

LMS Test Cable


for testing Pierburg air mass sensors (→ 1998)

Vehicle:	Product:	Air mass sensor (LMS)	
	Pierburg No.:	Replacement for:	O.E. No.: *)
Audi, Ford, Karmann, Seat, Skoda, VW	7.18221.51.0	7.18221.01.0	074 906 461; 1 003 751; 390 649; 95 VW12B529 BA;
Audi, VW	7.18221.58.0	7.18221.08.0	023 906 461

With this test cable it is easily possible to check operation of the aforementioned Pierburg air mass sensors for vehicles with 1.9 and 2.5 SDI/TDI engine (year of manufacture approximately 1993 to 1998).

The connection is provided between the air mass sensor and the corresponding connector at the wire harness.

The two freely accessible sockets serve the purpose of connecting a commercially available measuring instrument.

 The test sequence is described on the reverse of this service information leaflet.

Advantages offered by test cables

- Faster troubleshooting
- Simplification of work
- Reliable establishing of contacts
- Avoidance of incorrect measurements due to difficult handling of the probes.
- Reducing the risk of short circuits



Air mass sensor (LMS)

Air mass sensors are capable of measuring with high accuracy the quantity of air supplied to the engine ("air mass flow").

The detected value is converted within the instrument into an electric voltage serving the purpose, among other things, of enabling the engine controller to calculate injection point and duration.

In the case of diesel engines, air mass flow sensors are additionally used to control the exhaust gas return subsystem.

Thus the air mass sensor is an important component in fuel mixture generation and in reducing exhaust gas quantities.

A defective air mass measuring system can supply incorrect input signals to the engine controller which in turn will then incorrectly drive other components.

The right of changes and deviating pictures is reserved.

Assignment and usage, refer to the each case current catalogues, TecDoc CD respectively systems based on TecDoc.

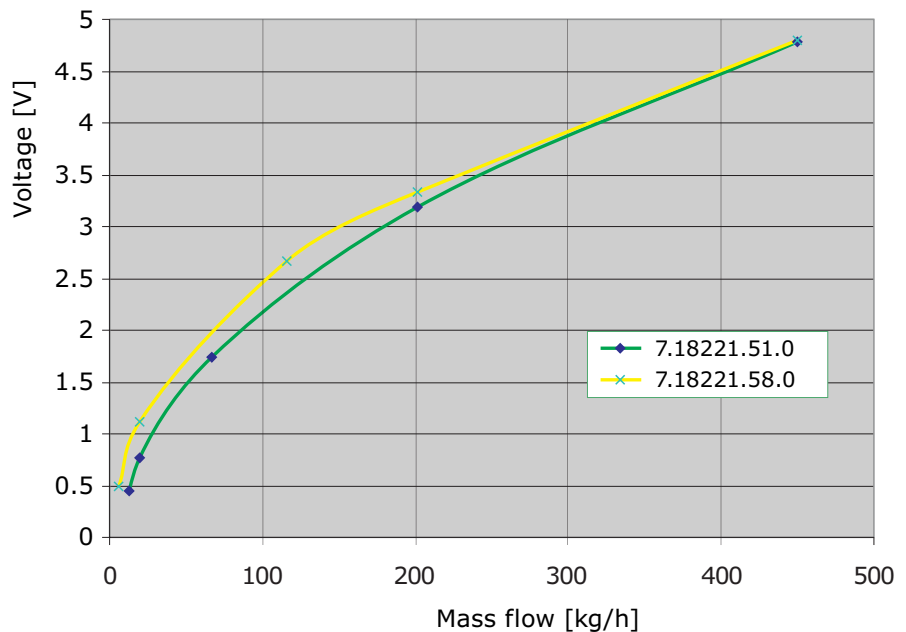
*) The reference numbers stated serve only the purpose of comparison and must not be used in invoices for the end user.

Testing

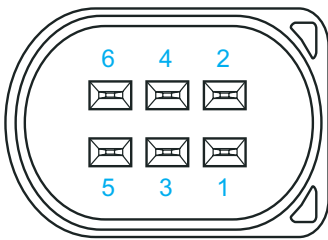
! With the ignition switched on, no connectors may be disconnected or connected. The thereby caused voltage transients can destroy electronic components.
The test can only be performed while built-in.

→ Further information on the EGR system and on troubleshooting within the EGR systems for vehicles with a 1.9 TDI engine can be found in the Service Information leaflets *SI 0017/A*, *SI 0038* and *SI 0039*.

Characteristics



Connector pin assignment



Connector pin assignment
(view on to the LMS)

- 1 Reference voltage U_{Ref}
- 2 Sensor ground
- 3 Supply voltage U_{Bat}
- 4 n.c.
- 5 Ground
- 6 UA (output signal)

Checking the voltage supply

- Disconnect the plug from the LMS.
- Switch the ignition on.
- Measure the voltage at the cable connector.
Nominal values:
 - Pin 3 → vehicle ground
= approximately battery voltage
 - Pin 3 → Pin 5
= approximately battery voltage
 - Pin 1 → vehicle ground
= approximately 5 V
 - Pin 1 → Pin 5
= approximately 5 V
- Switch ignition off.

Checking operation

Requirements: Controlled speed is attained (according to AU data).

- Connect the test cable between LMS and connector for LMS.
- Insert the multimeter into the sockets of the test cable (terminals 2 and 6 of the LMS) and read off the voltages.
Nominal values:
 - Ignition switched on
Nominal value: 0.24 ... 0.33 V
 - Engine at operating temperature and idle
Nominal value: 0.9 ... 1.5 V
 - Increase speed (gas burst) up to controlled speed
Nominal value: voltage increase to at least 4.3 V
- Switch ignition off.
- Remove the test cable again.