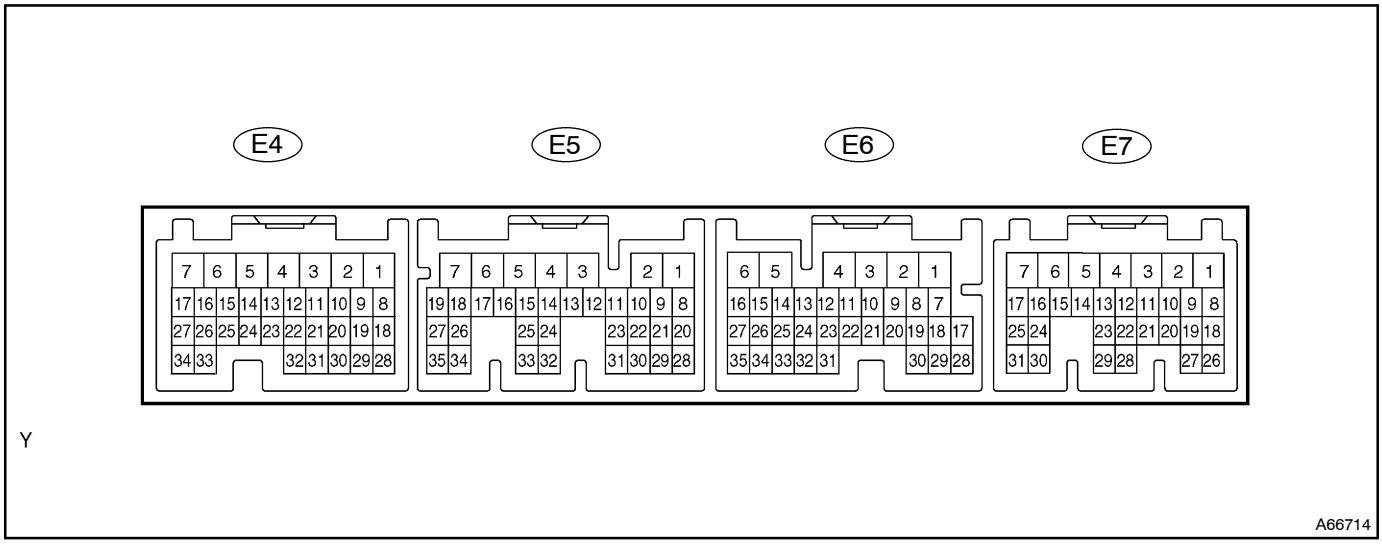
054KK–22

TERMINALS OF ECM



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

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
BATT (E6–2) – E1 (E5–7)	L–O – BR	Battery (for measuring battery voltage and for ECM memory)	Constant	18 to 27 V
IGSW (E7–16) – E1 (E5–7)	GR – BR	Ignition switch	Ignition switch ON	18 to 27 V
+B (E7–1) – E1 (E5–7)	B–R – BR	Power source of ECM	Ignition switch ON	18 to 27 V
MREL (E7–13) – E1 (E5–7)	GR–G – BR	MAIN relay	Ignition switch ON	18 to 27 V
MREL (E7–13) – E1 (E5–7)	GR–G – BR	MAIN relay	5 seconds pass after ignition switch OFF	0 to 2 V
VC (E4–18) – E1 (E5–7)	L–R – BR	Power source of sensor (a specific voltage)	Ignition switch ON	4.5 to 5.5 V
VPA (E7–22) – EPA (E7–28)	BR–R – LG–B	Accelerator pedal position sensor (for engine control)	Ignition switch ON, accelerator pedal fully released	0.5 to 1.1 V
VPA (E7–22) – EPA (E7–28)	BR–R – LG–B	Accelerator pedal position sensor (for engine control)	Ignition switch ON, accelerator pedal fully depressed	3.0 to 4.6 V
VPA2 (E7–23) – EPA2 (E7–29)	R–W – GR–G	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal fully released	0.9 to 2.3 V
VPA2 (E7–23) – EPA2 (E7–29)	R–W – GR–G	Accelerator pedal position sensor (for sensor malfunction detection)	Ignition switch ON, accelerator pedal fully depressed	3.4 to 5.0 V
VCPA (E7–20) – EPA (E7–28)	B–O – LG–B	Power source of accelerator pedal position sensor (for VPA)	Ignition switch ON	4.5 to 5.5 V
VCP2 (E7–21) – EPA2 (E7–29)	G–W – GR–G	Power source of accelerator pedal position sensor (for VPA2)	Ignition switch ON	4.5 to 5.5 V
VG (E5–24) – EVG (E5–32)	G – V–R	MAF meter	Engine is warmed up: Idling	1.8 to 2.6 V
THA (E4–31) – E2 (E4–28)	V–G – R–Y	IAT sensor (built in MAF meter)	Engine is warmed up: Idling, IAT at 0 to 80°C (32 to 176°F)	0.5 to 3.4 V

THIA (E4–20) – E2 (E4–28)	Y–R – R–Y	IAT sensor (after turbo-charged)	Engine is warmed up: Idling, IAT at 0 to 80°C (32 to 176°F)	0.5 to 3.4 V
THW (E4–19) – E2 (E4–28)	G–R – R–Y	ECT sensor	Idling, ECT at 80 to 120°C (176 to 248°F)	0.4 to 1.0 V
STA (E5–18) – E1 (E5–7)	B–W – BR	Starter signal	Cranking	6.0 V or more
#1 (E4–24) – E1 (E5–7) #2 (E4–23) – E1 (E5–7) #3 (E4–22) – E1 (E5–7) #4 (E4–21) – E1 (E5–7)	P–L – BR LG – BR LG–B – BR GR – BR	Injector	Engine is warmed up: Idling	Pulse generation (see page 05–98)
G+ (E5–23) – G– (E5–31)	R – G	Camshaft position sensor	Engine is warmed up: Idling	Pulse generation (see page 05–111)
NE+ (E4–27) – NE– (E4–34)	B – W	Crankshaft position sen-sor	Engine is warmed up: Idling	Pulse generation (see page 05–107)
STP (E7–18) – E1 (E5–7)	V – BR	Stop lamp switch	Ignition switch ON, brake pedal de-pressed	18 to 27 V
STP (E7–18) – E1 (E5–7)	V – BR	Stop lamp switch	Ignition switch ON, brake pedal re-leased	0 to 2 V
ST1– (E7–8) – E1 (E5–7)	V–Y – BR	Stop lamp switch (opposite to STP)	Brake pedal depressed	0 to 2 V
ST1– (E7–8) – E1 (E5–7)	V–Y – BR	Stop lamp switch (opposite to STP)	Brake pedal released	18 to 27 V
TC (E7–17) – E1 (E5–7)	R–L – BR	Terminal TC of DLC3	Ignition switch ON	18 to 27 V
W (E7–9) – E1 (E5–7)	Y–R – BR	MIL	MIL illuminated	0 to 2 V
W (E7–9) – E1 (E5–7)	Y–R – BR	MIL	MIL not illuminated	18 to 27 V
SPD (E7–19) – E1 (E5–7)	R – BR	Speed signal from com-bination meter	Ignition switch ON, rotate driving wheel slowly	Pulse generation (see page 05–118)
SIL (E7–26) – E1 (E5–7)	W – BR	Terminal SIL of DLC3	Connect the hand–held tester to DLC3	Pulse generation
PIM (E5–28) – E2 (E4–28)	P–G – R–Y	Turbo pressure sensor (manifold absolute pres-sure sensor)	Applied negative pressure of 93 kPa (697 mmHg, 27.5 in.Hg)	0.25 to 0.4 V
PIM (E5–28) – E2 (E4–28)	P–G – R–Y	Turbo pressure sensor (manifold absolute pres-sure sensor)	Applied positive pressure of 150 kPa (1,128 mmHg, 44.2 in.Hg)	1.0 to 1.4 V
IREL (E7–14) – E1 (E5–7)	R – BR	EDU relay	Ignition switch OFF	18 to 27 V
IREL (E7–14) – E1 (E5–7)	R – BR	EDU relay	Idling	0 to 2 V
PCR1 (E4–26) – E2 (E4–28)	L–W – R–Y	Fuel pressure sensor	Idling (Approximately 30 MPa (306 kgf/cm^2, 4,351 psi))	1.7 to 2.2 V
PCR2 (E4–33) – E2 (E4–28)	L–B – R–Y	Fuel pressure sensor	Idling (Approximately 30 MPa (306 kgf/cm^2, 4,351 psi))	1.2 to 1.6 V
THF (E4–29) – E2 (E4–28)	Y – R–Y	Fuel temperature sensor	Ignition switch ON	1.2 to 1.6 V
PCV+ (E4–2) – PCV– (E4–1)	L – L–Y	Suction control valve	Idling	Pulse generation (see page 05–46)
INJF (E4–25) – E1 (E5–7)	B – BR	EDU	Idling	Pulse generation (see page 05–98)
VLU (E5–20) – E2 (E4–28)	Y–B – R–Y	Throttle position sensor	Accelerator pedal depressed	0.5 to 0.8 V
VLU (E5–20) – E2 (E4–28)	Y–B – R–Y	Throttle position sensor	Accelerator pedal released	2.5 to 3.0 V
VICM (E6–12) – E2 (E4–28)	W – R–Y	Throttle position switch	Ignition switch ON, throttle position switch ON	0.5 to 0.9 V
VICM (E6–12) – E2 (E4–28)	W – R–Y	Throttle position switch	Ignition switch ON, throttle position switch OFF	0 to 0.4 V
VICM (E6–12) – E2 (E4–28)	W – R–Y	Throttle position switch	Ignition switch ON, throttle position switch MAX	4.0 to 4.5 V
LUSL (E5–4) – E1 (E5–7)	W – BR	Throttle control motor duty signal	Accelerator pedal released → Ac-celerator pedal depressed (when throttle motor is operating)	Pulse generation (see page 05–115)

NUSW (E6–16) – E1 (E5–7)	B–W – BR	Neutral position switch	Ignition switch ON, shift position is neutral	18 to 27 V
NUSW (E6–16) – E1 (E5–7)	B–W – BR	Neutral position switch	Ignition switch ON, shift position is not neutral	0 to 2 V
CLSW (E6–9) – E1 (E5–7)	O – BR	Exhaust brake clutch switch	Clutch pedal depressed	0 to 2 V
CLSW (E6–9) – E1 (E5–7)	O – BR	Exhaust brake clutch switch	Clutch pedal released	18 to 27 V
EXSW (E6–13) – E1 (E5–7)	L – BR	Combination switch	Exhaust brake switch ON	18 to 27 V
EXSW (E6–13) – E1 (E5–7)	L – BR	Combination switch	Exhaust brake switch OFF	0 to 2 V
HSW (E6–11) – E1 (E5–7)	BR–W – BR	Warm up switch	Warm up switch ON	18 to 27 V
HSW (E6–11) – E1 (E5–7)	BR–W – BR	Warm up switch	Warm up switch OFF	0 to 2 V
VAP (E5–26) – E2P (E5–34)	B – R–Y	Accelerator position sensor	PTO Accelerator full close	0.7 to 1.0 V
VAP (E5–26) – E2P (E5–34)	B – R–Y	Accelerator position sensor	PTO Accelerator full open	3.3 to 3.9 V
VCP (E5–35) – E2P (E5–34)	L–R – R–Y	Accelerator position sensor	Ignition switch ON	4.5 to 5.5 V