Daily Report Generation of JP Pilot Systems(v2)

Importing Data

```
System Name : system name

Data imported since :  2025-01-12 14:00:00,  Until :  2025-01-13 13:54:59
```

System's Operational Status

The following section lists the **Up-time** and **down-time** of System and associated componets.

Status	Duration_in_Hours
"System was Grid Connected for : "	23.916
"System was Off-Grid for: "	0
"System was Control ON for : "	23.916
"System was Control OFF for :"	0
"PV Available for :"	10.508
"PV Not Available for :"	13.408
"Battery was available for :"	23.916
"Battery was not available for : "	0

PV Energy Production(kWh)

This section displays the PV energy generation in kWh for the duration mentioned in the begining of the report.

```
Pv Energy Generated = 17.55 kWh
```

Verifying if the Bus voltages stary out of bounds

```
vbus data validated
```

Checking whether a grid outage has occured

- grid outage check by loss of grid frequency
- in an event of grid loss, check if inverter tripped because of it
- No message in this section mean no trip, no grid loss

```
Grid outage validated
```

Temperature Validation

Following table shows the average, minimum and maximum temperatures reported during the duration mentioned above.

Temperature Stats

	Average (°C)	Min (°C)	Max (°C)
Inverter-temp	5.4788	-7.1	28.8
Battery-temp	4.0086	-7.2	22.1
PV-temp	4.0892	-10.2	23.1

Ambient-temp	15.514	6.5	27.5
CM4-temp	38.621	29.6	51.6

Evaluating Trips

This section will list if any trips occured during the duration reported above.

Checking for Trip_1

```
Analyzing Trip-1

There were no trips in Trip1.

ans =

  0×4 empty table
```

Checking for Trip_2

```
Analyzing Trip-2

There were no trips in Trip2.

ans =

  0×4 empty table
```

Evaluating Alerts

Checking Alerts_1

```
Analyzing Alerts-1

There were no alerts in Alert1.

ans =

  0×4 empty table
```

Check for Alerts_2

```
Analyzing Alerts-12
```

ans = 261×4 table

	Time	AlertCode	AlertName	AlertDescription
1	2025-01-12 16:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
2	2025-01-12 16:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
3	2025-01-12 16:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
4	2025-01-12 16:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
5	2025-01-12 16:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
6	2025-01-12 16:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
7	2025-01-12 16:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
8	2025-01-12 16:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
9	2025-01-12 16:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'

	Time	AlertCode	AlertName	AlertDescription
10	2025-01-12 16:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
11	2025-01-12 16:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
12	2025-01-12 16:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
13	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
14	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
15	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
16	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
17	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
18	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
19	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
20	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
21	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
22	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
23	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
24	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
25	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
26	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
27	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
28	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
29	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
30	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
31	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
32	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
33	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
34	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
35	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
36	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
37	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
38	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
39	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
40	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
41	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
42	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'

	Time	AlertCode	AlertName	AlertDescription
43	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
44	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
45	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
46	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
47	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
48	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
49	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
50	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
51	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
52	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
53	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
54	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
55	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
56	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
57	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
58	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
59	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
60	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
61	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
62	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
63	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
64	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
65	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
66	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
67	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
68	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
69	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
70	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
71	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
72	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
73	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
74	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
75	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'

	Time	AlertCode	AlertName	AlertDescription
76	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
77	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
78	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
79	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
80	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
81	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
82	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
83	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
84	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
85	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
86	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
87	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
88	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
89	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
90	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
91	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
92	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
93	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
94	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
95	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
96	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
97	2025-01-12 17:...	'WAR 08820.SEInverter'	'PV3_UV_Alert'	'Gate Block PV3 converter due to UV'
98	2025-01-12 17:...	'WAR 08819.SEInverter'	'PV2_UV_Alert'	'Gate Block PV2 converter due to UV'
99	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'
100	2025-01-12 17:...	'WAR 08818.SEInverter'	'PV1_UV_Alert'	'Gate Block PV1 converter due to UV'

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Control Status

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Grid_status'}	{[1]}	{'Grid Good'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Grid_relay_status'}	{[0]}	{'Grid relay open'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Load_relay_status'}	{[0]}	{'Load relay open'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Hardware_trip_status'}	{[0]}	{'No trip'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Controls_status'}	{[0]}	{'Stopped (Gate Blocked)'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Export_status'}	{[0]}	{'Disabled'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Safety_trip_status'}	{[0]}	{'No trip'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Trip_reset_status'}	{[0]}	{'In-active'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Battery_status'}	{[0]}	{'Charging'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'PV_availability'}	{[0]}	{'Not available'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Battery_availability'}	{[0]}	{'Not available'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Comm_trip_status'}	{[0]}	{'No trip'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Aux_Relay_Status'}	{[0]}	{'Aux relay open'}

Time	Status	State	Description
{[2025-01-12 14:00:00]}	{'Bleeder_Status'}	{[0]}	{'Bleeder not active'}

Time	Status	State	Description

{[2025-01-12 14:00:00]} {'Simulation_Mode_Status'} {[0]} {'Simulation mode inactive'}