05IKL–01

DATA LIST/ACTIVE TEST

HINT:

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

1. DATA TEST

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
Yaw Rate Sensor	Yaw rate sensor / Min.: –128 deg/s, Max.: 128 deg/s	Min.: –128 deg/s Max.: 128 deg/s	–
Zero Yaw Rate Sensor	Memorized zero value / Min.: –128 deg/s, Max.: 128 deg/s	Min.: –128 degs Max.: 128 deg/s	–
Steering Angle Sensor	Steering sensor / Min.: –1152 deg, Max.: 1150.875 deg	Left turn: Increase Right turn: Decrease	–
1 System Brake	1 system brake / OPERATE or BEFORE	OPERATE: During operation	–
Regeneration Cooperation	Regenerate co operation / OPERATE or BEFORE	OPERATE: During operation	–
Air Bleeding Support	Air bleed availability / SUPPORT or NOT SUP	SUPPORT: During support	–
Parking Brake 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 Warning SW	Reservoir level warning switch / ON or OFF	ON: Reservoir level Normal NG: Reservoir level Low	–
FR Wheel Speed	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
FL Wheel Speed	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
RR Wheel Speed	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
RL Wheel Speed	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 Speed	Maximum wheel speed sensor reading / min.: 0 km/h (0 MPH), max.: 326 km/h (202 MPH)	Actual vehicle speed	Speed indicated on speedometer
ECU IG Power 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
Deceleration Sensor 1	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
Deceleration Sensor 2	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
Master Cylinder Sensor 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
Master Cylinder Sensor 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 Solenoid Circuit	Current of SLAFR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLAFL Solenoid Circuit	Current of SLAFL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLARR Solenoid Circuit	Current of SLARR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLARL Solenoid Circuit	Current of SLARL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLRFR Solenoid Circuit	Current of SLAFR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLRFL Solenoid Circuit	Current of SLAFL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLRRR Solenoid Circuit	Current of SLARR solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
SLRRL Solenoid Circuit	Current of SLARL solenoid / min.: 0 A, max.: 3 A	When brake pedal is released: 0 A	–
Pedal Stroke Sensor 1	Stroke sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.7 to 1.3 V	–
Pedal Stroke Sensor 2	Stroke sensor 2 / min.: 0 V, max.: 5 V	When brake pedal is released: 3.7 to 4.3 V	–
ECB Solenoid (MC2)	MC2 / ON or OFF	ON: Operate	–
ECB Solenoid (MC1)	MC1 / ON or OFF	ON: Operate	–
ECB Solenoid (SSC)	SSC / ON or OFF	ON: Operate	–
Pattern Activation	A pattern drive is under enforcement / ON or OFF	ON: Operate	–
ECB Main Relay 2	Main relay 2 for ECB / ON or OFF	ON: Operate	–
ECB Main Relay 1	Main relay 1 for ECB / ON or OFF	ON: Operate	–
Accumulator Sensor 1	Accumulator pressure sensor 1 / min.: 0 V, max.: 5 V	Specified value: 3.2 to 4.0 V	–
FR Wheel Cylinder	Front Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	–
FL Wheel Cylinder	Front Left pressure sensor / min. 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	–
RR Wheel Cylinder	Rear Right pressure sensor / min.: 0 V, max.: 5 V	When brake pedal is released: 0.3 to 0.9 V	–
RL Wheel Cylinder	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	Existance of VSC / WITH or WITHOUT	WITH: WITH VSC+ System	–

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
Two Freeze Frames	There is two or more frame for freeze frame data / YES or NO	YES: There are two or more freeze frame data	–
FR Regenerative Request	Regenerative request torque (FR) / min.: 0 N·m, max.: 4080 N·m	ECB is not operate: 0 N·m	–
FL Regenerative Request	Regenerative request torque (FL) / min.: 0 N·m, max.: 4080 N·m	ECB is not operate: 0 N·m	–
RR Regenerative Request	Regenerative request torque (RR) / min.: 0 N·m, max.: 4080 N·m	–	–
RL Regenerative Request	Regenerative request torque (RL) / min.: 0 N·m, max.: 4080 N·m	–	–
FR Speed Open	FR speed sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
FL Speed Open	FL speed sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
RR Speed Open	RR speed sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
RL Speed Open	RL speed sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Yaw Rate Open	Yaw rate sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Deceleration Open	Deceleration sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Steering Open	Steering sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Master Cylinder 1 Open	Master cylinder pressure sensor 1 open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Master Cylinder 2 Open	Master cylinder pressure sensor 2 open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Pedal Stroke 1 Open	Stroke sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
FR Wheel Cylinder Open	FR wheel cylinder pressure sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
FL Wheel Cylinder Open	FL wheel cylinder pressure sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
RR Wheel Cylinder Open	RR wheel cylinder pressure sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
RL Wheel Cylinder Open	FR wheel cylinder pressure sensor open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–

Item	Measurement Item / Range (Display)	Normal Condition	Diagnostic Note
HV Open	HV communication open detection / OPN–DET or NORMAL	NORMAL: Normal condition	–
Accumulator Open	Accumulator pressure sensor open detection	NORMAL: Normal condition	–
Buzzer	Buzzer / ON or OFF	ON: Operate	–
Reservoir Warning SW	Reservoir level warning switch / ON or OFF	ON: Operate	–
Shift Lever Position	Shift position / FAIL / L / 2 / 3 / 4 / D (M) / R / P.N	–	
Stop Light SW	Stop light switch / ON or OFF	ON: Operate	–
Operated System	SYSTEM / ABS / VSC (TRAC) / BA / HAB / FAIL SAFE / PB / NOSYS	–	–
Number of IG ON	# IG ON / 0 – 31	0	–
Steering Angle Sensor	Steering sensor / Min.: –1152 deg, Max.: 1150.875 deg	Left turn: Increase Right turn: Decrease	–
Yaw Rate Sensor	Yaw rate sensor/ Min.: –128 deg/s, Max.: 128 deg/s	Min.: –128 deg/s Max.: 128 deg/s	–
Master Cylinder Sensor 1	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 Sensor 1	Stroke sensor / min.: 0 V, max.: 5 V	When brake pedal is relesed (SKS1): 1.5 to 0.7 V When brake pedal is relesed (SKS2): 4.3 to 3.7 V	–
Throttle Sensor	Throttle position sensor / min.: 0 deg, max.: 125 deg	Release accelerator pedal: Approx. 0 deg. Depress accelerator pedal: Approx. 90 deg.	–
Master Cylinder Grade	Master pressure sensor grade / min.: –30Mpa/s, max.: 225 Mpa/s	When brake pedal is released: 0 MPa	–
Right And Left G	Right and left G / min.: –1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	–
Back And Forth G	Back and forth G / min.: –1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	–
Vehicle Speed Grade	Vehicle speed grade /min.: –1.869 G, max.: 1.869 G	Approximately 0 ± 0.13 G at still condition	–

2. ACTIVE TEST

HINT:

Performing the ACTIVE TEST using the intelligent tester II 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 intelligent tester II to the DLC3.

(b) Turn the power switch ON (READY).

(c) According to the display on the tester, perform the ”ACTIVE TEST”.

HINT:

Power switch must be turned to the ON position to proceed to the Active Test using the intelligent tester II.

Item	Vehicle Condition / Test Details	Diagnostic Note
ABS Warning Light	Turns ABS warning light ON / OFF	Observe combination meter
VSC Warning Light	Turns VSC warning light ON / OFF	Observe combination meter
Slip Indicator Light	Turns SLIP indicator light ON / OFF	Observe combination meter
Brake Warning Light	Turns BRAKE warning light ON / OFF	Observe combination meter
VSC H/B Warning Buzzer	Turns VSC / BRAKE warning buzzer ON / OFF	Buzzer can be heard
ECB Indicator Light	Turns Brake Control warning light ON / OFF	Observe combination meter
ECB Main Relay 1	Turns MAIN RELAY 1 ON / OFF	Operation of solenoid (clicking sound) can be heard
ECB Main Relay 2	Turns MAIN RELAY 2 ON / OFF	Operation of solenoid (clicking sound) can be heard
Master Cut Valve 1	Turns Master cut valve 1 activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Master Cut Valve 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
Actuator Air Bleeding Pattern	Actuator air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Stroke Simulator Cut Valve Pattern	Stroke simulator cut valve pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Power Supply Air Bleeding Pattern 1	Power supply air bleeding pattern activation 1 ON / OFF	Operation of solenoid (clicking sound) can be heard
Power Supply Air Bleeding Pattern 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 Wheel Air Bleeding Pattern	RL wheel air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
RR Wheel Air Bleeding Pattern	RR wheel air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Accumulator Zero Down	Accumulator zero down activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Pump Check Pattern	Pump check pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard
Drain System Air Bleeding Pattern	Drain system air bleeding pattern activation ON / OFF	Operation of solenoid (clicking sound) can be heard