2.8 L- Engine - Motronic Multiport Fuel Injection (MFI)/103 kW, code AES,
from September 1998

Deviate relay location and fuse placements as well as the locations of multiple connectors see section “component locations”:

Fuse colors
30 A - green
25 A - white
20 A - yellow
15 A - blue
10 A - red
7.5 A - brown
5 A - beige
3 A - violet

- 12 Fuel Pump (FP) Relay (167)
- 13 Coolant Circulation Pump Relay (53)
- 15 Secondary Air Injection (AIR) Pump Relay (53)

Note: Number in parentheses indicates production control number stamped on relay housing.
Battery, starter, generator (GEN), fuel level sensor, transfer fuel pump (FP)

A - Battery
B - Starter
C - Generator (GEN)
C1 - Voltage Regulator (VR)
D - Ignition/Starter Switch
G - Fuel Level Sensor
G23 - Transfer Fuel Pump (FP)
J226 - Park/Neutral Position (PNP) Relay, behind instrument panel, center
SA1 - Fuse -1- in fuse bracket/battery
SA5 - Fuse -5- in fuse bracket/battery
T1 - Single Connector, near starter
T1a - Single Connector, behind fuse/relay panel
T1b - Single Connector, behind fuse/relay panel
T2p - Double Connector, behind fuse/relay panel

1 - Ground strap, battery to body
2 - Ground strap, transmission to body
C10 - Plus connection -1- (30), in headlight wiring harness
J17 - Fuel Pump (FP) Relay
J220 - Motronic Engine Control Module (ECM), in engine compartment, left
N30 - Cylinder 1 Fuel Injector
N31 - Cylinder 2 Fuel Injector
N32 - Cylinder 3 Fuel Injector
N33 - Cylinder 4 Fuel Injector
N83 - Cylinder 5 Fuel Injector
N84 - Cylinder 6 Fuel Injector
T1s - Single Connector, behind fuse/relay panel
T10 - 10-Pin Connector, near cylinder head cover
T68 - 68-Pin Connector
TV2 - Terminal 30 (B+) Wire Connector, red, each 6 points

G3 - Plus connection, in injector wiring harness

ws = white
sw = black
ro = red
br = brown
gn = green
bl = blue
g = grey
li = violet
ge = yellow

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Wiring diagram

EuroVan

Motronic engine control module (ECM), ignition system, throttle valve control module

F60 - Closed Throttle Position (CTP) Switch
G69 - Throttle Position (TP) Sensor
G88 - Throttle Position (TP) Sensor
J220 - Motronic Engine Control Module (ECM), in engine compartment, left
J338 - Throttle Valve Control Module
N152 - Ignition Coil
P - Spark Plug Connectors
Q - Spark Plugs
T5e - 5-Pin Connector
T8d - 8-Pin Connector
T68 - 68-Pin Connector
V60 - Throttle Position (TP) Actuator

12 - Ground connection, in engine compartment, left

E14 - Wire connection -1-, in Motronic Multiport Fuel Injection (MFI) wiring harness

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Motronic engine control module (ECM), heated oxygen sensors, camshaft position (CMP) sensor

G39 - Heated Oxygen Sensor (HO2S)
G40 - Camshaft Position (CMP) Sensor
G108 - Heated Oxygen Sensor (HO2S) 2
J217 - Transmission Control Module (TCM), on left A-pillar, lower part
J220 - Motronic Engine Control Module (ECM), in engine compartment, left
J226 - Park/Neutral Position (PNP) Relay, behind instrument panel, center
T4c - 4-Pin Connector, near Heated Oxygen Sensor (HO2S)
T4d - 4-Pin Connector, near Heated Oxygen Sensor (HO2S)
T8e - 8-Pin Connector, near fuse/relay panel
T10a - 10-Pin Connector, near fuse/relay panel
T68 - 68-Pin Connector

T68a - 68-Pin Connector, on transmission control module (TCM)

138 - Ground connection (control module), in Motronic Multiport Fuel Injection (MFI) wiring harness

Edition 10/98 Motronic engine control module (ECM), heated oxygen sensors, camshaft position (CMP) sensor
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G2 - Engine Coolant Temperature (ECT) Sensor
G61 - Knock Sensor (KS) 1
G62 - Engine Coolant Temperature (ECT) Sensor
G66 - Knock Sensor (KS) 2
G72 - Intake Air Temperature (IAT) Sensor
J220 - Motronic Engine Control Module (ECM), in engine compartment, left
T1t - Single Connector (Connection A/C), behind fuse/relay panel
T1u - Single Connector (Connection A/C), behind fuse/relay panel
T3f - 3-Pin Connector, near cylinder head cover
T3g - 3-Pin Connector, near cylinder head cover
T68 - 68-Pin Connector

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gn = green
bl = blue
gr = grey
li = violet
gy = yellow

- Ground connection (sensor Ground), in Motronic Multiport Fuel Injection (MFI) wiring harness

Motronic engine control module (ECM), knock sensors, intake air temperature (IAT) sensor, engine coolant temperature (ECT) sensor
Wiring diagram

Motronic engine control module (ECM), engine speed (RPM) sensor, mass air flow (MAF) sensor, EGR temperature sensor

- G28 - Engine Speed (RPM) Sensor
- G70 - Mass Air Flow (MAF) Sensor
- G98 - EGR Temperature Sensor
- J220 - Motronic Engine Control Module (ECM), in engine compartment, left
- T3h - 3-Pin Connector, near starter
- T16 - Data Link Connector (DLC), behind steering column cover
- T68 - 68-Pin Connector
- TV14 - Data Link Connector (DLC) wire Connector, white
- 12 - Ground connection, in engine compartment, left
- 210 - Ground connection -1-, in Motronic Multiport Fuel Injection (MFI) wiring harness
- 210 - Ground connection (sensor Ground), in Motronic Multiport Fuel Injection (MFI) wiring harness
- A76 - Connector (K-diagnosis wire), in instrument panel wiring harness
- E7 - Plus connection (87a), in Motronic Multiport Fuel Injection (MFI) wiring harness
- 138 - Ground connection (control module), in Motronic Multiport Fuel Injection (MFI) wiring harness
- 139 - Ground connection (sensor Ground), in Motronic Multiport Fuel Injection (MFI) wiring harness
- 138 - Ground connection (control module), in Motronic Multiport Fuel Injection (MFI) wiring harness

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Motronic engine control module (ECM), EGR vacuum regulator solenoid valve, secondary air injection (AIR) pump system
Motronic engine control module (ECM), leak detection pump (LDP), fuel system diagnostic control module, evaporative emission (EVAP) canister purge solenoid valve
Motronic engine control module (ECM), speedometer vehicle speed sensor, coolant cut-off valve, after-run coolant circulation system
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Instrument cluster, oil pressure switch, engine coolant level (ECL) sensor, malfunction indicator lamp (MIL), oil pressure warning light
Instrument cluster, fuel gauge, engine coolant temperature (ECT) gauge, speedometer, tachometer, generator (GEN) warning light, low fuel level warning light

**Diagram Key:**
- **G1** - Fuel gauge
- **G21** - Speedometer
- **J217** - Transmission Control Module (TCM), on left A-pillar, lower part
- **J285** - Control module with indicator unit in instrument panel insert
- **K2** - Generator (GEN) Warning Light
- **K105** - Low Fuel Level Warning Light
- **R** - Radio
- **T1g** - Single Connector, behind fuse/relay panel
- **T8** - 8-Pin Connector, on radio
- **T8e** - 8-Pin Connector, behind fuse/relay panel
- **T32** - 32-Pin Connector, blue
- **T68a** - 68-Pin Connector, on transmission control module (TCM)
- **Y4** - Odometer Display
- **A1** - Plus connection (30a), in instrument panel wiring harness
- **R6** - Plus connection -1-, in interior light wiring harness

**Legend:**
- **ws** = white
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- **ro** = red
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- **gn** = green
- **bl** = blue
- **gr** = grey
- **li** = violet
- **ge** = yellow

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