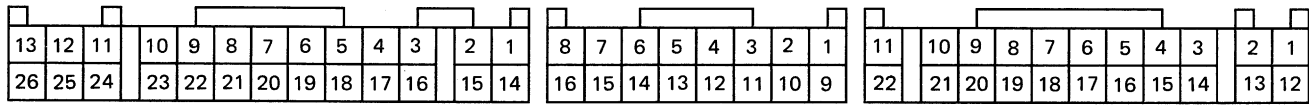


6. Control Module I/O Signal



To (E29)

To (E31)

To (E30)

G2M0446

| Content | | Connector No. | Terminal No. | Signal (V) | | | Note |
|--|--------------|---------------|--------------|-----------------------|--|--------------------------------------|--|
| | | | | Ig SW | | Engine ON (Idling) | |
| | | | | OFF | ON (Engine OFF) | | |
| Crankshaft position sensor | Signal (+) | E30 | 6 | — | 0 | ±6 | Sensor output waveform |
| | Signal (-) | E30 | 7 | — | 0 | 0 | |
| | Shield | E30 | 11 | — | 0 | 0 | |
| Camshaft position sensor | Signal (+) | E30 | 8 | — | 0 | ±2.7 | Sensor output waveform |
| | Signal (-) | E30 | 9 | — | 0 | 0 | |
| | Shield | E30 | 11 | — | 0 | 0 | |
| Mass air flow sensor | Signal | E30 | 5 | — | 0 — 0.3 | 0.8 — 1.2 | — |
| | GND | E31 | 1 | — | 0 | 0 | — |
| | Shield | E30 | 11 | — | 0 | 0 | — |
| Throttle position sensor | Signal | E30 | 4 | — | Fully closed: 0.2 — 1.0 Fully opened: 4.2 — 4.5 | | — |
| | Power supply | E30 | 15 | — | 5 | 5 | — |
| | GND | E30 | 11 | — | 0 | 0 | — |
| Oxygen sensor | Signal | E30 | 10 | — | 0 | Rich mixture: 0.7 Lean mixture: 0 | |
| | Shield | E30 | 11 | — | 0 | 0 | — |
| Engine coolant temperature sensor | | E30 | 3 | 0 | 0.7 — 1.0 | 0.7 — 1.0 | After warm-up |
| Vehicle speed sensor 2 | | E29 | 4 | — | 0 or 5 | 0 or 5 | "5" and "0" are repeatedly displayed when vehicle is driven. |
| 49 states and Canada/California identification | | E31 | 7 | — | — | — | 49 states and Canada: 12 California: 0 |
| Starter switch | | E29 | 12 | — | 0 | 0 | Cranking: 10 to 14 |
| A/C switch | | E29 | 11 | — | ON: 10 — 13 OFF: 0 | ON: 13 — 14 OFF: 0 | — |
| Ignition switch | | E29 | 10 | 0 | 10 — 13 | 13 — 14 | — |
| Neutral position switch (MT) | E29 | 16 | — | ON: 0 OFF: 10 — 13 | | | ● On MT model; switch is ON when gear is in neutral position. ● On AT model; switch is ON when shift is in "P" or "N" position. |
| Park/Neutral position switch (AT) | | | | | | | |
| Test mode connector | E29 | 2 | — | | 5 | 5 | When connected: 0 |

| Content | | Connector No. | Terminal No. | Signal (V) | | | Note |
|---------------------------------|-----------|---------------|--------------|------------|-----------------------|-----------------------|--|
| | | | | lg SW | | Engine ON (Idling) | |
| | | | | OFF | ON (Engine OFF) | | |
| Read memory connector | | E29 | 19 | — | 5 | 5 | When connected: 0 |
| AT/MT identification | | E29 | 17 | — | (AT) 5 (MT) 0 | (AT) 5 (MT) 0 | When measuring voltage between ECM and body. |
| Back-up power supply | | E29 | 26 | 10 — 13 | 10 — 13 | 13 — 14 | — |
| Control unit power supply | | E29 | 13 | 0 | 10 — 13 | 13 — 14 | — |
| Ignition control | # 1, # 2 | E30 | 21 | — | 0 | 3.4, max. | — |
| | # 3, # 4 | E30 | 20 | — | 0 | 3.4, max. | — |
| Fuel injector | # 1 | E30 | 2 | 10 — 13 | 10 — 13 | 13 — 14 | Waveform |
| | # 2 | E30 | 1 | 10 — 13 | 10 — 13 | 13 — 14 | Waveform |
| | # 3 | E30 | 13 | 10 — 13 | 10 — 13 | 13 — 14 | Waveform |
| | # 4 | E30 | 12 | 10 — 13 | 10 — 13 | 13 — 14 | Waveform |
| Idle air control solenoid valve | OPEN end | E29 | 2 | — | — | 1, max. — 13, min. | Waveform |
| | CLOSE end | E29 | 1 | — | — | 13, min. — 1, max. | Waveform |
| Fuel pump relay control | | E29 | 8 | — | ON: 0 OFF: 10 — 13 | 0 | — |
| A/C relay control | | E29 | 9 | — | ON: 0 Off: 10 — 13 | ON: 0 OFF: 13 — 14 | — |
| Radiator fan relay 1 control | | E29 | 23 | — | ON: 0 OFF: 10 — 13 | ON: 0 OFF: 13 — 14 | — |
| Radiator fan relay 2 control | | E29 | 7 | — | ON: 0 OFF: 10 — 13 | ON: 0 OFF: 13 — 14 | — |
| Self-shutoff control | | E29 | 18 | — | 10 — 13 | 13 — 14 | — |
| Malfunction indicator lamp | | E29 | 22 | — | — | — | Light "ON": 1, max. Light "OFF": 10 — 14 |
| Engine speed output | | E29 | 3 | — | — | 0 — 13, min. | Waveform |
| EGR solenoid valve | | E30 | 18 | — | ON: 0 OFF: 10 — 13 | ON: 0 OFF: 13 — 14 | — |
| Air suction solenoid valve | | E31 | 3 | — | ON: 0 OFF: 10 — 13 | ON: 0 OFF: 13 — 14 | — |
| FICD solenoid valve | | E29 | 24 | — | ON: 0 OFF: 10 — 13 | ON: 0 OFF: 13 — 14 | A/C equipped model |
| Purge control solenoid valve | | E30 | 19 | — | ON: 0 OFF: 10 — 13 | ON: 0 OF: 13 — 14 | — |
| GND (sensors) | | E30 | 11 | — | 0 | 0 | — |
| GND (injectors) | | E29 | 15 | — | 0 | 0 | — |
| GND (ignition system) | | E29 | 14 | — | 0 | 0 | — |
| GND (power supply) | | E29 | 25 | — | 0 | 0 | — |
| GND (control systems) | | E30 | 22 | — | 0 | 0 | — |
| Select Monitor Signal | | E29 | 6 | — | — | — | — |
| | | E29 | 5 | — | — | — | — |