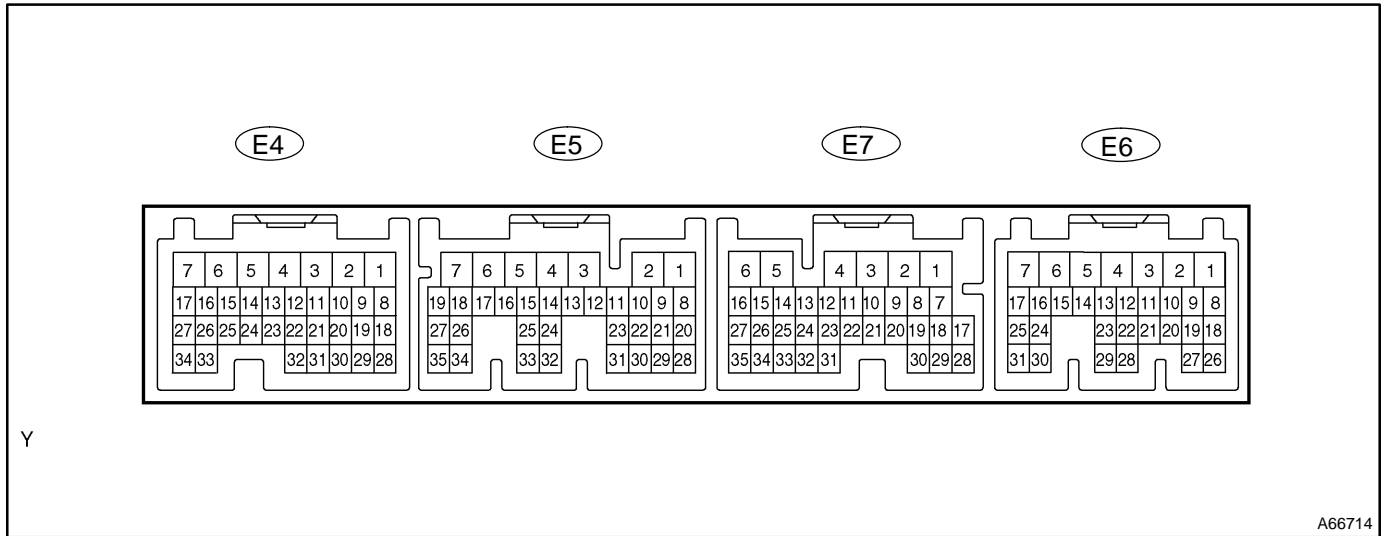


# TERMINALS OF ECM



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

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage (V)
BATT (E7-6) – E1 (E5-28)	R – BR	Battery	Always	9 to 14
+B (E7-4) – E1 (E5-28)	B – BR	Power source of ECM	Power switch ON (IG)	9 to 14
+BM (E7-5) – E1 (E5-28)	GR – BR	Power source of ETCS	Always	9 to 14
IGSW (E6-9) – E1 (E5-28)	O – BR	Power switch signal	Power switch ON (IG)	9 to 14
MREL (E7-7) – E1 (E5-28)	G – BR	Main relay control signal	Power switch ON (IG)	9 to 14
VC (E4-18) – E2 (E4-28)	R – BR	Power source of sensor (a specific voltage)	Power switch ON (IG)	4.5 to 5.5
NE+ (E4-33) – NE- (E4-34)	R – G	Crankshaft position sensor	Idling (during inspection mode)	Pulse generation (See page 05-177)
G2 (E4-26) – NE- (E4-34)	R – G	Camshaft position sensor	Idling (during inspection mode)	Pulse generation (See page 05-177)
VTA (E4-32) – E2 (E4-28)	P – BR	Throttle position sensor	Power switch ON (IG), Throttle valve fully closed	0.5 to 1.2
VTA (E4-32) – E2 (E4-28)	P – BR	Throttle position sensor	HV system ON, During active test to open throttle valve (see page 05-47)	3.2 to 4.8
VTA2 (E4-31) – E2 (E4-28)	L – BR	Throttle position sensor	Power switch ON (IG), Accelerator pedal released	2.0 to 2.9
VTA2 (E4-31) – E2 (E4-28)	L – BR	Throttle position sensor	HV system ON, During active test to open throttle valve (see page 05-47)	4.6 to 5.5
VG (E5-33) – EVG (E5-32)	G – R	Mass air flow meter	Idling (during inspection mode), A/C switch OFF	1.0 to 1.5
THA (E4-20) – E2 (E4-28)	W – BR	Intake air temperature sensor	Idling (during inspection mode), Intake air temperature at 20°C	0.5 to 3.4
THW (E4-19) – E2 (E4-28)	W – BR	Engine coolant temperature sensor	Idling (during inspection mode), Engine coolant temperature at 80°C	0.2 to 1.0
#10 (E4-2) – E01 (E4-7)	Y – BR	Injector	Power switch ON (IG)	9 to 14
#20 (E4-3) – E01 (E4-7)	B – BR	Injector	Power switch ON (IG)	9 to 14
#30 (E4-4) – E01 (E4-7)	L – BR	Injector	Power switch ON (IG)	9 to 14
#40 (E4-5) – E01 (E4-7)	R – BR	Injector	Power switch ON (IG)	9 to 14

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage (V)
IGT1 (E4-8) – E1 (E5-28)	Y – BR	Ignition coil No. 1 (#1) (Ignition signal)	Idling (during inspection mode)	Pulse generation (See page 05-185)
IGT2 (E4-9) – E1 (E5-28)	W – BR	Ignition coil No. 1 (#2) (Ignition signal)	Idling (during inspection mode)	Pulse generation (See page 05-185)
IGT3 (E4-10) – E1 (E5-28)	G – BR	Ignition coil No. 1 (#3) (Ignition signal)	Idling (during inspection mode)	Pulse generation (See page 05-185)
IGT4 (E4-11) – E1 (E5-28)	Y – BR	Ignition coil No. 1 (#4) (Ignition signal)	Idling (during inspection mode)	Pulse generation (See page 05-185)
KNK1 (E5-1) – EKNK (E5-2)	B – W	Knock sensor	Idling (during inspection mode)	Pulse generation (See page 05-172)
IGF (E4-23) – E1 (E5-28)	B – BR	Ignition confirmation signal	Idling (inspection mode)	Pulse generation (See page 05-185)
A1A+ (E5-23) – E1 (E5-28)	G – BR	A/F sensor	Power switch ON (IG)	3.0 to 3.6
A1A- (E5-22) – E1 (E5-28)	R – BR	A/F sensor	Power switch ON (IG)	2.7 to 3.3
OX1B (E6-22) – E2 (E4-28)	Y – BR	Heated oxygen sensor	Maintain engine speed at 2,500 rpm for 2 minutes after warming up	Pulse generation
HA1A (E5-7) – E04 (E4-1)	Y – BR	A/F sensor heater	Idling (during inspection mode)	Below 3.0
HA1A (E5-7) – E04 (E4-1)	Y – BR	A/F sensor heater	Power switch ON (IG)	9 to 14
HT1B (E6-6) – E03 (E6-7)	G – BR	Heated oxygen sensor heater	Idling (during inspection mode)	Below 3.0
HT1B (E6-6) – E03 (E6-7)	G – BR	Heated oxygen sensor heater	Power switch ON (IG)	9 to 14
PTNK (E7-30) – E2 (E4-28)	Y – BR	Vapor pressure sensor	Power switch ON (IG)	2.9 to 3.7
PTNK (E7-30) – E2 (E4-28)	Y – BR	Vapor pressure sensor	Apply vacuum 4.0 kPa	Below 0.5
EVP1 (E5-14) – E1 (E5-28)	R – BR	EVAP VSV	Power switch ON (IG)	9 to 14
CCV (E7-13) – E1 (E5-28)	L – BR	CCV	Power switch ON (IG)	9 to 14
TBP (E7-18) – E1 (E5-28)	R – BR	Tank bypass VSV	Power switch ON (IG)	9 to 14
M+ (E5-6) – E1 (E5-28)	L – BR	Throttle actuator control motor	Idling (during inspection mode)	Pulse generation
M- (E5-5) – E1 (E5-28)	P – BR	Throttle actuator control motor	Idling (during inspection mode)	Pulse generation
OCV+ (E4-15) – OCV- (E4-14)	Y – W	Camshaft timing oil control	Power switch ON (IG)	Pulse generation (See page 05-63)
TAM (E7-21) – E2 (E4-28)	W – BR	Outside air temperature sensor	Ambient air temperature –40°C to 140°C (–40 to 284°F)	0.8 to 1.3
MOPS (E5-15) – E1 (E5-28)	Y – BR	Engine oil pressure	Power switch ON (IG), not engine running	9 to 14
WBAD (E7-20) – E1 (E5-28)	R – BR	Water valve position signal	Power switch ON (IG)	0.3 to 4.7
THW2 (E7-33) – E1 (E5-28)	W – BR	CHS tank outlet temperature sensor	Power switch ON (IG), Coolant temperature at 80°C	0.2 to 1.0
WSL1 (E7-24) – WSL2 (E7-23)	Y – V	Water valve motor	Changing valve position	Pulse generation
WPL (E7-15) – E1 (E5-28)	V – BR	CHS water pump	Pre-heat mode	0 to 2
FAN (E7-8) – E1 (E5-28)	LG – BR	Cooling fan relay	Power switch ON (IG), Engine coolant temperature less than 94.5°C	9 to 14
W (E6-18) – E1 (E5-28)	LG – BR	MIL	Idling (during inspection mode)	9 to 14
W (E6-18) – E1 (E5-28)	LG – BR	MIL	Power switch ON (IG)	Below 3.0
FC (E6-10) – E1 (E5-28)	G – BR	Fuel pump control	Power switch ON (IG)	9 to 14
FC (E6-10) – E1 (E5-28)	G – BR	Fuel pump control	Idling (during inspection mode)	Below 3.0
TC (E6-14) – E1 (E5-28)	P – BR	Terminal TC of DLC3	Power switch ON (IG)	9 to 14
NEO (E7-1) – E1 (E5-28)	LG – BR	Revolution signal	Idling (during inspection mode)	Pulse generation
GO (E7-2) – E1 (E5-28)	Y – BR	Revolution signal	Idling (during inspection mode)	Pulse generation

**DIAGNOSTICS - SFI SYSTEM**

Symbols (Terminals No.)	Wiring Color	Terminal Description	Condition	STD Voltage (V)
CANH (E6-31) - E1 (E5-28)	B - BR	CAN communication line	Power switch ON (IG)	Pulse generation
CANL (E6-30) - E1 (E5-28)	W - BR	CAN communication line	Power switch ON (IG)	Pulse generation