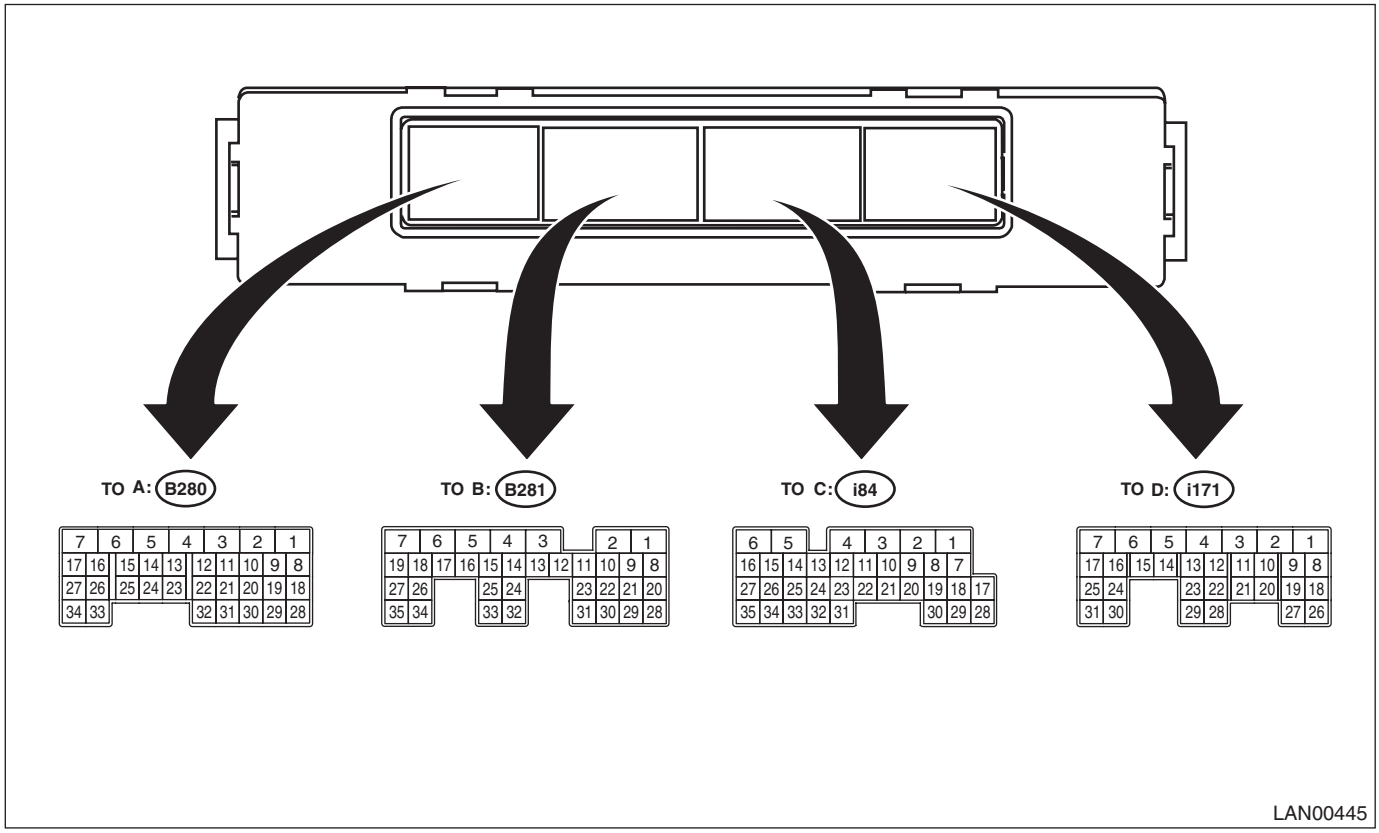
5. Control Module I/O Signal

A: ELECTRICAL SPECIFICATION



Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Ignition power supply (rear wiper)	A5 ←→ Chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → ON
Battery power supply (shift lock/key lock)	B6 ←→ Chassis ground	10 — 13 V	Always
Battery power supply (door lock)	D1 ←→ Chassis ground	10 — 13 V	Always
Battery power supply (control)	C6 ←→ Chassis ground	10 — 13 V	Always
Ground	A1 ←→ Chassis ground	Less than 1.5 V	Always
	C1 ←→ Chassis ground		
Battery power supply (back-up)	B7 ←→ Chassis ground	10 — 13 V	Always
Ignition power supply	B3 ←→ Chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → ON
ACC power supply	A32 ←→ Chassis ground	Less than 1.5 V → 10 — 13 V	Ignition switch OFF → Accessory ON
Key-in switch	A4 ←→ Chassis ground	Less than 1.5 V → 10 — 13 V	Key insertion (model without the keyless access with push button start system)
ACC input	A4 ←→ Chassis ground	Less than 1.5 V → 10 — 13 V	ACC ON (model with the keyless access with push button start system)
P range SW	B18 ←→ Chassis ground	8 V or more → less than 1.5 V	P range to other than P range
Stop light SW	A10 ←→ Chassis ground	Less than 1.5 V → 8 V	Stop light switch OFF → ON
Door SW (driver's)	C14 ←→ Chassis ground	8 V or more → less than 1.5 V	Front right door closed → open

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Door SW (passenger's)	C13 ←→ Chassis ground	8 V or more → less than 1.5 V	Front left door closed → open
Door SW (rear right)	C25 ←→ Chassis ground	8 V or more → less than 1.5 V	Rear right door closed → open
Door SW (rear left)	C24 ←→ Chassis ground	8 V or more → less than 1.5 V	Rear left door closed → open
Rear gate SW/trunk SW	C33 ←→ Chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk closed → open
Opener SW (trunk/rear gate)	C10 ←→ Chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk opener switch ON
Manual switch (LOCK)	C9 ←→ Chassis ground	8 V or more → less than 1.5 V	Door lock switch ON
Manual switch (UNLOCK)	C20 ←→ Chassis ground	8 V or more → less than 1.5 V	Door unlock switch ON
Lighting AUTO	B16 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at AUTO position
Lighting II	A34 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at II position
	B34 ←→ Chassis ground		
Lighting I	B17 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at I position
Dimmer passing	B25 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at passing position
Dimmer Hi beam	B15 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at Hi beam position
Front fog light SW	B26 ←→ Chassis ground	8 V or more → less than 1.5 V	Front fog light switch ON
Illumination sensor power supply	B1 ←→ A29	Less than 1.5 V → 4.5 V or more	Ignition switch OFF → ON
Illumination sensor signal	A19	0.2 — 4.5 V	Ignition switch OFF → ON
Ground (illumination sensor)	A29 ←→ Chassis ground	Less than 1.5 V	Always
Rear wiper SW ON	A12 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Rear wiper SW INT	A22 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at INT position
Rear washer SW	A30 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Illumination SW (Vi1)	D12 ←→ Chassis ground	Approx. 5 V	While clearance light illuminates
Illumination SW (Vi2)	D22 ←→ Chassis ground	0.5 — 4.8 V	
Illumination SW (Vi3)	D28 ←→ Chassis ground	Less than 1.5 V	Always
Bright SW	C21 ←→ Chassis ground	8 V or more → less than 1.5 V	Switch at ON position
Reverse SW (MT)	B12 ←→ Chassis ground	Less than 1.5 V → 8 V or more	Reverse SW ON
Impact sensor	A11 ←→ Chassis ground	8 V or more	Apply an impact
Hi-speed CAN communication circuit 1 (Hi)	B20	Serial communication	Except for sleep status*1
Hi-speed CAN communication circuit 1 (Lo)	B28		
Hi-speed CAN communication circuit 2 (Hi)	C27	Serial communication	Except for sleep status*1
Hi-speed CAN communication circuit 2 (Lo)	C35		
Immobilizer antenna (B)	B22	Serial communication	Communication with ignition key in progress (Without keyless access with push button start system)
Immobilizer antenna (A)	B10		
Immobilizer antenna amplifier GND	B30 ←→ Chassis ground	Less than 1.5 V	Always (Without keyless access with push button start system)

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Immobilizer antenna amplifier power supply	B2 ←→ B30	4.5 — 5.5 V	Communication with ignition key in progress (Without keyless access with push button start system)
Security UART	A21	Serial communication	Always (Without keyless access with push button start system)
Front wiper return	A2 ←→ Chassis ground	8 V	When front wiper is operated
Door UNLOCK (driver's seat) output	D4 ←→ Chassis ground	Less than 0.5 V → 8 V or more	When driver's side door unlock is output
Keyless entry/TPMS communication line	D11	Serial communication	When door lock/unlock is operated with the keyless transmitter, or when TPMS is operated
Rear defogger switch	C18 ←→ Chassis ground	Less than 1.5 V → 8 V or more	When the rear defogger switch is ON
Parking brake switch	C32 ←→ Chassis ground	8 V or more → less than 1.5 V	When parking brake is ON
Shift lock solenoid	B5 ←→ Chassis ground	Less than 1.5 V → 8 V or more	When shift lock is operating (AT models)
Key lock solenoid	B4 ←→ Chassis ground	Less than 1.5 V → 8 V or more	LOCK status is ON (AT model without the keyless access with push button start system)
Rear wiper ON output	A7 ←→ Chassis ground	Less than 0.5 V → 8 V or more	Rear wiper operation in progress
Rear wiper return	A6 ←→ Chassis ground	Less than 0.5 V → 8 V or more	Rear wiper operation in progress
Door LOCK output	D2 ←→ Chassis ground	Less than 0.5 V → 8 V or more	When LOCK signal is output
Door UNLOCK output	D3 ←→ Chassis ground	Less than 0.5 V → 8 V or more	When UNLOCK signal is output
Rear gate/trunk UNLOCK output	D7 ←→ Chassis ground	Less than 0.5 V → 8 V or more	When UNLOCK signal is output
Lighting relay power supply	A3 ←→ Chassis ground	10 — 13 V	ACC or key-in SW ON
	B19 ←→ Chassis ground	10 — 13 V	ACC or key-in SW ON
Lighting relay Hi output	A17 ←→ Chassis ground	8 V or more → less than 1.0 V	Dimmer SW at Hi position
Lighting relay Lo output	B35 ←→ Chassis ground	8 V or more → less than 1.0 V	Lighting II SW at ON position
Lighting Lo relay output 2	A27 ←→ Chassis ground	8 V or more → less than 1.0 V	Lighting II SW at ON position
Lighting relay I output	A16 ←→ Chassis ground	8 V or more → less than 1.0 V	Lighting I SW at ON position
Front fog light output	A15 ←→ Chassis ground	8 V or more → less than 1.0 V	Front fog light SW at ON position
DRL cancel output	D10 ←→ Chassis ground	8 V or more → less than 1.0 V	Headlight switch ON or Hi beam ON, passing switch ON
Illumination output	B8	Pulse output	Illumination ON
	C16	Pulse output	Illumination ON
Key ring illumination	A25	Pulse output	Illumination ON (Without keyless access with push button start system)
Room light output	C4	Pulse output	Room light ON (doors inter-locked)
Map light output	D8	Pulse output	Map light ON (keyless answer-back, etc.)

Description	Terminal No.	Signal (V or Ω)	Note
		Ignition switch ON (engine OFF)	
Luggage/trunk light output	C3	Pulse output	Luggage/trunk at open state
Rear defogger relay output	A26 ←→ Chassis ground	8 V or more → less than 1.0 V	Rear defogger SW ON
Wiper deicer relay output	D9 ←→ Chassis ground	8 V or more → less than 1.0 V	Wiper deicer SW ON
Turn/hazard output	D18 ←→ Chassis ground	8 V or more → less than 1.0 V	When answer-back is output
Security horn output	A24 ←→ Chassis ground	8 V or more → less than 1.0 V	When security is operating
Security light	D26	Pulse control	When security light is illuminating
Answer-back buzzer output	A20 ←→ Chassis ground	8 V or more → less than 1.0 V	When answer-back operates
Immobilizer communication	A31	Serial communication	(Models without the keyless access with push button start system)
Turn signal RH	B9 ←→ Chassis ground	8 V or more → less than 1.5 V	Turn signal switch right ON
Drive mode SW (economy/X mode)	B14 ←→ Chassis ground	8 V or more → less than 1.5 V	Mode SW OFF → ON
Turn signal LH	B21 ←→ Chassis ground	8 V or more → less than 1.5 V	Turn signal switch left ON
Accessory connector	B29 ←→ Chassis ground	8 V or more → less than 1.5 V	Rear gate/trunk closed → open
Door lock state SW driver's	C12 ←→ Chassis ground	8 V or more → less than 1.5 V	Driver's inner remote lock → unlock
Door lock state SW passenger's	C23 ←→ Chassis ground	8 V or more → less than 1.5 V	Passenger's inner remote lock → unlock
SRF OFF SW input	D14 ←→ Chassis ground	8 V or more → less than 1.5 V	SRF OFF SW pressed
LIN communication line	D16	Serial communication	Except for sleep status*1
SRF relay output (R)	D20 ←→ Chassis ground	Less than 1.5 V → 8 V or more	SRF right side FOG activated
SRF relay output (L)	D21 ←→ Chassis ground	Less than 1.5 V → 8 V or more	SRF left side FOG activated

*1: For CAN sleep state, hold on for approx. one minute with ignition OFF and the doors, trunk, and rear gate all closed.