

# LASER<sup>®</sup>

## Diesel Smoke Meter



**NEW  
PRODUCT**



### Description

Diesel smoke meter utilises the same technology as used in MOT smoke meters. For the analysis of diesel engine emissions etc.

### Packaging

Blow mould case and label

### Additional Information

- Simple and easy to use
- Green for pass red for fail
- No batteries fully portable
- 12volt cigar lighter connection



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## Diesel Smoke Meter

The Laser Diesel Smoke Meter (part no: 5112) has been developed to offer a fast and cost effective solution to checking the emissions from a diesel engine exhaust. The technology used to measure the exhaust emissions is the same as that used in current MOT machines; it measures the smoke level of the exhaust gas in the same way and to the same specifications. It has been developed to allow the professional garage and home mechanic to check the emissions from a diesel engine for service and pre-MOT purposes. The 5112 is not approved for use for the MOT test; it cannot be linked to a PC or the MOT vehicle database.

Suitable for all turbo and non-turbo diesel engines.

### SPECIFICATION

#### Pre-July 1st 2008 Non-Turbocharger

**Diesel Opacity:**  
Lower than 2.5km-1 = **PASS** Light ON  
Higher than 2.5Km-1 = **FAIL** Light ON

#### Pre-July 1st 2008 Turbocharged

**Diesels Opacity:**  
Lower than 3Km-1 = **PASS** Light ON  
Higher than 3Km-1 = **FAIL** Light ON

#### From and including July 1st 2008

**(All) Diesel Opacity:**  
Lower than 1.5Km-1 = **PASS** Light ON  
Higher than 1.5Km-1 = **FAIL** Light ON

Note: Not for use on spark ignition engines (petrol engines).

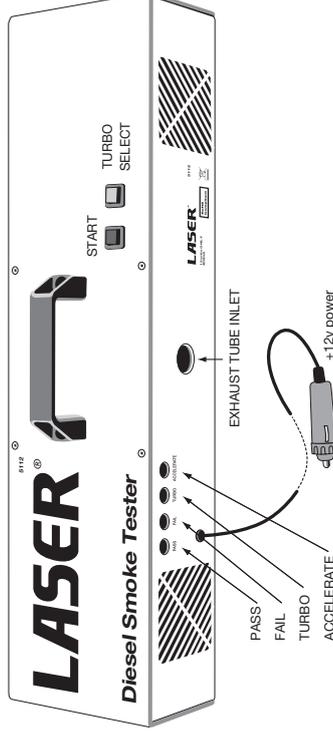
### Preparation

**Important:** As for any emissions test, there are certain pre-test conditions that must be observed. Failure to comply with these conditions could cause a false test result or even major engine damage.

### Disclaimer:

*The diesel emissions test process requires the engine being tested to be run at full throttle with no load. This means the engine will run at maximum revolutions per minute (RPM). For this reason, The Tool Connector Ltd, its representatives and distributors cannot be held responsible for damage caused due to engine failure during testing.*

## Basic Summary of 5112 LED functionality:



The four LEDs on the 5112 are used to indicate the machine's system status. Each LED is a different colour as shown below:

1. PASS = GREEN
2. FAIL = RED
3. TURBO = ORANGE  
(‘K’ level selection - see below)
4. ACCELERATE = BLUE

### System Ready:

After connecting the 5112 to a 12v DC power supply the 5112 is ready to run a test when the green and blue LEDs flash alternately. In this condition the Turbo threshold can be selected. This is done by pressing the **Turbo Select** (RED) button:

- Orange Turbo LED off - **Pre-2008 Non turbo vehicle** - default (do not press turbo selection button)
- Orange Turbo LED on - **Pre-2008 Turbo Vehicle** - press turbo selection button once
- Orange Turbo LED flashing - **All Post 2008 vehicles** - press turbo selection button twice

Pressing the **Start** button (BLACK) will start the smoke test.

### Smoke Test Sequence:

**Care Point:** do not connect samples hose to the vehicle till instructed below. From initial switch-on allow the machine to stabilise for approximately one minute. After test allow the machine to run with the sample hose disconnected to allow the 5112 to self clean.

1. After connecting the 5112 to a suitable 12v DC supply the system software will boot up. When the GREEN and BLUE LED lights are flashing alternately the ‘K’ level (smoke opacity) can be selected as described above with the **Turbo Select** button.
2. Press the **Start** button, the green and blue LEDs should stop flashing and the RED LED will be ON. In this state the 5112 is sampling fresh air and calibrating itself to the no-smoke level.
3. After a short period of time the RED LED will start to flash, this indicates to the user to connect the sample pipe to the exhaust.
4. Now press the **Start** button, the BLUE LED should now start to flash for 10 seconds indicating the operator should prepare to accelerate the engine to full throttle. When the BLUE LED stops flashing and switches to full ON the operator should accelerate the engine to full throttle.
5. The throttle should be held full on till the BLUE LED goes OUT, release throttle.

### Results:

GREEN LED ON = **PASS**  
RED LED ON = **FAIL**