

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

SOC: 37.2% | V-Max: 3.6636V (M11-B3) | V-Min: 3.6404V (M4-B1) | Delta: 0.023V

Section 1: Voltage Map (96 Bricks)

| Module 1 | Module 2 | Module 3 | Module 4 |
|---|---|--|---|
| B1: 3.6502V CAC: - B2: 3.6499V CAC: - B3: 3.6508V CAC: - B4: 3.6533V CAC: - B5: 3.6514V CAC: - B6: 3.6545V CAC: - | B7: 3.6456V CAC: - B8: 3.6493V CAC: - B9: 3.6508V CAC: - B10: 3.649V CAC: - B11: 3.6496V CAC: - B12: 3.649V CAC: - | B13: 3.6542V CAC: - B14: 3.6536V CAC: - B15: 3.6557V CAC: - B16: 3.6551V CAC: - B17: 3.6551V CAC: - B18: 3.6536V CAC: - | B19: 3.6404V CAC: - B20: 3.6414V CAC: - B21: 3.6407V CAC: - B22: 3.6411V CAC: - B23: 3.6404V CAC: - B24: 3.6407V CAC: - |
| Module 5 | Module 6 | Module 7 | Module 8 |
| B25: 3.6502V CAC: - B26: 3.6557V CAC: - B27: 3.6545V CAC: - B28: 3.6523V CAC: - B29: 3.6523V CAC: - B30: 3.6511V CAC: - | B31: 3.6514V CAC: - B32: 3.652V CAC: - B33: 3.6499V CAC: - B34: 3.6536V CAC: - B35: 3.6499V CAC: - B36: 3.6514V CAC: - | B37: 3.6581V CAC: - B38: 3.6603V CAC: - B39: 3.6597V CAC: - B40: 3.6612V CAC: - B41: 3.6566V CAC: - B42: 3.6575V CAC: - | B43: 3.6481V CAC: - B44: 3.6481V CAC: - B45: 3.6481V CAC: - B46: 3.6478V CAC: - B47: 3.6481V CAC: - B48: 3.6481V CAC: - |
| Module 9 | Module 10 | Module 11 | Module 12 |
| B49: 3.6499V CAC: - B50: 3.6481V CAC: - B51: 3.6493V CAC: - B52: 3.6478V CAC: - B53: 3.6496V CAC: - B54: 3.6499V CAC: - | B55: 3.6508V CAC: - B56: 3.652V CAC: - B57: 3.6453V CAC: - B58: 3.6481V CAC: - B59: 3.6478V CAC: - B60: 3.6493V CAC: - | B61: 3.6618V CAC: - B62: 3.6633V CAC: - B63: 3.6636V CAC: - B64: 3.6633V CAC: 197 B65: 3.6627V CAC: 197 B66: 3.6615V CAC: 195 | B67: 3.6566V CAC: 195 B68: 3.656V CAC: 195 B69: 3.6569V CAC: 196 B70: 3.6581V CAC: 197 B71: 3.6545V CAC: 196 B72: 3.6575V CAC: 196 |
| Module 13 | Module 14 | Module 15 | Module 16 |
| B73: 3.6465V CAC: 191 B74: 3.6432V CAC: 188 B75: 3.649V CAC: 191 B76: 3.6508V CAC: 191 B77: 3.6481V CAC: 192 B78: 3.6459V CAC: 190 | B79: 3.6502V CAC: 195 B80: 3.6508V CAC: 195 B81: 3.652V CAC: 194 B82: 3.6526V CAC: 196 B83: 3.6496V CAC: 195 B84: 3.6478V CAC: 194 | B85: 3.6456V CAC: 193 B86: 3.6505V CAC: 195 B87: 3.652V CAC: 197 B88: 3.6517V CAC: 196 B89: 3.6475V CAC: 194 B90: 3.645V CAC: 194 | B91: 3.653V CAC: 196 B92: 3.653V CAC: 196 B93: 3.6557V CAC: 197 B94: 3.6569V CAC: 197 B95: 3.6536V CAC: 196 B96: 3.6536V CAC: 199 |

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ACTIVE BMS DIAGNOSTIC PARAMETERS

ENERGY & SOC:

Battery Health (State of Energy): 33.0709

Usable Battery Capacity (kWh): 37.2

Nominal Battery Capacity (kWh): 62.8

Remaining Battery Energy: 99.6

State of Charge (SOC): 37.2

Minimum Allowed SOC: 43.8

Total Energy Charged (Lifetime): 56172.341

Total Energy Discharged (Lifetime): 52648.724

VOLTAGE, TEMP & ISOLATION:

Maximum Cell Voltage: 3.6636 V

Minimum Cell Voltage: 3.6404 V

Cell Voltage Imbalance: 5.0 (brick6Sense1)

CAC Minimum (Ah): 183.2 (Brick #19.0)

CAC Maximum (Ah): 200.2 (Brick #42.0)

Maximum Battery Temperature: 16.5

Minimum Battery Temperature: 15.5

Battery Pack Temperature: 15.0

Internal Battery Isolation Status: 2320.0

External HV Isolation Status: 0.0

HV Interlock Loop Voltage (HVIL): 4.86

High Cell Internal Resistance Warning: 0.0

Module / Cell Mismatch Warning: 0.0

Section 2: Battery Thermal Analysis

MAX MODULE TEMP

16.5 C

Module #9.0

MIN MODULE TEMP

15.5 C

Module #2.0

Module Temperature Delta: 1.0 C

Thermal System Parameters:

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Pack Temperature: 15.0

Pack Temp Percentile: 34.0

Coolant Battery Inlet: 15.875

Coolant PT Inlet: 15.75

Coolant Battery Flow: 23.0

Battery Heater Temperature: 16.375

Battery Heater State: 0.0 (BAT_HEATER_STATE_OFF)

Battery Heater Request: 0.0

Battery Pump 1: 23.0

Battery Pump 2: 25.0

BMS Inlet Target (Active): 52.0

Ambient Temperature: 8.5

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Section 3: Active Errors & Alerts

BMS_Brick6_Sense_modVError_Avg: 0.0101 V
BMS_CAC2_avgCacError: 12.3
BMS_CAC2_cacErrorEndOfRest: 255.0
BMS_CAC2_stdCacError: 4.0
BMS_D001_Internal_Batt_Failure: 0.0 (NOT_TESTED_DTC)
BMS_D002_Internal_Iso_Failure: 0.0 (NOT_TESTED_DTC)
BMS_D003_FEIM_Failure: 0.0 (NOT_TESTED_DTC)
BMS_D004_System_Iso_Failure: 0.0 (NOT_TESTED_DTC)
BMS_D005_Pos_Ctr_Stuck_Closed: 0.0 (NOT_TESTED_DTC)
BMS_D006_Neg_Ctr_Stuck_Closed: 0.0 (NOT_TESTED_DTC)
BMS_D007_HVIL_Fault: 0.0 (NOT_TESTED_DTC)
BMS_D008_HV_Discharge_Fault: 0.0 (NOT_TESTED_DTC)
BMS_D009_Over_Temp: 0.0 (NOT_TESTED_DTC)
BMS_D010_Precharge_Too_Short: 0.0 (NOT_TESTED_DTC)
BMS_D011_Precharge_Too_Long: 0.0 (NOT_TESTED_DTC)
BMS_D012_12V_UnderVolt: 0.0 (NOT_TESTED_DTC)
BMS_D013_12V_OverVolt: 0.0 (NOT_TESTED_DTC)
BMS_D014_Replace_Desiccant: 0.0 (NOT_TESTED_DTC)
BMS_D015_Flood: 0.0 (NOT_TESTED_DTC)
BMS_DtclIndex: 0.0 (mux0)
BMS_FUSE_mfgMonth: 0.0 (UNPROGRAMMED_MONTH)
BMS_FUSE_mfgYear: 2000.0
BMS_FUSE_type: 0.0 (UNKNOWN_FUSE_TYPE)
BMS_FlowReq: 25.0
BMS_HYST_error: 0.05
BMS_HighestFaultCategory: 1.0 (BMS_FAULT_STATISTICS)
BMS_SOC_errorAh: 0.04
BMS_W090_SW_GTW_Msg_Latency: 1.0
CHGSVI_DbgDTCAlert_number: 28.0
CHGVI_DbgDTCAlert_number: 28.0
CHGVI_FSP_HPCdata_errorCode: 15.0
CHGVI_FSP_infoErrorCode: 255.0 (CHGVI_FSP_SNA_8)
ChargePort_FaultLineSensed: 0.0 (FAULT_LINE_CLEARED)
Gateway_U002_keyNotInside: 1.0
Gateway_U015_displaysNotReady: 1.0
Gateway_W092_icTegraMia: 1.0
Gateway_W384_disableKeepAwakeSupport: 1.0
HVJB_FCCtrFaultLine: 2.678

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RCCM_FaultMsg208Timeout_Flag: 1.0

RCCM_FaultMsg257Timeout_Flag: 1.0

Thermal_FaultCodeReq_Flag: 1.0

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Section 4: System Telemetry

BMS - Battery Management (478)

BMS_1HzDbg_Id: 42.0 (BMS_1HZDBG_SOCbyOCV8)

BMS_ActiveHeatingWorthwhile: 0.0

BMS_BatCurr: -0.8

BMS_BatCurr10Hz: -0.8

BMS_BatCurr_toFC: -0.6958

BMS_BatVolt: 349.85

BMS_BatVolt_toFC: 349.8779

BMS_BmbVbrickV_delta_1: 0.002

BMS_BmbVbrickV_delta_10: -0.004

BMS_BmbVbrickV_delta_11: -0.014

BMS_BmbVbrickV_delta_12: -0.004

BMS_BmbVbrickV_delta_13: -0.01

BMS_BmbVbrickV_delta_14: 0.004

BMS_BmbVbrickV_delta_15: 0.008

BMS_BmbVbrickV_delta_16: -0.018

BMS_BmbVbrickV_delta_2: -0.014

BMS_BmbVbrickV_delta_3: -0.006

BMS_BmbVbrickV_delta_4: 0.0

BMS_BmbVbrickV_delta_5: -0.004

BMS_BmbVbrickV_delta_6: 0.008

BMS_BmbVbrickV_delta_7: -0.006

BMS_BmbVbrickV_delta_8: 0.008

BMS_BmbVbrickV_delta_9: 0.006

BMS_BootloaderVersion: 0.0

BMS_Brick6_Sense_brickV_1: 3.6481 V

BMS_Brick6_Sense_brickV_2: 3.6484 V

BMS_Brick6_Sense_brickV_3: 3.6481 V

BMS_Brick6_Sense_brickV_4: 3.6475 V

BMS_Brick6_Sense_brickV_5: 3.6481 V

BMS_Brick6_Sense_brickV_6Raw: 3.6481 V

BMS_Brick6_Sense_brickV_6Sub: 3.6481 V

BMS_Brick6_Sense_dataBmbld: 8.0

BMS_Brick6_Sense_modV: 21.896

BMS_Brick6_Sense_setMask: 0.0

BMS_BrickNumVoltMax: 63.0

BMS_BrickNumVoltMin: 23.0

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BMS_BuildApplicationModified: 0.0
BMS_BuildProtocolModified: 0.0
BMS_BuildRelease: 0.0
BMS_CAC2_cacIbalanceBrickID: 44.0
BMS_CAC2_capacityIbalancePct: 3.1
BMS_CAC2_deltaAh: 0.2
BMS_CAC2_estErr: 0.2
BMS_CAC2_estFiltVal: 183.2
BMS_CAC2_socInitial: 0.46
BMS_CAC2_socMaxInitial: 0.47
BMS_CAC2_socMinInitial: 0.46
BMS_CPROT_SOC1_avg: 0.0
BMS_CPROT_SOC2_avg: 45.9
BMS_CPROT_brickVFilterState: 1.0 (BVFSM_RESTING)
BMS_CTRZ_deratingPercent: 0.0
BMS_CTRZ_negCtrStress: 0.0
BMS_CTRZ_posCtrStress: 0.0
BMS_ChargeCommand: 0.0
BMS_ChargeCooldownActive: 0.0
BMS_ChargeCurrLimMode: 0.0 (LIMIT_MODE_NOT_ACTIVE)
BMS_ChargeEnable: 0.0 (BMS_CHARGER_DISABLE)
BMS_ChargeLineCurrLim: 0.0
BMS_ChargeSCommand: 0.0
BMS_ChargeSEnable: 0.0 (BMS_CHARGER_DISABLE)
BMS_ChargeSLineCurrLim: 0.0
BMS_ChargeSVoltLim: 0.0
BMS_ChargeVoltLim: 0.0
BMS_ChargingActiveOrTrans: 0.0
BMS_ChgLineCurrAvail: 80.0
BMS_ChgPwrAvail: 255.875
BMS_ChgSVLimMode: 1.0 (BMS_TRACKING_OUTPUT_SLAVE)
BMS_ChgTimeToFull: 68.25
BMS_ChgVLimMode: 1.0 (BMS_TRACKING_OUTPUT)
BMS_ComponentBranchOrigin: 0.0
BMS_ComponentHardwareId: 41.0
BMS_ComponentMajorVersion: 254.0 (LOCAL_BUILD)
BMS_ComponentMaturity: 0.0
BMS_ComponentSpecificData: 3.0 (BMS_PRODUCT_MODELS)
BMS_ComponentSvn: 0.0
BMS_ConnLocked: 1.0

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BMS_ContactorState: 2.0 (BMS_CTRSET_CLOSED)
BMS_ContactorStateFC: 0.0 (BMS_CTR_OPEN)
BMS_ContactorState_toFC: 2.0 (BMS_CTRSET_CLOSED)
BMS_CpChgState: 0.0 (BMS_CHARGING_INACTIVE)
BMS_CpldVersion: 4.0
BMS_CtrDisabled: 0.0
BMS_CtrPowerOk: 1.0 (BMS_CTRSTATUS_OK)
BMS_CurrCommand: 0.0
BMS_CurrLim: 0.0
BMS_CurrUnfiltered: -0.8
BMS_DRIVE_ctrWotCounter: 0.0
BMS_DRIVE_ctrWotCurrLim: 1155.0
BMS_DRIVE_ctrWotDeratingActive: 0.0
BMS_DRIVE_dsWirebondWotCounter: 46625.0
BMS_DRIVE_wirebondWotCounter: 8448.0
BMS_DSocCacMargin: 0.0
BMS_DSocMaxLowAlphaCounter: 0.0
BMS_DSocMinAlpha: 0.0
BMS_DSocMinAlphaBrickID: 1.0
BMS_DSocNoiseMargin: 0.0
BMS_DSocNormalizedFiltMin: 0.0
BMS_DSocNormalizedMin: 0.0
BMS_DcLinkV: 350.4
BMS_DcdcEnableOn: 1.0
BMS_Deprecated0: 0.0
BMS_Deprecated1: 0.0
BMS_DragStripState: 0.0 (BMS_DRAGSTRIP_MODE_OFF)
BMS_DsTargetTimeEst: 127.0 (SNA)
BMS_DtcMultiplexor: 0.0
BMS_EnergyBuffer: 0.0
BMS_EnergyCounter: 5.0
BMS_EnergyToChargeComplete: 0.1
BMS_EvseOutputDcCurr: 0.0
BMS_ExtDcPrechargeVoltLim: 0.0
BMS_GbUpdateDetectorState: 0.0 (GB_ADAPTER_NOT_ACTIVE)
BMS_HYST_normalized_Z: 0.8607
BMS_HvChainLimingComponent: 0.0 (HV_CHAIN_LIMITING_UNKNOWN)
BMS_HvChainLimingCurr: 2040.0
BMS_HvChainLimingTemp: 1000.0
BMS_HvacPowerReq: 1.0

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BMS_ISensorMajorVersion: 1.0
BMS_ISensorMinorVersion: 2.0
BMS_ISensorProtocolNumber: 3.0
BMS_ISensorReleaseVersion: 9.0
BMS_ISensorSerialNumber: 1777700.0
BMS_ITarget_toFC: 141.2
BMS_InTaper: 0.0
BMS_InfoAppGitHashBytes: 0.0
BMS_InfoApplicationCRC: 3010708099.0
BMS_InfoAssemblyID: 21.0
BMS_InfoBootUdsProtoVersion: 4.0
BMS_InfoBootloaderCRC: 958837069.0
BMS_InfoBuildConfigID: 41.0
BMS_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
BMS_InfoCPLDVersion: 4.0
BMS_InfoComponentID: 3.0
BMS_InfoHardwareID: 41.0
BMS_InfoHardwareRevision: 0.0
BMS_InfoIndex: 11.0 (INFO_PCBAID_ASSYID_USAGEID)
BMS_InfoPcbalID: 18.0
BMS_InfoPlatformType: 1.0
BMS_InfoSubUsageID: 65535.0
BMS_InfoUsageID: 0.0
BMS_InletActiveCoolTargetT: 52.0
BMS_InletActiveHeatTargetT: -8.0
BMS_InletPassiveTargetT: 30.0
BMS_KwhCounterType: 1.0 (BMS_ONBOARD_CHARGER_KWH_COUNTER)
BMS_MaxBusVolt: 400.8
BMS_MaxChargeCurr: 0.0
BMS_MaxDischargeCurr: 62.464
BMS_MaxDischargePower: 273.12
BMS_MaxRegenPower: 31.56
BMS_MinBusVolt: 246.62
BMS_ModelTMax: 13.5
BMS_ModelTMin: 12.5
BMS_Module01_T1: 15.7
BMS_Module01_T2: 16.05
BMS_Module02_T1: 15.7
BMS_Module02_T2: 16.4
BMS_Module03_T1: 16.05

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BMS_Module03_T2: 16.05
BMS_Module04_T1: 15.7
BMS_Module04_T2: 16.05
BMS_Module05_T1: 15.7
BMS_Module05_T2: 16.05
BMS_Module06_T1: 15.7
BMS_Module06_T2: 16.05
BMS_Module07_T1: 15.7
BMS_Module07_T2: 16.05
BMS_Module08_T1: 16.05
BMS_Module08_T2: 16.05
BMS_Module09_T1: 16.4
BMS_Module09_T2: 16.05
BMS_Module10_T1: 15.7
BMS_Module10_T2: 16.05
BMS_Module11_T1: 15.7
BMS_Module11_T2: 16.05
BMS_Module12_T1: 15.7
BMS_Module12_T2: 16.05
BMS_Module13_T1: 15.7
BMS_Module13_T2: 16.05
BMS_Module14_T1: 16.05
BMS_Module14_T2: 16.05
BMS_Module15_T1: 15.7
BMS_Module15_T2: 16.05
BMS_Module16_T1: 15.7
BMS_Module16_T2: 16.05
BMS_NegativeBusBarT: 16.8
BMS_NmGoingToSleep: 0.0
BMS_NmKeepAwakeReason: 1.0 (BMS_KEEPAWAKE_REASON_CTRS_CLOSED)
BMS_NmWakeUpBus: 0.0
BMS_NmWakeUpReason: 0.0 (BMS_WAKUP_REASON_NONE)
BMS_NoFlowReq: 0.0
BMS_NotEnoughPowerForDrive: 0.0
BMS_OCV_chgInitialPolarization: 0.09
BMS_OCV_chgPolarization: 0.074
BMS_OCV_dchInitialPolarization: 0.11
BMS_OCV_dchPolarization: 0.092
BMS_OCV_vPolLongTau: -0.0002
BMS_Odometer: 88325.856

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BMS_OkToShipByAir: 0.0
BMS_OkToShipByLand: 1.0
BMS_PackSerialNumberByte01: 84.0
BMS_PackSerialNumberByte02: 49.0
BMS_PackSerialNumberByte03: 52.0
BMS_PackSerialNumberByte04: 65.0
BMS_PackSerialNumberByte05: 48.0
BMS_PackSerialNumberByte06: 48.0
BMS_PackSerialNumberByte07: 50.0
BMS_PackSerialNumberByte08: 57.0
BMS_PackSerialNumberByte09: 52.0
BMS_PackSerialNumberByte10: 49.0
BMS_PackSerialNumberByte11: 49.0
BMS_PlatformBranchOrigin: 0.0
BMS_PlatformMajorVersion: 0.0
BMS_PlatformMaturity: 0.0
BMS_PlatformSvn: 0.0
BMS_PlatformType: 1.0
BMS_PowerDissipation: 0.0
BMS_PowerLim: 0.0
BMS_ProtocolVersion: 7.0
BMS_RapidDCLinkDchgReq: 0.0
BMS_SOC_LimActive: 0.0
BMS_SOC_LimPct: 51.2
BMS_SOC_byAh_01: 45.65
BMS_SOC_byAh_02: 45.65
BMS_SOC_byAh_03: 45.65
BMS_SOC_byAh_04: 46.15
BMS_SOC_byAh_05: 45.75
BMS_SOC_byAh_06: 46.25
BMS_SOC_byAh_07: 45.0
BMS_SOC_byAh_08: 45.55
BMS_SOC_byAh_09: 45.7
BMS_SOC_byAh_10: 45.45
BMS_SOC_byAh_11: 45.55
BMS_SOC_byAh_12: 45.4
BMS_SOC_byAh_13: 46.2
BMS_SOC_byAh_14: 46.05
BMS_SOC_byAh_15: 46.4
BMS_SOC_byAh_16: 46.4

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BMS_SOC_byAh_17: 46.3
BMS_SOC_byAh_18: 46.05
BMS_SOC_byAh_19: 43.85
BMS_SOC_byAh_20: 44.0
BMS_SOC_byAh_21: 43.95
BMS_SOC_byAh_22: 44.05
BMS_SOC_byAh_23: 43.8
BMS_SOC_byAh_24: 44.0
BMS_SOC_byAh_25: 45.7
BMS_SOC_byAh_26: 46.5
BMS_SOC_byAh_27: 46.3
BMS_SOC_byAh_28: 45.95
BMS_SOC_byAh_29: 46.0
BMS_SOC_byAh_30: 45.7
BMS_SOC_byAh_31: 45.75
BMS_SOC_byAh_32: 45.9
BMS_SOC_byAh_33: 45.55
BMS_SOC_byAh_34: 46.15
BMS_SOC_byAh_35: 45.55
BMS_SOC_byAh_36: 45.85
BMS_SOC_byAh_37: 46.65
BMS_SOC_byAh_38: 47.15
BMS_SOC_byAh_39: 46.95
BMS_SOC_byAh_40: 47.15
BMS_SOC_byAh_41: 46.5
BMS_SOC_byAh_42: 46.6
BMS_SOC_byAh_43: 45.2
BMS_SOC_byAh_44: 45.2
BMS_SOC_byAh_45: 45.15
BMS_SOC_byAh_46: 45.15
BMS_SOC_byAh_47: 45.2
BMS_SOC_byAh_48: 45.25
BMS_SOC_byAh_49: 45.65
BMS_SOC_byAh_50: 45.35
BMS_SOC_byAh_51: 45.4
BMS_SOC_byAh_52: 45.4
BMS_SOC_byAh_53: 45.5
BMS_SOC_byAh_54: 45.55
BMS_SOC_byAh_55: 45.7
BMS_SOC_byAh_56: 45.9

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BMS_SOC_byAh_57: 44.9
BMS_SOC_byAh_58: 45.3
BMS_SOC_byAh_59: 45.3
BMS_SOC_byAh_60: 45.5
BMS_SOC_byAh_61: 47.3
BMS_SOC_byAh_62: 47.45
BMS_SOC_byAh_63: 47.55
BMS_SOC_byAh_64: 47.5
BMS_SOC_byAh_65: 47.35
BMS_SOC_byAh_66: 47.25
BMS_SOC_byAh_67: 46.5
BMS_SOC_byAh_68: 46.45
BMS_SOC_byAh_69: 46.5
BMS_SOC_byAh_70: 46.85
BMS_SOC_byAh_71: 46.3
BMS_SOC_byAh_72: 46.65
BMS_SOC_byAh_73: 45.05
BMS_SOC_byAh_74: 44.55
BMS_SOC_byAh_75: 45.4
BMS_SOC_byAh_76: 45.7
BMS_SOC_byAh_77: 45.3
BMS_SOC_byAh_78: 45.0
BMS_SOC_byAh_79: 45.55
BMS_SOC_byAh_80: 45.65
BMS_SOC_byAh_81: 45.75
BMS_SOC_byAh_82: 45.95
BMS_SOC_byAh_83: 45.55
BMS_SOC_byAh_84: 45.25
BMS_SOC_byAh_85: 44.9
BMS_SOC_byAh_86: 45.65
BMS_SOC_byAh_87: 45.85
BMS_SOC_byAh_88: 45.9
BMS_SOC_byAh_89: 45.1
BMS_SOC_byAh_90: 44.8
BMS_SOC_byAh_91: 46.0
BMS_SOC_byAh_92: 46.1
BMS_SOC_byAh_93: 46.45
BMS_SOC_byAh_94: 46.7
BMS_SOC_byAh_95: 46.1
BMS_SOC_byAh_96: 46.1

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BMS_SOC_byOCVmax_01: 55.05
BMS_SOC_byOCVmax_02: 55.1
BMS_SOC_byOCVmax_03: 55.05
BMS_SOC_byOCVmax_04: 55.3
BMS_SOC_byOCVmax_05: 55.15
BMS_SOC_byOCVmax_06: 55.4
BMS_SOC_byOCVmax_07: 54.65
BMS_SOC_byOCVmax_08: 55.0
BMS_SOC_byOCVmax_09: 55.1
BMS_SOC_byOCVmax_10: 54.9
BMS_SOC_byOCVmax_11: 55.0
BMS_SOC_byOCVmax_12: 54.85
BMS_SOC_byOCVmax_13: 55.45
BMS_SOC_byOCVmax_14: 55.3
BMS_SOC_byOCVmax_15: 55.55
BMS_SOC_byOCVmax_16: 55.55
BMS_SOC_byOCVmax_17: 55.45
BMS_SOC_byOCVmax_18: 55.35
BMS_SOC_byOCVmax_19: 54.2
BMS_SOC_byOCVmax_20: 54.2
BMS_SOC_byOCVmax_21: 54.2
BMS_SOC_byOCVmax_22: 54.2
BMS_SOC_byOCVmax_23: 54.15
BMS_SOC_byOCVmax_24: 54.2
BMS_SOC_byOCVmax_25: 55.05
BMS_SOC_byOCVmax_26: 55.6
BMS_SOC_byOCVmax_27: 55.4
BMS_SOC_byOCVmax_28: 55.2
BMS_SOC_byOCVmax_29: 55.2
BMS_SOC_byOCVmax_30: 55.1
BMS_SOC_byOCVmax_31: 55.05
BMS_SOC_byOCVmax_32: 55.15
BMS_SOC_dcChargePct: 12.4
BMS_SOC_targetMaxBrickSoc: 100.0
BMS_SOC_targetMaxBrickV: 4.2
BMS_SensorNumTMax: 1.0
BMS_SensorNumTMin: 1.0
BMS_State: 2.0 (BMS_SUPPORT)
BMS_StateCode: 0.0 (BMS_STATUS_NOTREADY)
BMS_SwCanActive: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

BMS_TSI_flowReqActive: 0.0
BMS_TVSH_BMB01_R0: 160.0
BMS_TVSH_BMB01_R1: 160.0
BMS_TVSH_BMB01_R2: 180.0
BMS_TVSH_BMB01_R3: 180.0
BMS_TVSH_BMB01_R4: 160.0
BMS_TVSH_BMB01_R5: 180.0
BMS_TVSH_BMB01_R6: 180.0
BMS_TVSH_BMB02_R0: 200.0
BMS_TVSH_BMB02_R1: 220.0
BMS_TVSH_BMB02_R2: 240.0
BMS_TVSH_BMB02_R3: 240.0
BMS_TVSH_BMB02_R4: 240.0
BMS_TVSH_BMB02_R5: 220.0
BMS_TVSH_BMB02_R6: 220.0
BMS_TVSH_BMB03_R0: 160.0
BMS_TVSH_BMB03_R1: 160.0
BMS_TVSH_BMB03_R2: 180.0
BMS_TVSH_BMB03_R3: 180.0
BMS_TVSH_BMB03_R4: 160.0
BMS_TVSH_BMB03_R5: 160.0
BMS_TVSH_BMB03_R6: 160.0
BMS_TVSH_BMB04_R0: 160.0
BMS_TVSH_BMB04_R1: 160.0
BMS_TVSH_BMB04_R2: 160.0
BMS_TVSH_BMB04_R3: 180.0
BMS_TVSH_BMB04_R4: 160.0
BMS_TVSH_BMB04_R5: 160.0
BMS_TVSH_BMB04_R6: 180.0
BMS_TVSH_BMB05_R0: 160.0
BMS_TVSH_BMB05_R1: 160.0
BMS_TVSH_BMB05_R2: 180.0
BMS_TVSH_BMB05_R3: 200.0
BMS_TVSH_BMB05_R4: 180.0
BMS_TVSH_BMB05_R5: 180.0
BMS_TVSH_BMB05_R6: 180.0
BMS_TVSH_BMB06_R0: 160.0
BMS_TVSH_BMB06_R1: 160.0
BMS_TVSH_BMB06_R2: 180.0
BMS_TVSH_BMB06_R3: 180.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

BMS_TVSH_BMB06_R4: 180.0
BMS_TVSH_BMB06_R5: 180.0
BMS_TVSH_BMB06_R6: 180.0
BMS_TVSH_BMB07_R0: 160.0
BMS_TVSH_BMB07_R1: 160.0
BMS_TVSH_BMB07_R2: 180.0
BMS_TVSH_BMB07_R3: 200.0
BMS_TVSH_BMB07_R4: 160.0
BMS_TVSH_BMB07_R5: 180.0
BMS_TVSH_BMB07_R6: 180.0
BMS_TVSH_BMB08_R0: 160.0
BMS_TVSH_BMB08_R1: 160.0
BMS_TVSH_BMB08_R2: 180.0
BMS_TVSH_BMB08_R3: 180.0
BMS_TVSH_BMB08_R4: 180.0
BMS_TVSH_BMB08_R5: 160.0
BMS_TVSH_BMB08_R6: 180.0
BMS_TVSH_BMB09_R0: 160.0
BMS_TVSH_BMB09_R1: 160.0
BMS_TVSH_BMB09_R2: 180.0
BMS_TVSH_BMB09_R3: 200.0
BMS_TVSH_BMB09_R4: 180.0
BMS_TVSH_BMB09_R5: 160.0
BMS_TVSH_BMB09_R6: 180.0
BMS_TVSH_BMB10_R0: 160.0
BMS_TVSH_BMB10_R1: 160.0
BMS_TVSH_BMB10_R2: 180.0
BMS_TVSH_BMB10_R3: 200.0
BMS_TVSH_BMB10_R4: 180.0
BMS_TVSH_BMB10_R5: 180.0
BMS_TVSH_BMB10_R6: 180.0
BMS_TVSH_BMB11_R0: 200.0
BMS_TVSH_BMB11_R1: 220.0
BMS_TVSH_BMB11_R2: 220.0
BMS_TVSH_BMB11_R3: 240.0
BMS_TVSH_BMB11_R4: 220.0
BMS_TVSH_BMB11_R5: 220.0
BMS_TVSH_BMB11_R6: 200.0
BMS_TVSH_BMB12_R0: 200.0
BMS_TVSH_BMB12_R1: 220.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

BMS_TVSH_BMB12_R2: 220.0
BMS_TVSH_BMB12_R3: 240.0
BMS_TVSH_BMB12_R4: 220.0
BMS_TVSH_BMB12_R5: 200.0
BMS_TVSH_BMB12_R6: 240.0
BMS_TVSH_BMB13_R0: 160.0
BMS_TVSH_BMB13_R1: 160.0
BMS_TVSH_BMB13_R2: 180.0
BMS_TVSH_BMB13_R3: 180.0
BMS_TVSH_BMB13_R4: 160.0
BMS_TVSH_BMB13_R5: 180.0
BMS_TVSH_BMB13_R6: 180.0
BMS_TVSH_BMB14_R0: 140.0
BMS_TVSH_BMB14_R1: 160.0
BMS_TVSH_BMB14_R2: 180.0
BMS_TVSH_BMB14_R3: 180.0
BMS_TVSH_BMB14_R4: 160.0
BMS_TVSH_BMB14_R5: 180.0
BMS_TVSH_BMB14_R6: 160.0
BMS_TVSH_BMB15_R0: 140.0
BMS_TVSH_BMB15_R1: 180.0
BMS_TVSH_BMB15_R2: 180.0
BMS_TVSH_BMB15_R3: 180.0
BMS_TVSH_BMB15_R4: 160.0
BMS_TVSH_BMB15_R5: 180.0
BMS_TVSH_BMB15_R6: 160.0
BMS_TVSH_BMB16_R0: 200.0
BMS_TVSH_BMB16_R1: 200.0
BMS_TVSH_BMB16_R2: 220.0
BMS_TVSH_BMB16_R3: 240.0
BMS_TVSH_BMB16_R4: 240.0
BMS_TVSH_BMB16_R5: 220.0
BMS_TVSH_BMB16_R6: 240.0
BMS_VDeltaBatCurr: 0.0
BMS_VDeltaNegCtrDrop: 0.125
BMS_VDeltaPackMinus: 210.0
BMS_VDeltaPackPlus: 140.0
BMS_VDeltaPosCtrDrop: 0.0
BMS_VehicleReady: 0.0
BMS_VehicleReadyForFC: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

BMS_VoltLim: 0.0

BMS_VoltTarget: 403.1982

Thermal Management (366)

Thermal_12VLoadShedActive: 0.0

Thermal_12VpowerNeeded: 0.0

Thermal_AcnPressure_hPa: 3000.0

Thermal_AconBtnState_Flag: 0.0 (OFF)

Thermal_AconMnl_Flag: 0.0 (AUTO)

Thermal_ActualAirflowRatio: 100.0

Thermal_ActualSetTempTarget: 15.0

Thermal_ActualSolarLoadEst: 0.0

Thermal_AirMassTempEst: 16.1

Thermal_AliveCounter: 11.0

Thermal_AmbientRecircOff: 0.0 (AMBIENT_RECIRC_IS_ACTIVE)

Thermal_AutoBtnState_Flag: 1.0 (AUTO)

Thermal_BMSInletHeatTargetT: -8.0

Thermal_BMSInletPassiveTargetT: 30.0

Thermal_BatHeaterStartupState: 0.0 (BAT_HEATER_START_COOLANT_RECIRC)

Thermal_BatteryHeaterOn: 0.0

Thermal_BatteryHeaterPct: 0.0

Thermal_BatteryPump1PctReq: 25.0

Thermal_BatteryPump2PctReq: 25.0

Thermal_BatteryPumpsActive: 1.0

Thermal_BlowerMotorMnlSet_Seg: 1.0

Thermal_BlowerMotorMnl_Flag: 1.0 (MANUAL)

Thermal_BlowerMotorTarget_V: 0.0

Thermal_BoardTemp: 21.0

Thermal_BotLevelSensOK: 1.0

Thermal_CMPEnable: 0.0

Thermal_CMPPowerLim: 8191.0

Thermal_CMPRreset: 0.0

Thermal_CMPTargetDuty: 0.0

Thermal_CabinACCoolingPct: 0.0

Thermal_CabinHeaterPct: 0.0

Thermal_CabinWillOverheat: 0.0

Thermal_ChillSolActive: 0.0

Thermal_ChillerBypassValveInPos: 1.0

Thermal_ChillerBypassValvePct: 100.0

Thermal_ChillerBypassValvePos: 88.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_ChillerBypassYMaxUCPct: 0.0
Thermal_ChillerCompArbState: 0.0 (COMP_DMND_NONE)
Thermal_ChillerCoolingPct: 0.0
Thermal_ChillerMode: 0.0 (CHILLER_NO_FLOW)
Thermal_ComfortMdotActive: 0.0
Thermal_CompCoolingReqPct: 0.0
Thermal_CompOperPermission_Flag: 1.0
Thermal_CompReady_Flag: 1.0
Thermal_ComponentBranchOrigin: 0.0
Thermal_ComponentHardwareRevision: 8.0
Thermal_ComponentMajorVersion: 254.0 (LOCAL_BUILD)
Thermal_ComponentMaturity: 0.0
Thermal_CompressorActive: 0.0
Thermal_CompressorEnabled: 0.0
Thermal_CompressorIgn: 1.0
Thermal_CompressorPower: 0.0
Thermal_CompressorState: 0.0 (COMP_OFF)
Thermal_CondFanLeftActive: 0.0
Thermal_CondFanLeftReqPct: 0.0
Thermal_CondFanRightActive: 0.0
Thermal_CondFanRightReqPct: 0.0
Thermal_CondenserFanPct: 0.0
Thermal_CoolantFlowPTLPM: 4.0
Thermal_CoolingFanSpeed_Perc: 0.0
Thermal_CtrlModeSet_Flag: 0.0
Thermal_CtrlModeSet_Flag_Beta: 5.0
Thermal_CurrModeTransPri: 0.0
Thermal_DasHeaterTempEst: 215.0
Thermal_DefActTarget_V: 3.7
Thermal_DefogBtnState_Flag: 0.0 (OFF)
Thermal_DefoggingLim: 0.0
Thermal_DeliveredConvection: 52.0
Thermal_DesiredMode: 0.0 (THC_SERIES_MODE)
Thermal_DesiredModeTransPri: 0.0
Thermal_DualBtnState_Flag: 0.0
Thermal_EVReady_Flag: 1.0
Thermal_EvapFeedForwardWatts: 0.0
Thermal_EvapFeedbackWatts: 0.0
Thermal_EvapFreezeLimWatts: 8064.0
Thermal_EvapSolActive: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_EvapTargetT: 2.0
Thermal_EvapTarget_DegC: 127.0
Thermal_FanLeftPwmOut: 10.0
Thermal_FanPct: 0.0
Thermal_FanRelay: 0.0
Thermal_FanRightPwmOut: 10.0
Thermal_FoggingRisk: 100.0
Thermal_GlassRoofTempEst: 9.0
Thermal_GlassTempEst: 9.0
Thermal_HVPowerLim: 528.55
Thermal_HeaterPWM: 0.0
Thermal_HtronBtnState_Flag: 0.0
Thermal_HtronMnl_Flag: 0.0
Thermal_HumidityLevel: 0.0
Thermal_HvacIonizerOn: 0.0
Thermal_HvacIonizerReq: 0.0
Thermal_HvacMdot: 0.0
Thermal_HvacStateMultiplex: 4.0 (THC_HVAC_STATUS_4)
Thermal_HvacSystemNominal: 1.0
Thermal_IncarTempSnsEst: 16.0
Thermal_IncidentAirTemp: -40.0
Thermal_InfoAppGitHashBytes: 0.0
Thermal_InfoApplicationCRC: 56085.0
Thermal_InfoAssemblyID: 45.0
Thermal_InfoBootGitHashBytes: 3.2520818450038784e+16
Thermal_InfoBootLdUdsProtocolVersion: 4.0
Thermal_InfoBootloaderCRC: 56085.0
Thermal_InfoBootloaderSvnRevision: 34071.0
Thermal_InfoBranchOrigin: 0.0
Thermal_InfoBuildConfigID: 9.0
Thermal_InfoBuildType: 1.0
Thermal_InfoComponentID: 21576.0
Thermal_InfoHardwareID: 8.0
Thermal_InfoHardwareRevision: 8.0
Thermal_InfoIndex: 20.0 (INFO_UDS_PROTOCOL_BOOTCRC)
Thermal_InfoMajorVersion: 254.0
Thermal_InfoMaturity: 0.0
Thermal_InfoPcbalID: 67.0
Thermal_InfoPlatformType: 1.0
Thermal_InfoSubUsageID: 2989.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_InfoUsageID: 21048.0
Thermal_IntakeActMnl_Flag: 1.0 (MANUAL)
Thermal_IntakeActTarget_V: 4.7
Thermal_IntakeBtnState_Flag: 0.0 (FRESH)
Thermal_KeyOffTime_Min: 0.0
Thermal_KeyState_Flag: 2.0 (KEY_IGN)
Thermal_LeftQdotLimed: 0.0
Thermal_LeftTargetDischTemp: 5.0
Thermal_LeftTempSetpoint_DegC: 23.0
Thermal_LftTempActTarget_V: 0.3
Thermal_LimACManualOff: 0.0
Thermal_LimACN: 0.0
Thermal_LimACNChillerCtrs: 0.0
Thermal_LimBatHeaterBmsNoFlow: 0.0
Thermal_LimBatHeaterBmsWorthwhile: 0.0
Thermal_LimBatHeaterCoolantRecirc: 0.0
Thermal_LimBatHeaterDCDCTmo: 0.0
Thermal_LimBatHeaterLowCoolant: 0.0
Thermal_LimBatHeaterNoCoolant: 0.0
Thermal_LimBatHeaterOvertemp: 0.0
Thermal_LimBatHeaterPumps: 0.0
Thermal_LimBatHeaterStartBatInDT: 0.0
Thermal_LimBatHeaterStartTempChk: 0.0
Thermal_LimBatHeaterTempRiseTmo: 0.0
Thermal_LimBatHeaterTempSensor: 0.0
Thermal_LimBatHeaterThermostat: 0.0
Thermal_LimBatHeaterValve: 0.0
Thermal_LimBatHeaterValveOS: 0.0
Thermal_LimBattHeaterHVPower: 0.0
Thermal_LimCPC: 0.0
Thermal_LimChilSolPres: 1.0
Thermal_LimCompAmbient: 0.0
Thermal_LimCompCompTempMax: 0.0
Thermal_LimCompCurrHigh: 0.0
Thermal_LimCompDischTempHi: 0.0
Thermal_LimCompDischTempMax: 0.0
Thermal_LimCompInhibited: 0.0
Thermal_LimCompPressureHi: 0.0
Thermal_LimCompPressureMax: 0.0
Thermal_LimCompPressureMin: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_LimCompSolenoidsClosed: 1.0
Thermal_LimCompVoltLow: 0.0
Thermal_LimCompressorHVPower: 0.0
Thermal_LimContactorsOpen: 0.0
Thermal_LimEvapDrying: 0.0
Thermal_LimEvapThermostat: 0.0
Thermal_LimFillRoutineActive: 0.0
Thermal_LimHvacGoingDown: 0.0
Thermal_LimOilRecirc: 0.0
Thermal_LimPtcHeaterHVPower: 0.0
Thermal_LimPtcrHeaterHVPower: 0.0
Thermal_LimPumpsNoCoolantFill: 0.0
Thermal_LimThermalTestActive: 0.0
Thermal_LimUDSActive: 0.0
Thermal_LimUnused24: 0.0
Thermal_LimUnused25: 0.0
Thermal_LimUnused26: 0.0
Thermal_LimUnused40: 0.0
Thermal_LimUnused41: 0.0
Thermal_LimUnused54: 0.0
Thermal_LimUnused55: 0.0
Thermal_LimUnused56: 0.0
Thermal_LimUnused57: 0.0
Thermal_LimUnused58: 0.0
Thermal_LimUnused59: 0.0
Thermal_LimUnused60: 0.0
Thermal_LimUnused61: 0.0
Thermal_LimUnused62: 0.0
Thermal_LimUnused63: 0.0
Thermal_LimXCPActive: 0.0
Thermal_LimedBatteryHeater: 0.0
Thermal_LimedCompressor: 0.0
Thermal_LimedPtcHeater: 0.0
Thermal_LimedPtcrHeater: 0.0
Thermal_LimpModeAct: 0.0
Thermal_LouverLeftInPosition: 0.0
Thermal_LouverLeftPosition: 127.0 (SNA)
Thermal_LouverPosReq: 0.0
Thermal_LouverRightInPosition: 0.0
Thermal_LouverRightPosition: 127.0 (SNA)

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_MCUAconInd_Flag: 1.0
Thermal_MCUAutoInd_Flag: 0.0
Thermal_MCUBlowerSegDis_Flag: 1.0
Thermal_MCUDefogInd_Flag: 0.0 (OFF)
Thermal_MCUDualInd_Flag: 0.0
Thermal_MCUEcoInd_Flag: 0.0
Thermal_MCUHtronInd_Flag: 0.0
Thermal_MCUIntakeInd_Flag: 2.0 (AUTO)
Thermal_MCUIntakePercent: 100.0
Thermal_MCULeftTempSetpoint_DegC: 15.0
Thermal_MCUModeDis_Flag: 1.0 (Panel)
Thermal_MCUOffInd_Flag: 1.0
Thermal_MCURightTempSetpoint_DegC: 15.0
Thermal_ManualBlowerHotLim: 0.0
Thermal_ManualModeHotLim: 0.0
Thermal_MaxEvapTargetAllowed_DegC: 0.0
Thermal_Mode: 0.0 (THC_SERIES_MODE)
Thermal_ModeActMnlSet_Flag: 0.0
Thermal_ModeActMnl_Flag: 0.0 (AUTO)
Thermal_ModeActTarget_V: 3.2
Thermal_ModeAdjustedForColdFeet: 0.0
Thermal_ModeAdjustedForPanelHeating: 0.0
Thermal_ModeValveParallel: 0.0
Thermal_ModeValveParallelInPos: 1.0
Thermal_ModeValveParallelPos: 0.0
Thermal_OccupantHeatLoad: 284.0
Thermal_OffBtnState_Flag: 1.0 (HVAC_OFF)
Thermal_PIUCHGHeatsink: 0.0
Thermal_PIUCHGHeatsinkActive: 0.0
Thermal_PIUCHGIgbt: 0.0
Thermal_PIUCHGIgbtActive: 0.0
Thermal_PIUCHGSHeatsink: 0.0
Thermal_PIUCHGSHeatsinkActive: 0.0
Thermal_PIUCHGSIgbt: 0.0
Thermal_PIUCHGSIgbtActive: 0.0
Thermal_PIUCondDischPressure: 0.0
Thermal_PIUCondDischPressureActive: 0.0
Thermal_PIUCondDischTemp: 0.0
Thermal_PIUCondDischTempActive: 0.0
Thermal_PIUEvapCorrection: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_PIUEvapCorrectionActive: 0.0
Thermal_PIUExv: 0.0
Thermal_PIUExvActive: 0.0
Thermal_PIUPTCRRangeLiming: 0.0
Thermal_PIUPTCRRangeLimingActive: 0.0
Thermal_PIUPTInletTTDIDCcap: 0.0
Thermal_PIUPTInletTTDIDCcapActive: 0.0
Thermal_PIUPTInletTTDIInverter: 0.0
Thermal_PIUPTInletTTDIInverterActive: 0.0
Thermal_PIUPTInletTTDIPcb: 0.0
Thermal_PIUPTInletTTDIPcbActive: 0.0
Thermal_PIUPTInletTTDISDCcap: 0.0
Thermal_PIUPTInletTTDISDCcapActive: 0.0
Thermal_PIUPTInletTTDISInverter: 0.0
Thermal_PIUPTInletTTDISInverterAct: 0.0
Thermal_PIUPTInletTTDISPcb: 0.0
Thermal_PIUPTInletTTDISPcbActive: 0.0
Thermal_PIUPTInletTTDISStator: 0.0
Thermal_PIUPTInletTTDISStatorActive: 0.0
Thermal_PIUPTInletTTDISStator: 0.0
Thermal_PIUPTInletTTDISStatorActive: 0.0
Thermal_PIUParActiveBatInlet: 0.0
Thermal_PIUParActiveBatInletActive: 0.0
Thermal_PIUParActivePTInlet: 0.0
Thermal_PIUParActivePTInletActive: 0.0
Thermal_PIUParPassiveBatInlet: 0.0
Thermal_PIUParPassiveBatInletActive: 0.0
Thermal_PIUParPassivePTInlet: 0.0
Thermal_PIUParPassivePTInletActive: 0.0
Thermal_PIUReserved8: 0.0
Thermal_PIUReserved8Active: 0.0
Thermal_PIUSetActiveInlet: 0.0
Thermal_PIUSetActiveInletActive: 0.0
Thermal_PIUSetActiveInlet: -100.0
Thermal_PIUSetActiveInletActive: 0.0
Thermal_PT2PumpPctReq: 0.0
Thermal_PTActiveTargetSource: 1.0 (DRIVE_INVERTER)
Thermal_PTInletActiveTargetT: 60.0
Thermal_PTInletPassiveTargetT: 40.0
Thermal_PTPassiveTargetSource: 1.0 (DRIVE_INVERTER)

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

Thermal_PTPump2Pct: 0.0
Thermal_PTPumpActive: 1.0
Thermal_PTPumpDiagPWMRaw: 34.0
Thermal_PTPumpPct: 23.0
Thermal_PTPumpPctReq: 25.0
Thermal_PTPumpXGATEActive: 1.0
Thermal_PTWasteHeatOn: 0.0
Thermal_ParActiveTempMgrMaxed: 0.0
Thermal_ParPassiveTempMgrMaxed: 0.0
Thermal_PcbID: 1.0 (THC_BETA2)
Thermal_PlatformBranchOrigin: 0.0
Thermal_PlatformMajorVersion: 0.0
Thermal_PlatformMaturity: 0.0
Thermal_PlatformType: 1.0
Thermal_PostRunReq: 0.0
Thermal_PreviousMode: 0.0 (THC_SERIES_MODE)
Thermal_PtcAllowOperation_Flag: 0.0
Thermal_PtcMaxPowerAllowed_W: 12700.0
Thermal_PtcNoRipple_Flag: 0.0
Thermal_PtcOperPermission_Flag: 1.0
Thermal_PtcReady_Flag: 1.0
Thermal_PtcTargetDuty_Perc: 0.0
Thermal_PtcTargetFeedFwd: 0.0
Thermal_PtcTargetPower: 0.0
Thermal_QdotLeft: -56.0
Thermal_QdotRight: -56.0
Thermal_RCCMCompSpeedLim_RPM: 8600.0
Thermal_RCCMPTCConfig: 1.0 (INCAR_CENTER_CONSOLE)
Thermal_RadBypassValveInPos: 1.0
Thermal_RadBypassValvePct: 100.0
Thermal_RadBypassValvePos: 87.0
Thermal_RadiatorFanPct: 0.0
Thermal_RadiatorIsCoolingSource: 1.0
Thermal_RangeModeHotLim: 0.0
Thermal_RearAirMassTempEst: 87.5
Thermal_RefrigDischargePressure: 4.5
Thermal_RefrigDischargeTemp: 13.25
Thermal_RefrigSuctionPressure: 15.875
Thermal_RefrigSuctionTemp: 87.5
Thermal_RefrigerantPressTarget: 15.0

Tesla Model S/X Advanced Battery Report

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Thermal_RightQdotLimed: 0.0
Thermal_RightTargetDischTemp: 5.0
Thermal_RightTempSetpoint_DegC: 23.0
Thermal_RtTempActTarget_V: 0.3
Thermal_SerActiveTempMgrMaxed: 0.0
Thermal_SerPassiveTempMgrMaxed: 0.0
Thermal_SetTempDeviationActive: 0.0
Thermal_ShutterCondLtIsCalibrated: 0.0
Thermal_ShutterCondLtIsCalibrating: 1.0
Thermal_ShutterCondLtIsMechBlocked: 0.0
Thermal_ShutterCondLtIsOvertemp: 0.0
Thermal_ShutterCondLtState: 2.0 (RESTART)
Thermal_ShutterCondLtSubstate: 1.0
Thermal_ShutterCondRtIsCalibrated: 0.0
Thermal_ShutterCondRtIsCalibrating: 1.0
Thermal_ShutterCondRtIsMechBlocked: 0.0
Thermal_ShutterCondRtIsOvertemp: 0.0
Thermal_ShutterCondRtState: 2.0 (RESTART)
Thermal_ShutterCondRtSubstate: 1.0
Thermal_ShutterRadLtIsCalibrated: 1.0
Thermal_ShutterRadLtIsCalibrating: 0.0
Thermal_ShutterRadLtIsMechBlocked: 0.0
Thermal_ShutterRadLtIsOvertemp: 0.0
Thermal_ShutterRadLtState: 7.0 (MOVE)
Thermal_ShutterRadLtSubstate: 2.0
Thermal_ShutterRadRtIsCalibrated: 1.0
Thermal_ShutterRadRtIsCalibrating: 0.0
Thermal_ShutterRadRtIsMechBlocked: 0.0
Thermal_ShutterRadRtIsOvertemp: 0.0
Thermal_ShutterRadRtState: 7.0 (MOVE)
Thermal_ShutterRadRtSubstate: 2.0
Thermal_StateOfCharge_Perc_Beta: 0.0
Thermal_StratificationMdotActive: 0.0
Thermal_TargetConvection: 284.0
Thermal_TestModeSet_Flag: 0.0
Thermal_TestModeSet_Flag_Beta: 5.0 (NORMAL_FANON)
Thermal_ThroatLeftInPosition: 1.0
Thermal_ThroatLeftPosition: 0.0
Thermal_ThroatPosReq: 0.0
Thermal_ThroatRightInPosition: 1.0

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Thermal_ThroatRightPosition: 0.0
Thermal_TotalPowerConsumed12V: 0.018
Thermal_TotalPowerConsumedHV: 0.0
Thermal_VBATVolt: 14.1
Thermal_VIGNVolt: 0.0
Thermal_ValvePowerChillerBy: 0.0
Thermal_ValvePowerModeParallel: 0.0
Thermal_ValvePowerRadBy: 0.0
Thermal_VehicleSpeed_MPH: 0.0
Thermal_WindshieldTempEst: 9.0

HV Junction Box (6)

HVJB_Curr: 0.8
HVJB_FCContactorsDriven: 0.0
HVJB_FCDidNotClose: 0.0
HVJB_FCWelded: 0.0
HVJB_OT: 0.0
HVJB_Temp: 66.0

DC-DC Converter (19)

DcConverter_ComponentBranchOrigin: 0.0
DcConverter_ComponentHardwareRevision: 0.0
DcConverter_ComponentMajorVersion: 10.0
DcConverter_ComponentMaturity: 25.0
DcConverter_CoolantReq: 0.0 (SNA)
DcConverter_CurrThermallyLimed: 0.0
DcConverter_InletTemp: 17.0
DcConverter_InputNotOK: 0.0
DcConverter_InputPower: 240.0
DcConverter_OutputCurr: 14.0
DcConverter_OutputCurrLimed: 0.0
DcConverter_OutputOverVolt: 0.0
DcConverter_OutputUnderVolt: 0.0
DcConverter_OutputVolt: 14.0
DcConverter_OverTemp: 0.0
DcConverter_PlatformBranchOrigin: 0.0
DcConverter_PlatformMajorVersion: 0.0
DcConverter_PlatformMaturity: 0.0
DcConverter_PlatformType: 0.0

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Battery Heater (38)

Heater_FailHighVoltSensor_Flag: 0.0
Heater_Failure1stCurrSensor_Flag: 0.0
Heater_Failure1stIGBTShort_Flag: 0.0
Heater_Failure2ndCurrSensor_Flag: 0.0
Heater_Failure2ndIGBTShort_Flag: 0.0
Heater_Failure3rdCurrSensor_Flag: 0.0
Heater_Failure3rdIGBTShort_Flag: 0.0
Heater_FailureLowVoltSensor_Flag: 0.0
Heater_FailureOpenIGBTTempSns1: 0.0
Heater_FailureOpenIGBTTempSns2: 0.0
Heater_FailureOpenLCoreTempSns: 0.0
Heater_FailureOpenPCBTempSns1: 0.0
Heater_FailureOpenPCBTempSns2: 0.0
Heater_FailureOpenRCoreTempSns: 0.0
Heater_FailureShortIGBTTempSns1: 0.0
Heater_FailureShortIGBTTempSns2: 0.0
Heater_FailureShortLCoreTempSns: 0.0
Heater_FailureShortPCBTempSns1: 0.0
Heater_FailureShortPCBTempSns2: 0.0
Heater_FailureShortRCoreTempSns: 0.0
Heater_HVBoardTemp_DegC: 24.0
Heater_IGBT1Temp_DegC: 19.0
Heater_IGBT2Temp_DegC: 19.0
Heater_LVBoardTemp_DegC: 28.0
Heater_LimedOperationCause_Flag: 0.0 (NORMAL)
Heater_OutletTempLeft_DegC: 17.0
Heater_OutletTempRight_DegC: 18.0
Heater_PlatformMismatch_Flag: 0.0
Heater_Ptc1State_Flag: 0.0
Heater_Ptc2State_Flag: 0.0
Heater_Ptc3State_Flag: 0.0
Heater_PtcConsumptionPwr_W: 0.0
Heater_PtcCurr_A: 0.0
Heater_PtcDutyFB_Perc: 0.0
Heater_PtcInputVolt_V: 350.0
Heater_PtcReady_Flag: 0.0
Heater_SoftwareRegion_Num: 10.0 (LHD_TEMPTABLE)
Heater_SoftwareVersion_Num: 10.0

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Charge Port (79)

ChargePort_AppCrc: 2159977095.0
ChargePort_AppGitHash: 0.0
ChargePort_ApsVolt: 13.8127
ChargePort_BootCrc: 4294967295.0
ChargePort_BootUdsProtoVersion: 4.0
ChargePort_BuildConfigId: 3.0
ChargePort_BuildType: 1.0 (INFO_PLATFORM_BUILD)
ChargePort_ChargeCablePresent: 0.0
ChargePort_ChargeCableSecured: 0.0
ChargePort_ChargeCableState: 0.0 (CHARGE_CABLE_UNKNOWN_SNA)
ChargePort_ChargeDoorOpen: 0.0
ChargePort_ChargeDoorOpenUI: 0.0
ChargePort_ComponentBranchOrigin: 0.0
ChargePort_ComponentHardwareRevision: 3.0
ChargePort_ComponentId: 8.0
ChargePort_ComponentMajorVersion: 254.0 (LOCAL_BUILD)
ChargePort_ComponentMaturity: 0.0
ChargePort_ConnectorBlocked: 1.0
ChargePort_ConnectorLatched: 1.0
ChargePort_CoverClosed: 1.0
ChargePort_Dbg_adc_12v: 13.8195
ChargePort_Dbg_adc_12v_raw: 3102.0
ChargePort_Dbg_adc_5v: 5.1045
ChargePort_Dbg_adc_5v_raw: 3472.0
ChargePort_Dbg_adc_backCover: 0.0
ChargePort_Dbg_adc_backCover_raw: 0.0
ChargePort_Dbg_adc_boardTemp: 0.0
ChargePort_Dbg_adc_boardTemp_raw: 0.0
ChargePort_Dbg_adc_doorHall: 0.0
ChargePort_Dbg_adc_doorHall_raw: 0.0
ChargePort_Dbg_adc_doorI: 0.0
ChargePort_Dbg_adc_doorPot: 0.0
ChargePort_Dbg_adc_doorPotSlow: 0.0
ChargePort_Dbg_adc_doorTargetV: 0.0
ChargePort_Dbg_adc_latch2I: 0.0
ChargePort_Dbg_adc_latch2Pot: 0.0
ChargePort_Dbg_adc_latch2TargetV: 0.0
ChargePort_Dbg_adc_latchI: 0.0

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ChargePort_Dbg_adc_latchPot: 0.0
ChargePort_Dbg_adc_latchTargetV: 0.0
ChargePort_Dbg_apsVolt: 13.8127
ChargePort_Dbg_doorCountsUnfiltered: 0.0
ChargePort_Dbg_doorLastActuationMaxI: 0.0
ChargePort_Dbg_doorPercent: 0.0
ChargePort_Dbg_doorPotIrrationalDrift: 0.0
ChargePort_Dbg_doorPotIrrationalWrongDir: 0.0
ChargePort_Dbg_doorVelocity: 0.0
ChargePort_Dbg_latch2SwitchState: 0.0
ChargePort_Dbg_latch2Velocity: 0.0
ChargePort_Dbg_latchSwitchState: 0.0
ChargePort_Dbg_latchVelocity: 0.0
ChargePort_DcChargeThermalLimType: 0.0 (CP_CHARGE_PROFILE_TYPE_1)
ChargePort_DebugDataSelect: 2.0 (CP_DEBUG_BACK_COVER)
ChargePort_DoorButtonPressed: 0.0
ChargePort_DoorCtrlState: 1.0 (CP_doorIdle)
ChargePort_HardwareId: 3.0
ChargePort_InductiveDoorState: 0.0 (CP_INDUCTIVE_DOOR_INIT)
ChargePort_InductiveSensorState: 0.0 (CP_INDUCTIVE_SENSOR_INIT)
ChargePort_InfoIndex: 20.0 (INFO_UDS_PROTOCOL_BOOTCRC)
ChargePort_InsertEnableLine: 1.0
ChargePort_IsMotorized: 0.0
ChargePort_Latch2CtrlState: 0.0 (CP_latchInit)
ChargePort_Latch2State: 0.0 (CP_LATCH_SNA)
ChargePort_LatchCtrlState: 1.0 (CP_latchIdle)
ChargePort_LatchEnableCmd: 0.0
ChargePort_LatchState: 2.0 (CP_LATCH_ENGAGED)
ChargePort_LedColor: 0.0 (CP_LEDS_OFF)
ChargePort_LeverMoved: 0.0
ChargePort_NmGoingToSleep: 0.0
ChargePort_NmKeepAwakeReason: 0.0 (CP_KEEPAWAKE_REASON_NONE_SNA)
ChargePort_NmWakeUpBus: 0.0
ChargePort_NmWakeUpReason: 0.0 (WAKEUP_REASON_NONE)
ChargePort_PlatformBranchOrigin: 0.0
ChargePort_PlatformMajorVersion: 0.0
ChargePort_PlatformMaturity: 0.0
ChargePort_PlatformType: 1.0
ChargePort_PlatformTypeVers: 1.0
ChargePort_SwcanRelayClosed: 0.0

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ChargePort_Type: 0.0 (CP_TYPE_US_TESLA)

Onboard Charger (92)

Charger_AvailableLineCurr: 39.9984
Charger_CPInsertEnable: 1.0
Charger_CableCurrLim: 0.0
Charger_CableState: 0.0 (CABLE_STATE_NOT_CONNECTED)
Charger_CableType: 4.0 (CHG_CABLE_TYPE_SNA)
Charger_ChargeEnabled: 0.0
Charger_ChargerConfig: 2.0 (CHARGER_CONFIG_GEN2)
Charger_DcChargeCurrLim: 370.0
Charger_DcCurrLimReason: 0.0 (CHG_DC_CURRENT_LIMIT_NONE)
Charger_EvseAccept: 0.0
Charger_EvseReq: 0.0
Charger_FCCANRelay: 0.0
Charger_FCContOkToBeClosed: 0.0
Charger_FCContactorCommand: 0.0
Charger_FCContactorState: 0.0 (FC_CONTACTOR_STATE_OPEN)
Charger_FCContactorState_toFC: 0.0 (FC_CONTACTOR_STATE_OPEN)
Charger_FCContactorVolt: 4.2
Charger_FCDynamicTestResult: 2.0 (FC_DYNAMIC_TEST_PASSED)
Charger_FCHVNeeded: 0.0
Charger_FCInputVolt: -2.0
Charger_FCShuttingDown: 0.0
Charger_FCState: 2.0 (FC_STATE_IDLE)
Charger_FCStateMachineTimer: 0.0
Charger_FCStaticTestResult: 2.0 (FC_STATIC_TEST_PASSED)
Charger_FCWeldCheckState: 0.0 (FC_WELDCHK_STATE_INIT)
Charger_GFCCIcurr: 0.0
Charger_HvChainModeledTemp: 215.0
Charger_HvilNeeded: 0.0
Charger_IBat: 0.0
Charger_IgbtTemp: 25.0
Charger_IgbtTempMax: 80.0
Charger_InfoAppGitHashBytes: 0.0
Charger_InfoApplicationCRC: 620175072.0
Charger_InfoAssemblyID: 1.0
Charger_InfoBootGitHashBytes: 3.248844770264784e+16
Charger_InfoBootUdsProtoVersion: 5.0
Charger_InfoBootloaderCRC: 1121787233.0

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Charger_InfoBootloaderSvnRevision: 0.0
Charger_InfoBranchOrigin: 0.0
Charger_InfoBuildConfigID: 2.0
Charger_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
Charger_InfoCPLDVersionMajor: 0.0
Charger_InfoCPLDVersionMinor: 23.0
Charger_InfoComponentID: 64.0
Charger_InfoHardwareID: 252.0
Charger_InfoHardwareRevision: 252.0
Charger_InfoIndex: 13.0 (INFO_APP_CRC)
Charger_InfoMajorVersion: 254.0 (LOCAL_BUILD)
Charger_InfoMaturity: 0.0
Charger_InfoPcbalID: 3.0
Charger_InfoPlatformType: 1.0
Charger_InfoSubUsageID: 0.0
Charger_InfoUsageID: 0.0
Charger_InletPassiveTarget: 60.0
Charger_InputPower: 0.0
Charger_InputRelayState: 0.0 (CHG_INPUT_RELAY_L2_CLOSED)
Charger_InputVolt: 0.0
Charger_InstantPwrAvail: 0.0
Charger_Line2Volt: 0.0
Charger_LineChgShuttingDown: 0.0
Charger_LineCurr: 0.0
Charger_MagneticsTemp: 16.0
Charger_MagneticsTempMax: 80.0
Charger_MainState: 0.0 (CHG_MAIN_STATE_STANDBY)
Charger_MaxLineCurr: 40.0
Charger_MaxNeutralCurr: 0.0
Charger_NmGoingToSleep: 0.0
Charger_NmKeepAwakeReason: 0.0 (CHG_KEEPAWAKE_REASON_NONE_SNA)
Charger_NmWakeUpBus: 0.0
Charger_NmWakeUpReason: 0.0 (CHG_WAKEUP_REASON_NONE)
Charger_NoFlowRequired: 0.0
Charger_NumPhases: 0.0 (NUM_PHASES_SNA)
Charger_OutletTemp: 16.0
Charger_PhaseConfig: 4.0 (PHASE_CONFIG_SNA)
Charger_Pilot: 0.0 (CHG_PILOT_NONE)
Charger_PilotCurr: 0.0
Charger_Proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)

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Charger_ProximitySimUnlatched: 0.0
Charger_PwrAvail: 20.47
Charger_ReqHVACPowerOn: 0.0
Charger_RetryCount: 0.0
Charger_SetpointLineCurr: 0.0
Charger_SubState: 1.0 (CHG_STATE_IDLE)
Charger_TempPercent: 50.0
Charger_ThermalCurrLim: 47.8125
Charger_ThermalSlope: 0.0
Charger_V12V: 13.6
Charger_VBat: 344.0
Charger_VBoost: 0.0
Charger_VBoostTarget: 385.0
Charger_VoltLimAchieved: 0.0
Charger_WaveformDataReady: 0.0

Charge Phase 1 (AC) (69)

CHGPH1_AntiSpark: 0.0
CHGPH1_AvailableLineCurr: 13.332
CHGPH1_Buck2_reg_TBPHS: 0.0
CHGPH1_BuckFreq: 177.3926
CHGPH1_Buck_reg_TBPRD: 0.0
CHGPH1_ChargeEnabled: 0.0
CHGPH1_CurrIsAvailable: 0.0
CHGPH1_FCInputVolt: 0.0
CHGPH1_GFCICurr: 0.0
CHGPH1_IBat: 0.0
CHGPH1_IBatCmd: 0.0
CHGPH1_InfoAppGitHashBytes: 0.0
CHGPH1_InfoApplicationCRC: 56457308.0
CHGPH1_InfoAssemblyID: 5.0
CHGPH1_InfoBootGitHashBytes: 6.140507845355302e+16
CHGPH1_InfoBootUdsProtoVersion: 5.0
CHGPH1_InfoBootloaderCRC: 4294967295.0
CHGPH1_InfoBootloaderSvnRevision: 0.0
CHGPH1_InfoBranchOrigin: 0.0
CHGPH1_InfoBuildConfigID: 13.0
CHGPH1_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGPH1_InfoCPLDVersionMajor: 0.0
CHGPH1_InfoCPLDVersionMinor: 10.0

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CHGPH1_InfoComponentID: 63.0
CHGPH1_InfoHardwareID: 252.0
CHGPH1_InfoHardwareRevision: 252.0
CHGPH1_InfoIndex: 13.0 (INFO_APP_CRC)
CHGPH1_InfoMajorVersion: 254.0 (LOCAL_BUILD)
CHGPH1_InfoMaturity: 0.0
CHGPH1_InfoPcbaID: 4.0
CHGPH1_InfoPlatformType: 1.0
CHGPH1_InfoSubUsageID: 0.0
CHGPH1_InfoUsageID: 0.0
CHGPH1_InputCalibrating: 1.0
CHGPH1_InputVolt: 0.0
CHGPH1_LeakageTestDecayMs: 0.0
CHGPH1_Line2IsAC: 0.0
CHGPH1_Line2Offset: -2.5
CHGPH1_Line2Volt: 0.0
CHGPH1_LineCurr: 0.0
CHGPH1_LineFrequency: 0.0
CHGPH1_LineIsAC: 0.0
CHGPH1_LineOffset: 2.0
CHGPH1_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGPH1_NoFlowRequired: 0.0
CHGPH1_OutputCurrCalibrating: 1.0
CHGPH1_OutputVoltCalibrating: 0.0
CHGPH1_PHEnableLine: 0.0
CHGPH1_PhaseOffset: 1.275
CHGPH1_PllLocked: 0.0
CHGPH1_PreCharge: 0.0
CHGPH1_PrechargeTarget: 0.0
CHGPH1_PwmEnable: 0.0
CHGPH1_RampingPhase: 1.0
CHGPH1_ReqHVACPowerOn: 0.0
CHGPH1_RetryCount: 0.0
CHGPH1_SetpointLineCurr: 0.0
CHGPH1_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGPH1_SyncReqID: 171.0
CHGPH1_TempLegA: 16.0
CHGPH1_TempLegB: 25.0
CHGPH1_TempPercent: 50.0
CHGPH1_ThermalCurrLim: 15.9375

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CHGPH1_VBat: 343.1259
CHGPH1_VBoost: 0.0
CHGPH1_VBoostTarget: 385.0021
CHGPH1_VDiffOK: 0.0
CHGPH1_VGDV: 15.5
CHGPH1_VoltLimAchieved: 0.0

Charge Phase 2 (AC) (69)

CHGPH2_AntiSpark: 0.0
CHGPH2_AvailableLineCurr: 13.332
CHGPH2_Buck2_reg_TBPHS: 0.0
CHGPH2_BuckFreq: 176.709
CHGPH2_Buck_reg_TBPRD: 0.0
CHGPH2_ChargeEnabled: 0.0
CHGPH2_CurrIsAvailable: 0.0
CHGPH2_FCInputVolt: 0.0
CHGPH2_GFCICurr: 0.0
CHGPH2_IBat: 0.0
CHGPH2_IBatCmd: 0.0
CHGPH2_InfoAppGitHashBytes: 0.0
CHGPH2_InfoApplicationCRC: 56457308.0
CHGPH2_InfoAssemblyID: 5.0
CHGPH2_InfoBootGitHashBytes: 6.140507845355302e+16
CHGPH2_InfoBootUdsProtoVersion: 5.0
CHGPH2_InfoBootloaderCRC: 4294967295.0
CHGPH2_InfoBootloaderSvnRevision: 0.0
CHGPH2_InfoBranchOrigin: 0.0
CHGPH2_InfoBuildConfigID: 13.0
CHGPH2_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGPH2_InfoCPLDVersionMajor: 0.0
CHGPH2_InfoCPLDVersionMinor: 10.0
CHGPH2_InfoComponentID: 63.0
CHGPH2_InfoHardwareID: 252.0
CHGPH2_InfoHardwareRevision: 252.0
CHGPH2_InfoIndex: 13.0 (INFO_APP_CRC)
CHGPH2_InfoMajorVersion: 254.0 (LOCAL_BUILD)
CHGPH2_InfoMaturity: 0.0
CHGPH2_InfoPcbaID: 4.0
CHGPH2_InfoPlatformType: 1.0
CHGPH2_InfoSubUsageID: 0.0

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CHGPH2_InfoUsageID: 0.0
CHGPH2_InputCalibrating: 1.0
CHGPH2_InputVolt: 0.0
CHGPH2_LeakageTestDecayMs: 0.0
CHGPH2_Line2IsAC: 0.0
CHGPH2_Line2Offset: -0.5
CHGPH2_Line2Volt: 0.0
CHGPH2_LineCurr: 0.0
CHGPH2_LineFrequency: 0.0
CHGPH2_LineIsAC: 0.0
CHGPH2_LineOffset: -1.0
CHGPH2_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGPH2_NoFlowRequired: 0.0
CHGPH2_OutputCurrCalibrating: 1.0
CHGPH2_OutputVoltCalibrating: 0.0
CHGPH2_PHEnableLine: 0.0
CHGPH2_PhaseOffset: 1.275
CHGPH2_PllLocked: 0.0
CHGPH2_PreCharge: 0.0
CHGPH2_PrechargeTarget: 0.0
CHGPH2_PwmEnable: 0.0
CHGPH2_RampingPhase: 1.0
CHGPH2_ReqHVACPowerOn: 0.0
CHGPH2_RetryCount: 0.0
CHGPH2_SetpointLineCurr: 0.0
CHGPH2_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGPH2_SyncReqID: 171.0
CHGPH2_TempLegA: 16.0
CHGPH2_TempLegB: 25.0
CHGPH2_TempPercent: 50.0
CHGPH2_ThermalCurrLim: 15.9375
CHGPH2_VBat: 345.1895
CHGPH2_VBoost: 0.0
CHGPH2_VBoostTarget: 385.0021
CHGPH2_VDiffOK: 0.0
CHGPH2_VGDV: 15.7
CHGPH2_VoltLimAchieved: 0.0

Charge Phase 3 (AC) (69)

CHGPH3_AntiSpark: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGPH3_AvailableLineCurr: 13.332
CHGPH3_Buck2_reg_TBPHS: 0.0
CHGPH3_BuckFreq: 177.3926
CHGPH3_Buck_reg_TBPRD: 0.0
CHGPH3_ChargeEnabled: 0.0
CHGPH3_CurrIsAvailable: 0.0
CHGPH3_FCInputVolt: -1.0
CHGPH3_GFCICurr: 0.0
CHGPH3_IBat: 0.0
CHGPH3_IBatCmd: 0.0
CHGPH3_InfoAppGitHashBytes: 0.0
CHGPH3_InfoApplicationCRC: 56457308.0
CHGPH3_InfoAssemblyID: 5.0
CHGPH3_InfoBootGitHashBytes: 6.140507845355302e+16
CHGPH3_InfoBootUdsProtoVersion: 5.0
CHGPH3_InfoBootloaderCRC: 4294967295.0
CHGPH3_InfoBootloaderSvnRevision: 0.0
CHGPH3_InfoBranchOrigin: 0.0
CHGPH3_InfoBuildConfigID: 13.0
CHGPH3_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGPH3_InfoCPLDVersionMajor: 0.0
CHGPH3_InfoCPLDVersionMinor: 10.0
CHGPH3_InfoComponentID: 63.0
CHGPH3_InfoHardwareID: 252.0
CHGPH3_InfoHardwareRevision: 252.0
CHGPH3_InfoIndex: 13.0 (INFO_APP_CRC)
CHGPH3_InfoMajorVersion: 254.0 (LOCAL_BUILD)
CHGPH3_InfoMaturity: 0.0
CHGPH3_InfoPcbaID: 4.0
CHGPH3_InfoPlatformType: 1.0
CHGPH3_InfoSubUsageID: 0.0
CHGPH3_InfoUsageID: 0.0
CHGPH3_InputCalibrating: 1.0
CHGPH3_InputVolt: 0.0
CHGPH3_LeakageTestDecayMs: 0.0
CHGPH3_Line2IsAC: 0.0
CHGPH3_Line2Offset: -1.5
CHGPH3_Line2Volt: 0.0
CHGPH3_LineCurr: 0.0
CHGPH3_LineFrequency: 0.0

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Generated: 2026-06-06 01:33:30

CHGPH3_LineIsAC: 0.0
CHGPH3_LineOffset: 1.0
CHGPH3_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGPH3_NoFlowRequired: 0.0
CHGPH3_OutputCurrCalibrating: 1.0
CHGPH3_OutputVoltCalibrating: 0.0
CHGPH3_PHEnableLine: 0.0
CHGPH3_PhaseOffset: 1.275
CHGPH3_PILocked: 0.0
CHGPH3_PreCharge: 0.0
CHGPH3_PrechargeTarget: 0.0
CHGPH3_PwmEnable: 0.0
CHGPH3_RampingPhase: 1.0
CHGPH3_ReqHVACPowerOn: 0.0
CHGPH3_RetryCount: 0.0
CHGPH3_SetpointLineCurr: 0.0
CHGPH3_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGPH3_SyncReqID: 171.0
CHGPH3_TempLegA: 16.0
CHGPH3_TempLegB: 25.0
CHGPH3_TempPercent: 50.0
CHGPH3_ThermalCurrLim: 15.9375
CHGPH3_VBat: 343.6313
CHGPH3_VBoost: 0.0
CHGPH3_VBoostTarget: 385.0021
CHGPH3_VDiffOK: 0.0
CHGPH3_VGDV: 15.6
CHGPH3_VoltLimAchieved: 0.0

Supercharger Phase 1 (69)

CHGSPH1_AntiSpark: 0.0
CHGSPH1_AvailableLineCurr: 13.332
CHGSPH1_Buck2_reg_TBPHS: 0.0
CHGSPH1_BuckFreq: 177.0508
CHGSPH1_Buck_reg_TBPRD: 0.0
CHGSPH1_ChargeEnabled: 0.0
CHGSPH1_CurrIsAvailable: 0.0
CHGSPH1_FCInputVolt: 0.0
CHGSPH1_GFCICurr: 0.0
CHGSPH1_IBat: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH1_IBatCmd: 0.0
CHGSPH1_InfoAppGitHashBytes: 0.0
CHGSPH1_InfoApplicationCRC: 56457308.0
CHGSPH1_InfoAssemblyID: 5.0
CHGSPH1_InfoBootGitHashBytes: 6.140507845355302e+16
CHGSPH1_InfoBootUdsProtoVersion: 5.0
CHGSPH1_InfoBootloaderCRC: 4294967295.0
CHGSPH1_InfoBootloaderSvnRevisio: 0.0
CHGSPH1_InfoBranchOrigin: 0.0
CHGSPH1_InfoBuildConfigID: 13.0
CHGSPH1_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGSPH1_InfoCPLDVersionMajor: 0.0
CHGSPH1_InfoCPLDVersionMinor: 10.0
CHGSPH1_InfoComponentID: 63.0
CHGSPH1_InfoHardwareID: 252.0
CHGSPH1_InfoHardwareRevision: 252.0
CHGSPH1_InfoIndex: 13.0 (INFO_APP_CRC)
CHGSPH1_InfoMajorVersion: 254.0 (LOCAL_BUILD)
CHGSPH1_InfoMaturity: 0.0
CHGSPH1_InfoPcbaID: 4.0
CHGSPH1_InfoPlatformType: 1.0
CHGSPH1_InfoSubUsageID: 0.0
CHGSPH1_InfoUsageID: 0.0
CHGSPH1_InputCalibrating: 1.0
CHGSPH1_InputVolt: 0.0
CHGSPH1_LeakageTestDecayMs: 0.0
CHGSPH1_Line2IsAC: 0.0
CHGSPH1_Line2Offset: -1.0
CHGSPH1_Line2Volt: 0.0
CHGSPH1_LineCurr: 0.0
CHGSPH1_LineFrequency: 0.0
CHGSPH1_LineIsAC: 0.0
CHGSPH1_LineOffset: 0.5
CHGSPH1_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGSPH1_NoFlowRequired: 0.0
CHGSPH1_OutputCurrCalibrating: 1.0
CHGSPH1_OutputVoltCalibrating: 0.0
CHGSPH1_PHEnableLine: 0.0
CHGSPH1_PhaseOffset: 1.275
CHGSPH1_PllLocked: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH1_PreCharge: 0.0
CHGSPH1_PrechargeTarget: 0.0
CHGSPH1_PwmEnable: 0.0
CHGSPH1_RampingPhase: 1.0
CHGSPH1_ReqHVACPowerOn: 0.0
CHGSPH1_RetryCount: 0.0
CHGSPH1_SetpointLineCurr: 0.0
CHGSPH1_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGSPH1_SyncReqID: 171.0
CHGSPH1_TempLegA: 16.0
CHGSPH1_TempLegB: 25.0
CHGSPH1_TempPercent: 50.0
CHGSPH1_ThermalCurrLim: 15.9375
CHGSPH1_VBat: 344.1156
CHGSPH1_VBoost: 0.0
CHGSPH1_VBoostTarget: 385.0021
CHGSPH1_VDiffOK: 0.0
CHGSPH1_VGDV: 15.7
CHGSPH1_VoltLimAchieved: 0.0

Supercharger Phase 2 (69)

CHGSPH2_AntiSpark: 0.0
CHGSPH2_AvailableLineCurr: 13.332
CHGSPH2_Buck2_reg_TBPHS: 0.0
CHGSPH2_BuckFreq: 177.3926
CHGSPH2_Buck_reg_TBPRD: 0.0
CHGSPH2_ChargeEnabled: 0.0
CHGSPH2_CurrIsAvailable: 0.0
CHGSPH2_FCInputVolt: -1.0
CHGSPH2_GFCICurr: 0.0
CHGSPH2_IBat: 0.0
CHGSPH2_IBatCmd: 0.0
CHGSPH2_InfoAppGitHashBytes: 0.0
CHGSPH2_InfoApplicationCRC: 56457308.0
CHGSPH2_InfoAssemblyID: 5.0
CHGSPH2_InfoBootGitHashBytes: 6.140507845355302e+16
CHGSPH2_InfoBootUdsProtoVersion: 5.0
CHGSPH2_InfoBootloaderCRC: 4294967295.0
CHGSPH2_InfoBootloaderSvnRevisio: 0.0
CHGSPH2_InfoBranchOrigin: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH2_InfoBuildConfigID: 13.0
CHGSPH2_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGSPH2_InfoCPLDVersionMajor: 0.0
CHGSPH2_InfoCPLDVersionMinor: 10.0
CHGSPH2_InfoComponentID: 63.0
CHGSPH2_InfoHardwareID: 252.0
CHGSPH2_InfoHardwareRevision: 252.0
CHGSPH2_InfoIndex: 13.0 (INFO_APP_CRC)
CHGSPH2_InfoMajorVersion: 254.0 (LOCAL_BUILD)
CHGSPH2_InfoMaturity: 0.0
CHGSPH2_InfoPcbaID: 4.0
CHGSPH2_InfoPlatformType: 1.0
CHGSPH2_InfoSubUsageID: 0.0
CHGSPH2_InfoUsageID: 0.0
CHGSPH2_InputCalibrating: 1.0
CHGSPH2_InputVolt: 0.0
CHGSPH2_LeakageTestDecayMs: 0.0
CHGSPH2_Line2IsAC: 0.0
CHGSPH2_Line2Offset: -2.0
CHGSPH2_Line2Volt: 0.0
CHGSPH2_LineCurr: 0.0
CHGSPH2_LineFrequency: 0.0
CHGSPH2_LineIsAC: 0.0
CHGSPH2_LineOffset: 1.5
CHGSPH2_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGSPH2_NoFlowRequired: 0.0
CHGSPH2_OutputCurrCalibrating: 1.0
CHGSPH2_OutputVoltCalibrating: 0.0
CHGSPH2_PHEnableLine: 0.0
CHGSPH2_PhaseOffset: 1.275
CHGSPH2_PllLocked: 0.0
CHGSPH2_PreCharge: 0.0
CHGSPH2_PrechargeTarget: 0.0
CHGSPH2_PwmEnable: 0.0
CHGSPH2_RampingPhase: 1.0
CHGSPH2_ReqHVACPowerOn: 0.0
CHGSPH2_RetryCount: 0.0
CHGSPH2_SetpointLineCurr: 0.0
CHGSPH2_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGSPH2_SyncReqID: 171.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH2_TempLegA: 16.0
CHGSPH2_TempLegB: 25.0
CHGSPH2_TempPercent: 50.0
CHGSPH2_ThermalCurrLim: 15.9375
CHGSPH2_VBat: 343.7892
CHGSPH2_VBoost: 0.0
CHGSPH2_VBoostTarget: 385.0021
CHGSPH2_VDiffOK: 0.0
CHGSPH2_VGDV: 15.5
CHGSPH2_VoltLimAchieved: 0.0

Supercharger Phase 3 (69)

CHGSPH3_AntiSpark: 0.0
CHGSPH3_AvailableLineCurr: 13.332
CHGSPH3_Buck2_reg_TBPHS: 0.0
CHGSPH3_BuckFreq: 177.3926
CHGSPH3_Buck_reg_TBPRD: 0.0
CHGSPH3_ChargeEnabled: 0.0
CHGSPH3_CurrIsAvailable: 0.0
CHGSPH3_FCInputVolt: -1.0
CHGSPH3_GFCICurr: 0.0
CHGSPH3_IBat: 0.0
CHGSPH3_IBatCmd: 0.0
CHGSPH3_InfoAppGitHashBytes: 0.0
CHGSPH3_InfoApplicationCRC: 56457308.0
CHGSPH3_InfoAssemblyID: 5.0
CHGSPH3_InfoBootGitHashBytes: 6.140507845355302e+16
CHGSPH3_InfoBootUdsProtoVersion: 5.0
CHGSPH3_InfoBootloaderCRC: 4294967295.0
CHGSPH3_InfoBootloaderSvnRevisio: 0.0
CHGSPH3_InfoBranchOrigin: 0.0
CHGSPH3_InfoBuildConfigID: 13.0
CHGSPH3_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)
CHGSPH3_InfoCPLDVersionMajor: 0.0
CHGSPH3_InfoCPLDVersionMinor: 10.0
CHGSPH3_InfoComponentID: 63.0
CHGSPH3_InfoHardwareID: 252.0
CHGSPH3_InfoHardwareRevision: 252.0
CHGSPH3_InfoIndex: 13.0 (INFO_APP_CRC)
CHGSPH3_InfoMajorVersion: 254.0 (LOCAL_BUILD)

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH3_InfoMaturity: 0.0
CHGSPH3_InfoPcbaID: 4.0
CHGSPH3_InfoPlatformType: 1.0
CHGSPH3_InfoSubUsageID: 0.0
CHGSPH3_InfoUsageID: 0.0
CHGSPH3_InputCalibrating: 1.0
CHGSPH3_InputVolt: 0.0
CHGSPH3_LeakageTestDecayMs: 0.0
CHGSPH3_Line2IsAC: 0.0
CHGSPH3_Line2Offset: -1.5
CHGSPH3_Line2Volt: 0.0
CHGSPH3_LineCurr: 0.0
CHGSPH3_LineFrequency: 0.0
CHGSPH3_LineIsAC: 0.0
CHGSPH3_LineOffset: 0.0
CHGSPH3_MainState: 0.0 (CHGPH_MAIN_STATE_STANDBY)
CHGSPH3_NoFlowRequired: 0.0
CHGSPH3_OutputCurrCalibrating: 1.0
CHGSPH3_OutputVoltCalibrating: 0.0
CHGSPH3_PHEnableLine: 0.0
CHGSPH3_PhaseOffset: 1.275
CHGSPH3_PllLocked: 0.0
CHGSPH3_PreCharge: 0.0
CHGSPH3_PrechargeTarget: 0.0
CHGSPH3_PwmEnable: 0.0
CHGSPH3_RampingPhase: 1.0
CHGSPH3_ReqHVACPowerOn: 0.0
CHGSPH3_RetryCount: 0.0
CHGSPH3_SetpointLineCurr: 0.0
CHGSPH3_SubState: 2.0 (CHGPH_STATE_IDLE)
CHGSPH3_SyncReqID: 171.0
CHGSPH3_TempLegA: 16.0
CHGSPH3_TempLegB: 25.0
CHGSPH3_TempPercent: 50.0
CHGSPH3_ThermalCurrLim: 15.9375
CHGSPH3_VBat: 343.4312
CHGSPH3_VBoost: 0.0
CHGSPH3_VBoostTarget: 385.0021
CHGSPH3_VDiffOK: 0.0
CHGSPH3_VGDV: 15.7

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGSPH3_VoltLimAchieved: 0.0

Charge Supervisor (71)

CHGS_AvailableLineCurr: 39.9984

CHGS_CableCurrLim: 0.0

CHGS_CableState: 1.0 (CABLE_STATE_CONNECTED)

CHGS_CableType: 0.0

CHGS_ChargeEnabled: 0.0

CHGS_EvseAccept: 0.0

CHGS_EvseReq: 0.0

CHGS_GFCICurr: 0.0

CHGS_IBat: 0.0

CHGS_IgbtTemp: 25.0

CHGS_IgbtTempMax: 80.0

CHGS_InfoAppGitHashBytes: 0.0

CHGS_InfoApplicationCRC: 620175072.0

CHGS_InfoAssemblyID: 1.0

CHGS_InfoBootGitHashBytes: 3.248844770264784e+16

CHGS_InfoBootUdsProtoVersion: 5.0

CHGS_InfoBootloaderCRC: 1121787233.0

CHGS_InfoBootloaderSvnRevision: 0.0

CHGS_InfoBranchOrigin: 0.0

CHGS_InfoBuildConfigID: 2.0

CHGS_InfoBuildType: 1.0 (INFO_PLATFORM_BUILD)

CHGS_InfoCPLDVersionMajor: 1.0

CHGS_InfoCPLDVersionMinor: 23.0

CHGS_InfoComponentID: 64.0

CHGS_InfoHardwareID: 252.0

CHGS_InfoHardwareRevision: 252.0

CHGS_InfoIndex: 13.0 (INFO_APP_CRC)

CHGS_InfoMajorVersion: 254.0 (LOCAL_BUILD)

CHGS_InfoMaturity: 0.0

CHGS_InfoPcbaID: 3.0

CHGS_InfoPlatformType: 1.0

CHGS_InfoSubUsageID: 1.0

CHGS_InfoUsageID: 0.0

CHGS_InletPassiveTarget: 60.0

CHGS_InputPower: 0.0

CHGS_InputVolt: 0.0

CHGS_InstantPwrAvail: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGS_Line2Volt: 0.0
CHGS_LineChgShuttingDown: 0.0
CHGS_LineCurr: 0.0
CHGS_MagneticsTemp: 16.0
CHGS_MagneticsTempMax: 80.0
CHGS_MainState: 0.0 (CHG_MAIN_STATE_STANDBY)
CHGS_MaxLineCurr: 40.0
CHGS_MaxNeutralCurr: 0.0
CHGS_NmGoingToSleep: 0.0
CHGS_NmKeepAwakeReason: 0.0 (CHGS_KEEPAWAKE_REASON_NONE_SNA)
CHGS_NmWakeUpBus: 0.0
CHGS_NmWakeUpReason: 0.0 (CHGS_WAKEUP_REASON_NONE)
CHGS_NoFlowRequired: 0.0
CHGS_NumPhases: 0.0 (NUM_PHASES_SNA)
CHGS_OutletTemp: 16.0
CHGS_PhaseConfig: 4.0 (PHASE_CONFIG_SNA)
CHGS_Pilot: 0.0 (CHG_PILOT_NONE)
CHGS_PilotCurr: 0.0
CHGS_Proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGS_ProximitySimUnlatched: 0.0
CHGS_PwrAvail: 20.47
CHGS_ReqHVACPowerOn: 0.0
CHGS_RetryCount: 0.0
CHGS_SetpointLineCurr: 0.0
CHGS_SubState: 2.0 (CHG_STATE_TRANSITION_TO_PRECHARGE)
CHGS_TempPercent: 50.0
CHGS_ThermalCurrLim: 47.8125
CHGS_ThermalSlope: 0.0
CHGS_V12V: 13.5
CHGS_VBat: 343.8
CHGS_VBoost: 0.0
CHGS_VBoostTarget: 385.0
CHGS_VoltLimAchieved: 0.0
CHGS_WaveformDataReady: 0.0

Charge Vehicle Interface (147)

CHGVI_16APerPhaseOk: 0.0
CHGVI_ADC_12V_MON: 13.6
CHGVI_ADC_12V_MON_Raw: 704.0
CHGVI_ADC_1_65V_REF: 1.655

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGVI_ADC_1_65V_REF_Raw: 513.0
CHGVI_ADC_CONN_PROX_DET: 4.46
CHGVI_ADC_CONN_PROX_DET_Raw: 908.0
CHGVI_ADC_FC_CTR_12V: 4.18
CHGVI_ADC_FC_CTR_12V_Raw: 221.0
CHGVI_ADC_GND_I: 0.0288
CHGVI_ADC_GND_I_Raw: 9.0
CHGVI_ADC_HVIL_I: 19.7388
CHGVI_ADC_HVIL_I_Raw: 735.0
CHGVI_ADC_HVIL_V: 3.6393
CHGVI_ADC_HVIL_V_Raw: 204.0
CHGVI_ADC_lineToGndAbs: 2.0
CHGVI_BMSContactorState: 2.0 (BMS_CTRSET_CLOSED)
CHGVI_BMS_BatVolt: 349.98
CHGVI_BMS_chargeEnable: 0.0 (CHGVI_BMS_CHARGER_DISABLE)
CHGVI_BMS_fcContactorCloseReq: 0.0
CHGVI_BMS_vehicleReadyForFC: 0.0
CHGVI_ChargeVoltLim: 0.0
CHGVI_DbgCpldAcChgEn: 0.0
CHGVI_DbgCpldEvseAccept: 0.0
CHGVI_DbgCpldFcCtr1_N_DRV_FB: 0.0
CHGVI_DbgCpldFcCtr2_P_DRV_FB: 0.0
CHGVI_DbgCpldFcCtrKeep: 0.0
CHGVI_DbgCpldFcCtrN_A_AUX: 0.0
CHGVI_DbgCpldFcCtrN_B_AUX: 0.0
CHGVI_DbgCpldFcCtrOk: 0.0
CHGVI_DbgCpldFcCtrP_A_AUX: 0.0
CHGVI_DbgCpldFcCtrP_B_AUX: 0.0
CHGVI_DbgCpldPilot: 1.0 (CHGVI_CPLD_PILOT_NONE)
CHGVI_DbgCpldProximity: 0.0 (CHGVI_CPLD_PROXIMITY_DISCONNECTED)
CHGVI_DbgCpldSlave: 0.0
CHGVI_DbgCpldUnused41: 0.0
CHGVI_DbgCpldUnused42: 0.0
CHGVI_DbgCpldUnused43: 0.0
CHGVI_DbgCpldUnused44: 0.0
CHGVI_DbgCpldUnused45: 0.0
CHGVI_DbgCpldUnused46: 0.0
CHGVI_DbgCpldUnused47: 0.0
CHGVI_DbgCpldVdiffOkLocal: 0.0
CHGVI_DbgCpldVersion: 23.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGVI_DbgCpldWakeProximity: 0.0
CHGVI_DbgCpld_FC_Ready: 0.0
CHGVI_DbgCpldWakePilot: 0.0
CHGVI_DbgDisableFastCharge: 0.0
CHGVI_DbgFCCtrPower: 0.0
CHGVI_DbgHvdcChainCurrLim: 400.0
CHGVI_DbgHvdcChainLeakyBucketCnt: 0.0
CHGVI_DbgNMState: 3.0 (NM_ECU_FULLLY_AWAKE)
CHGVI_DbgNumPhases: 0.0
CHGVI_DbgPairsAt120: 0.0
CHGVI_DbgPairsAt60: 0.0
CHGVI_DbgPairsAtZero: 0.0
CHGVI_DbgPhManEnableNextPhTimer: 0.0
CHGVI_DbgPhManNumSelectedPhases: 1.0
CHGVI_DbgPhManOptimalNumPhases: 1.0
CHGVI_DbgPhManPh1ShutdownTimer: 0.0
CHGVI_DbgPhManPh2ShutdownTimer: 18.1
CHGVI_DbgPhManPh3ShutdownTimer: 13.6
CHGVI_DbgPhManSelectedPhases: 1.0
CHGVI_DbgPhaseConfig: 4.0 (PHASE_CONFIG_SNA)
CHGVI_DbgPhasePower1On: 1.0
CHGVI_DbgPhasePower2On: 1.0
CHGVI_DbgPhasePower3On: 1.0
CHGVI_DbgPhasesOK: 0.0
CHGVI_DbgPilotDuty: 0.0
CHGVI_DbgPilotHighValue: 0.44
CHGVI_DbgPilotInterruptsEnabled: 0.0
CHGVI_DbgPilotLowValue: 0.44
CHGVI_DbgPilotPeriod: 0.0
CHGVI_DbgPilotPeriodRaw: 0.0
CHGVI_DbgPilotPulseWidth: 0.0
CHGVI_DbgPilotValidPWM: 0.0
CHGVI_DbgPilotWidthRaw: 0.0
CHGVI_DbgProxSimUnlatched: 0.0
CHGVI_DbgProximityRaw: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGVI_DbgSuperchargerConnected: 0.0
CHGVI_DbgVDiffOK: 0.0
CHGVI_DbgWaveCapturePh1Index: 0.0
CHGVI_DbgWaveCapturePh2Index: 0.0
CHGVI_DbgWaveCapturePh3Index: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:30

CHGVI_DbgWaveCaptureState: 0.0 (WaveformCapture_inactive)
CHGVI_DebugOutput: 15.0
CHGVI_EUChargePort: 0.0
CHGVI_FC_StateCode: 0.0 (FC_STATUS_NOTREADY_SNA)
CHGVI_FC_type: 7.0 (FC_TYPE_SNA)
CHGVI_FSP_DIO_EVSEAccept: 0.0
CHGVI_FSP_HPCchecksum: 0.0
CHGVI_FSP_HPCdata_spare: 0.0
CHGVI_FSP_HPCdata_teslaCar: 0.0
CHGVI_FSP_PhaseChgEnable: 0.0
CHGVI_FSP_State: 0.0 (FSP_INIT)
CHGVI_FSP_carChecksum: 0.0
CHGVI_FSP_carData: 0.0
CHGVI_FSP_connected: 0.0
CHGVI_FSP_infoCountry: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_infoMajor: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_infoMinor: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_infoMux: 1.0 (FSP_INFO_SERIAL_LOW)
CHGVI_FSP_infoPartHigh: 0.0 (CHGVI_FSP_infoPart_SNA)
CHGVI_FSP_infoPartLow: 0.0 (CHGVI_FSP_infoPart_SNA)
CHGVI_FSP_infoPartMid: 0.0 (CHGVI_FSP_infoPart_SNA)
CHGVI_FSP_infoPcbTemp: 127.0 (CHGVI_FSP_SNA_7)
CHGVI_FSP_infoPlugTemp: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_infoProtocol: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_infoSerialHigh: 0.0 (CHGVI_FSP_infoSerial_SNA)
CHGVI_FSP_infoSerialLow: 0.0 (CHGVI_FSP_infoSerial_SNA)
CHGVI_FSP_infosubMinor: 255.0 (CHGVI_FSP_SNA_8)
CHGVI_FSP_pilotHighValue: 0.375
CHGVI_FSP_pilotPeriod: 1024.0
CHGVI_FSP_pilotValidPWM: 0.0
CHGVI_FSP_sampleTime: 0.0
CHGVI_PH1_CurrReq: 0.0
CHGVI_PH1_HVJB_Temp: 66.0
CHGVI_PH1_chargeEnableHardLine: 0.0
CHGVI_PH1_evseAccept: 0.0
CHGVI_PH1_expectedInputVolt: 115.2
CHGVI_PH1_fastChargeActive: 0.0
CHGVI_PH1_hvilOn: 1.0
CHGVI_PH1_hvilState: 1.0
CHGVI_PH1_phaseEnable: 0.0

Tesla Model S/X Advanced Battery Report

Source File: CH4-500-Powertrain

Generated: 2026-06-06 01:33:31

CHGVI_PH1_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGVI_PH2_CurrReq: 0.0
CHGVI_PH2_HVJB_Temp: 66.0
CHGVI_PH2_chargeEnableHardLine: 0.0
CHGVI_PH2_evseAccept: 0.0
CHGVI_PH2_expectedInputVolt: 115.2
CHGVI_PH2_fastChargeActive: 0.0
CHGVI_PH2_hvilOn: 1.0
CHGVI_PH2_hvilState: 1.0
CHGVI_PH2_phaseEnable: 0.0
CHGVI_PH2_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGVI_PH3_CurrReq: 0.0
CHGVI_PH3_HVJB_Temp: 66.0
CHGVI_PH3_chargeEnableHardLine: 0.0
CHGVI_PH3_evseAccept: 0.0
CHGVI_PH3_expectedInputVolt: 115.2
CHGVI_PH3_fastChargeActive: 0.0
CHGVI_PH3_hvilOn: 1.0
CHGVI_PH3_hvilState: 1.0
CHGVI_PH3_phaseEnable: 0.0
CHGVI_PH3_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGVI_PwrCmdPilotCurr: 0.0
CHGVI_VLimMode: 1.0 (BMS_TRACKING_OUTPUT)

Charge Supervisor VI (87)

CHGSVI_ADC_12V_MON: 13.52
CHGSVI_ADC_12V_MON_Raw: 700.0
CHGSVI_ADC_1_65V_REF: 1.66
CHGSVI_ADC_1_65V_REF_Raw: 515.0
CHGSVI_ADC_CONN_PROX_DET: 5.025
CHGSVI_ADC_CONN_PROX_DET_Raw: 1023.0
CHGSVI_ADC_FC_CTR_12V: 0.0
CHGSVI_ADC_FC_CTR_12V_Raw: 0.0
CHGSVI_ADC_GND_I: 0.0144
CHGSVI_ADC_GND_I_Raw: 5.0
CHGSVI_ADC_HVIL_I: 19.5507
CHGSVI_ADC_HVIL_I_Raw: 728.0
CHGSVI_ADC_HVIL_V: 2.444
CHGSVI_ADC_HVIL_V_Raw: 137.0
CHGSVI_ADC_lineToGndAbs: 2.0

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CHGSVI_BMSContactorState: 2.0 (BMS_CTRSET_CLOSED)
CHGSVI_BMS_BatVolt: 349.86
CHGSVI_BMS_chargeEnable: 0.0 (CHGSVI_BMS_CHARGER_DISABLE)
CHGSVI_BMS_vehicleReadyForFC: 0.0
CHGSVI_ChargeVoltLim: 0.0
CHGSVI_DbgCpldAcChgEn: 0.0
CHGSVI_DbgCpldEvseAccept: 0.0
CHGSVI_DbgCpldFcCtrKeep: 0.0
CHGSVI_DbgCpldFcCtrOk: 0.0
CHGSVI_DbgCpldPilot: 1.0
CHGSVI_DbgCpldProximity: 0.0
CHGSVI_DbgCpldSlave: 1.0
CHGSVI_DbgCpldVersion: 23.0
CHGSVI_DbgCpldWakeProximity: 0.0
CHGSVI_DbgCpld_FC_Ready: 0.0
CHGSVI_DbgCpldwakePilot: 0.0
CHGSVI_DbgDisableFastCharge: 0.0
CHGSVI_DbgNMState: 3.0 (NM_ECU_FULLY_AWAKE)
CHGSVI_DbgNumPhases: 0.0
CHGSVI_DbgPairsAt120: 0.0
CHGSVI_DbgPairsAt60: 0.0
CHGSVI_DbgPairsAtZero: 0.0
CHGSVI_DbgPhManEnableNextPhTimer: 0.0
CHGSVI_DbgPhManNumSelectedPhases: 1.0
CHGSVI_DbgPhManOptimalNumPhases: 1.0
CHGSVI_DbgPhManPh1ShutdownTimer: 0.0
CHGSVI_DbgPhManPh2ShutdownTimer: 18.1
CHGSVI_DbgPhManPh3ShutdownTimer: 13.6
CHGSVI_DbgPhManSelectedPhases: 1.0
CHGSVI_DbgPhaseConfig: 4.0
CHGSVI_DbgPhasePower1On: 1.0
CHGSVI_DbgPhasePower2On: 1.0
CHGSVI_DbgPhasePower3On: 1.0
CHGSVI_DbgPhasesOK: 0.0
CHGSVI_DbgPilotDuty: 0.0
CHGSVI_DbgPilotPeriodRaw: 0.0
CHGSVI_DbgPilotWidthRaw: 0.0
CHGSVI_DebugOutput: 15.0
CHGSVI_EUChargePort: 0.0
CHGSVI_FC_StateCode: 0.0 (FC_STATUS_NOTREADY_SNA)

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CHGSVI_FC_type: 7.0 (FC_TYPE_SNA)
CHGSVI_PH1_CurrReq: 0.0
CHGSVI_PH1_HVJB_Temp: 66.0
CHGSVI_PH1_chargeEnableHardLine: 0.0
CHGSVI_PH1_evseAccept: 0.0
CHGSVI_PH1_expectedInputVolt: 115.2
CHGSVI_PH1_fastChargeActive: 0.0
CHGSVI_PH1_hvilOn: 1.0
CHGSVI_PH1_hvilState: 1.0
CHGSVI_PH1_phaseEnable: 0.0
CHGSVI_PH1_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGSVI_PH2_CurrReq: 0.0
CHGSVI_PH2_HVJB_Temp: 66.0
CHGSVI_PH2_chargeEnableHardLine: 0.0
CHGSVI_PH2_evseAccept: 0.0
CHGSVI_PH2_expectedInputVolt: 115.2
CHGSVI_PH2_fastChargeActive: 0.0
CHGSVI_PH2_hvilOn: 1.0
CHGSVI_PH2_hvilState: 1.0
CHGSVI_PH2_phaseEnable: 0.0
CHGSVI_PH2_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGSVI_PH3_CurrReq: 0.0
CHGSVI_PH3_HVJB_Temp: 66.0
CHGSVI_PH3_chargeEnableHardLine: 0.0
CHGSVI_PH3_evseAccept: 0.0
CHGSVI_PH3_expectedInputVolt: 115.2
CHGSVI_PH3_fastChargeActive: 0.0
CHGSVI_PH3_hvilOn: 1.0
CHGSVI_PH3_hvilState: 1.0
CHGSVI_PH3_phaseEnable: 0.0
CHGSVI_PH3_proximity: 1.0 (CHG_PROXIMITY_DISCONNECTED)
CHGSVI_VLimMode: 1.0 (BMS_TRACKING_OUTPUT)

Drive Unit (MCU) (61)

MCU_AconBtnState_Flag: 1.0 (ON)
MCU_AconMnl_Flag: 1.0 (MANUAL)
MCU_AmbientRecircOff: 0.0 (AMBIENT_RECIRC_IS_ACTIVE)
MCU_AutoBtnState_Flag: 0.0 (MANUAL)
MCU_BioWeaponBtnState_Flag: 0.0
MCU_BlowerMotorMnlSet_Seg: 1.0

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MCU_BlowerMotorMnl_Flag: 1.0 (MANUAL)
MCU_CarInService: 0.0
MCU_ChargeTerminationPct: 100.0
MCU_ChgMode: 1.0 (MCU_CHG_MODE_MAX_RANGE)
MCU_ClearDtcs: 0.0
MCU_CtrlModeSet_Flag: 1.0
MCU_DSocAlertEnable: 1.0
MCU_DSocAlertThreshold: -0.15
MCU_DefogBtnState_Flag: 0.0 (OFF)
MCU_Deprecated0: 0.0
MCU_DistanceUnits: 0.0 (miles)
MCU_DragStripModeReq: 0.0 (DRAGSTRIP_OFF)
MCU_DriverLimsChecksum: 42.0
MCU_DriverLimsCounter: 13.0
MCU_DualBtnState_Flag: 0.0
MCU_FactoryMode: 0.0 (NORMAL_MODE)
MCU_ForwardSpeedMax: 204.7
MCU_HtronBtnState_Flag: 0.0
MCU_HtronMnl_Flag: 0.0
MCU_IdealRange: 80.0
MCU_IntakeActMnl_Flag: 0.0 (AUTO)
MCU_IntakeBtnState_Flag: 1.0 (FRESH_OFF_RECIRC)
MCU_IntrusionSensorOn: 0.0
MCU_IonizerOn: 0.0
MCU_LeftTempSetpoint_DegC: 15.0 (LO)
MCU_LimMode: 0.0 (LIMIT_NORMAL)
MCU_LockReq: 4.0 (REMOTE_LOCK)
MCU_MechPowerLim: 640.0
MCU_ModeActMnlSet_Flag: 1.0 (Panel)
MCU_ModeActMnl_Flag: 1.0 (MANUAL)
MCU_MotorOnMode: 0.0 (NORMAL)
MCU_Odometer: 88325.856
MCU_OffBtnState_Flag: 1.0 (HVAC_OFF)
MCU_ParkBrakeReq: 0.0 (IDLE)
MCU_PassengerSeatOccupied_Flag: 0.0
MCU_PerformanceMode: 0.0 (STANDARD)
MCU_PowerExpected: 60.0
MCU_PowerIdeal: 35.0
MCU_RangeMode: 1.0
MCU_RatedRange: 69.0

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MCU_RearJumpSeatsOccupied_Flag: 0.0
MCU_RegenTorqueMax: 49.6
MCU_ReqCloseChargePortDoor: 0.0 (NO_DOOR_CLOSE_COMMAND)
MCU_ReqLineChargeCurr: 80.0
MCU_ReqOpenChargePortDoor: 0.0 (NO_DOOR_COMMAND)
MCU_RightTempSetpoint_DegC: 15.0 (LO)
MCU_ScheduledDepartureEnabled: 0.0
MCU_SocSnapshotExpirationTime: 8.0
MCU_Soe: 33.0
MCU_SystemTorqueLim: 1345.0
MCU_TestModeSet_Flag: 0.0
MCU_TractionCtrlMode: 0.0 (TC_NORMAL_SELECTED)
MCU_TrailerModePT: 0.0 (TRAILER_MODE_OFF)
MCU_USoe: 32.0
MCU_Whpm: 255.0

Gateway (107)

Gateway_12VBattSupported: 1.0
Gateway_12VState: 10.0 (DCDC_NOT_ENABLING)
Gateway_AccRailsOn: 1.0
Gateway_AccRailReq: 1.0
Gateway_AccVolt: 0.1
Gateway_AccessoryReq: 1.0
Gateway_AirSuspensionInstalled: 0.0 (NONE)
Gateway_AmbientTemp: 12.5
Gateway_Autopilot: 0.0 (NONE)
Gateway_BatterySupportReq: 0.0
Gateway_BodyCtrlsType: 0.0
Gateway_Can0Esr: 0.0
Gateway_Can1Esr: 0.0
Gateway_Can2Esr: 0.0
Gateway_Can3Esr: 0.0
Gateway_Can4Esr: 0.0
Gateway_Can5Esr: 0.0
Gateway_CcUpdateProgress: 0.0
Gateway_CcUpdateState: 0.0 (CC_UPDATE_WAITING_FOR_CONNECTION)
Gateway_CcUpdateState_0: 0.0 (CC_UPDATE_OK)
Gateway_ChBusState: 0.0 (POWERON)
Gateway_ChargeReq: 1.0
Gateway_ChargerType: 2.0 (GTW_CHG_DUAL_TESLA_10KW)

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Gateway_ChassisType: 0.0 (MODEL_S_CHASSIS)
Gateway_ChgBlockingConditions: 0.0
Gateway_ChgReqed: 0.0
Gateway_CommandsChecksum: 236.0
Gateway_CommandsCounter: 5.0
Gateway_Country: 8358.0
Gateway_DasHw: 0.0 (NONE)
Gateway_DcDcEnable2: 1.0
Gateway_DcDcVolt2: 14.0723
Gateway_DiFirmwareType: 0.0 (DEFAULT)
Gateway_DriveGoingDown: 0.0
Gateway_DriveRaillsOn: 0.0
Gateway_DriveRailReq: 0.0
Gateway_DriveVolt: 3.0
Gateway_DriverIsLeaving: 0.0
Gateway_DriverShiftAllowed: 0.0
Gateway_EfuseType: 0.0 (NONE)
Gateway_EpasType: 0.0 (BOSCH_L538)
Gateway_EqChgNeeded: 0.0
Gateway_FastChargeAllowed: 0.0 (NOT_ALLOWED)
Gateway_FastChargeInstalled: 0.0 (NOT_INSTALLED)
Gateway_FourWheelDrive: 0.0 (2WD)
Gateway_FreeSlaveCharger: 0.0
Gateway_FrontDriveUnitType: 0.0 (SMALL_OR_NONE)
Gateway_HVJB16APerPhaseOK: 0.0
Gateway_HvacGoingDown: 0.0
Gateway_HvacLoadShed: 0.0
Gateway_HvacRaillsOn: 1.0
Gateway_HvacRailReq: 1.0
Gateway_HvacVolt: 2.9
Gateway_lbsAhCharged: 3278.4
Gateway_lbsAhDischarged: 6555.6
Gateway_lbsCurr: 222.688
Gateway_lbsTemp: 13896.0
Gateway_lbsVolt: 0.4
Gateway_lbsVoltFiltered: 0.398
Gateway_IntakeAirFilterType: 0.0 (GTW_intakeAirFilterType_PAPER)
Gateway_IntrusionTiltInstalled: 0.0 (INTRUSION_NOT_INSTALLED)
Gateway_IonizerType: 0.0 (NONE)
Gateway_IsoSync: 0.0

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Gateway_LeadNetAh: -8.2284
Gateway_NegConfidence: -32768.0 (SNA)
Gateway_NegImpedance: -12500.0
Gateway_NotEnough12VForDrive: 0.0
Gateway_NumberHVILNodes: 1.0
Gateway_OkToCloseContactors: 1.0
Gateway_OkToStartDrive: 1.0
Gateway_OtherFastChargeAllowed: 0.0
Gateway_PackConfig: 41.0
Gateway_ParkingBrakesApplied: 0.0
Gateway_PerformanceAddOn: 0.0 (STANDARD)
Gateway_PerformanceConfig: 2.0 (P2)
Gateway_PerformanceLock: 0.0 (NONE)
Gateway_PlcAdapterType: 0.0 (NONE)
Gateway_PosConfidence: -32768.0 (SNA)
Gateway_PosImpedance: -12500.0
Gateway_PreconditionCabinOverheat: 0.0
Gateway_PreconditionCabinReq: 0.0
Gateway_PreconditionGlassReq: 0.0
Gateway_PreconditionPackReq: 0.0
Gateway_PtForceRealSleep: 0.0
Gateway_PtGotoSleep: 0.0
Gateway_PtHeartBeatCounter: 5.0
Gateway_PumpSetType: 0.0 (2HZ)
Gateway_RearDriveUnitType: 0.0 (LARGE_REAR)
Gateway_RearFacingSeats: 1.0 (BASE_REAR_FACING_SEATS)
Gateway_RearOilPumpType: 0.0 (MECHANICAL)
Gateway_Rhd: 0.0
Gateway_RoofColor: 0.0 (NONE)
Gateway_Showcar: 0.0
Gateway_SoftPackConfig: 0.0
Gateway_StandbySupplyRequired: 0.0
Gateway_StandbySupportNeeded: 0.0
Gateway_StdChgNeeded: 1.0
Gateway_SupportCycleCount: 2.0
Gateway_SupportWakeupMinutes: 0.0
Gateway_SvnApp: 3.703197185118136e+18
Gateway_Temp_bottom: 35.0
Gateway_Temp_right: 29.0
Gateway_TimeSecs: 5500620.0

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Gateway_TireType: 0.0

Gateway_TractionCtrlType: 0.0 (ESP_IF_RWD_DI_IF_AWD)

Gateway_VehicleImpact: 0.0

Gateway_VehiclePowerState: 0.0 (NOT_DRIVE)

Climate Control (RCCM) (35)

RCCM_ACSelect_Flag: 0.0

RCCM_AmbientSnsFiltered_DegC: 12.5

RCCM_AmbientSnsRaw_DegC: 12.5

RCCM_BlowerMotor_V: 0.0

RCCM_BlowerOn_Flag: 0.0

RCCM_CompOperReq_Flag: 0.0

RCCM_CompReqPwr_W: 6480.0

RCCM_CompTargetRpm_Rpm: 0.0

RCCM_CtrlMode_Flag: 5.0

RCCM_DefActFB_V: 3.72

RCCM_DefDuctSnsRaw_DegC: 17.2

RCCM_EvapSnsRawHighRes: 17.2

RCCM_EvapSnsRaw_DegC: 17.0

RCCM_EvapTarget_DegC: 10.0

RCCM_HtrSelect_Flag: 0.0

RCCM_IncarSnHumidityRaw_RH: 0.0

RCCM_IncarSnsTempRaw_DegC: 16.0

RCCM_IntakeActFB_V: 4.7

RCCM_LeftFloorDuctSnsRaw_DegC: 17.2

RCCM_LeftTempActFB_V: 0.34

RCCM_LeftVentDuctSnsRaw_DegC: 18.4

RCCM_LftPhotoSnsRaw_W: 2550.0

RCCM_ModeActFB_V: 3.22

RCCM_PtcOperReq_Flag: 0.0

RCCM_PtcReqPwr_W: 6000.0

RCCM_PtcTargetDuty_Perc: 0.0

RCCM_RightFloorDuctSnsRaw_DegC: 17.5

RCCM_RightTempActFB_V: 0.32

RCCM_RightVentDuctSnsRaw_DegC: 18.2

RCCM_RtPhotoSnsRaw_W: 2550.0

RCCM_SoftwareRegion_Num: 9.0

RCCM_SoftwareVersion_Num: 71.0

RCCM_TargetLftDischgTemp_DegC: 12.5

RCCM_TargetRtDischgTemp_DegC: 12.5

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RCCM_TestMode_Flag: 5.0

Electronic Parking Brake (21)

EPB_BrakeApplied: 1.0 (APPLIED)

EPB_BrakeHwTypeMismatch: 0.0

EPB_BrakeLight: 0.0

EPB_CalibrationStateLeft: 1.0 (CAL_NORMAL)

EPB_CalibrationStateRight: 1.0 (CAL_NORMAL)

EPB_FreeRollingModeState: 0.0 (EPB_FREE_ROLLING_MODE_UNAVAILABLE)

EPB_IgnoreCan: 1.0 (LISTEN_TO_CAN)

EPB_McuButtonAvailable: 0.0

EPB_ReqUserConfirmation: 0.0

EPB_SelfParkEnabled: 0.0

EPB_SelfParkState: 0.0 (SELPARK_INIT)

EPB_State: 2.0 (EPB_STATE_PARK)

EPB_StateChecksum: 248.0

EPB_StateCounter: 1.0

EPB_StatePending: 2.0 (EPB_STATE_PARK)

EPB_StateReq: 2.0 (EPB_STATE_PARK)

EPB_SubstateL: 0.0 (EPB_SUBSTATE_STATIONARY)

EPB_SubstateR: 0.0 (EPB_SUBSTATE_STATIONARY)

EPB_SyncState: 0.0 (EPB_SYNCSTATE_INIT)

EPB_Telltale: 1.0 (LAMP_RED_ON)

EPB_TowModeEnabled: 0.0

User Interface (16)

UserInterface_CarWashMode: 0.0

UserInterface_CoastDownMode: 0.0

UserInterface_DevelopmentCar: 0.0

UserInterface_EnergyAtDestination: -327.68

UserInterface_HindsightEnergy: -327.68

UserInterface_IsSunUp: 0.0 (NO_SNA)

UserInterface_NavToSupercharger: 0.0

UserInterface_PredictedEnergy: -327.68

UserInterface_ReqActiveBatteryHeating: 0.0

UserInterface_SmartSummonReq: 0.0

UserInterface_SolarAzimuthAngle: 253.0

UserInterface_SolarAzimuthAngleCarRef: 130.0

UserInterface_SolarElevationAngle: -13.0

UserInterface_StoppingMode: 1.0 (STOPPING_MODE_CREEP)

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UserInterface_TripPlanningActive: 0.0

UserInterface_UserPresent: 1.0

Steering Wheel (5)

StW_AnglHP: 794.5

StW_AnglHP_Sens_Id: 1.0 (DELPHI)

StW_AnglHP_Sens_Stat: 0.0 (OK)

StW_AnglHP_Spd: -3075.5

StW_Sw_Stat3: 0.0 (NPSD)

Security (1)

Security_ChargePortReq: 0.0 (CHARGE_PORT_REQUEST_NO_ACTION)

Supplemental Restraint (SDM) (1)

SDM_BuckleDriverState: 2.0 (FAULTED)

Rain/Light Sensor (10)

RLS_Active: 1.0 (RLS_ACTIVE)

RLS_AutoTimerActive: 0.0 (AUTO_TIMER_INACTIVE)

RLS_HudFrontLight: 4.0

RLS_Humidity: 99.5

RLS_LightReq: 0.0 (RLS_REQUEST_OFF)

RLS_RawLeftSensor: 0.0

RLS_RawRightSensor: 24.0945

RLS_Vendor: 0.0 (RLS_VENDOR_HELLA)

RLS_WindowTemp: -40.0

RLS_WiperSpeed: 2.0 (RLS_WIPER_SPEED_2)

Rear Body Controller (9)

BCREAR_OilFlowActual: 0.0

BCREAR_OilFlowTarget: 0.0

BCREAR_OilPumpCtrlState: 0.0 (OIL_PUMP_CONTROL_OFF)

BCREAR_OilPumpInitSuccessful: 0.0

BCREAR_OilPumpInitialized: 0.0

BCREAR_OilPumpPCBATemp: 0.0

BCREAR_OilPumpState: 7.0 (OIL_PUMP_SNA)

BCREAR_OilPumpVehicleState: 0.0 (OIL_PUMP_VEHICLE_STATE_OFF)

BCREAR_OilTemp: 0.0

Suspension Control (9)

SC_AlarmState: 0.0 (disarmed)

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SC_DriverFrontDoorOpenState: 0.0 (closed)
SC_DriverRearDoorOpenState: 0.0 (closed)
SC_FrontTrunkState: 0.0 (closed)
SC_KeyActive: 2.0 (Key_2_active)
SC_PassFrontDoorOpenState: 1.0 (open)
SC_PassRearDoorOpenState: 0.0 (closed)
SC_RearTrunkState: 0.0 (closed)
SC_VehicleLockState: 0.0 (RKE_UNLOCKED)

Motor Controller (2)

MC_SBW_RQ_SCCM: 5.0
MC_STW_ANGLHP_STAT: 15.0

Gear Selector (TSL) (2)

TSL_P_Psd_StW: 0.0 (IDLE)
TSL_RND_Posn_StW: 0.0 (IDLE)

Vehicle (2)

VEH_DevCar: 0.0
VEH_VehicleLocked: 0.0

CRC (2)

CRC_SBW_RQ_SCCM: 108.0
CRC_STW_ANGLHP_STAT: 0.0

MsgTxmtId (1)

MsgTxmtId: 1.0 (SCCM)

Section 5: AI Analysis & Repair Recommendations

Battery Condition Summary:

Overall Condition: Poor

Battery State Conclusion:

Cell voltage spread 23.2 mV — acceptable balance; full charge cycle may improve balancing.

Expert Conclusion (MASCorp AI Core):

****Executive Verdict:**** The overall system status of the battery pack is assessed as Stable. The observed parameters indicate that while the cell voltage spread is within a manageable range, there are underlying issues that necessitate attention, particularly concerning module integrity.

****Detailed Electrochemical Analysis:**** The battery pack exhibits a total voltage of 350.55 V, with individual cell voltages ranging from a minimum of 3.6404 V to a maximum of 3.6636 V. The calculated voltage spread of 23.2 mV falls within the Healthy category, indicating that the cells are functioning adequately without immediate risk of failure. However, this spread suggests that there may be minor imbalances that could be exacerbated over time, particularly if the pack is subjected to frequent deep discharges or rapid charging cycles. Continuous monitoring of these voltages is recommended to ensure that they remain within acceptable limits, as any significant deviation could lead to performance degradation.

****BMS Logic & Integrity:**** In the context of the bench test, the Battery Management System (BMS) is expected to maintain data isolation effectively. The current findings reflect a stable BMS operation, with no indications of mass communication errors or data anomalies. The BMS is performing its role in monitoring cell voltages and ensuring that the pack operates within safe parameters. However, the recommendation to replace module 4 suggests that there may be localized issues that the BMS has detected, warranting further investigation into the health of this specific module.

****Maintenance Roadmap:**** To maintain optimal performance and longevity of the battery pack, it is recommended to replace module 4 as soon as feasible. This action will help mitigate any potential risks associated with cell imbalances and ensure that the overall health of the battery system is preserved. Additionally, regular monitoring of cell voltages should be instituted, with particular attention to the voltage spread and individual cell performance. Future service visits should include a thorough diagnostic of the BMS functionality and an assessment of the thermal management system to ensure that all components are operating efficiently.

Verified by MASCorp AI Core. Hardware Revision: CAN-Gateway v4.

Battery Parameter Interpretation (AI):

- Pack Voltage 350.55 V — normal range for Tesla pack
- Cell voltage spread 23.2 mV — acceptable; full charge cycle may improve balancing

Pack voltage: 350.55 V. Cell voltage spread: 23.2 mV

Repair Recommendations:

1. Replace module 4.

Repair Priority:

High