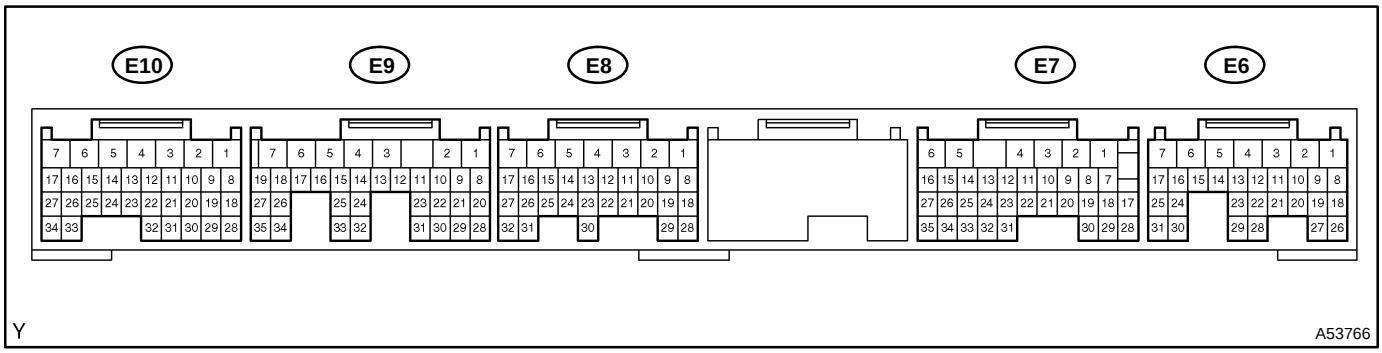
05286−28

# TERMINALS OF ECM




Each ECM terminal's standard voltage is shown in the table below.
In the table, first follow the information under "Condition".Next look under "Symbol (Terminal No.)" for the terminals to be inspected. The standard voltage between the terminals is shown under "Specific Condition". Use the illustration above as a reference for the ECM terminals.

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specific Condition |
|---|---|---|---|---|
| BATT (E6−3) − E1 (E8−1) | B−Y − BR | Battery (for measuring battery voltage and for ECM memory) | Always | 9 to 14 V |
| +BM (E7−6) − E1 (E8−1) | L−R − BR | Power source of throttle motor | Always | 9 to 14 V |
| IGSW (E6−9) − E1 (E8−1) | B−O − BR | Ignition switch | Ignition switch ON | 9 to 14 V |
| +B (E6−1) − E1 (E8−1) | B−R − BR | Power source of ECM | Ignition switch ON | 9 to 14 V |
| +B2 (E6−2) − E1 (E8−1) | B−R − BR | Power source of ECM | Ignition switch ON | 9 to 14 V |
| OC1+ (E8−16) − OC1− (E8−15) | G−B − G−R | Camshaft timing (OCV) | Ignition switch ON | Pulse generation (See page 05−553) |
| OC2+ (E8−14) − OC2− (E8−13) | L−R − L−W | Camshaft timing (OCV) | Ignition switch ON | Pulse generation (See page 05−553) |
| MREL (E6−8) − E1 (E8−1) | B−W − BR | EFI relay | Ignition switch ON | 9 to 14 V |
| VC (E10−18) − E2 (E10−28) | Y − BR | Power source of sensor (specific voltage) | Ignition switch ON | 4.5 to 5.5 V |
| VG (E10−30) − E2G (E10−29) | R − L−W | Mass air flow sensor | Idling, shift lever position P or N, A/C switch OFF | 0.5 to 3.0 V |
| THA (E10−20) − E2 (E10−28) | L−B − BR | Intake air temperature sensor | Idling, intake air temp. 20°C (68°F) | 0.5 to 3.4 V |
| THW (E10−19) − E2 (E10−28) | G−B − BR | Engine coolant temperature sensor | Idling, engine coolant temp. 80°C (176°F) | 0.2 to 1.0 V |
| VTA1 (E10−21) − E2 (E10−28) | LG − BR | Throttle position sensor (for engine control) | Ignition switch ON, throttle valve fully closed | 0.5 to 1.2 V |
| VTA1 (E10−21) − E2 (E10−28) | LG − BR | Throttle position sensor (for engine control) | Ignition switch ON, throttle valve fully open | 3.2 to 4.8 V |
| VTA2 (E10−31) − E2 (E10−28) | B−R − BR | Throttle position sensor (for sensor malfunction detection) | Ignition switch ON, accelerator pedal released | 2.1 to 3.1 V |
| VTA2 (E10−31) − E2 (E10−28) | B−R − BR | Throttle position sensor (for sensor malfunction detection) | Ignition switch ON, accelerator pedal depressed | 4.5 to 5.5 V |
| VPA (E6−22) − EPA (E6−28) | L−Y − LG−B | Accelerator pedal position sensor (for engine control) | Ignition switch ON, accelerator pedal released | 0.5 to 1.1 V |
| VPA (E6−22) − EPA (E6−28) | L−Y − LG−B | Accelerator pedal position sensor (for engine control) | Ignition switch ON, accelerator pedal depressed | 2.6 to 4.5 V |

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specific Condition |
|---|---|---|---|---|
| VPA2 (E6−23) − EPA2 (E6−29) | W−R − LG | Accelerator pedal position sensor (for sensor malfunction detection) | Ignition switch ON, accelerator pedal released | 1.2 to 2.0 V |
| VPA2 (E6−23) − EPA2 (E6−29) | W−R − LG | Accelerator pedal position sensor (for sensor malfunction detection) | Ignition switch ON, accelerator pedal depressed | 3.4 to 5.3 V |
| VCPA (E6−26) − EPA (E6−28) | R − LG−B | Power source of accelerator pedal position sensor (for VPA) | Ignition switch ON | 4.5 to 5.5 V |
| VCP2 (E6−27) − EPA2 (E6−29) | B−R − LG | Power source of accelerator pedal position sensor (for VPA2) | Ignition switch ON | 4.5 to 5.5 V |
| HA1A (E9−5) − E04 (E9−7)<br>HA2A (E9−4) − E05 (E9−6) | B−W − W−B<br>B−R − W−B | A/F sensor heater | Idling | Below 3.0 V |
| HA1A (E9−5) − E04 (E9−7)<br>HA2A (E9−4) − E05 (E9−6) | B−W − W−B<br>B−R − W−B | A/F sensor heater | Ignition switch ON | 9 to 14 V |
| A1A+ (E9−22) − E1 (E8−1) | BR − BR | A/F sensor | Ignition switch ON | 3.0 to 3.6 V |
| A2A+ (E9−23) − E1 (E8−1) | O − BR | A/F sensor | Ignition switch ON | 3.0 to 3.6 V |
| A1A− (E9−30) − E1 (E8−1) | B−R − BR | A/F sensor | Ignition switch ON | 2.7 to 3.3 V |
| A2A− (E9−31) − E1 (E8−1) | W − BR | A/F sensor | Ignition switch ON | 2.7 to 3.3 V |
| HT1B (E9−25) − E2 (E10−28)<br>HT2B (E9−33) − E2 (E10−28) | L − BR<br>Y − BR | Heated oxygen sensor heater | Idling | Below 3.0 V |
| HT1B (E9−25) − E2 (E10−28)<br>HT2B (E9−33) − E2 (E10−28) | L − BR<br>Y − BR | Heated oxygen sensor heater | Ignition switch ON | 9 to 14 V |
| OX1B (E9−21) − E2 (E10−28)<br>OX2B (E9−29) − E2 (E10−28) | W − BR<br>B − BR | Heated oxygen sensor | Maintain engine speed at 2,500 rpm for 2 minutes after warming up | Pulse generation |
| #10 (E10−1) − E01 (E10−7)<br>#20 (E10−2) − E01 (E10−7)<br>#30 (E10−3) − E01 (E10−7)<br>#40 (E10−4) − E01 (E10−7)<br>#50 (E10−5) − E01 (E10−7)<br>#60 (E9−3) − E01 (E10−7) | L − W−B<br>R − W−B<br>Y − W−B<br>W − W−B<br>R−L − W−B<br>G − W−B | Injector | Ignition switch ON | 9 to 14 V |
| #10 (E10−1) − E01 (E10−7)<br>#20 (E10−2) − E01 (E10−7)<br>#30 (E10−3) − E01 (E10−7)<br>#40 (E10−4) − E01 (E10−7)<br>#50 (E10−5) − E01 (E10−7)<br>#60 (E9−3) − E01 (E10−7) | L − W−B<br>R − W−B<br>Y − W−B<br>W − W−B<br>R−L − W−B<br>G − W−B | Injector | Idling | Pulse generation<br>(See page 05−645) |
| KNK1 (E9−1) − E1 (E8−1) *1 | B − BR | Knock sensor | Maintain engine speed at 4,000 rpm after warming up | Pulse generation<br>(See page 05−661) |
| KNK2 (E9−2) − E1 (E8−1) *1 | W − BR | Knock sensor | Maintain engine speed at 4,000 rpm after warming up | Pulse generation<br>(See page 05−661) |
| KNK1 (E9−1) − EKNK (E9−28) *2 | B − W | Knock sensor | Maintain engine speed at 4,000 rpm after warming up | Pulse generation<br>(See page 05−661) |
| KNK2 (E9−2) − EKN2 (E9−20) *2 | R − G | Knock sensor | Maintain engine speed at 4,000 rpm after warming up | Pulse generation<br>(See page 05−661) |
| VV1+ (E8−27) − NE− (E8−24) | Y − G | Variable valve timing (VVT) sensor | Idling | Pulse generation<br>(See page 05−672) |
| VV2+ (E8−26) − NE− (E8−24) | B−W − G | Variable valve timing (VVT) sensor | Idling | Pulse generation<br>(See page 05−672) |
| NE+ (E8−25) − NE− (E8−24) | R − G | Crankshaft position sensor | Idling | Pulse generation<br>(See page 05−672) |
| SPD (E7−17) − E1 (E8−1) | V−W − BR | Speed signal from combination meter | Ignition switch ON, rotate driving wheel slowly | Pulse generation<br>(See page 05−672) |
| STA (E10−17) − E1 (E8−1) | B−W − BR | Starter signal | Cranking | 6 V or higher |

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specific Condition |
|---|---|---|---|---|
| IGT1 (E10−8) − E1 (E8−1)<br>IGT2 (E10−9) − E1 (E8−1)<br>IGT3 (E10−10) − E1 (E8−1)<br>IGT4 (E10−11) − E1 (E8−1)<br>IGT5 (E10−12) − E1 (E8−1)<br>IGT6 (E10−13) − E1 (E8−1) | R−W − BR<br>P − BR<br>LG−B − BR<br>L−Y − BR<br>G−R − BR<br>L − BR | Ignition coil with igniter (ignition signal) | Idling | Pulse generation<br>(See page 05−152) |
| IGF (E10−24) − E1 (E8−1) | W−R − BR | Ignition coil with igniter (ignition confirmation signal) | Ignition switch ON | 4.5 to 5.5 V |
| IGF (E10−24) − E1 (E8−1) | W−R − BR | Ignition coil with igniter (ignition confirmation signal) | Idling | Pulse generation<br>(See page 05−152) |
| PRG (E10−34) − E1 (E8−1) | LG − BR | EVAP VSV | Ignition switch ON | 9 to 14 V |
| CCV (E10−27) − E1 (E8−1) | L − BR | CCV | Ignition switch ON | 9 to 14 V |
| PTNK (E6−21) − E1 (E8−1) | P − BR | Vapor pressure sensor | Ignition switch ON | 2.9 to 3.7 V |
| PTNK (E6−21) − E1 (E8−1) | P − BR | Vapor pressure sensor | Ignition switch ON, apply vacuum 4.0 kPa (30 mmHg, 1.18 in.Hg) | Below 0.5 V |
| STP (E7−19) − E1 (E8−1) | G−W − BR | Stop light switch | Ignition switch ON, brake pedal is depressed | 7.5 to 14 V |
| STP (E7−19) − E1 (E8−1) | G−W − BR | Stop light switch | Ignition switch ON, brake pedal is released | Below 1.5 V |
| ST1− (E7−12) − E1 (E8−1) | R−B − BR | Stop light switch (opposite to stop) | Ignition switch ON, brake pedal is depressed | Below 1.5 V |
| ST1− (E7−12) − E1 (E8−1) | R−B − BR | Stop light switch (opposite to stop) | Ignition switch ON, brake pedal is released | 7.5 to 14 V |
| NSW (E10−16) − E1 (E8−1) | B−Y − BR | Park/neutral position switch | Ignition switch ON, shift lever position in P or N | Below 3.0 V |
| NSW (E10−16) − E1 (E8−1) | B−Y − BR | Park/neutral position switch | Ignition switch ON, except shift lever position P or N | 9 to 14 V |
| M+ (E8−3) − ME01 (E8−4)<br>M− (E8−2) − ME01 (E8−4) | B − W−B<br>W − W−B | Throttle motor | Idling | Pulse generation |
| FC (E6−10) − E1 (E8−1) | G−R − BR | Fuel pump control | Ignition switch ON | 9 to 14 V |
| FC (E6−10) − E1 (E8−1) | G−R − BR | Fuel pump control | Idling | 0 to 3 V |
| W (E6−11) − E1 (E8−1) | G−R − BR | MIL | Ignition switch ON | Below 3.0 V |
| W (E6−11) − E1 (E8−1) | G−R − BR | MIL | Idling | 9 to 14 V |
| ELS (E6−12) − E1 (E8−1) | G − BR | Electric load | Taillight switch OFF | 0 to 1.5 V |
| ELS (E6−12) − E1 (E8−1) | G − BR | Electric load | Taillight switch ON | 7.5 to 14 V |
| TC (E6−20) − E1 (E8−1) | P−B − BR | Terminal TC of DLC 3 | Ignition switch ON | 9 to 14 V |
| SIL (E6−18) − E1 (E8−1) | Y *3 W *4 − BR | Terminal SIL of DLC3 | During transmission | Pulse generation |
| TACH (E6−5) − E1 (E8−1) | B−O − BR | Engine speed | Idling | Pulse generation |
| AICV (E10−33) − E1 (E8−1) | W − BR | VSV for AICV | Ignition switch ON | 9 to 14 V |
| ACIS (E10−15) − E1 (E8−1) | R−Y − BR | VSV for ACIS | Ignition switch ON | 9 to 14 V |
| ACI1 (E10−14) − E01 (E10−7) *1 | Y−G − W−B | VSV for ACIV | IG switch ON | 9 to 14 |
| ACM (E8−6) − E1 (E8−1) | B−L − BR | VSV for ACM | Ignition switch ON | 9 to 14 V |
| ENG+ (E6−24) − ENG− (E6−30) | W − B | Electric load (from skid control ECU) | Idling | Pulse generation |
| TRC+ (E6−25) − TRC− (E6−31) | G − L | Electric load (from skid control ECU) | Idling | Pulse generation |
| PSW (E8−10) − E1 (E8−1) | R−W − BR | P/S pressure switch | Ignition switch ON | 9 to 14 V |

HINT:
*1: For 1MZ−FE
*2: For 3MZ−FE
*3: TMC Made
*4: TMMK Made