



## J - PIN VOLTAGE CHARTS

### Article Text (p. 2)

1993 Volkswagen EuroVan

For Volkswagen Technical Site

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Saturday, March 18, 2000 10:34PM

IAC Valve Ckt (23 & 35)	.....	Ignition On	.....	Battery Voltage
Wiring To A/C Compressor (32 & Green Wire)	.....	Disconnect Connector	...	1.5 Ohms Max. (Continuity)
Wiring To Hall Effect Sensor (1 & 28) (3)	....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To Hall Effect Sensor (2 & 27) (3)	....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To Hall Effect Sensor (3 & 38) (3)	....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Coolant Temperature Sensor (11 & 28)	.....	(4)	.....	(4)
Intake Air Temperature Sensor (28 & 30)	.....	(4)	.....	(4)
Closed Throttle Position Switch (1 & 28)	.....	Throttle Fully Closed	...	1.5 Ohms Max. (Continuity)
Wiring To TPS (1 & 34) (3)	.....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To TPS (2 & 33) (3)	.....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To TPS (3 & 28) (3)	.....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To Heated O2 Sensor (2 & 1) (3)	.....	Disconnect Sensor Connector	.....	1.5 Ohms Max. (Continuity)
Wiring To Heated O2 Sensor (3 & 16) (3)	.....	Reconnect Sensor Connector	.....	Infinity (Open)
Wiring To Heated O2 Sensor (9 & 16)	.....	Reconnect Sensor Connector	.....	Infinity (Open)
Wiring To Heated O2 Sensor (16 & 35)	.....	Reconnect Sensor Connector	.....	Infinity (Open)
White DLC Connector Gray/White Wire (2 & 36) (3)	.....	Ignition Off	.....	1.5 Ohms Max. (Continuity)

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White DLC Connector  
Yellow/White Wire  
(1 & 17) (3) ..... Ignition Off ..... 1.5 Ohms Max.  
(Continuity)

### ECU CONNECTED TO VAG 1598

Throttle Potentiometer -  
Power (33 & 34) ..... Disconnect Sensor  
Connector ..... 3.5-5.0 Volts  
Throttle Potentiometer -  
Power (28 & 34) ..... Ignition On ..... 4.5-5.0 Volts  
Throttle Potentiometer -  
(28 & 33) ..... Reconnect Sensor,  
Throttle Setting:  
Idle ..... 0.3-1.7 Volts  
Full Throttle ..... 3-5 Volts  
Hall Effect Sensor -  
Power (28 & 38) ..... Ignition On ..... 10 Volts Minimum  
Hall Effect Sensor -  
Signal (28 & 37) (5) .. Operate Starter ..... LED Must Flicker  
Ignition Signal  
Function (1 & 6) (5) .. Operate Starter ..... LED Must Flicker  
RPM Signal Function  
(18 & 28) (5) ..... Operate Starter ..... LED Must Flicker

- (1) - TESTING CONDITIONS: Disconnect harness connector from ECM. Connect Test Box (VAG 1598) to ECM harness connector using Adaptor Cable (VAG 1598/9), leaving ECM disconnected. Set multimeter to 20-volt DC scale.
- (2) - With ignition on and fuse No. 18 removed, jumper terminals No. 24 and No. 35.
- (3) - These are terminal connectors at sensor or data link connector.
- (4) - Refer to I - SYS/COMP TESTS article.
- (5) - Perform test only if engine will not start. Turn ignition off. Instead of using multimeter, connect LED Tester (US 1115) with Adapter Kit(VAG 1594/15). Disconnect wiring harness from cold start valve and fuel distributor (main injector connector).

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### ECU PIN VOLTAGES (EUROVAN DIGIFANT - FEDERAL)

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Component/Circuit (VAG 1598 Terminal No.)	(1) Test Conditions & Additional Steps	Specified Value Or Test Result
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### ECU NOT CONNECTED TO VAG 1598

Voltage Supply -  
Control Unit (20 & 36) .... Ignition On ..... Battery Voltage  
Voltage Supply -  
Control Unit (29 & 38) .... Ignition On ..... Battery Voltage  
Wiring From Starter

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Term. 50 (26 & 29)	....	Operate Starter Then	
		Turn Ignition Off	..... 8 Volts Min.
Wiring To Fuel Pump			
(7 & 29 - Jumper)	.....	Ignition On	..... Fuel Pump Must Operate
Wiring To Fuel			
Injectors (2 & 20)	.....	(2) Ignition On	.... Battery Voltage
EVAP Frequency Valve			
Ckt (4 & 29)	.....	Ignition On	..... Battery Voltage
Wiring To Ignition			
Coil (20 & 27)	.....	Ignition On	..... Battery Voltage
Cold Start Valve			
Ckt (3 & 29)	.....	Ignition On	..... Battery Voltage
IAC Valve Ckt			
(25 & 29)	.....	Ignition On	..... Battery Voltage
Wiring To A/C Compressor			
(37 & Green Wire)	.....	Disconnect Connector	... 1.5 Ohms Max. (Continuity)
Wiring To Hall Effect			
Sensor (1 & 13) (3)	....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)
Wiring To Hall Effect			
Sensor (2 & 11) (3)	....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)
Wiring To Hall Effect			
Sensor (3 & 30) (3)	....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)
Coolant Temperature			
Sensor (13 & 14)	.....	(4)	..... (4)
Intake Air Temperature			
Sensor (13 & 15)	.....	(4)	..... (4)
CO Potentiometer (13 & 35)	..	Ignition Off	..... 0-2000 Ohms
Closed Throttle Position			
Switch (13 & 35)	.....	Throttle Fully Closed	.. 1.5 Ohms Max. (Continuity)
Closed Throttle Position			
Switch (13 & 35)	.....	Throttle Wide Open	.. Infinity (Open)
Wiring To TPS			
Sensor (1 & 1) (3)	.....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)
Wiring To TPS			
Sensor (2 & 12) (3)	....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)
Wiring To TPS			
Sensor (3 & 13) (3)	....	Disconnect Sensor	
		Connector	..... 1.5 Ohms Max. (Continuity)

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Wiring To Heated O2  
Sensor (2 & 20) (3) .... Disconnect Sensor  
Connector ..... 1.5 Ohms Max.  
(Continuity)

Wiring To Heated O2  
Sensor (3 & 8) (3) ..... Reconnect Sensor  
Connector ..... Infinity (Open)

Wiring To Heated O2  
Sensor (8 & 20) (3) .... Reconnect Sensor  
Connector ..... Infinity (Open)

White DLC Connector  
Gray/White Wire  
(2 & 32) (3) ..... Ignition Off ..... 1.5 Ohms Max.  
(Continuity)

#### ECU CONNECTED TO VAG 1598

Throttle Position Sensor -  
Power (1 & 12) ..... Disconnect Sensor  
Connector ..... 3.5-5.0 Volts

Throttle Position Sensor -  
Power (1 & 13) ..... Ignition On ..... 4.5-5.0 Volts

Throttle Position Sensor  
(12 & 13) ..... Reconnect Sensor,  
Throttle Setting:  
Idle ..... 0.3-1.7 Volts  
Full Throttle ..... 3-5 Volts

Hall Effect Sensor -  
Power (13 & 30) ..... Ignition On ..... 10 Volts Minimum

Hall Effect Sensor -  
Signal (11 & 13) (5) .. Operate Starter ..... LED Must Flicker

Ignition Signal Function  
(20 & 27) (5) ..... Operate Starter ..... LED Must Flicker

RPM Signal Function  
(10 & 13) (5) ..... Operate Starter ..... LED Must Flicker

- (1) - TESTING CONDITIONS: Disconnect harness connector from ECM. Connect Test Box (VAG 1598) to ECM harness connector using Adaptor Cable (VAG 1598/9), leaving ECM disconnected. Set multimeter to 20-volt DC scale.
- (2) - With ignition on and fuse No. 18 removed, jumper terminals No. 7 and No. 29.
- (3) - These are terminal connectors at sensor or data link connector.
- (4) - Refer to I - SYS/COMP TESTS article.
- (5) - Perform test only if engine will not start. Turn ignition off. Instead of using multimeter, connect LED Tester (US 1115) with Adapter Kit (VAG 1594/15). Disconnect wiring harness from cold start valve and fuel distributor (main injector connector).

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END OF ARTICLE