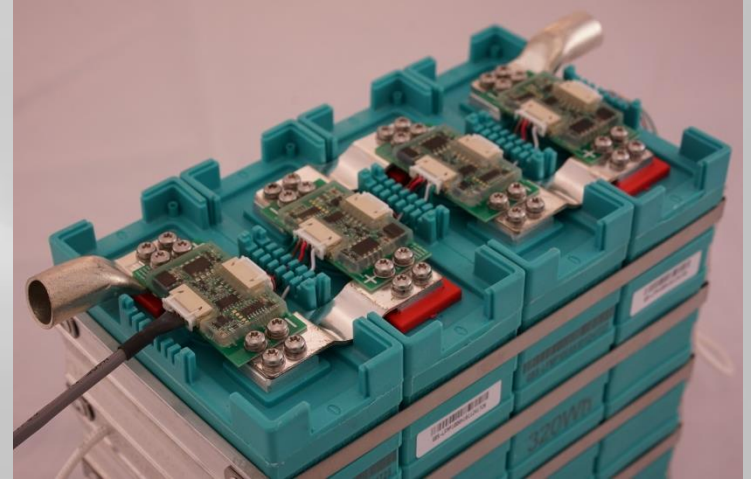




APP Features for

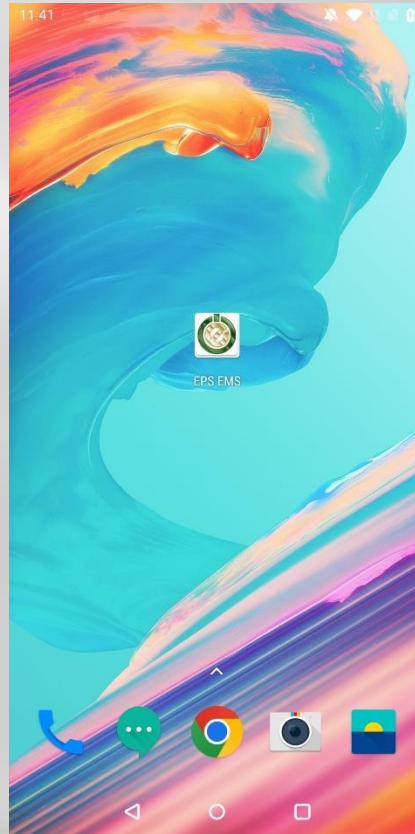
BMS System

March 2023

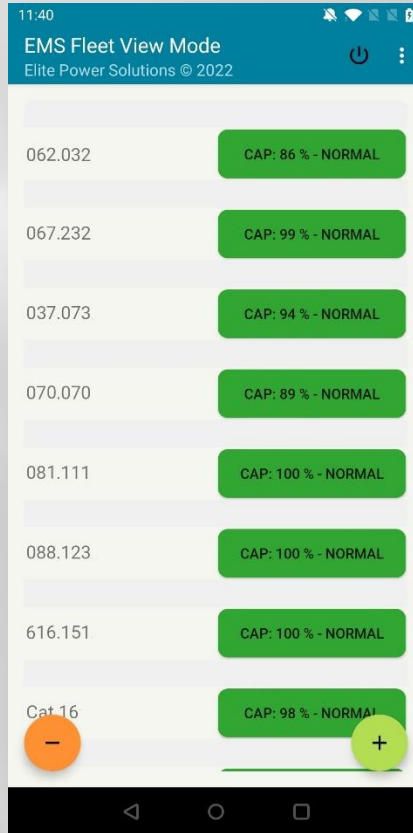


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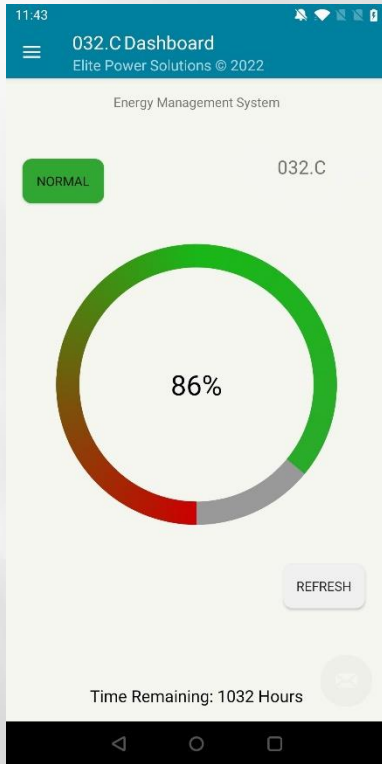
EPS APP For BMS System



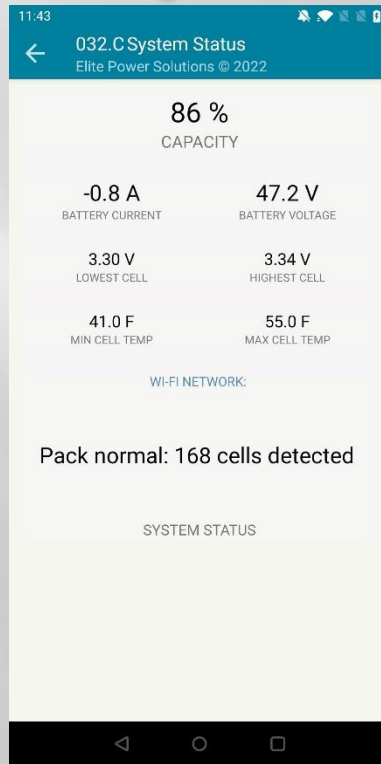
Fleet View - Multiple Systems



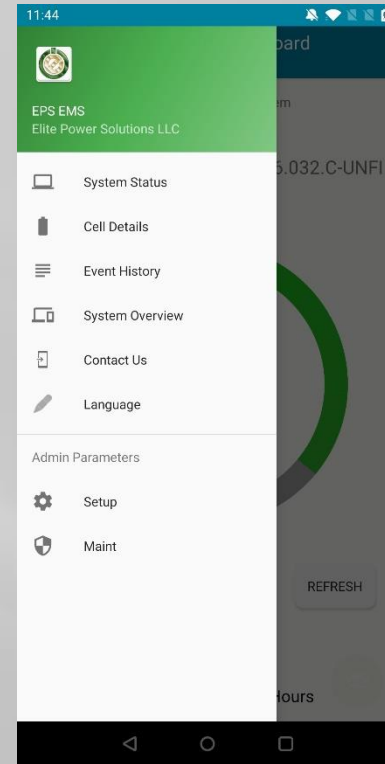
Individual System Status



Dashboard



System Overview



Pull Down Manual

Individual Cell Info and Event History

3:10

← 032.DCell Details
Elite Power Solutions © 2022

CELL #	Voltage	Temperature
CELL 1	3.30 V	42 F
CELL 2	3.30 V	48 F
CELL 3	3.30 V	48 F
CELL 4	3.31 V	50 F
CELL 5	3.30 V	48 F
CELL 6	3.31 V	51 F
CELL 7	3.31 V	51 F
CELL 8	3.30 V	48 F
CELL 9	3.30 V	53 F
CELL 10	3.31 V	53 F
CELL 11	3.31 V	53 F
CELL 12	3.31 V	51 F
CELL 13	3.31 V	51 F

?

Individual Cells

11:44

← 006 Event History
Elite Power Solutions © 2022

2023-02-28 02:36:04, Pack normal: 168 cells detected

2023-02-26 18:06:00, Cell Low Temp Warning / Cell: 48 : 35F

2023-02-26 18:05:55, Cell Low Temp Warning / Cell: 48 : 35F / Pack SOC set to 99% / Pack Voltage: 49.7 Max Cell: 7 : 3.56V Min Cell: 81 : 3.36V

2023-02-25 11:03:10, Cell Low Temp Warning / Cell: 86 : 37F

2023-02-24 06:55:31, Pack normal: 168 cells detected

2023-02-23 22:30:12, Cell Low Temp Warning / Cell: 86 : 37F

2023-02-23 13:17:06, Pack normal: 168 cells detected

2023-02-23 06:17:32, Cell Low Temp Warning / Cell: 86 : 37F

2023-02-20 14:43:38, Pack normal: 168 cells detected

2023-02-20 14:04:00, Battery low warning / : 9 percent left

2023-02-17 09:54:44, Pack normal: 168 cells detected

2023-02-17 09:54:40, Pack SOC set to 99% / Pack Voltage: 49.7 Max Cell: 19 : 3.59V Min Cell: 81 : 3.36V

2023-02-16 09:24:09, Pack normal: 168 cells detected

2023-02-16 09:23:36, Cell Low Temp Warning / Cell: 130 : 37F

2023-02-16 09:23:03, Pack normal: 168 cells detected

2023-02-16 05:51:02, Cell Low Temp Warning / Cell: 86 : 37F

2023-02-16 05:48:46, Pack normal: 168 cells detected

2023-02-16 05:46:17, Cell Low Temp Warning / Cell: 86 : 37F

2023-02-16 05:43:03, Pack normal: 168 cells detected

2023-02-16 05:42:47, Cell Low Temp Warning / Cell: 86 : 37F

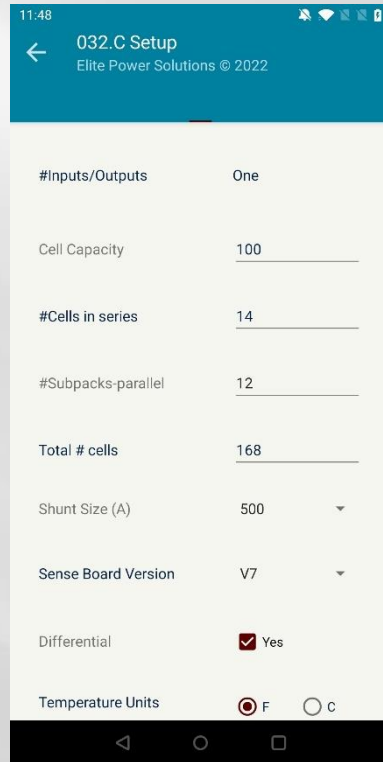
2023-02-16 05:39:47, Pack normal: 168 cells detected

2023-02-16 05:20:17, Cell Low Temp Warning / Cell: 86 : 37F

©

Event / Alarm History

System Settings (With Access Control)



11:48

032.C Setup
Elite Power Solutions © 2022

#Inputs/Outputs One

Cell Capacity 100

#Cells in series 14

#Subpacks-parallel 12

Total # cells 168

Shunt Size (A) 500

Sense Board Version V7

Differential Yes

Temperature Units F C

This screenshot shows the 'System Configuration' screen. It features a teal header with a back arrow, the title '032.C Setup', and the copyright notice 'Elite Power Solutions © 2022'. The main content area is white and contains several configuration items, each with a label and a value or control element: '#Inputs/Outputs' (One), 'Cell Capacity' (100), '#Cells in series' (14), '#Subpacks-parallel' (12), 'Total # cells' (168), 'Shunt Size (A)' (500), 'Sense Board Version' (V7), 'Differential' (checked 'Yes'), and 'Temperature Units' (radio buttons for 'F' and 'C').

System Configuration



11:48

006 Maintenance parameters
Elite Power Solutions © 2022

SOC reset to 0% Yes

SOC 0% curr exclusion (A) 15

SOC reset to 100% Yes

SOC 100% curr exclusion (A) 30

Unmanaged cell to reset SOC Yes

% SOC warning 10

% SOC Warning 2 5

Max DOD Reserve

Max DOD % 100

Data logging interval (Min) 1

Max data size (GB) 2

Cell low temp warning (F) 38

Cell low temp alarm (F) 29

Cell low temp alarm2 (F) -4

Cell high temp warning (F) 120

This screenshot shows the 'Parameter Settings' screen. It features a teal header with a back arrow, the title '006 Maintenance parameters', and the copyright notice 'Elite Power Solutions © 2022'. The main content area is white and contains several parameter settings, each with a label and a value or control element: 'SOC reset to 0%' (checkbox 'Yes'), 'SOC 0% curr exclusion (A)' (15), 'SOC reset to 100%' (checkbox 'Yes'), 'SOC 100% curr exclusion (A)' (30), 'Unmanaged cell to reset SOC' (checkbox 'Yes'), '% SOC warning' (10), '% SOC Warning 2' (5), 'Max DOD' (dropdown 'Reserve'), 'Max DOD %' (100), 'Data logging interval (Min)' (1), 'Max data size (GB)' (2), 'Cell low temp warning (F)' (38), 'Cell low temp alarm (F)' (29), 'Cell low temp alarm2 (F)' (-4), and 'Cell high temp warning (F)' (120).

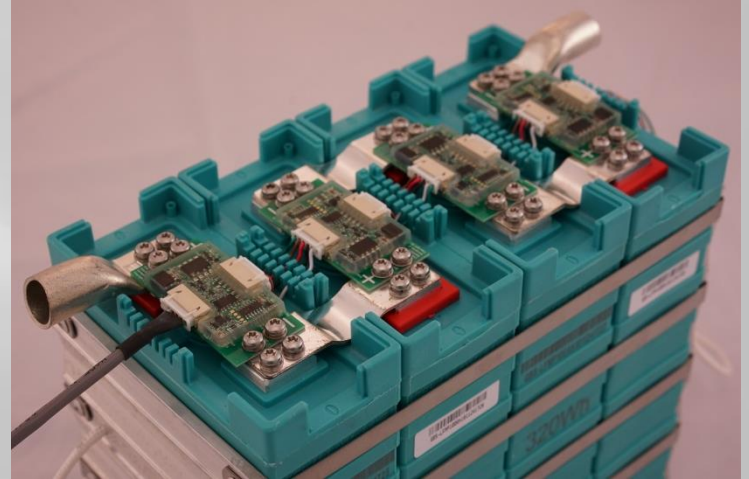
Parameter Settings



Web Application for

BMS System

March 2023



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Fleet View (Real-time)



Elite Power Solutions Analytics Fleet Overview



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Refresh

Manage Subscription



victor.yan@elitepowersolutions.com

Add a system ... + Add


Remove a system ... - Remove

Column visibility Show 100 entries

Search:

System ID	Name	SOC	System Status	Online Status	Subscription
b8:27:eb:11:22:10	Elite Power Test10	88	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:11	Elite Power Test11	87	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:12	Elite Power Test12	89	Pack Normal	ONLINE	Auto renew on 3/9/2024
b8:27:eb:11:22:13	Elite Power Test13	70	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:14	Elite Power Test14	0	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:15	Elite Power Test15	82	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:16	Elite Power Test16	49	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:17	Elite Power Test17	78	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:18	Elite Power Test18	49	Cell Low Temp Warning	ONLINE	Basic
b8:27:eb:11:22:19	Elite Power Test19	72	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:20	Elite Power Test20	82	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:21	Elite Power Test21	32	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:22	Elite Power Test22	34	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:23	Elite Power Test23	92	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:24	Elite Power Test24	40	Pack Normal	ONLINE	Expiring on 3/24/2023
b8:27:eb:11:22:25	Elite Power Test25	48	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:26	Elite Power Test26	74	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:27	Elite Power Test27	56	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:28	Elite Power Test28	48	Pack Normal	ONLINE	Auto renew on 3/24/2023
b8:27:eb:11:22:29	Elite Power Test29	49	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:30	Elite Power Test30	47	Pack Normal	ONLINE	Basic
b8:27:eb:11:22:31	Elite Power Test31	49	Pack Normal	ONLINE	Basic

Individual System Status (Real-time)



Elite Power Solutions Analytics
Dashboard

Welcome to EMS-442 (b8:27:eb:ba:c3:1c) Dashboard Pro Exp. 03-10-2023 Live Stats ✓ Refresh victor.yan@elitepowersolutions.com*

51 %
SOC (State of Charge)

0.3 Amps Battery Current (A)	0.1 Volts Battery Voltage (V)
3.08 Volts Lowest Cell Voltage (V)	3.09 Volts Highest Cell Voltage (V)
69.0 F Lowest Cell Temperature	75.0 F Highest Cell Temperature

Pack normal: 12 cells detected
System Status

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Cell Details (Real-time)



Elite Power Solutions Analytics Individual Cell Details

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Welcome to EPS Eng Test
(b8:27:eb:5b:7e:5d) Cell Details

Refresh



victor.yan@elitepowersolutions.com*


Show 10 entries

Search:

Cell Number	Cell Voltage (V)	Cell Temperature
1	3.30	69 F
2	3.17	66 F
3	3.17	66 F
4	3.17	66 F
5	3.17	66 F
6	3.17	66 F
7	3.17	66 F
8	3.17	66 F
9	3.17	66 F
10	3.17	66 F

Showing 1 to 10 of 144 entries Previous 1 2 3 4 5 ... 15 Next

Event Log (Real-time)



Elite Power Solutions Analytics

Event History

EMS-442 (b8:27:eb:ba:c3:1c) Pro


Refresh victor.yan@elitepowersolutions.com*

Select a range: Start date: End date: Timezone: Submit Refresh timestamp

Excel PDF Search:

Timestamp	Event
2/28/2023, 10:39:18 AM	Pack normal: 16 cells detected
2/28/2023, 10:39:18 AM	Pack normal: 16 cells detected
2/28/2023, 10:38:32 AM	System Started ...
2/28/2023, 10:38:32 AM	Pack normal: 16 cells detected
2/28/2023, 10:38:08 AM	Graceful shutdown
2/28/2023, 10:27:26 AM	Pack normal: 16 cells detected
2/28/2023, 10:25:11 AM	Pack normal: 16 cells detected
2/28/2023, 10:25:11 AM	Pack normal: 16 cells detected
2/28/2023, 10:24:16 AM	System Started ...
2/28/2023, 10:24:16 AM	Pack normal: 16 cells detected
2/28/2023, 10:23:52 AM	Graceful shutdown
2/28/2023, 10:18:18 AM	Maintenance settings downloaded from cloud to EMS2
2/28/2023, 10:14:08 AM	Pack normal: 16 cells detected
2/28/2023, 10:14:08 AM	Pack normal: 16 cells detected
2/28/2023, 10:13:24 AM	System Started ...
2/28/2023, 10:13:24 AM	Pack normal: 16 cells detected
2/28/2023, 10:12:59 AM	Graceful shutdown
2/28/2023, 10:12:21 AM	Maintenance settings downloaded from cloud to EMS2
2/28/2023, 10:10:19 AM	System setup settings downloaded from cloud to EMS2

Showing 1 to 19 of 19 entries Previous 1 Next

 Collapse Menu

Subscription



Elite Power Solutions Analytics Subscription



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Subscription Management Page

Refresh

victor.yan@elitepowersolutions.com



Welcome back,
victor.yan@elitepowersolutions.com

Total units:73

Subscribed units:8

Unsubscribed units:63

Subscription ending soon units:2

Daily report on subscribed devices Save

Transfer Subscription

Add/Cancel Subscription

From: MAC ID

TARGET: MAC ID

Transfer Now

Column visibility Show 10 entries

Search: EMS-

<input type="checkbox"/>	System ID	Name	System Status	Subscription
<input checked="" type="checkbox"/>	b8:27:eb:ac:20:68	EMS-466	Pack Normal	Basic
<input checked="" type="checkbox"/>	b8:27:eb:bd:55:20	EMS-161	Pack Normal	Basic
<input type="checkbox"/>	b8:27:eb:1c:27:58	EMS-155	Pack Normal	Basic
<input type="checkbox"/>	b8:27:eb:5d:16:1c	EMS-162	Pack Normal	Basic
<input type="checkbox"/>	b8:27:eb:7e:1c:16	EMS-140	Pack Normal	Basic
<input type="checkbox"/>	b8:27:eb:36:ba:0b	EMS-172	Pack Normal	Basic
<input type="checkbox"/>	b8:27:eb:ba:0b:1c	EMS-442	Pack Normal	Auto renew on 3/31/2023

Showing 1 to 7 of 7 entries (filtered from 73 total entries) 2 rows selected

Previous 1 Next


Subscribe selected devices

Cancel subscription

Individual System Status (Real-time Charts)



Remote Parameter Setup (Real-time)



Elite Power Solutions Analytics System Setup

Welcome to EPS Eng Test (b8:27:eb:5b:7e:5d) System Setup

[Refresh](#) victor.yan@elitepowersolutions.com*


SAVE	SAVE PDF	Search:
Setup	Details	
Cell Capacity	<input type="text" value="100"/>	
Number of cells in series	<input type="text" value="12"/>	
Number of subpacks in parallel	<input type="text" value="12"/>	
Total number of cells	<input type="text" value="144"/>	
Shunt size (A)	<input type="text" value="500"/>	
Sense board version	<input type="text" value="V7"/>	
Differential	<input type="text" value="Yes"/>	
Temperature units	<input type="text" value="Fahrenheit"/>	
Bluetooth device	<input type="text" value="Android"/>	
External Wifi Dongle	<input type="text" value="Yes"/>	
External Bluetooth Dongle	<input type="text" value="No"/>	
Minimum % SOC cutoff	<input type="text" value="No"/>	
Minimum % SOC	<input type="text" value="0"/>	
ABC mode	<input type="text" value="No"/>	

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Refresh

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Search:

Equipment ID	Name	Equipment Status	Last Online Status	Alarm Occurred	Alarms	Warnings	BOD % SOC	EOD % SOC	Minimum % SOC	Maximum Current (A)	Accumulated Usage (SOC %)	Accumulated # of Charges	Previous Day Usage (SOC)%	Previous Day # of Charger Plugins	Previous Day # of Completed Charges	Previous Day # of Hot Disconnect(s)	% Data Uploaded	Version
b8:27:en:12:34:50	EPS Demo0	ONLINE	Pack normal	No	-	-	50	52	43	114	7497	1874	74	4	2	0	100%	2.9.3
b8:27:en:12:34:51	EPS Demo1	ONLINE	Pack normal	No	-	-	13	71	42	159	2476	619	64	3	3	2	100%	2.9.3
b8:27:en:12:34:52	EPS Demo10	ONLINE	Pack normal	No	Cell low voltage alarm - Min Volt: 2.9; Cell: [24]	Cell low voltage	44	100	53	152	8851	2212	74	2	1	2	100%	2.9.3
b8:27:en:12:34:53	EPS Demo11	ONLINE	Pack normal	No	-	-	13	57	60	290	7230	1807	59	2	2	0	100%	2.9.3
b8:27:en:12:34:54	EPS Demo12	ONLINE	Pack normal	No	-	-	26	85	33	278	2216	738	34	5	1	0	100%	2.9.3
b8:27:en:12:34:55	EPS Demo13	ONLINE	Pack normal	No	-	-	13	70	44	135	3027	605	44	3	1	0	100%	2.9.3
b8:27:en:12:34:56	EPS Demo14	ONLINE	Pack normal	No	-	-	35	92	43	132	7577	1894	68	2	2	1	100%	2.9.3
b8:27:en:12:34:57	EPS Demo15	ONLINE	Pack normal	No	-	-	17	92	42	218	9555	2388	65	2	2	0	100%	2.9.3
b8:27:en:12:34:58	EPS Demo16	ONLINE	Pack normal	No	-	-	35	63	58	268	3467	693	70	3	1	0	100%	2.9.3
b8:27:en:12:34:59	EPS Demo17	ONLINE	Pack normal	No	-	-	9	77	65	217	9987	2496	42	3	1	0	100%	2.9.3
b8:27:en:12:34:66	EPS Demo18	ONLINE	Pack normal	No	-	-	2	93	52	150	5043	1681	54	3	1	2	100%	2.9.3

Daily Report Excel Export

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
1	Equip ID	Name	Equip Status	Online Status:	Alarm Occurr	Alarms	Warnings	BOD %SOC	EOD %SOC	Min %SOC	Max Current	Accumulative	Accumulative	Previous Day	Previous Day	Previous Day	Previous Day	% Data Uploa	zVers
2	b8:27:eb:11:22:07	EPS TEST 7	ONLINE	Pack normal:	No	-	-	75	90	40	279.2	303	141	141	10	1	0	90	2.9
3	b8:27:eb:11:22:08	EPS TEST 8	ONLINE	Pack normal:	No	-	-	63	95	60	209.6	7336	6435	85	6	4	2	100	2.9
4	b8:27:eb:11:22:09	EPS TEST 9	ONLINE	Pack normal:	No	-	-	100	93	83	265.3	19085	10582	97	10	3	0	100	2.9
5	b8:27:eb:11:22:10	EPS TEST 10	Offline	Pack normal:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
6	b8:27:eb:11:22:11	EPS TEST 11	Offline	IMMINENT S-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
7	b8:27:eb:11:22:12	EPS TEST 12	ONLINE	Pack normal:	No	-	-	90	88	75	267.2	22633	15667	61	11	2	4	100	2.9
8	b8:27:eb:11:22:13	EPS TEST 13	ONLINE	Pack normal:	No	-	-	82	68	57	300.7	19489	2571	92	3	1	0	100	2.9
9	b8:27:eb:11:22:14	EPS TEST 14	Offline	Pack normal:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
10	b8:27:eb:11:22:15	EPS TEST 15	Offline	Pack normal:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
11	b8:27:eb:11:22:16	EPS TEST 16	ONLINE	Pack SOC set No	-	-	-	99	80	47	299.5	19140	10170	154	7	6	0	100	2.9
12	b8:27:eb:11:22:17	EPS TEST 17	ONLINE	Pack normal:	Yes	-	Incompatible	88	90	50	282.7	538	161	119	8	3	0	70	2.9
13	b8:27:eb:11:22:18	EPS TEST 18	Offline	Pack normal:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
14	b8:27:eb:11:22:19	EPS TEST 19	ONLINE	Pack normal:	No	-	-	33	78	25	277.5	1987	186	77	5	2	1	100	2.9
15	b8:27:eb:11:22:20	EPS TEST 20	ONLINE	Pack normal:	No	-	-	38	98	37	314.2	16553	3454	12	3	1	0	30	2.9
16	b8:27:eb:11:22:21	EPS TEST 21	ONLINE	Pack normal:	Yes	-	Cell low volta	14	10	10	290.1	9233	1854	167	3	2	1	90	2.9
17	b8:27:eb:11:22:22	EPS TEST 22	Offline	Pack normal:	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
18	b8:27:eb:11:22:23	EPS TEST 23	Offline	IMMINENT S-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
19	b8:27:eb:11:22:24	EPS TEST 24	ONLINE	Pack normal:	Yes	-	Cell low volta	100	63	14	276.1	70085	10640	235	4	2	0	80	2.9
20	b8:27:eb:11:22:25	EPS TEST 25	ONLINE	Pack normal:	No	-	-	72	98	38	309.7	37691	11364	228	11	7	0	90	2.9
21	b8:27:eb:11:22:26	EPS TEST 26	Offline	Pack normal:	No	-	-	51	94	45	270.5	21313	14958	19	2	1	1	40	2.9
22	b8:27:eb:11:22:27	EPS TEST 27	ONLINE	Pack normal:	No	-	-	98	87	20	277.3	22190	4168	202	6	6	0	100	2.9
23	b8:27:eb:11:22:28	EPS TEST 28	Offline	Unmanaged i-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9
24	b8:27:eb:11:22:29	EPS TEST 29	ONLINE	Pack normal:	No	-	-	78	37	28	187.7	17083	3346	165	3	1	0	70	2.9
25	b8:27:eb:11:22:30	EPS TEST 30	ONLINE	Pack normal:	No	-	-	100	100	80	267.7	95	33	27	2	2	0	100	2.9
26	b8:27:eb:11:22:31	EPS TEST 31	ONLINE	Pack SOC set No	-	-	-	73	43	35	281.6	203	18	285	12	8	0	100	2.9
27	b8:27:eb:11:22:32	EPS TEST 32	ONLINE	Pack normal:	No	-	-	44	100	43	279.4	14220	3992	161	13	4	0	100	2.9
28	b8:27:eb:11:22:33	EPS TEST 33	Offline	Pack normal:	No	-	-	63	58	25	316.6	28759	7008	67	2	0	0	80	2.9

Analytics Charts



Elite Power Solutions Analytics Charts



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EMS-442 (b8:27:eb:ba:c3:1c)

Pro
Exp. 9/31/2023

Refresh

victor.yan@elitepowersolutions.com*

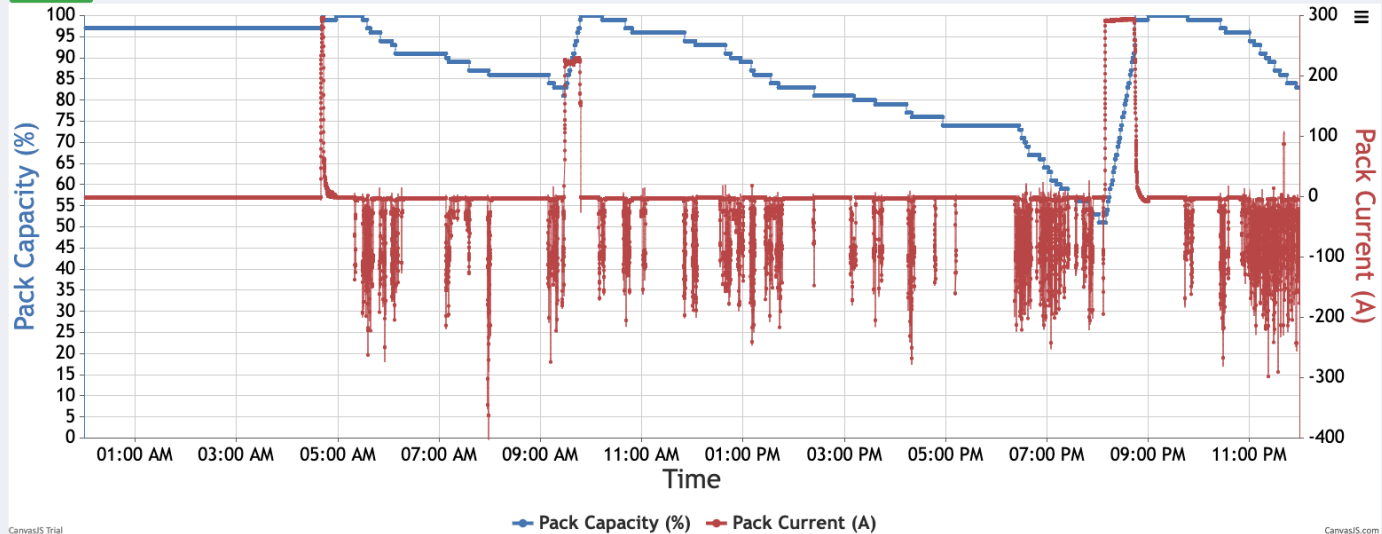
Select a date: 03/01/2023, 07:02:03 PM

2023-03-01 logs

Select data 1: SOC Select data 2: Pack Current

Submit

Select a timezone: Chandler, Arizona



CanvasJS Trial

CanvasJS.com