicles must have a "common" sixteen-pin Data Link Connector (DLC).
For your vehicle to be OBDII, EOBD or JOBD compliant it must have a 16-pin DLC (Data Link Connector) under the dash and the Vehicle Emission Control Information Label must state that the vehicle is OBDII compliant.

OBDII COMPLIANT CAR MANUFACTURERS

For a full list of make and models of compliant manufacturers download the spreadsheet using the following website or QR code.

http://www.bit.ly/cobdiir2

DIAGNOSTIC TROUBLE CODES (DTC)

OBDII Diagnostic Trouble Codes 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. OBDII Diagnostic Trouble Codes consist of a five-digit alphanumeric code. The first character, a letter, identifies which control system sets the code. The other four characters, all numbers, provide additional information on where the DTC originated and the operating conditions that caused it to set. Here is an example to illustrate the structure of the digits:
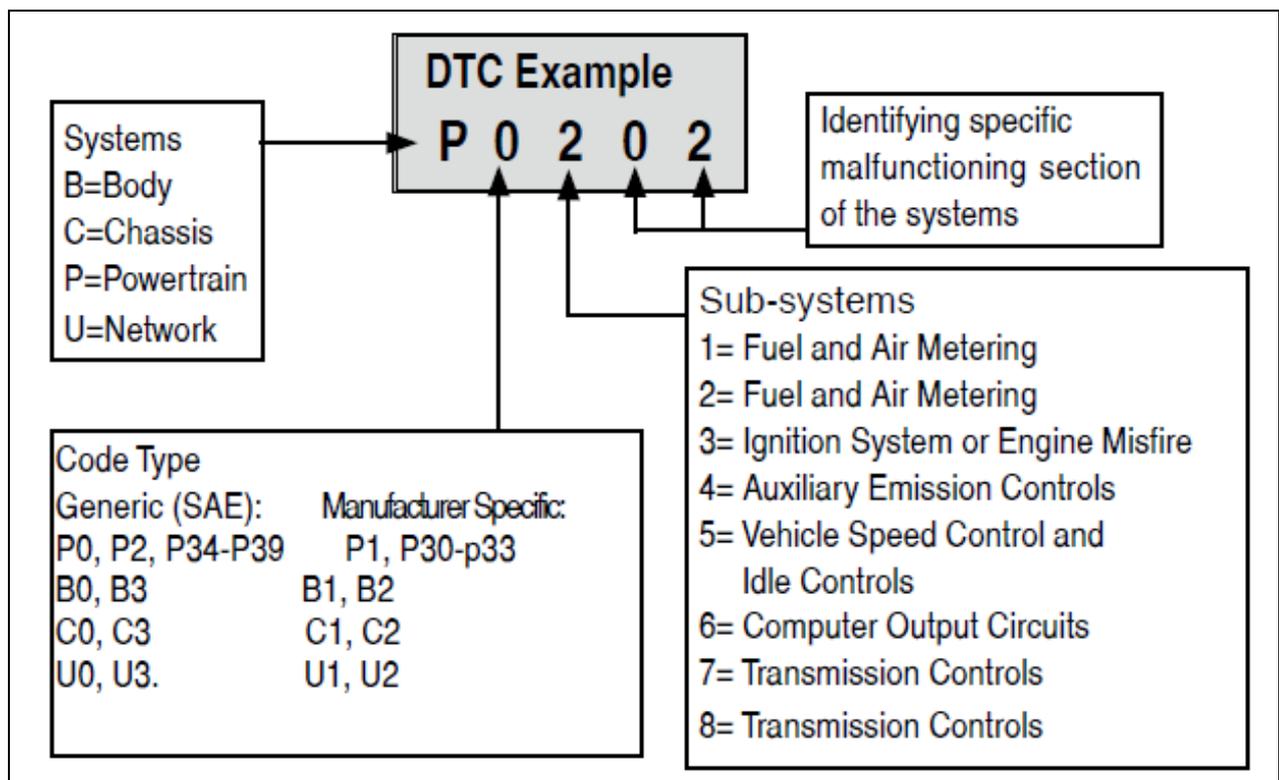
NOTE: Manufacturer Specific Codes(x1xxx): This is where the vehicle manufacturer feels that a code is not available within the generic list. The definitions for these are set by the vehicle manufacturer.

OBDII READINESS MONITORS

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

Currently, there are eleven OBDII Readiness Monitors (or I/M Monitors) defined. Not all monitors are supported by all 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 OBDII 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 Monitors (CCM)

Once the vehicle is running, the OBDII 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
7. Heated Catalyst
8. A/C System

OBDII MONITOR READINESS STATUS

OBDII systems must indicate whether or not the vehicle's PCM 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 OBDII system. The purpose of recording readiness status is to allow inspectors to determine if the vehicle's OBDII 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 scan tool 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.

OBDII DEFINITIONS

POWERTRAIN CONTROL MODULE (PCM)

OBDII 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 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 on-board diagnostic system can not turn the MIL off until the necessary repairs are completed or the condition no longer exists.

DIAGNOSTIC TROUBLE CODES (DTC)

Diagnostic Trouble Codes (DTC) that identify 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.

OBDII DRIVE CYCLE

A specific mode of vehicle operation that provides condition required to set all the readiness monitors applicable to the vehicle to the ready condition. The purpose of completing an OBDII drive cycle is to force the vehicle to run its on-board 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 vehicle's Owner's Manual.

FREEZE FRAME DATA

When an emission related fault occurs, the OBDII 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 RPM, vehicle speed, air flow, engine load, fuel pressure, fuel trim value, engine coolant temperature, ignition timing advance or closed loop status.

OBDII MODES OF OPERATION

MODE BYTE

The first byte in the system is the mode number. There are 9 modes for diagnostic requests, so this first byte is from 1 to 9. The first byte in the response data bytes is the same number plus 64. For example, a mode 1 request would have the first data byte = 1, and the response would have the first data byte = 65. Here is a brief description of the modes:

1. Mode $01 - Identifies the Powertrain information and shows current data available to the scan tool. This data includes: DTCs set, status of onboard tests and vehicle data such as engine RPM, temperatures, ignition advance, speed, air flow rates and closed loop status for fuel systems.

2. Mode $02 - Displays Freeze Frame Data. Dame data as in Mode 1, but it captured and stored when a malfunction occurred and a DTC was set. Some of the PIDs for mode 1 are not implemented in this mode.

3. Mode $03 - Displays the type of Powertrain or emission related DTCs stored by a 5 digit code identifying the faults. There may be more than one response message if there are more trouble codes than will fit in the data bytes of the response message, or if there are more than one ECU computer responding.

4. Mode $04 - Used to clear DTCs and Freeze Frame Data. This clears all diagnostic trouble codes that may be set including Freeze Frame Data and Readiness Monitors.

5. Mode $05 - Oxygen Sensor Test Results. This mode displays the oxygen sensor monitor screen and the test results gathered about the oxygen sensor. There are ten numbers available for diagnostics:

    - $01 - Rich-to-Lean O2 sensor threshold voltage

    - $02 - Lean-to-Rich O2 sensor threshold voltage

    - $03 - Low sensor voltage threshold for switch time measurement

    - $04 - High sensor voltage threshold for switch time measurement

    - $05 - Rich-to-Lean switch time in ms

    - $06 - Lean-to-Rich switch time in ms

    - $07 - Minimum voltage for test

    - $08 - Maximum voltage for test

    - $09 - Time between voltage transitions in ms

6. Mode $06 - Non-Continuously Monitored Systems test results. there are typically a minimum value, a maximum value and a current value for each non-continuous monitor. This data is optional, and it is defined by a given vehicle make if its used.

7. Mode $07 - Request for DTCs (pending) from Continuously Monitored Systems after a single driving cycle has been performed to determine if repair has fixed a problem. This is used by service engineer to verify repair was performed properly and after clearing diagnostic trouble codes.

8. Mode $08 - This Special Control Mode request control of the onboard system, test, or component bi-directionally (where applicable). This mode is manufacturer specific.

9. Mode $09 - Reports Vehicle Information. This information includes vehicle VIN number and calibration information stored in the vehicle ECUs.

10. Mode $10 - Request Emission Related Diagnostic Trouble Codes with Permanent Status. This mode is required for all emissions related DTCs. The presence of permanent DTCs at an inspection without the MIL illuminated is an indiction that a proper repair was not verified by the onboard monitoring system.

PRODUCT INFORMATION AND SET UP

NAVIGATION CHARACTERS

Characters used to help navigate the code reader are:

1. "#" - Identifies the control module number from which data is retrieved.

2. "Pd" - Identifies a pending DTC when viewing DTC's.

VEHICLE POWER

The power of the code reader is provided via the vehicle data link connector (DLC). Follow the steps below to turn on the code reader:

1. The DLC is usually located approximately 12 inches from the centre of the instrument panel (dashboard), under or around the drivers side for most vehicles. Consult the vehicles handbook for exact location.

2. Plug the OBDII 16 pin data link connector to the vehicles DLC port.
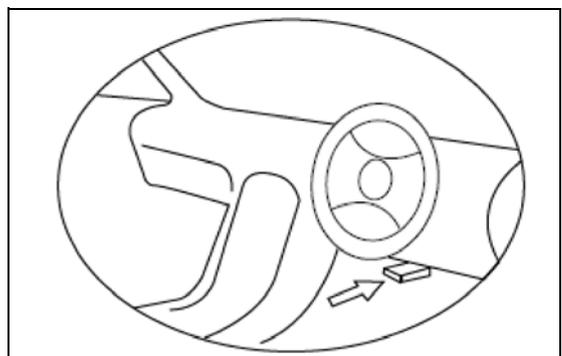
SET UP

The code reader allows you to make the following adjustments and settings:

1. **Language**: The factory default is English, other languages can be manually selected.

2. **Unit of Measure**: Supports metric and imperial units, factory default is metric.

3. **Fn Key Set**: Sets the One-Click-Quick Function Key, including I/M readiness status, trouble code, default live data and all data stream.

TO ENTER THE SETUP MENU

When the scan tool is powered on, it will display a Main Screen.
From the Main Screen: Use the SCROLL button to select Setup, and press the ENTER button. Follow the instructions to make adjustments and settings as described in the following setup options.
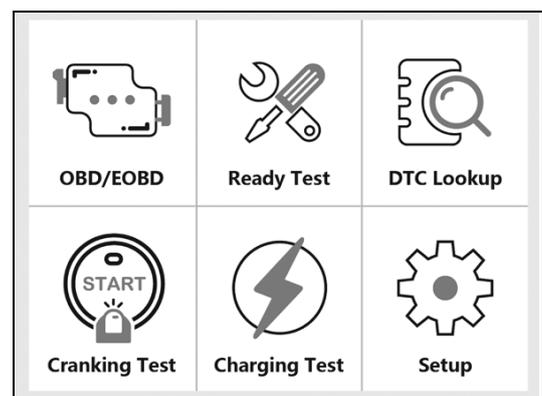

OBD/EOBD   Ready Test   DTC Lookup

Cranking Test   Charging Test   Setup

NOTE: There is a navigation bar in red to show the position of the chosen item. Also shown is 'X/X' at the top right corner to remind the user.

Tool Setup 1/3

Language
Unit of measure
Fn key set
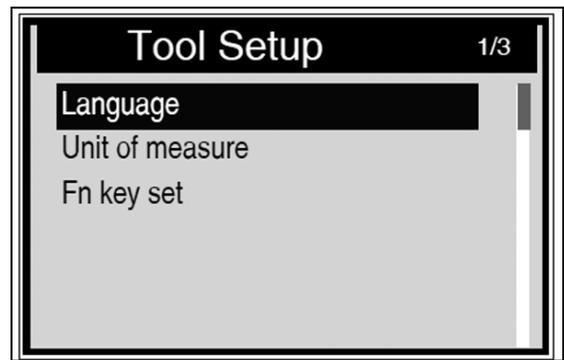
LANGUAGE SETUP

NOTE: English is the default language.

1. From the Main Screen, use the SCROLL button to select the Tool Setup screen and press the ENTER button.

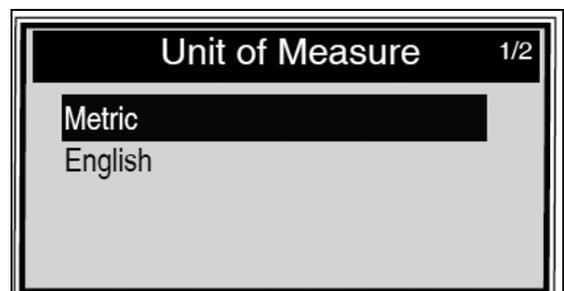2. From the Tool Setup screen, use the SCROLL button to select the desired language and press the ENTER button.

Language 1/3

Nederlands
English
Francais
Espanol
Deutsch
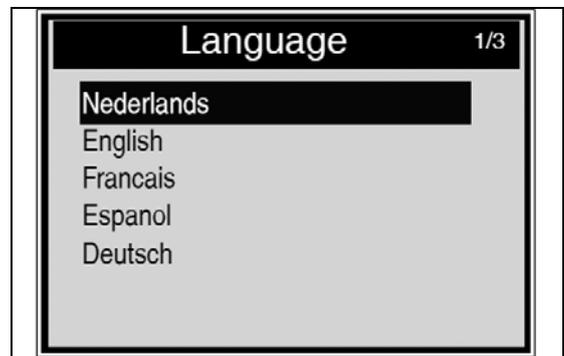
3. Press the ENTER button to save your selection and return to the previous menu.

UNIT OF MEASUREMENT

NOTE: Metric is the default measurement unit.

1. From the Main Screen, use the SCROLL button to select the Tool Setup screen and press the ENTER button.

2. From the Tool Setup screen, use SCROLL buttons to select Unit of Measure and press the ENTER button.

Unit of Measure 1/2

Metric
English

3. From the Unit of Measure screen, use the SCROLL button to select the desired unit of measurement.

4. Press the ENTER button to save your selection and return to the previous menu.

FUNCTION (FN) KEY SET

1. From the Main Screen, use the SCROLL button to select the Tool Setup screen and press the ENTER button.

2. From the Tool Setup screen, use the SCROLL button to select the Fn Key Set and press the ENTER button.

3. From the Fn Key Set screen, use the SCROLL button to select the desired function.

4. Press the ENTER button to save your selection and return to the previous menu.
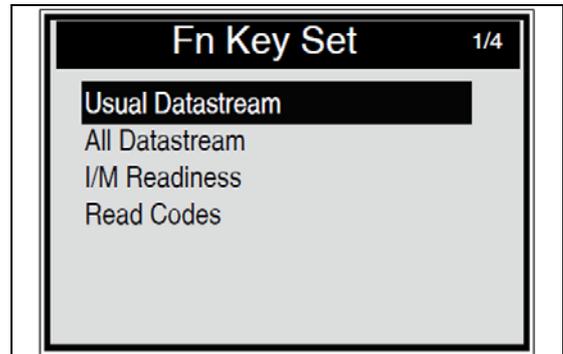
In this menu, you can configure the Fn setting for one-click function, as follows:

1. **Usual Data stream Mode**: In this mode the tool has recommended some data stream for the user reference, during the vehicles monitors have run and completed their diagnosis and testing.

2. **All Data stream Mode**: In this mode, after the vehicles monitors have run and completed their diagnosis and testing, the scan tool will return to check all data streams. So it is mostly used to check the monitors status.

3. **I/M Readiness Mode**: I/M Readiness mode is the default work mode. In this mode, after the vehicles monitors have run and completed their diagnosis and testing, the scan toll will turn to OBDII diagnostic procedures.

4. **Read Codes Mode**: Read codes mode is the basic work mode. In this mode, after the vehicles monitors have run and completed their diagnosis and testing, the scan tool will read the trouble codes insides.

To exit the Setup menu, use the SCROLL button to select Previous Menu from the System Setup screen and press the ENTER button to return to the Main Screen.

OPERATING INSTRUCTIONS

CONNECTION

⚠️ **WARNING: DO NOT CONNECT OR DISCONNECT ANY TEST EQUIPMENT WITH THE IGNITION ON AND THE ENGINE RUNNING.**

1. Turn the vehicle ignition OFF.

2. Locate the vehicles 16 pin DLC port.

3. Plug the code reader into the vehicles DLC port.

4. Turn the vehicle ignition on. Engine can be off or running.

OBDII DIAGNOSTIC

1. Use the UP/DOWN button to select Diagnostics from the Main Screen.

2. Press the ENTER button and wait for the menu to appear. A sequence of messages displaying the OBDII protocols will be shown on the display until the correct vehicle protocol is detected.

NOTE: If the scan tool fails to communicate with the vehicles ECU (Engine Control Unit) more than three times, a 'LINKING ERROR' message will show on the display. If this is the case, verify that the ignition is 'ON', check if the scan tools OBDII connector is securely connected to the vehicles DLC and verify that the vehicle is OBDII compliant. Turn the ignition 'OFF' and wait for about 10 seconds. Turn the ignition back to 'ON' and repeat the procedures from step 1.

NOTE: If the 'LINKING ERROR' message does not go away, then there might be problems for the scan tool to communicate with the vehicle. Contact either CLARKE service department of the vehicle manufacturers service department for assistance.

3. View a summary of the system status (MIL status, DTC counts, Monitor status) on screen. Wait a few seconds or press any key for Diagnostic Menu to come up.

4. If more than one module is detected, you will be prompted to select a module before testing.

System Status	
MIL status	OFF
Codes Found	6
Monitors N/A	3
Monitors OK	3
Monitors INC	5

5. Use the UP/DOWN button to select a module and press the ENTER button to confirm.
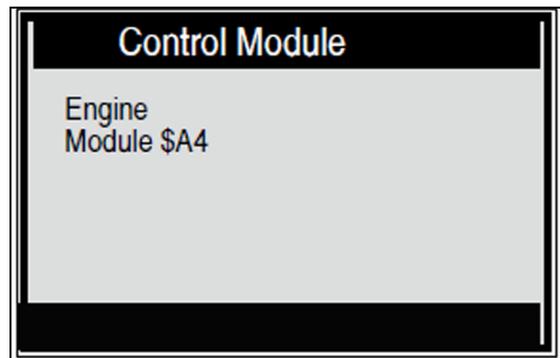
READ CODES

Reading Codes can be done with the ignition on, engine off or ignition on, engine running.

Stored codes are also known as 'hard codes' or 'permanent codes'. These codes cause the control module to illuminate the malfunction indicator light (MIL) when an emission related fault occurs.

Pending codes are also referred to as 'mature codes' or 'continuous monitor codes'. They indicate problems that the control module has detected during the current or last driving cycle but are not considered serious yet. Pending codes will not turn on the malfunction indicator light (MIL). If the fault does not occur within a certain number of warm up cycles, the code clears from the memory.

1. Select Read Codes and press ENTER in the Diagnostic Menu. If there are some codes, the screen will display the codes as shown:

NOTE: There is a navigation bar in red to show the position of the chosen item. Also shown is 'X/X' at the top right corner to remind the user.

2. Use the UP/DOWN Scroll buttons to select Current Codes or Pending Codes from the Read Codes menu and press the ENTER button. If there are no Diagnostic Trouble Codes, the display indicates 'No Pending Codes are stored in the module!'. Wait a few seconds or press any key to return to previous screen.

NOTE: Permanent Codes function is available for merely vehicles supporting the CAN protocols.
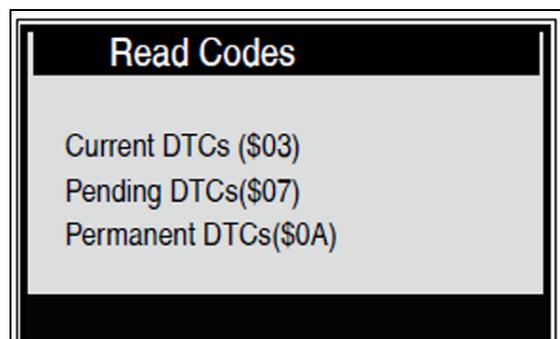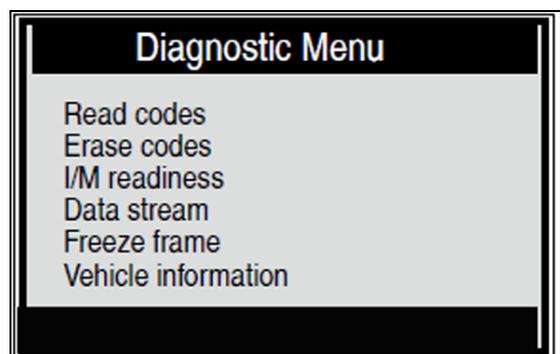
3. View DTCs and their definitions on screen. Press ENTER button to return to previous screen.

NOTE: The control module number, sequence of the DTCs, total number of codes detected and type of codes (generic or manufacturer specific, stored or pending codes) will be observed on the upper right hand corner of the display. 1/3 indicates there are 3 codes total and now P0143 is the first code to display. The screen will also show the content of the code below the number of the code.
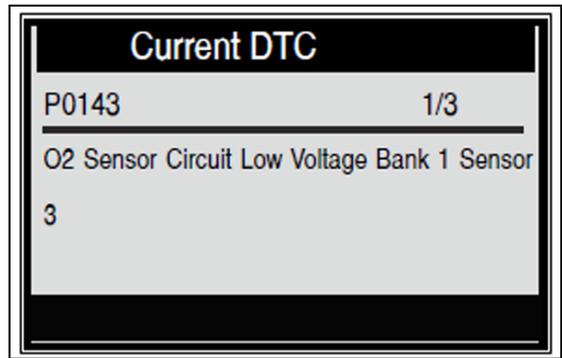
4. Press the EXIT button to view the next code.

5. After viewing all the codes, press the EXIT button to return to the Diagnostic Menu.

ERASE CODES

CAUTION: Erasing the Diagnostic Trouble Codes may allow the scan tool to delete not only the codes from the vehicles onboard computer, but also Freeze Frame Data and manufacturers specific enhanced data. Further, the I/M Readiness Monitor Status for all vehicle monitors is reset to Not Ready or Not Complete status. **DO NOT** erase the codes before the system has been checked completely by a technician.

NOTE: Erasing codes does not mean that the trouble codes in the ECU have been eliminated completely. As long as there is fault with the vehicle, the trouble codes will keep on presenting.

1. Select Erase Codes, the screen will display the interfaces as shown:

2. Press the UP/DOWN SCROLL buttons to select Yes or No.

3. Press the ENTER button to erase the DTC.

NOTE: Before performing this function, make sure to retrieve and record the trouble codes.

After clearing, you should retrieve trouble codes once more or turn the ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the code using a factory diagnosis guide, then clear the code and recheck.
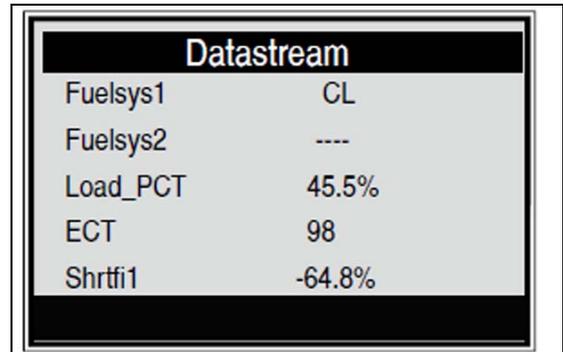
DATA STREAM

The View Data function allows viewing of live or real time PID data of the vehicles computer module(s).

For the vehicles with more ECUs, more live data will be found and shown. The max. live data is 300 for some cars. However, the live data real quantity depends on each car ECU. Please check this function as real vehicle status on the vehicle.

1. Use the SCROLL button to select Data Stream from the Diagnostic Menu and press the ENTER button.

NOTE: If there is no Freeze Frame Data available, an advisory message 'No Data Stream' will show.

NOTE: The number 'X' to the right of the screen indicates the sequence of the highlighted item.

Datastream	
Fuelsys1	CL
Fuelsys2	----
Load_PCT	45.5%
ECT	98
Shrtfi1	-64.8%

2. Wait a few seconds while the scan tool validates the PID MAP.

3. If retrieved information covers more than one screen, use the SCROLL button as necessary, until all the data has been shown.

4. Press the EXIT button to return to the previous screen.

VIEW FREEZE FRAME DATA

When an emission related fault occurs, certain vehicle conditions are recorded by the onboard computer. This information is referred to as freeze frame data. Freeze Data is a snapshot of the operating conditions at the time of an emission related fault.

NOTE: If DTCs were erased, Freeze Data may not be stored in the vehicle memory depending on the vehicle type.

1. Select Freeze Frame in the main menu interface, the screen will display the interface as shown:

NOTE: If there is no Freeze Frame Data available, an advisory message 'No freeze frame data stored' will be shown.

2. Press the EXIT button to return to the Diagnostic Menu.
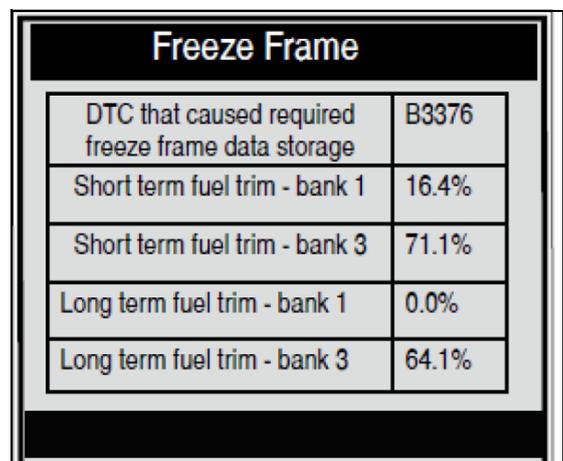
Freeze Frame	
DTC that caused required freeze frame data storage	B3376
Short term fuel trim - bank 1	16.4%
Short term fuel trim - bank 3	71.1%
Long term fuel trim - bank 1	0.0%
Long term fuel trim - bank 3	64.1%

I/M READINESS

I/M refers to Inspection and Maintenance that is legislated by the government to meet clean air standards. I/M Readiness indicates if or not the various emissions related systems on the vehicle operating properly and ready for I/M testing.

The purpose of the I/M Readiness Monitor Status is to indicate which of the vehicle status described on page 8, and which ones have not yet run and completed testing and diagnosis of their designated sections of the vehicle system.

The I/M Readiness Monitor Status function can also be used (after repair of a fault has been performed) to confirm that the repair has been performed correctly, and/or to check for Monitor Run Status.

1. Select I/M readiness and press ENTER, the screen will display as shown:

NOTE: You can use the UP/DOWN Scroll button to select and press ENTER.

NOTE: N/A means not available on this vehicle. INC means incomplete or not ready. OK means completed or monitor OK.
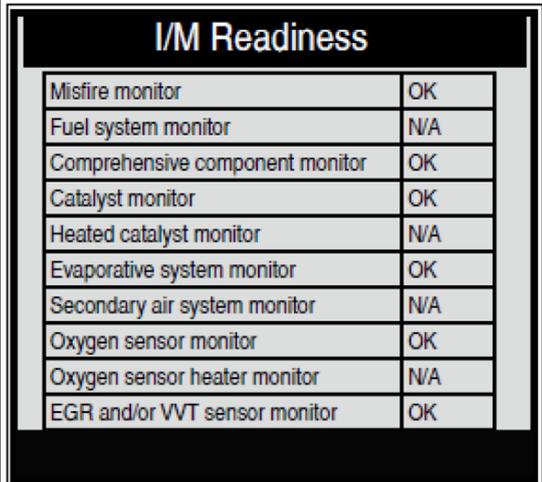
I/M Readiness	
Misfire monitor	OK
Fuel system monitor	N/A
Comprehensive component monitor	OK
Catalyst monitor	OK
Heated catalyst monitor	N/A
Evaporative system monitor	OK
Secondary air system monitor	N/A
Oxygen sensor monitor	OK
Oxygen sensor heater monitor	N/A
EGR and/or VVT sensor monitor	OK

There are two modes to show I/M Readiness Monitor Status. You can configure work modes in the Setup menu.

1. **Scan Tool Mode**: This mode is the default work mode. In this mode, after the vehicles monitors have run and completed their diagnosis and testing, the scan tool will turn to OBDII diagnostic procedures.

NOTE: Only in this mode can you perform the OBDII diagnostics.

2. **Ready Test Mode**: In this mode, after the vehicles monitors have run and completed their diagnosis and testing, the scan tool will return to the previous screen. So it is only used to check the emission related monitors status.

READY TEST MODE

Repairs to the emissions control system of a 1996 or newer vehicle may cause the vehicles computer (ECU) memory to be cleared. The vehicle must go through a drive cycle to allow the ECU to perform a series of tests to ensure that the repair was successful, and before a mandated emissions test can be conducted.

Modern vehicles lack the equipment to indicate whether the tests have been completed. With the auto code reader, you don't have to bring the vehicle back to the repair shop for retest if all required tests by the ECU are completed.

In the Ready Test Mode, you can easily check the I/M Readiness status to determine whether an OBDII vehicle is ready for an emissions test.

To enter this mode, simply press the One Click Key at anytime. If the One Click function key is set to I/M Readiness. Or, while the scan tool is in Ready Test Mode, select Diagnostics in the main menu screen. If the scan tool is idle, it will show the result immediately. If it is busy, it will wait till the current procedure has finished. After viewing the status, press the I/M Readiness One Click key or ENTER button to exit, which takes a few seconds.

You will then get the information screen as shown:

- OK - Indicates that a particular monitor being checked has completed its diagnostic testing.

- INC - Indicates that a particular monitor being checked has not completed its diagnostic testing.

- N/A - The monitor is not supported on this vehicle.

The green and red LEDs provide an easy way to check if emission related monitoring systems complete their self diagnostic testing

The LED and audio tone indications are as follow:

- Green LED - Indicates that the engine systems are OK and operating normally (the number of monitors supported by the vehicle which have run and performed their self diagnostic testing is in the allowed limit).

- Red LED - Indicates that the number of monitors supported by the vehicle which have run and performed their self diagnostic testing is out of the allowed limit.

VEHICLE INFO

The Vehicle Info. function enablers retrieval of Vehicle Identification No. (VIN), Calibration ID Nos. (CINs), Calibration Verification Nos. (CVNs) and In Use Performance Tracking on 2000 and newer vehicles that support Mode 9

1. Use the UP/DOWN SCROLL button to select the Vehicle Info. from the Diagnostic Menu and press the ENTER button.

2. From the Vehicle Info. Menu, use the SCROLL button to select an available item to view and press the ENTER button.
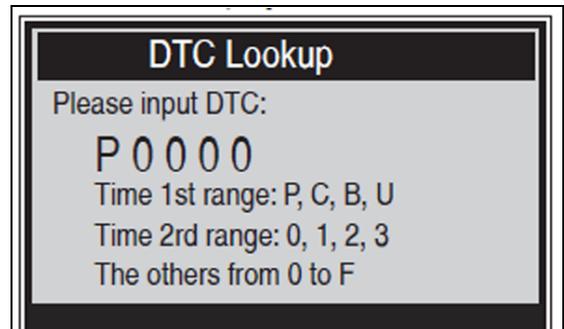

Vehicle Information

Vehicle ID Number
Calibration ID
Cal. Ver. Number
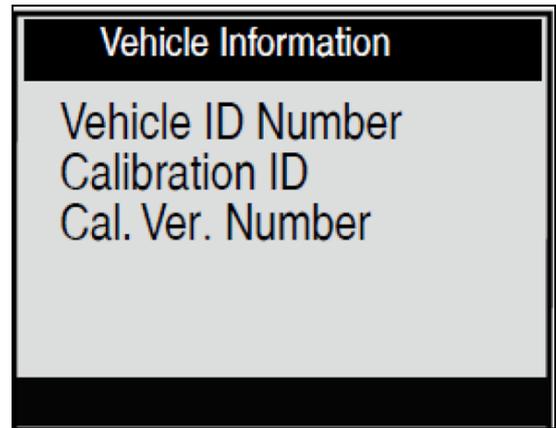
3. View retrieved vehicle information on screen as shown:


Cal. Verf. Number

CVN1: BB BA A0 78
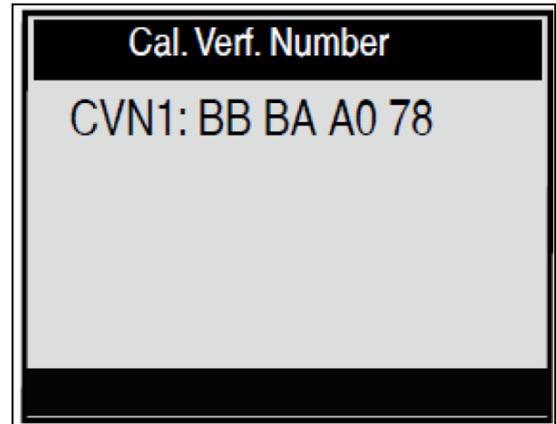
CODE LOOKUP

Select DTC Lookup in the main menu and press the ENTER button and the screen will display as shown:

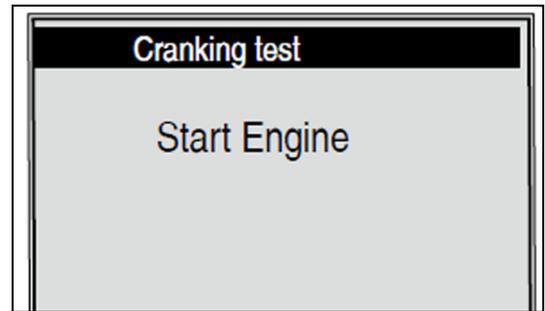You can use the SCROLL key to change the first letter. Press the Fn button to switch to the next position.

DTC Lookup

Please input DTC:
P 0 0 0 0
Time 1st range: P, C, B, U
Time 2rd range: 0, 1, 2, 3
The others from 0 to F

STARTER/CRANKING TEST

1. From the main menu, use the UP/DOWN button to select the Cranking Test mode and press the ENTER button.

OBD/EOBD   Ready Test   DTC Lookup

Cranking Test   Charging Test   Setup

2. Press the ENTER button to enter the test mode.
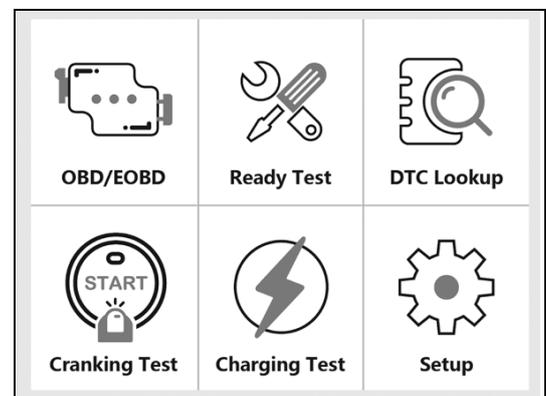
3. Start the engine.

> **Cranking test**
>
> Start Engine

4. It will then show the test results - Normal/Abnormal/Low/High, Starting Time and Lowest Volt

> **Cranking Test**
>
> | TIME | 699ms |
> |---|---|
> | VOLTAGE | 10.69V |
>
> **NORMAL**
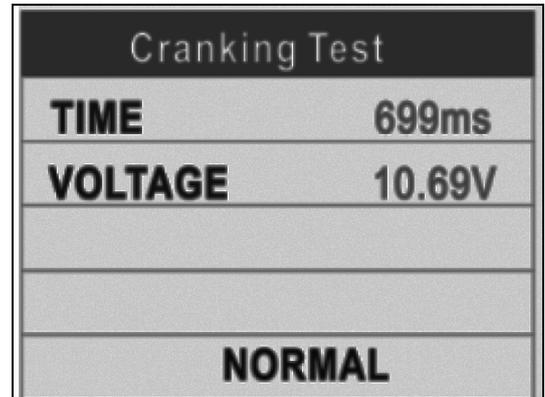
ALTERNATOR/CHARGING TEST

1. From the main menu, use the UP/DOWN button to select the Charging Test mode and press the ENTER button.

> OBD/EOBD   Ready Test   DTC Lookup
>
> Cranking Test   Charging Test   Setup
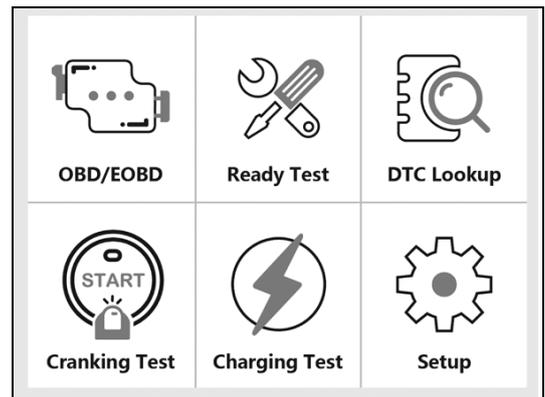
2. Press the ENTER button to enter the test mode.

3. Start the engine and follow the instructions on the screen.

> **Charging Test**
>
> Increase RPM to 2500 and keep it 5 seconds
>
> Press enter to continue.
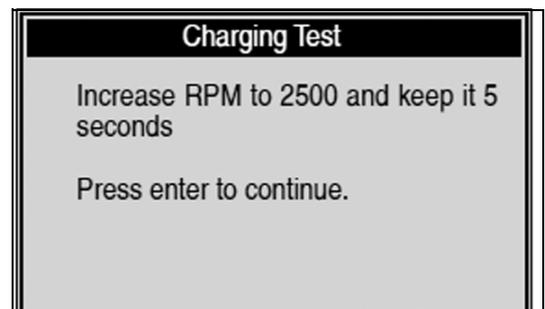
4. It will then show the test results - Normal/Abnormal/Low/High, Loaded Volt and Unload Volt.

Charging Test	
Load Voltage	11.27V
Unload Voltage	11.28V
Ripper Voltage	19mA
Abnormal	

ASSOCIATED CLARKE PRODUCTS

High Beam Timing Light - CHBTL1	Fuel Injection Testing Kit - CHT713	Radiator Pressure Test Kit - CHT694
• Timing Advance up to 60° BTDC • Trigger Activated • 12V Clamp Leads • Part No. 4003402	• Includes: Gauge, Pressure Relief Valve, Relief & Pressure Hoses, Small Length of Hose, Hose Clips & Fuel Bolt with Seal. • Part No. 1801713	• Triple Calibrated Pump • 12 Colour Coded Adaptors • 610mm Hose with Pressure Release Valve • Part No. 1801694

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TROUBLESHOOTING

Error		Solution
Vehicle Linking Error	A communications error occurs if the scan tool fails to communicate with the vehicles ECU (Engine Control Unit). You need to do the following to confirm connectivity:	1) Verify that the ignition is ON.
		2) Check if the scan tools OBDII connector is securely connected to the vehicles DLC.
		3) Verify that the vehicle is OBDII compliant.
		4) Turn the ignition off and wait for about 10 seconds. Turn the ignition back on and continue the testing.
		5) Verify the control module is not defective.
Operating Error	If the scan tool freezes, then an exception occurs of the vehicles ECU is too slow to respond to requests. You need to do the following to reset the scan tool:	1) Turn the ignition off and wait for about 10 seconds. Turn the ignition back on and continue the testing.
Scan Tool Doesn't Power Up	If the scan tool does not power up or operates incorrectly in any other way, you need to do the following:	1) Check if the scan tools OBDII connector is securely connected to the vehicles DLC.
		2) Check if the DLC pins are bent or broken. Clean the DLC pins if necessary.
		3) Check the vehicle battery to make sure it is still good with at least 8 volts.
		4) Verify the control module is not defective.

LED Lights Not Working	If you turn on the scan tool and perform the I/M Readiness test but the LED lights are not working, there may be several possible causes, including bad connection and ignition is OFF. In this case, follow these steps to confirm:	1) Check if the scan tools OBDII connector is securely connected to the vehicles DLC.
		2) Verify the ignition is on and the engine is running.
		3) Run the LED test in the system setup menu. If the scan tool does not pass this test, there is a problem with the LED lights, please contact the CLARKE service department.
Can't Use the Diagnostic Function	When you select the Diagnostics function in the main menu screen and it only shows the I/M Readiness status, the scan tool may be in the Ready Test Mode.	1) Select Scan Tool Mode in the System Setup menu.

DECLARATION OF CONFORMITY - UKCA

UK CA

Clarke®
INTERNATIONAL
Hemnall Street, Epping, Essex, CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following legislation:

The Electromagnetic Compatibility Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The following standards have been applied to the product(s):

EN 55032:2015/A1:2020/A11:2020, EN 55035:2017/A11:2020, EN IEC 61000-3-2:2019,

EN 61000-3-3:2013/A1:2019, IEC 62321-3-1:2013, IEC 62321-6:2015, IEC 62321-7-1:2015,

IEC 62321-8:2017

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

The UKCA mark was first applied in: 2023

Product Description:	Automotive Diagnostic Tool
Model Number(s):	COBDIIR-2
Serial/Batch Number:	Refer to product/packaging label
Date of Issue:	16/06/2023

Signed:

J.A Clarke

Director

COBDIIR-2 UKCA Clarke DOC 061623

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DECLARATION OF CONFORMITY - CE

Parts & Service: 020 8988 7400 / E-mail: Parts@clarkeinternational.com or Service@clarkeinternational.com