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Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [03/2023 -]
Title: HYBRID / BATTERY CONTROL: PLUG-IN CHARGE CONTROL SYSTEM (for PHEV Model): DATA LIST / ACTIVE TEST; 2023 - 2024 MY Prius Prime [03/2023 -]		

DATA LIST / ACTIVE TEST

DATA LIST

NOTICE:

- Some Data List values may vary significantly if there are slight differences in the environment in which the vehicle is operating when measurements are obtained. Variations may also occur due to aging of the vehicle. Due to these considerations, it is not always possible to provide definite values to be used for judgment of malfunctions. It is possible that a malfunction may be present even if measured values are within the reference range.
- In the event of a problem with intricate symptoms, collect sample data from another vehicle of the same model operating under identical conditions in order to reach an overall judgment by comparing all the items in the Data List.

(a) Using the GTS, enter the following menus: Powertrain / Plug-in Control / Data List.

(b) Check the results by referring to the following table.

HINT:

- When reviewing Data List information, try to select only the specific Data List items related to the inspection being performed. If all items are selected when checking the Data List, the interval between updates for each item will be longer, resulting in delayed or incorrect data.
- The table below includes hidden items according to the vehicle specifications.

Powertrain > Plug-in Control > Data List

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Vehicle Speed	Vehicle speed	-
Engine Speed	Engine speed	-
Calculate Load	Calculate load	Value increases in proportion to increase in load • Throttle valve status • Air cleaner condition
Coolant Temperature	Engine coolant temperature	-
Engine Run Time	Elapsed time after starting engine	Elapsed time from initial engine start until the ignition switch is turned off.
Throttle Position Sensor No.1 Voltage %	Accelerator pedal position sensor No. 1	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Smoothed Value of BATT Voltage	Smoothed value of auxiliary battery voltage	Hybrid vehicle control ECU
Warmup Cycle Cleared DTC	The number of times the engine is warmed up after clearing DTCs	-
Distance from DTC Cleared	Drive distance after clearing DTCs	-
Time after DTC Cleared	Elapsed time after clearing DTCs	Time elapsed after DTCs are cleared (Not counted when the ignition switch is off).
MIL	MIL status	-
Running Time from MIL ON	Running time from MIL on	-
Total Distance Traveled	Drive total distance	-
Total Distance Traveled - Unit	Drive total distance unit	-
MIL ON Run Distance	Drive distance from MIL on	-
Number of Emission DTC	Emissions-related DTCs	-
PISW Status	AC Charging gun connecting status	-
My Room Operation	Displays whether My-room Mode can be operated	-
My Room Use History	Displays the My-room Mode operation history	-
ACRL Drive Request	AC charging equipment (stand) drive request	-
Frequency Switching Signal	Frequency signal	
IGB Signal	IGB power source status	-
IGB ON Request	IGB power source on request	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
IGCT Signal Status	IGCT signal status	IGCT terminal
IGCT Keeping Request	ON: While plug-in charging	-
IG2 Signal Status	Status of whether IGSW is pressed ON: IGSW ON	-
Charging Control Signal Status	Displays CPLT signal reception status	-
A/C Useable Power	Displays Air Conditioning System useable electric power	-
A/C Consumption Power	Displays Air Conditioning System consumption electric power	-
Remote Air Control System	Displays whether remote air conditioning system can be operated	-
Remote e Air Control Use History	Displays the remote air conditioning operation history	-
Hybrid/EV Control System Control Mode	Vehicle status controlled by EV control ECU	-
Hybrid/EV Output Temperature Sensor	VCHG-DC/DC converter temperature	-
Solar Available Information	Whether the solar charging can operate	-
Solar Diagnosis Prohibition Notification	Whether the DTCs related to Solar Charging System can be detected	-
Solar Charging Control Mode	Solar charging operation status ON: Solar charging	-
Solar Charging Permission Signal by Main CPU	Whether the solar charging can operate OK: Solar charging	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Solar Charging Boosting DC/DC Converter Voltage	Charging voltage during solar charging operate	-
Solar Charging Boosting DC/DC Converter Input Power	Charging power during solar charging operate	-
Solar Boosting DC/DC Converter Drive Request	DC/DC converter for solar charging drive request ON: Solar charging	-
HV/EV Battery Total Voltage	Total voltage of all HV battery stacks	-
Hybrid/EV Battery Total Voltage at Charging Start	Total voltage of all HV battery stacks when plug-in charging start	-
Charging Voltage for Hybrid/EV Battery	Charging voltage of HV battery (VCHG value) 0.0 to 250.0 V: AC charging	-
Hybrid/EV Battery Local Bus Communication	Battery local bus communication status OK: HV/EV battery local bus communication permission	-
Hybrid/EV Battery SOC (DC Charger Display)	HV battery SOC value displayed on the DC charging stand during DC charging	-
Hybrid/EV Battery Temperature when Charging Start	HV Battery temperature when plug-in charging start	-
Hybrid/EV Battery Maximum Temperature	HV battery highest temperature during current trip	-
Hybrid/EV Battery Maximum Temperature during Charging	HV battery highest temperature during plug-in charging	-
Hybrid/EV Battery Minimum Temperature	HV battery lowest temperature during current trip	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Hybrid/EV Battery Minimum Temperature during Charging	HV battery lowest temperature during plug-in charging	-
Hybrid/EV Battery Charging/Power Feeding Permission Status with Hybrid/EV Battery Thermal Keep	Plug-in charging/power feeding status during HV battery cooling operated	-
Hybrid/EV Battery Charging Power	Displays charging power of HV battery	-
Hybrid/EV Battery Control Status on Thermal Keeping and Charging	HV battery thermal keeping control status	-
Hybrid/EV Battery Current for Driving Control	Displays current of HV battery used for driving control	-
Hybrid/EV Battery Current for Hybrid/EV Battery Control	Displays current of HV battery during plug-in charging	-
Hybrid/EV Battery Temperature Rising History	Operating history of HV battery warming function	-
Hybrid/EV Battery Cooling History	Operating history of HV battery cooling function	-
Auxiliary Battery Voltage Low Status	Auxiliary battery voltage low status detected by plugin charge control ECU	-
Auxiliary Battery Voltage Low Status from Hybrid/EV	Auxiliary battery voltage low status detected by HV control ECU	-
Auxiliary Battery Voltage Low Status from Hybrid/EV Battery	Auxiliary battery voltage low status detected by battery control ECU	-
Hybrid/EV Communication Enable Information (Hybrid/EV Battery Local Bus)	Communication condition with HV control ECU on the battery local bus	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
SOC of Immediately after Wake Up	SOC (State of Charge) (All Bat) at the start of charging	-
ICHG Current (Instantaneous Value)	Current flowing from the electric vehicle charger assembly to the HV battery or from the HV battery to the electric vehicle charger assembly	-
Charging Lid Switch Status	Charging lid switch status ON: Normal charging port lid open	-
Charging Lid Lamp Status	Charging lid light status	-
Hood Courtesy Switch Signal	Hood open/close status	-
Charging Indicator lighting Request	Charging indicator illumination request ON: When there is a charging indicator illumination request	-
Charging Connector Connect Status	AC charging connector connection state	-
Charging Connector Connect Status Voltage	PISW terminal voltage used for checking electric vehicle charger cable assembly connection condition 0.35 to 2.02 V: Electric vehicle charger cable assembly connected 2.02 to 3.57 V: Electric vehicle charger cable assembly inserted and the latch release button (PI switch) engaged 3.57 to 4.73 V: Electric vehicle charger cable assembly not inserted	PISW terminal voltage
Charging Connector Lock Pin Status	Charging connector lock pin status	-
Charging Connector Lock Motor Unlock Direction Revolution Request Current	Output of current to operate charging connector lock motor in reverse ON: Unlocking Charging connector (operating charging connector lock	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
	motor in reverse)	
Charging Connector Lock Motor Lock Direction Revolution Request Current	Output of current to operate charging connector lock motor forward ON: Locking Charging connector (operating charging connector lock motor forward)	-
Connector Unlock History during Charging	Charging connector unlock history during plug-in charging	Cannot be used
AC Charging Positive Inlet Temperature Sensor Voltage	Voltage value for temperature sensor of inlet AC Charging (Positive side)	-
AC Charging Negative Inlet Temperature Sensor Voltage	Voltage value for temperature sensor of inlet AC Charging (Negative side)	-
AC Charging Positive Inlet Temperature	Temperature of inlet AC Charging (Positive side)	-
AC Charging Negative Inlet Temperature	Temperature of inlet AC Charging (Negative side)	-
AC Charging Inlet Insert Status	Device connection status to the AC charging inlet and its availability	-
Power Feeding Connecter Power Supply Switch	Status of supply power source connector	-
Interlock Operation Status	Interlock operation status	-
Charger Power Supply Voltage Type	Plug-in charging power source voltage	-
Charger Operation Status	Charging operation state	Charging operation state signal (CHST)
Charger Operation Request	Charging operation request state	Charging operation request signal (CHRQ)
Charger Input Power	Power input to electric vehicle charger assembly from AC charging inlet	-
Charger Output Power	Power output from electric vehicle charger assembly	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Charger Cooling Fan Drive Request	Charger cooling blower drive request	Cannot be used
Charger Cooling Fan Driving Duty	Charger cooling blower operation duty ratio	-
Charger Cooling Fan Revolution	Charger cooling blower speed	-
Charger Drive Permission Signal	Drive permission status of electric vehicle charger assembly	-
AC Power Supply Rated Current	Rated current when AC charging performed	-
AC Power Supply Rated Power	Rated power when AC charging performed	-
Minimum Cable Permission Current during Charging	Charging cable permission current minimum value recorded during AC charging	-
Charging Control Information	HV battery thermal keeping function status during plug-in charging	-
Charging History Information	Charging end factor	-
DC Operation Mode	DC charging operation mode	-
6A Charging Mode Switching History	History of switched to 6A charging mode on latest AC charging	-
DTC Detection History	DTC detection history while current plug-in charging	-
Record on Behavior Detection History	RoB detection history while current plug-in charging	-
System Impedance Increase Abnormal	Displays AC charging system impedance increase	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Minimum Charging Permission Power during Charging	The value closest to 0 in charging permission power limited by battery condition during plug-in charging	• This item approximately negative value during plug-in charging. • The larger the absolute value, the higher the charging capacity.
Maximum Charging Current Setting (200V)	Maximum charging current for AC charging set by the customer	for 200 V mode
Total Number of AC Charging	Cumulative plug-in charging operations	-
AC Charging Total Time	Cumulative plug-in charging time	-
AC Charging	Plug-in AC charging availability	-
AC Charging Operation Status	Plug-in AC charging operation status	-
AC Charging Input Minimum Voltage History	Minimum voltage during plug-in AC charging	-
AC Input Voltage for Monitoring before Charging	AC charging device output voltage (before start AC charging)	-
Target Charging Power	Charging power target value	Charging power output request signal (CHPW)
Target Charging Power from Charger	Charging power target value output from electric vehicle charger assembly	-
Charging Required Time Calculation Status	Charging time required calculation complete/incomplete flag	-
Charging Required Time	Calculated charging time required to complete charging	-
Charging Elapsed Time	Time elapsed since plug-in charging started	-
Charging State Elapsed Time	Elapsed time since the transition from each control state of AC charging	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
AC Input Voltage for Monitoring	Effective AC voltage input to electric vehicle charger assembly from inlet AC charger cable (charging inlet)	VIN voltage
Target AC Input Voltage for Control	Target voltage value to be output when supplying power	-
AC Input Voltage Instantaneous Value 1 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 1	-
AC Input Voltage Instantaneous Value 2 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 2	-
AC Input Voltage Instantaneous Value 3 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 3	-
AC Input Voltage Instantaneous Value 4 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 4	-
AC Input Voltage Instantaneous Value 5 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 5	-
AC Input Voltage Instantaneous Value 6 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 6	-
AC Input Voltage Instantaneous Value 7 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 7	-
AC Input Voltage Instantaneous Value 8 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 8	-
AC Input Voltage Instantaneous Value 9 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 9	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
AC Input Voltage Instantaneous Value 10 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 10	-
AC Input Voltage Instantaneous Value 11 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 11	-
AC Input Voltage Instantaneous Value 12 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 12	-
AC Input Voltage Instantaneous Value 13 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 13	-
AC Input Voltage Instantaneous Value 14 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 14	-
AC Input Voltage Instantaneous Value 15 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 15	-
AC Input Voltage Instantaneous Value 16 for Waveform Monitoring	VIN sensor waveform voltage (instantaneous value) 16	-
Time Cycle of Charging Voltage Zero Crossing Point	AC input voltage zero cross cycle	-
Plug-in Control ECU Voltage Request (SMP5)	Internal power source voltage (SMP5) request value	-
Plug-in Control ECU Voltage (VOMS5)	Internal power source voltage (VOMS5)	-
Plug-in Control Module System Voltage (Plus)	Plugin charge control ECU internal power source voltage	-
Plug-in Control Module System Voltage (Minus)	Plugin charge control ECU internal power source voltage	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
AC Power Feeding Control Mode	AC external supply power control status	-
AC Input Current	IAC effective value	IAC current
Charging Current Upper Limit	Maximum supply current	-
Charging Voltage (Average Effective Value)	Average value of supply voltage effective value	-
Charging Voltage (Trip Crest Value)	Maximum value of supply voltage instantaneous value	-
Charging Current Duty from Charger	Duty value of charging voltage judgment recognition signal (CPLT) 0%: Not connected to the EVSE (charging station) system or power unavailable 3% or more and 7% or less: A charging connector is connected	• Allowable amperage from EVSE (charging station) can be determined based on CPLT duty. (Allowable amperage [A] = CPLT duty value x 0.6) • The electric vehicle charger assembly limits the amperage based on CPLT duty value. 0%: It is determined that there is an open in the AC power source, there is a short to ground in the CPLT circuit, or the EVSE is malfunctioning 3% or more and 7% or less: It is determined that there is a digital communication request with the EVSE (charging equipment)
Time Cycle of Charging Current Duty from Charger	Duration of 1 cycle of CPLT 0 µs: Not connected to an EVSE (charging station) system or power unavailable 951 to 1049 µs: CPLT (control pilot signal) generated	Cycle of the CPLT pulse corresponding to the CPLT duty
Charging Current Limit Status from Charger	Existence of charging current restriction	ILMT: Charging current restriction value
Charging Power Limit (Charging Voltage Low)	Charging power limit (throttling control)	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Timer Wait Request	Waiting status due to timer charging	-
Timer Setting	Latest timer charging setting status	-
Power Supply Voltage (SMP5)	SMP5 power source voltage value	-
PFC Boosting Circuit Driver Drive Status	PFC booster circuit drive control operation state	-
Voltage after Boosting by PFC Boosting Circuit	Voltage value after boosting by PFC boosting circuit	-
PFC Boosting Circuit Current Amplitude	PFC booster circuit maximum current	-
PFC Temperature	Temperature around PFC booster circuit	-
High Voltage Circuit Shutdown Signal	High voltage circuit shutdown status	-
DC/DC Converter Operation Status	Main DC/DC converter operation status	-
DC/DC Converter Driver Drive Status (for Charging)	DC/DC converter (for charging HV battery) drive control operating state	-
DC/DC Converter Temperature (for Charging)	Main DC/DC converter (for charging HV battery) temperature	-
AC 100V Switch Indicator Lighting Request	AC 100 V switch indicator illumination request ON: Request exists	-
Power Feeding Isolation Fault Detection	Status of whether an electrical leak is detected	-
Power Feeding Inverter Operation Status	Operation status of the supply power inverter	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Power Feeding INV Activate Request	Supply power inverter operation request	-
Power Feeding INV Activate Status	Status of supply power operation	-
Power Feeding INV Output Frequency Setting	Set value of supply power output frequency	-
Power Feeding INV Output Voltage Setting	Set value of supply power output voltage	-
Charging/Power Feeding Switching Switch Status	Switching status between charge mode and supply mode OFF: Charging system side ON: Interior power outlet side	-
Charging/Power Feeding Switching Switch Request	Request to switch between charge mode and supply mode OFF: Charging system side ON: Interior power outlet side	-
AC Charging Negative Relay Status	Operating state of CHRG ON: CHRG relay connected	-
AC Charging Positive Relay Status	Operating state of CHRB ON: CHRB relay connected	-
AC Charging Negative Relay Drive Request	Commanded state of CHRG ON: CHRG relay connection being commanded	-
AC Charging Positive Relay Drive Request	Commanded state of CHRB ON: CHRB relay connection being commanded	-
AC Charging Precharge Relay Status	Operating state of CHRP ON: CHRP relay connected	-
AC Charging Precharge Relay Drive Request	Commanded state of CHRP ON: CHRP relay connection being commanded	-

TESTER DISPLAY	MEASUREMENT ITEM	DIAGNOSTIC NOTE
Charging Relay Connect Request in CCID Box from CCID Box	CCID (charging circuit interrupt device) relay state request signal	-
Rush Current Prevention Resistance Relay Activate Request	Inrush current protection relay operation request signal	-
SMRB Control Status	Commanded state of SMRB	-
SMRG Control Status	Commanded state of SMRG	-
VAI	Whether VAI system exists	-
VAO	Whether VAO system exists	-
+B Voltage	AM21 power source voltage value	-