48 Volt Battery BMS1 Data Recording: 26 – 28 APR 2024

2024-04-26T00:00:00.000Z Information Daily summary created (Day: 2024-04-24, Uptime: 11h 59m, Charged energy: 22.44 kWh, Discharged energy: 0.63 kWh, Highest system voltage: 52.50 V, Lowest system voltage: 49.01 V, Highest charge current: 57.40 A, Highest discharge current: -11.61 A, Highest cell voltage: 3752 mV (Battery: 20290003, Cell: 7), Lowest cell voltage: 3494 mV (Battery: 2029000E, Cell: 5), Highest cell temperature: 31 °C (Battery: 2029000F, Sensor: 2), Lowest cell temperature: 26 °C (Battery: 20290003, Sensor: 2), Average cell temperature: 28 °C)

2024-04-27T00:00:00.000Z Information Daily summary created (Day: 2024-04-25, Uptime: 24h 0m, Charged energy: 0.00 kWh, Discharged energy: 4.96 kWh, Highest system voltage: 51.95 V, Lowest system voltage: 51.03 V, Highest charge current: -3.77 A, Highest discharge current: -5.16 A, Highest cell voltage: 3716 mV (Battery: 2029000A, Cell: 3), Lowest cell voltage: 3647 mV (Battery: 2029000E, Cell: 5), Highest cell temperature: 31 °C (Battery: 2029000F, Sensor: 2), Lowest cell temperature: 26 °C (Battery: 20280032, Sensor: 3), Average cell temperature: 27 °C)

2024-04-28T00:00:00.000Z Information Daily summary created (Day: 2024-04-26, Uptime: 24h 0m, Charged energy: 0.00 kWh, Discharged energy: 4.83 kWh, Highest system voltage: 51.03 V, Lowest system voltage: 50.48 V, Highest charge current: -3.77 A, Highest discharge current: -5.16 A, Highest cell voltage: 3650 mV (Battery: 2029000A, Cell: 1), Lowest cell voltage: 3609 mV (Battery: 2029000E, Cell: 5), Highest cell temperature: 27 °C (Battery: 2029000F, Sensor: 2), Lowest cell temperature: 25 °C (Battery: 2029000A, Sensor: 2), Average cell temperature: 26 °C)

2024-04-28T14:38:47.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:38:55.000Z Information Contactor opened (Battery voltage: 50207 mV, Contactor plus voltage: 50215 mV, Contactor minus voltage: - mV, Current: 150 mA, Temperature: 31.95 °C)

2024-04-28T14:38:55.000Z Information Shutting down

2024-04-28T14:38:59.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:39:04.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:39:04.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:39:05.000Z Information Shutting down

2024-04-28T14:39:07.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:39:12.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:39:22.000Z Warning Battery service request (Serial number: 20280032)

2024-04-28T14:39:51.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:39:51.000Z Information Shutting down

2024-04-28T14:39:54.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:39:59.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:40:09.000Z Warning Battery service request (Serial number: 20280032)

2024-04-28T14:40:09.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:40:10.000Z Information Shutting down

2024-04-28T14:40:12.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:40:17.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:40:27.000Z Warning Battery service request (Serial number: 20280032)

2024-04-28T14:43:05.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:43:05.000Z Information Shutting down

2024-04-28T14:43:11.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:43:16.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:43:22.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:43:23.000Z Information Shutting down

2024-04-28T14:43:35.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:43:40.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:43:50.000Z Warning Battery service request (Serial number: 20280032)

2024-04-28T16:18:31.000Z Error One or more batteries did not respond (Serial number: 20280032)

2024-04-28T16:18:31.000Z Warning Broken fuse detected (Broken fuses: Battery 1, Battery 2)

2024-04-28T16:18:31.000Z Warning Broken fuse detected (Broken fuses: Battery 1, Battery 2, Battery 3)

2024-04-28T16:18:31.000Z Warning Broken fuse detected (Broken fuses: Battery 1, Battery 2, Battery 3, Battery 4)

2024-04-28T16:18:31.000Z Information Shutdown requested because the button is pressed

2024-04-28T16:18:31.000Z Information Shutting down

1920-12-03T01:06:52.000Z Information Starting up because the button is pressed (Firmware version: 1.18)

1920-12-03T01:06:53.000Z Information Daily summary created (Day: 2024-04-27, Uptime: 17h 15m, Charged energy: 0.19 kWh, Discharged energy: 6.93 kWh, Highest system voltage: 99.51 V, Lowest system voltage: 2.18 V, Highest charge current: 1772.47 A, Highest discharge current: -1013.63 A, Highest cell voltage: 4203 mV (Battery: 20290025, Cell: 1),

Lowest cell voltage: 1424 mV (Battery: 20290025, Cell: 2), Highest cell temperature: 36 °C (Battery: 2029000A, Sensor: 3), Lowest cell temperature: 5 °C (Battery: 2029000F, Sensor: 1), Average cell temperature: 26 °C)

1920-12-03T01:06:57.000Z Error No batteries could be detected

1920-12-03T01:16:57.000Z Information Shutdown requested because fail-safe triggered

1920-12-03T01:16:58.000Z Information Shutting down

1920-12-03T01:17:24.000Z Information Starting up because the button is pressed (Firmware version: 1.18)

1920-12-03T01:17:29.000Z Error No batteries could be detected

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48 Volt Battery BMS2 Data Recording: 26 – 28 APR 2024

2024-04-26T00:00:00.000Z Information Daily summary created (Day: 2024-04-24, Uptime: 12h 7m, Charged energy: 15.89 kWh, Discharged energy: 0.08 kWh, Highest system voltage: 52.50 V, Lowest system voltage: 49.06 V, Highest charge current: 41.71 A, Highest discharge current: -1.14 A, Highest cell voltage: 3750 mV (Battery: 2029001F, Cell: 7), Lowest cell voltage: 3480 mV (Battery: 20290026, Cell: 3), Highest cell temperature: 33 °C (Battery: 20290023, Sensor: 1), Lowest cell temperature: 26 °C (Battery: 21020020, Sensor: 1), Average cell temperature: 28 °C)

2024-04-27T00:00:00.000Z Information Daily summary created (Day: 2024-04-25, Uptime: 24h 0m, Charged energy: 0.00 kWh, Discharged energy: 2.87 kWh, Highest system voltage: 51.93 V, Lowest system voltage: 51.03 V, Highest charge current: -0.96 A, Highest discharge current: -3.19 A, Highest cell voltage: 3715 mV (Battery: 2029001F, Cell: 1), Lowest cell voltage: 3648 mV (Battery: 21020020, Cell: 3), Highest cell temperature: 33 °C (Battery: 20290026, Sensor: 1), Lowest cell temperature: 26 °C (Battery: 2029001F, Sensor: 3), Average cell temperature: 28 °C)

2024-04-28T00:00:00.000Z Information Daily summary created (Day: 2024-04-26, Uptime: 24h 0m, Charged energy: 0.00 kWh, Discharged energy: 3.47 kWh, Highest system voltage: 51.03 V, Lowest system voltage: 50.48 V, Highest charge current: -2.69 A, Highest discharge current: -3.31 A, Highest cell voltage: 3654 mV (Battery: 20290026, Cell: 1), Lowest cell voltage: 3609 mV (Battery: 21020020, Cell: 3), Highest cell temperature: 27 °C (Battery: 21020020, Sensor: 1), Lowest cell temperature: 26 °C (Battery: 2029001F, Sensor: 1), Average cell temperature: 26 °C)

2024-04-28T14:30:41.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:30:49.000Z Information Contactor opened (Battery voltage: 50181 mV, Contactor plus voltage: 50170 mV, Contactor minus voltage: - mV, Current: -4855 mA, Temperature: 31.62 °C)

2024-04-28T14:30:49.000Z Information Shutting down

2024-04-28T14:31:01.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:31:06.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 3, System capacity: 900 Ah)

2024-04-28T14:39:33.000Z Warning Broken fuse detected (Broken fuses: Pre-charge)

2024-04-28T14:57:11.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:57:16.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 3, System capacity: 900 Ah)

2024-04-28T14:57:17.000Z Warning Broken fuse detected (Broken fuses: Pre-charge)

2024-04-28T15:14:10.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T15:14:28.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T15:14:33.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 3, System capacity: 900 Ah)

2024-04-28T15:14:34.000Z Warning Broken fuse detected (Broken fuses: Pre-charge)

2024-04-28T15:25:27.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T15:25:32.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 3, System capacity: 900 Ah)

2024-04-28T15:25:33.000Z Warning Broken fuse detected (Broken fuses: Pre-charge)

2024-04-28T17:02:24.000Z Warning Battery service request (Serial number: 2029001F)

2024-04-28T17:02:58.000Z Error One or more batteries did not respond (Serial number: 2029001F)

2024-04-28T17:04:39.000Z Warning Broken fuse detected (Broken fuses: Battery 4)

2024-04-28T17:10:06.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 4)

2024-04-28T17:10:07.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 4)

2024-04-28T17:10:09.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 3, Battery 4)

2024-04-28T17:10:21.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 3, Battery 4, Charger/Load 1)

2024-04-28T17:10:28.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 3, Battery 4, Charger/Load 1, Charger/Load 2)

2024-04-28T17:10:30.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 3, Battery 4, Charger/Load 1, Charger/Load 2, Charger/Load 3)

2024-04-28T17:10:31.000Z Warning Broken fuse detected (Broken fuses: Pre-charge, Battery 1, Battery 2, Battery 3, Battery 4, Charger/Load 1, Charger/Load 2, Charger/Load 3, Charger/Load 4)

1905-05-05T18:35:44.000Z Information Daily summary created (Day: 2024-04-27, Uptime: 16h 16m, Charged energy: 0.64 kWh, Discharged energy: 6.26 kWh, Highest system voltage: 102.25 V, Lowest system voltage: 0.99 V, Highest charge current: 2026.50 A, Highest discharge current: -824.02 A, Highest cell voltage: 3617 mV (Battery: 20290026, Cell: 1), Lowest cell voltage: 3441 mV (Battery: 21020020, Cell: 4), Highest cell temperature: 34 °C (Battery: 20290020, Sensor: 3), Lowest cell temperature: -8 °C (Battery: 2029001F, Sensor: 2), Average cell temperature: 26 °C)

2024-04-28T17:10:48.000Z Information Daily summary created (Day: 1905-05-05, Uptime: 0h 0m, Charged energy: 0.00 kWh, Discharged energy: 0.00 kWh, Highest system voltage: - V, Lowest system voltage: - V, Highest charge current: -8.19 A, Highest discharge current: -8.88 A, Highest cell voltage: 3516 mV (Battery: 2029001F, Cell: 7), Lowest cell voltage: 3441 mV (Battery: 21020020, Cell: 4), Highest cell temperature: - °C (Battery: 00000000, Sensor:

1), Lowest cell temperature: - °C (Battery: 00000000, Sensor: 1), Average cell temperature: 0 °C)

2024-04-28T17:10:48.000Z Information Shutdown requested because fail-safe triggered

2024-04-28T17:10:48.000Z Information Shutting down

1920-12-03T02:38:13.000Z Information Starting up because the button is pressed (Firmware version: 1.18)

1920-12-03T02:38:14.000Z Information Daily summary created (Day: 2024-04-27, Uptime: 0h 1m, Charged energy: 0.00 kWh, Discharged energy: 0.00 kWh, Highest system voltage: - V, Lowest system voltage: - V, Highest charge current: 2026.50 A, Highest discharge current: -6.15 A, Highest cell voltage: 3516 mV (Battery: 2029001F, Cell: 7), Lowest cell voltage: 3441 mV (Battery: 21020020, Cell: 4), Highest cell temperature: - °C (Battery: 00000000, Sensor: 1), Lowest cell temperature: - °C (Battery: 00000000, Sensor: 1), Average cell temperature: 0 °C)

1920-12-03T02:38:18.000Z Error No batteries could be detected

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48 Volt Battery BMS3 Data Recording: 28 APR 2024

2024-04-28T14:24:15.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:24:16.000Z Information Daily summary created (Day: 2024-04-22, Uptime: 0h 10m, Charged energy: 0.00 kWh, Discharged energy: 0.00 kWh, Highest system voltage: 14.91 V, Lowest system voltage: 14.51 V, Highest charge current: -0.15 A, Highest discharge current: -0.34 A, Highest cell voltage: - mV (Battery: 00000000, Cell: 1), Lowest cell voltage: - mV (Battery: 00000000, Cell: 1), Highest cell temperature: - °C (Battery: 00000000, Sensor: 1), Lowest cell temperature: - °C (Battery: 00000000, Sensor: 1), Average cell temperature: 0 °C)

2024-04-28T14:24:17.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:24:17.000Z Information Shutting down

2024-04-28T14:24:22.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:24:27.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:25:52.000Z Error Battery terminal over-temperature detected (Serial number: 20290001, Highest temperature: 95 °C, Negative terminal temperature: - °C, Positive terminal temperature: 95 °C)

2024-04-28T14:25:52.000Z Error Battery terminal over-temperature detected (Serial number: 20290005, Highest temperature: 84 °C, Negative terminal temperature: - °C, Positive terminal temperature: 84 °C)

2024-04-28T14:28:43.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:28:44.000Z Information Shutting down

2024-04-28T14:28:59.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:29:04.000Z Information Battery configuration successfully detected (Number of batteries in series: 2, Number of batteries in parallel: 4, System capacity: 1200 Ah)

2024-04-28T14:30:29.000Z Error Battery terminal over-temperature detected (Serial number: 20290001, Highest temperature: 103 °C, Negative terminal temperature: - °C, Positive terminal temperature: 103 °C)

2024-04-28T14:30:29.000Z Error Battery terminal over-temperature detected (Serial number: 20290005, Highest temperature: 94 °C, Negative terminal temperature: - °C, Positive terminal temperature: 94 °C)

2024-04-28T14:31:58.000Z Information Shutdown requested because the button is pressed

2024-04-28T14:31:58.000Z Information Shutting down

2024-04-28T14:38:24.000Z Information Starting up because the button is pressed (Firmware version: 1.35)

2024-04-28T14:38:24.000Z Error No batteries could be detected

2024-04-28T14:38:24.000Z Information Shutdown requested because fail-safe triggered

2024-04-28T14:38:24.000Z Information Shutting down

1920-12-03T03:06:42.000Z Information Starting up because the button is pressed (Firmware version: 1.18)

1920-12-03T03:06:43.000Z Information Daily summary created (Day: 2024-04-27, Uptime: 0h 17m, Charged energy: 0.00 kWh, Discharged energy: 0.12 kWh, Highest system voltage: 52.89 V, Lowest system voltage: 49.90 V, Highest charge current: 0.40 A, Highest discharge current: -113.72 A, Highest cell voltage: 3592 mV (Battery: 20290021, Cell: 6), Lowest cell voltage: 3574 mV (Battery: 20290002, Cell: 1), Highest cell temperature: 27 °C (Battery: 20290001, Sensor: 3), Lowest cell temperature: 25 °C (Battery: 20290021, Sensor: 2), Average cell temperature: 26 °C)

1920-12-03T03:06:47.000Z Error No batteries could be detected