

DATA LIST/ACTIVE TEST

1. DATA LIST

HINT:

With the hand-held tester connected to the DLC3 and the power switch in the ON position, the ECB, ABS, and Enhanced VSC data list can be displayed. Follow the prompts on the tester screen to access the DATA LIST.

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
YAW RATE	Yaw rate sensor / Min.: -128 deg/s, Max.: 128 deg/s	Min.: -128 deg/s Max.: 128 deg/s	–
YAW ZERO VALUE	Memorized zero value / Min.: -128 deg/s, Max.: 128 deg/s	Min.: -128 degs Max.: 128 deg/s	–
STEERING ANG	Steering sensor / Min.: -1152 deg, Max.: 1150.875 deg	Left turn: Increase Right turn: Decrease	–
1 SYS BRAKE	1 system brake / OPERATE or BEFORE	OPERATE: During operation	–
REGEN CO OPRT	Regenerate co operation / OPERATE or BEFORE	OPERATE: During operation	–
AIR BLD SUPPORT	Air bleed availability / SUPPORT or NOT SUP	SUPPORT: During support	–
PKB SW	Parking brake switch / ON or OFF	ON: Parking brake applied OFF: Parking brake released	–
STOP LIGHT SW	Stop lamp switch / ON or OFF	ON: Brake pedal depressed OFF: Brake pedal released	–
TEST MODE	Test mode / NORMAL or TEST	NORMAL: Normal mode TEST: During test mode	–
RESERVOIR SW	Reservoir level warning switch / ON or OFF	ON: Reservoir level Normal NG: Reservoir level Low	–
WHEEL SPD FR	Wheel speed sensor (FR) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed	Similar speed as indicated on speedometer
WHEEL SPD FL	Wheel speed sensor (FL) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed	Similar speed as indicated on speedometer
WHEEL SPD RR	Wheel speed sensor (RR) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed	Similar speed as indicated on speedometer
WHEEL SPD RL	Wheel speed sensor (RL) reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual wheel speed	Similar speed as indicated on speedometer
VEHICLE SPD	Maximum wheel speed sensor reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual vehicle speed	Speed indicated on speedometer
IG VOLTAGE	ECU power supply voltage TOO HIGH / TOO LOW / NORMAL	TOO HIGH: 9.5 V or over NORMAL: 9.5 V TOO LOW: Below 9.5 V	–

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
DECELERAT SENS	Deceleration sensor 1 reading / min.: -1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	Reading changes when vehicle is bounced
DECELERAT SENS2	Deceleration sensor 2 reading / min.: -1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	Reading changes when vehicle is bounced
MAS CYL PRS 1	Master cylinder pressure sensor 1 reading / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	Reading increases when brake pedal is depressed
MAS CYL PRS 2	Master cylinder pressure sensor 2 reading / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	Reading increases when brake pedal is depressed
SLAFR CUR	Current of SLAFR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLAFL CUR	Current of SLAFL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLARR CUR	Current of SLARR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLARL CUR	Current of SLARL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLRFR CUR	Current of SLAFR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLRFL CUR	Current of SLAFL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLRRR CUR	Current of SLARR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
SLRRL CUR	Current of SLARL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	-
PEDAL STROKE	Stroke sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.7 to 1.3 V	-
PEDAL STROKE 2	Stroke sensor 2 / min.: 0 V, max.: 5 V	When brake pedal is released: 3.7 to 4.3 V	-
MC 2	MC2 / ON or OFF	ON: Operate	-
MC 1	MC1 / ON or OFF	ON: Operate	-
SSC	SSC / ON or OFF	ON: Operate	-
PATTERN	A pattern drive is under enforcement / ON or OFF	ON: Operate	-
MAIN RELAY 2	Main relay 2 for ECB / ON or OFF	ON: Operate	-
MAIN RELAY 1	Main relay 1 for ECB / ON or OFF	ON: Operate	-
ACC PRESS SENS 1	Accumulator pressure sensor 1 / min.: 0 V, max.: 5 V	Specified value: 3.2 to 4.0 V	-
FR PRESS SENS	Front Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	-
FL PRESS SENS	Front Left pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	-
RR PRESS SENS	Rear Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	-
RL PRESS SENS	Rear Left pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	-
MOTOR RELAY 2	Motor relay 2 / ON or OFF	ON: Motor relay ON	-
MOTOR RELAY 1	Motor relay 1 / ON or OFF	ON: Motor relay ON	-
VSC	Existence of VSC / WITH or WITHOUT	WITH: WITH Enhanced VSC System	-

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
2 FRAMES	There is two or more frame for freeze frame data / YES or NO	YES: There are two or more freeze frame data	–
REGEN TORQ FR	Regenerative request torque (FR) / min.: 0 N·m, max.: 4080 N·m	ECB is not operate: 0 N·m	–
REGEN TORQ FL	Regenerative request torque (FL) / min.: 0 N·m, max.: 4080 N·m	ECB is not operate: 0 N·m	–
REGEN TORQ RR	Regenerative request torque (RR) / min.: 0 N·m, max.: 4080 N·m	–	–
REGEN TORQ RL	Regenerative request torque (RL) / min.: 0 N·m, max.: 4080 N·m	–	–
SPD SEN FR	FR speed sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
SPD SEN FL	FL speed sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
SPD SEN RR	RR speed sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
SPD SEN RL	RL speed sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
YAW RATE SEN	Yaw rate sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
DECELE SEN	Deceleration sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
STEERING SEN	Steering sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
M/C SEN 1	Master cylinder pressure sensor 1 open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
M/C SEN 2	Master cylinder pressure sensor 2 open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
STROKE SEN 1	Stroke sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
FR W/C SEN	FR wheel cylinder pressure sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
FL W/C SEN	FL wheel cylinder pressure sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
RR W/C SEN	RR wheel cylinder pressure sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–
RL W/C SEN	FR wheel cylinder pressure sensor open detection / OPN-DET or NORMAL	NORMAL: Normal condition	–

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
HV COM	HV communication open detection / OPN-DET or NORMAL	NORMAL: Normal condition	-
ACC SEN	Accumulator pressure sensor open detection	NORMAL: Normal condition	-
BUZZER	Buzzer / ON or OFF	ON: Operate	-
RESERVOIR SW	Reservoir level warning switch / ON or OFF	ON: Operate	-
SHIFT POSITION	Shift position / FAIL / L / 2 / 3 / 4 / D (M) / R / P.N	-	
VSC/TRC OFF SW	TRAC control switch / ON or OFF	ON: TRAC control switch ON	-
STOP LIGHT SW	Stop light switch / ON or OFF	ON: Operate	-
SYSTEM	SYSTEM / ABS / VSC (TRAC) / BA / HAB / FAIL SAFE / PB / NOSYS	-	-
# IG ON	# IG ON / 0 – 31	0	-
STEERING ANG	Steering sensor / Min.: -1152 deg, Max.: 1150.875 deg	Left turn: Increase Right turn: Decrease	-
YAW RATE	Yaw rate sensor / Min.: -128 deg/s, Max.: 128 deg/s	Min.: -128 deg/s Max.: 128 deg/s	-
MAS CYL PRESS	Master cylinder pressure / min.: 0 V, max.: 5 V	When brake pedal is released : 0.3 to 0.9 V	Reading increases when brake pedal is depressed
PEDAL STROKE	Stroke sensor / min.: 0 V, max.: 5 V	When brake pedal is released (SKS1): 0.7 to 1.5 V When brake pedal is released (SKS2): 3.7 to 4.3 V	-
THROTTLE	Throttle position sensor / min.: 0 deg, max.: 125 deg	Release accelerator pedal: Approx. 0 deg. Depress accelerator pedal: Approx. 90 deg.	-
MAS PRESS GRADE	Master pressure sensor grade / min.: -30Mpa/s, max.: 225 Mpa/s	When brake pedal is released: 0 MPa	-
G (RIGHT & LEFT)	Right and left G / min.: -1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	-
G (BACK & FORTH)	Back and forth G / min.: -1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	-
SPD GRADE	Vehicle speed grade / min.: -1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	-
# CODES	Number of DTC recorded / min.: 0, max.: 255	Min.: 0, max.: 39	-

2. ACTIVE TEST

HINT:

Performing the ACTIVE TEST using the hand-held tester allows the relay and actuator, etc. to operate without removing any parts. Performing the ACTIVE TEST as the first step of troubleshooting is one of the methods to shorten labor time.

It is possible to display the DATA LIST during the ACTIVE TEST.

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the power switch ON (READY).
- (c) According to the display on the tester, perform the "ACTIVE TEST".

HINT:

Ignition switch must be turned to the ON position to proceed to the Active Test using the hand-held tester.

Item	Vehicle Condition / Test Details	Diagnostic Note
ABS WARN LIGHT	Turns ABS warning light ON / OFF	Observe combination meter
VSC WARN LIGHT	Turns VSC warning light ON / OFF	Observe combination meter
SLIP INDI LIGHT	Turns SLIP indicator light ON / OFF	Observe combination meter
BRAKE WARN LIGHT	Turns BRAKE warning light ON / OFF	Observe combination meter
VSC/BR WARN BUZ	Turns VSC / BRAKE warning buzzer ON / OFF	Buzzer can be heard
ECB INDI LIGHT	Turns Brake Control warning light ON / OFF	Observe combination meter
MAIN RELAY 1	Turns MAIN RELAY 1 ON / OFF	Operation of solenoid (clicking sound) can be heard
MAIN RELAY 2	Turns MAIN RELAY 2 ON / OFF	Operation of solenoid (clicking sound) can be heard
MC 1	Turns Master cut valve 1 activation ON / OFF	Operation of solenoid (clicking sound) can be heard
MC 2	Turns Master cut valve 2 activation ON / OFF	Operation of solenoid (clicking sound) can be heard
MOTOR RELAY 1	Turns MOTOR RELAY 1 ON / OFF	Operation of solenoid (clicking sound) can be heard
MOTOR RELAY 2	Turns MOTOR RELAY 2 ON / OFF	Operation of solenoid (clicking sound) can be heard
ECB INVALID	Turns ECB invalid ON / OFF	Operation of solenoid (clicking sound) can be heard
ACC PATTERN	Actuator air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
SCC PATTERN	Stroke simulator cut valve pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
POWER SUPPLY 1	Power supply air bleeding pattern activation 1 ON / OFF	Operation of solenoid (clicking sound) can be heard
POWER SUPPLY 2	Power supply air bleeding pattern activation 2 ON / OFF	Operation of solenoid (clicking sound) can be heard

Item	Vehicle Condition / Test Details	Diagnostic Note
RL AIR BLEEDING	RL wheel air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
RR AIR BLEEDING	RR wheel air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
ZERO DOWN	Accumulator zero down activation ON / OFF	Operation of solenoid (clicking sound) can be heard
PUMP PATTERN	Pump check pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
DRAIN PATTERN	Drain system air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard