

## 1.14 Instrument Cluster (IC)

Model 129 (as of 6/97) with FSS

### Electrical Test Program – Test Model

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	<b>Instrument cluster (A1)</b> Voltage supply Terminal 30	<p>3 —  (1A.3)         — 11 (1A.11)</p> <p>12 —  (1A.12)         — 11 (1A.11)</p>	Ignition: <b>OFF</b> Remove A1 Disconnect connector 1 (30-pin)	11 – 14 V	Fuse 14 in fuse and relay box (F1), Wiring, ⇒ 1.1
1.1	Voltage supply Terminal 15, fused	<p>3 —  (1A.3)         — 9 (1A.9)</p>	Ignition: <b>ON</b>	11 – 14 V	Fuse 10 in fuse and relay box (F1), Wiring, A1
2.0	<b>HHT interface</b> Connection between A1 and data link connector (X11/4)	<p>X11/4         — 11 (1B.11)</p> <p>15 —          — 11 (1B.11)</p>	Ignition: <b>OFF</b> Remove A1, Disconnect connector 1 (30-pin)	5 Ω	Wiring.
3.0	<b>ECL and windshield washer level:</b> ECL level switch (S41), windshield washer level switch (S42) and wiring	<p>6 —  (1B.6)         — 4 (1B.4)</p> <p>     — 6 (1B.6)     — 4 (1B.4)</p>	Ignition: <b>OFF</b> Coolant level and windshield washer fluid level: OK Remove instrument cluster (A1) Disconnect connector 1 (30 pin).	233 - 297 Ω	Wiring ⇒ 3.1 Values O.K.: A1

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3.1	ECL switch (S41)	<p>S41 1 — 2</p>	Ignition: <b>OFF</b> Remove expansion tank Disconnect connector at ECL switch (S41). Coolant level OK	102 - 120 Ω	S41 Values O.K.: ⇒ 3.2
3.2	Windshield washer fluid level switch (S42)	<p>S42 1 — 2</p>	Ignition: <b>OFF</b> Disconnect connector at S42. Washer fluid level OK	145 - 185 Ω	S42
4.0	<b>CAN bus data lines</b> Resistance	<p>A1 1 — 10 (1B.9) (1B.10)</p>	Ignition: <b>OFF</b> Disconnect connector 1 (All control modules are connected to CAN)	around 60 Ω	CAN: -//-, □ □ - N47 N3 Values O.K.: ⇒ 4.1
4.1	CAN bus data lines Voltage Low-data line	<p>A1 9 (1B.9)</p>	Ignition: <b>ON</b>	around 2.3 V	N47 N3 Values O.K.: ⇒ 4.2
4.2	CAN bus data lines Voltage High-data line	<p>A1 10 (1B.10)</p>	Ignition: <b>ON</b>	around 2.6 V	N47 N3

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### Electrical Test Program – Test

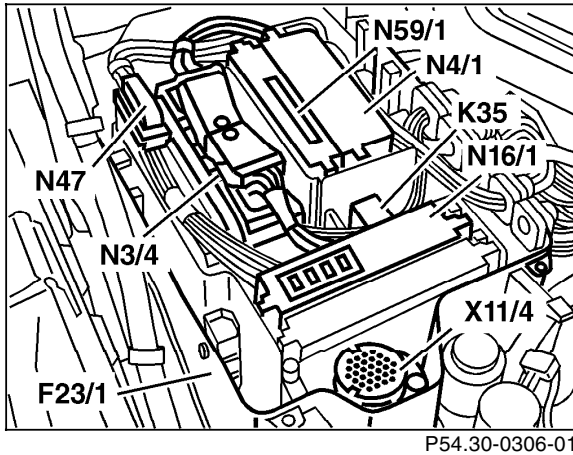


Figure 1 6 Cylinder models

F23/1 Control module box  
 K35 O2S 2 (after TWC) heater relay module  
 N3/10 Engine control module (ME - SFI)  
 N16/1 Base module (BM)  
 N47 Traction systems control module  
 N59/1 Diagnostic module (OBD II)  
 X11/4 Data link connector

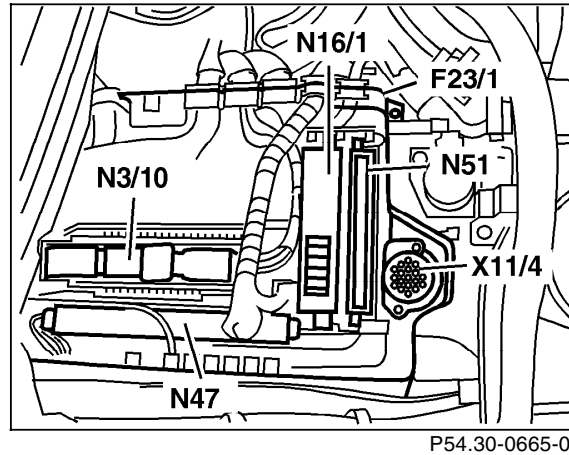


Figure 2 8 Cylinder models

F23/1 Control module box  
 N3/10 Engine control module (ME-SFI)  
 N16/1 Base module (BM)  
 N47 Traction systems control module  
 N51 ADS control module  
 X11/4 Data link connector

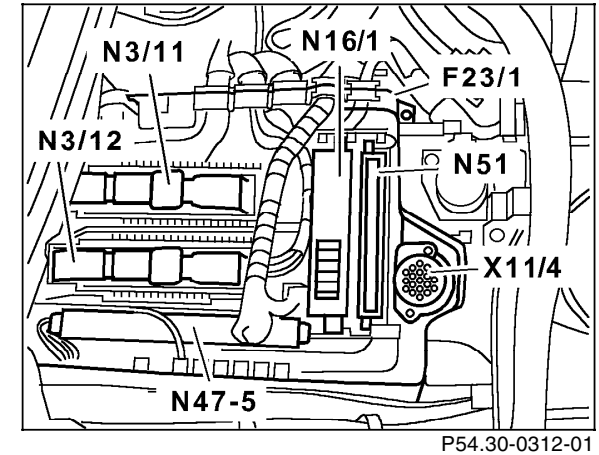


Figure 3 12 Cylinder models

F23/1 Control module box  
 N3/11 Left engine control module (ME-SFI)  
 N3/12 Right engine control module (ME-SFI)  
 N16/1 Base module (BM)  
 N47-5 ESP/SPS control module  
 N51 ADS control module  
 X11/4 Data link connector