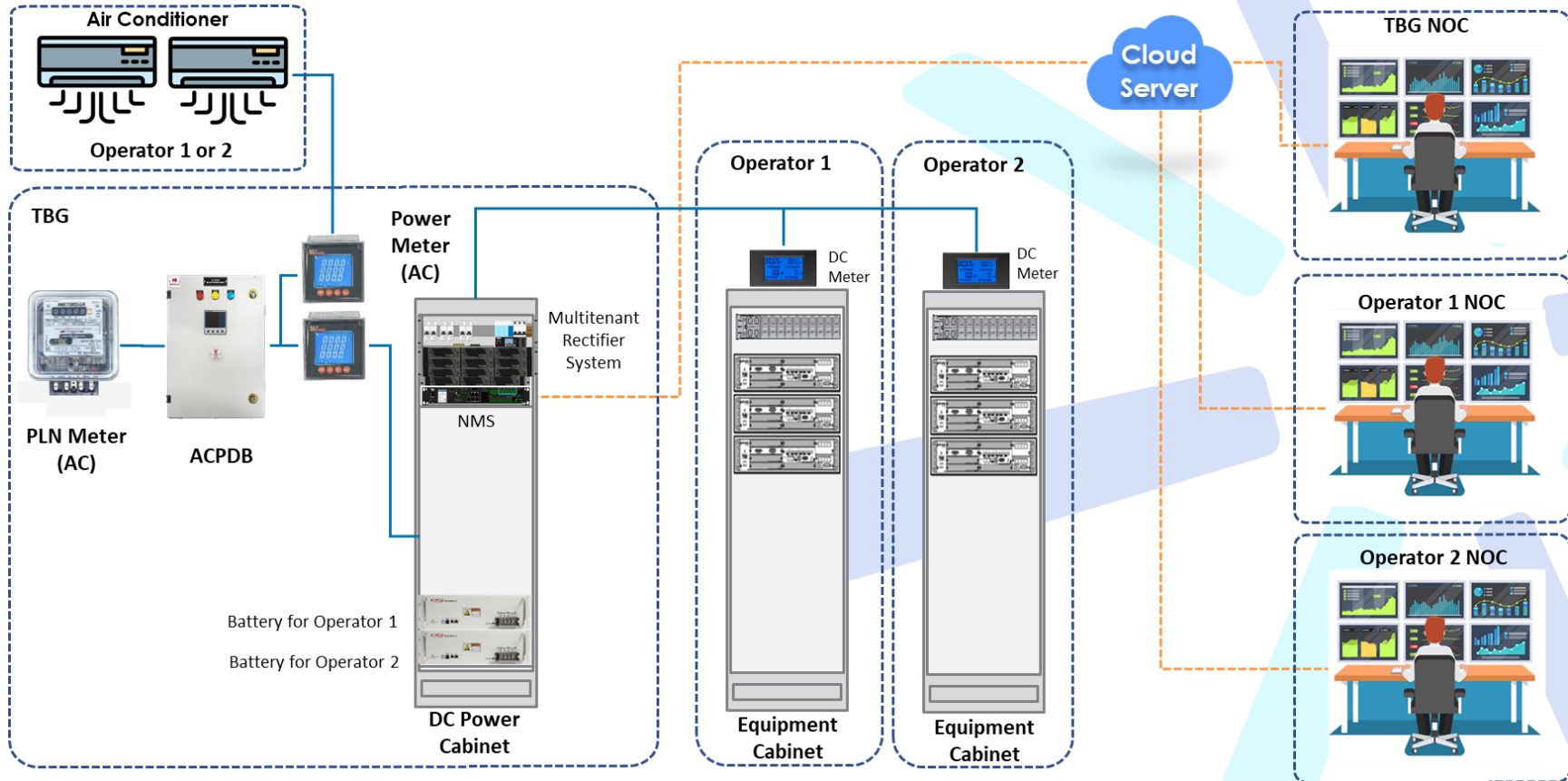




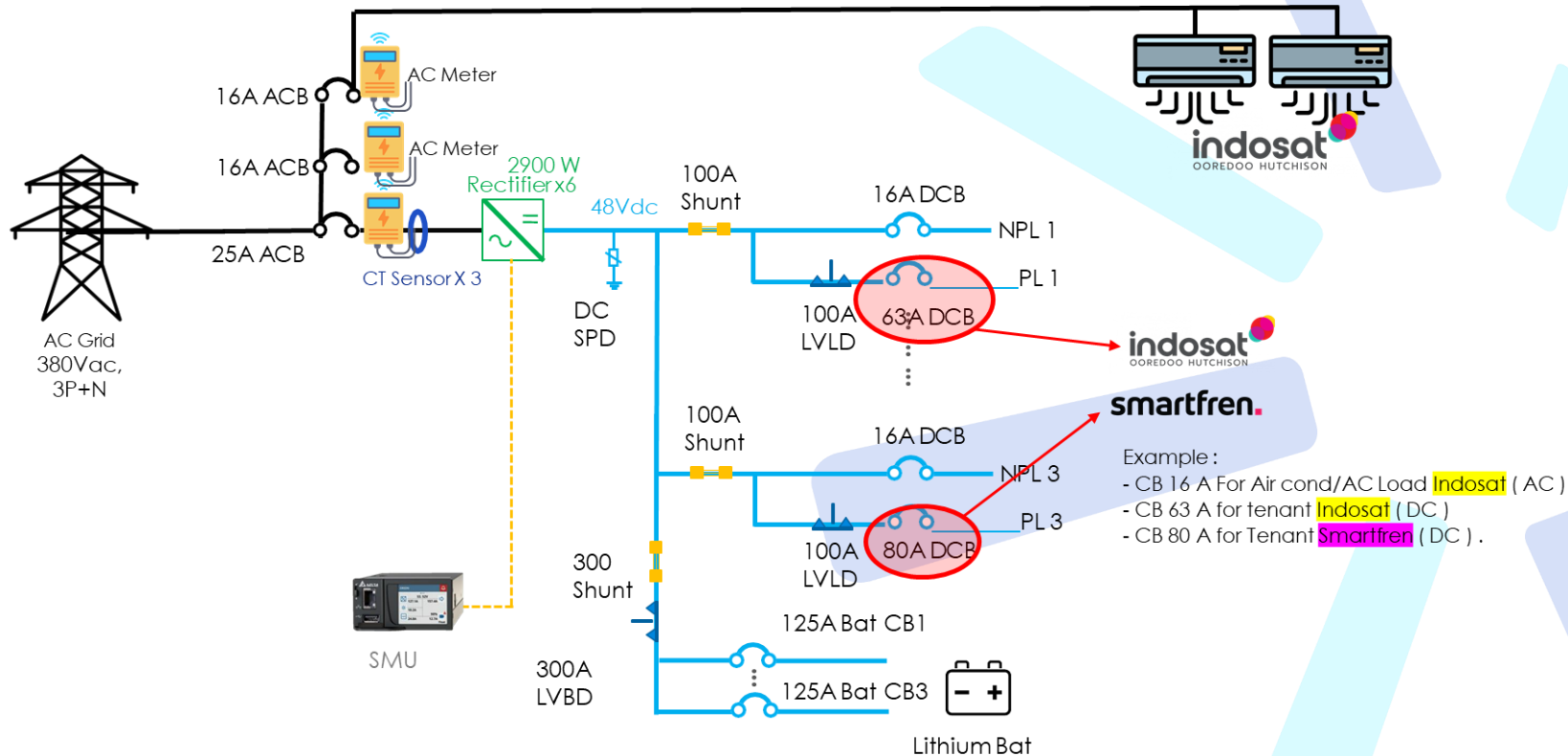
DC & NMS Power Concept



Requirement (Concept)



Requirement (SLD)



Requirement & Standardization

Current Concept

- DC Power lease is based on backup hour
- LVLD cut off by Voltage
 - If PLN Off or Voltage < 46 v → LVLD trip

New Concept

- DC Power lease is based on backup power in kWh
- LVLD cut off by Energy Load (E Load)
- E Load is set up based on operator request
- LVLD Minimum 2 Contactor / upgradable for multi tenant
- *For Existing Concept can be upgrade for multi tenant and cut off by Energy Load (E-Load)*
- NMS Include system. imbedded / External)
- Port External alarm & SNMP Upgradable

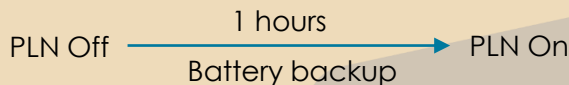
Backup Power Concept

Example

- Operator's Load (1000 W) :
 - PL : 500 W (transport equipment)
 - NPL : 500 W (BTS)
 - Backup power request : 1 hour
- } Backup power capacity : 1000 WH

Operator sets off the NPL (2G/3G/4G) off when electricity outage occurs and leaving behind transport equipment

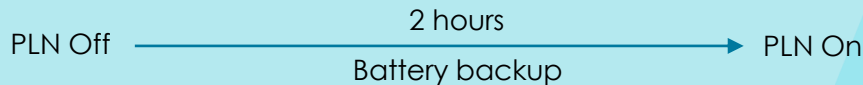
Current Concept



No matter whether operator sets off the NPL or not, battery only backs up for 1 hour

New Concept

NPL is set off → Total load : 500 W
→ Capacity : 500 WH



Concept of Backup Power by E-Loads

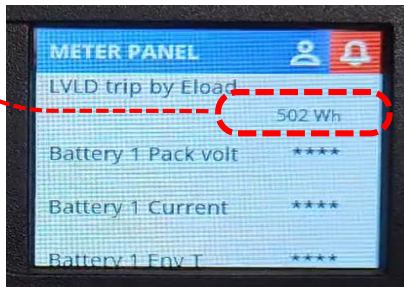
Example : E load is set up to 500 WH

Overview

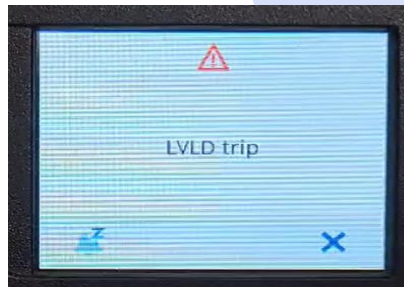
Filter: ☒ Case Sensitive

LVBD	Usys	low	43.50	V	3.00	V	indeterminate	read/write
LVLD	Usys	low	47.00	V	3.00	V	indeterminate	read/write
LVLD trip by Eload1	LVLD trip by Eload	high	500	Wh	0	Wh	indeterminate	read/write
TAH.	TA	high	50.0	°C	1.0	°C(Δ)	indeterminate	read/write

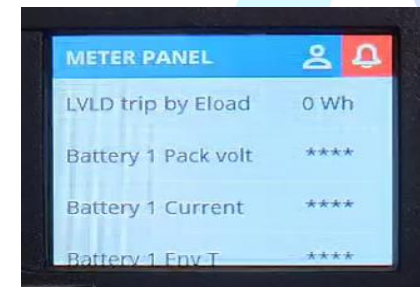
E-Load start Counter When the PLN Off



LVLD Trip After KWH Target Fulfilled



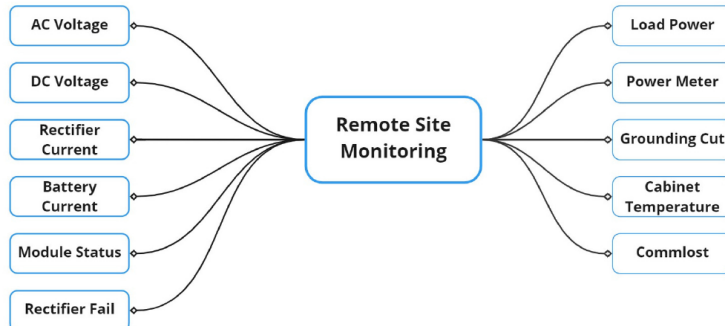
E-LOAD Cut OFF reset after PLN On



Requirement & Standardization

Minimum Design Requirement (NMS)

DEVICE & SENSOR		
1	IoT Gateway (Include RMS System)	<ul style="list-style-type: none">- Port RS485 available- Modem 4G- Ethernet Port RJ45 available- SD Card Slot / Memory available- CPU Atheros Wasp 550Mhz- Main Storage/NAND 16MB- RAM 128MB- Operating System RutOS(OpenWrt based)- Temperature Range -40C to 75C- Remote Monitoring System
2	Aksesoris Instalasi (Dinrail, Scun, Terminal Block, Cable Tis)	- Lokal
3	Current Transformer 5A/100A	- 5A / 100A
4	Modul Sensor Arus	<ul style="list-style-type: none">- Industrial grade- IEC Certified
5	TH Sensor	
6	Door Sensor	



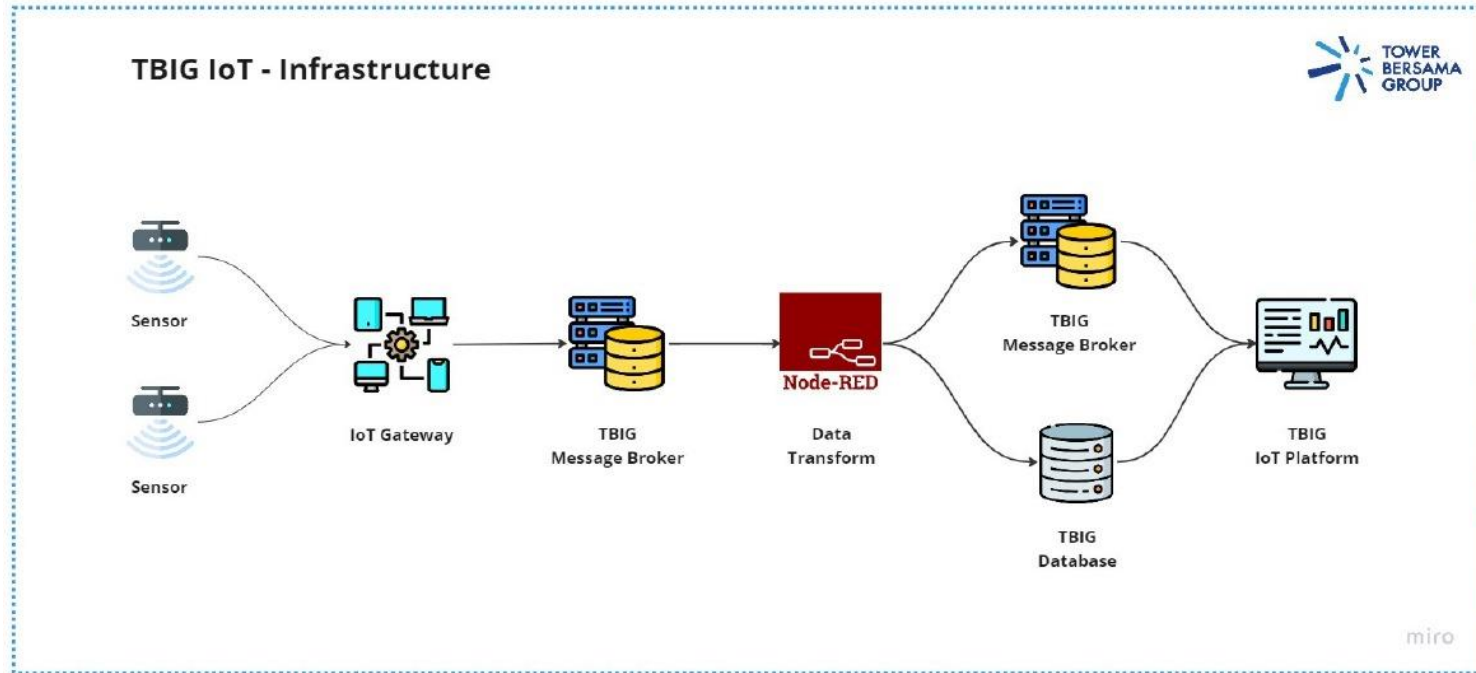
Potential
Update

Additional

1. CCTV
2. Infrared replacement belting volume change
3. Height sensor
4. Tilt sensor
5. Wind speed sensor
6. HumidityMotion sensors.

Requirement & Standardization

Platform Infrastructure



NMS Power TBG

RMS-TBIG IoT

TBIG RSM ▾

🕒 Realtime - last 30 minutes



XL NMS-TBIG IoT
Customer

Site Location



Device Info

Installed

875

Online

614

Offline

261

Alarms Occurs

Battery Door Open



0 Sites

Rectifier Door Open



30 Sites

AC_RectifierFail



12 Sites

Recti Communication Fail



11 Sites

All Recti Communication Fa



2 Sites

AC Fail



Battery High Temp



9 Sites

Grounding Cut



3 Sites

Battery Stolen



19 Sites

LVD Fail (Load Disconnect)



16 Sites

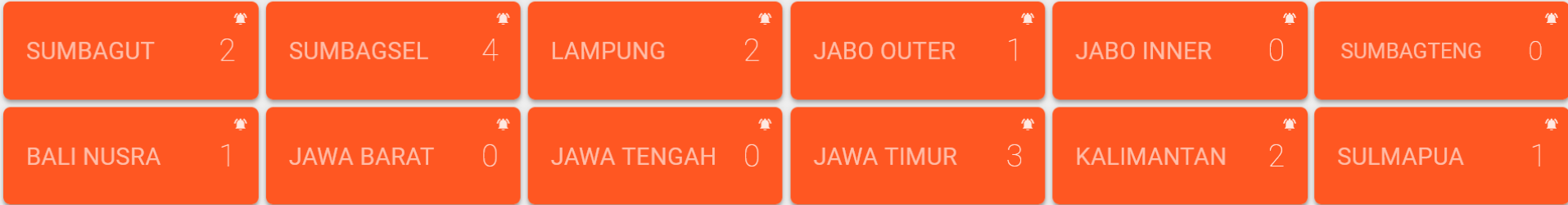
Load Fuse Fail



5 Sites

65 Sites

Alarms Occurs by Region



Alarms Occurs List

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🕒 Realtime - last 30 days

SiteID	Customer Site ID	SiteNameTBG	Alarm	Created time ↓	TBiG TT Number	TBiG TT Status	Cleared time	Acknowledged time
1302001003	JAW-BT-RKB-0795	MIFTAHUL_FALAH_TUNJUNG_TEJA	Battry Stolen	2024-04-02 08:19:02				...
2700641026	SUL-SG-KDI-0262	COMBAT CRU AFIKA RESIDENCE	AC Fail / Mains Fail	2024-04-02 08:13:36				...
210271109	KAL-KT-KLK-0723	Sangai	AC Fail / Mains Fail	2024-04-02 08:05:56				...
100915109	SUM-LA-KLA-1361	DESABUMI JAYA	Gateway Offline	2024-04-02 08:00:11				...
70205104			Gateway Offline	2024-04-02 07:38:08				...
70205104			AC Fail / Mains Fail	2024-04-02 07:27:53				...
30739109	SUM-SB-PLJ-0979	KOTO HILIR TIMPEH	Gateway Offline	2024-04-02 06:49:41				...
123504109	JAW-JB-CKR-1612	SANTUNMW	Gateway Offline	2024-04-02 05:57:07				...
2007742004	KAL-KB-SAG-0866	IBS IBS_RAYA_NGAMBAN_SAG	Load Fuse Fail	2024-04-02 04:39:42				...

Region List

Region	Type
SUMBAGTENG	Region
SUMBAGUT	Region
JAWA TENGAH	Region
JAWA TIMUR	Region
JABO INNER	Region
SUMBAGSEL	Region
JAWA BARAT	Region
JABO OUTER	Region

Items per page: 12 1 - 12 of 12

Site List

Site	SiteID	Customer Site Id
WANAKAYA-PLANGBBSAN	122893109	JAW-JB-IDM-4104
INDRAMAYU_SLT	121099104	JAW-JB-IDM-4103
SUKABUMI_007(kertaraharja)	120227104	JAW-JB-CJR-4210
Mrgawindusmd-cantilan	122526109	JAW-JB-SMD-3987
Leuwimunding-Paningkiran	120134109	JAW-JB-MJL-3890
WANARAJA	121068104	JAW-JB-GRT-4050
PANARUBAN	120903104	JAW-JB-CJR-4208
NGALAMBANG	121202104	JAW-JB-MJL-3887

1 - 10 of 111



Sites Power Consumptions

Site Load Profile

Realtime - Current day

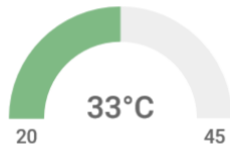
Site Name	SiteID	E Load	Load Current	DC Voltage	AC Energy PM	DC Energy PM	longitude	latitude
WANAKAYA-PLANGBBSAN	122893109	1.55 kW	28.80	54.00	3835.13	5419.25	107.915474	-6.465156
INDRAMAYU_SLT	121099104	1.65 kW	30.60	54.00	1378.06	8103.61	108.436562	-6.465131
SUKABUMI_007(kertaraharja)	120227104	1.51 kW	28.00	54.10	4701.47	6013.73	107.190353	-7.270088

Battery Details

BATTERY CAPACITY



BATTERY TEMPERATURE



Rectifier Details

Online

Rectifier 1

Normal

Rectifier 2

Normal

Rectifier 3

Not Connected

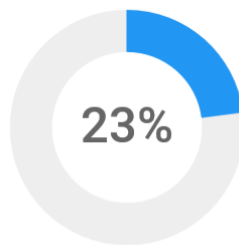
RECTIFIER TEMPERATURE

37°C

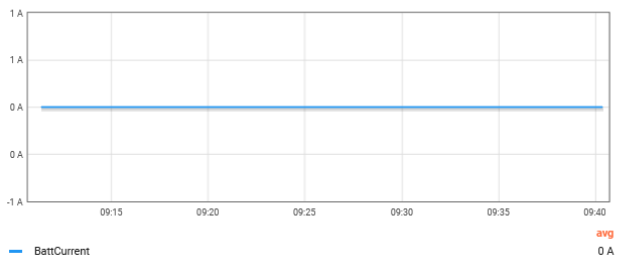
20

50

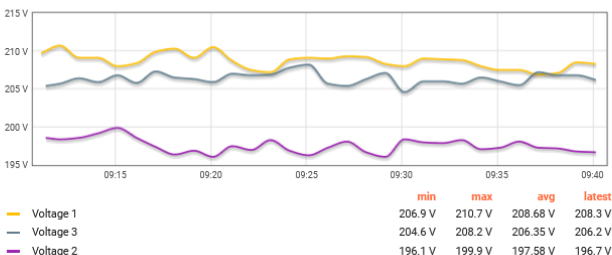
LOADUSAGE



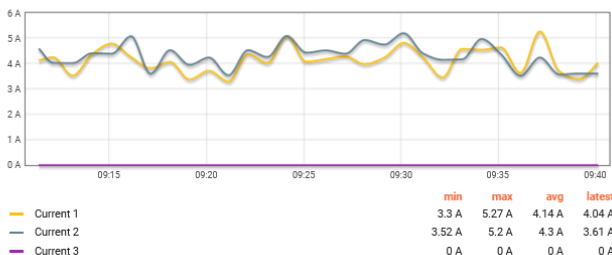
Battery Current



AC Voltage



AC Current



Need Additional Info From Battery Lithium

- SOC Battery
- SOH Battery

- Monitoring Cell Battery
- Alarm Notify

BackupTime

2h 42m

Rectifier Unit : 2 Module

Rectifier SN	Status	SiteID
2102312TCXLUP2005448	Normal	1268742003
2102312TCXLUP2002930	Normal	1268742003
N/A	N/A	1268742003

Details

Rects Total Current

25.40 A

DC Output Voltage

53.40 V

DC Output Current

25.00 A

DC Total

1.33 kW

Energy Consumptions

AC Consumption

5626 kWh

AC Daily kWh

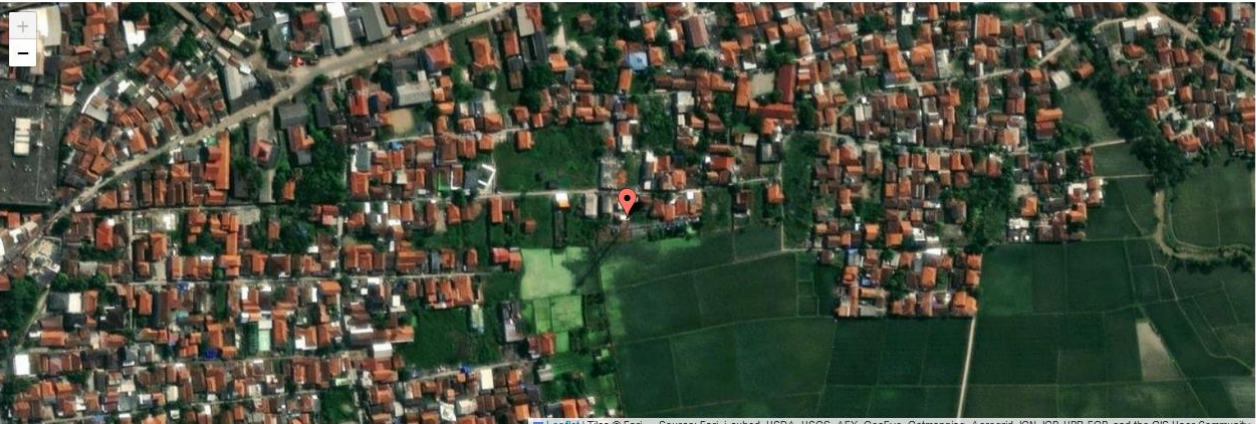
14.63 kWh

DC Consumption

8754 kWh

DC Daily kWh

13.82 kWh



Alarms

Realtime - last 30 days

SiteID	Site Name	Alarm	Created time ↓	Cleared time	TBIG TT Number	Ackn
1268742003	IBS Pamanukan	Rectifier Door Open	2024-03-31 12:58:35	2024-03-31 13:01:08		
1268742003	IBS Pamanukan	Gateway Offline	2024-03-27 09:23:54	2024-03-27 09:23:55		
1268742003	IBS Pamanukan	Gateway Offline	2024-03-26 12:21:49	2024-03-26 12:24:32		
1268742003	IBS Pamanukan	Gateway Offline	2024-03-26 09:48:49	2024-03-26 09:48:49		
1268742003	IBS Pamanukan	Gateway Offline	2024-03-25 18:04:32	2024-03-25 18:04:34		
1268742003	IBS Pamanukan	AC Fail / Mains Fail	2024-03-20 23:32:43	2024-03-20 23:33:14		
1268742003	IBS Pamanukan	Rectifier Door Open	2024-03-17 12:10:37	2024-03-17 12:22:32		

AC Energy Consumptions

Daily
14.63 kWh

This Month
34.86 kWh

Total kWh
5626 kWh

DC Energy Consumptions

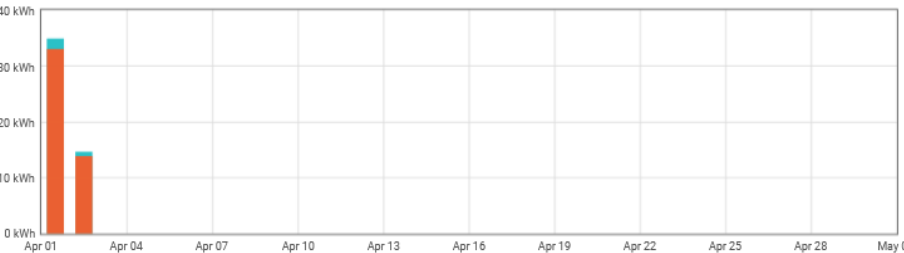
Daily kWh
13.84 kWh

Monthly kWh
67.85 kWh

Total kWh
8754.19 kWh

Details Energy Consumptions

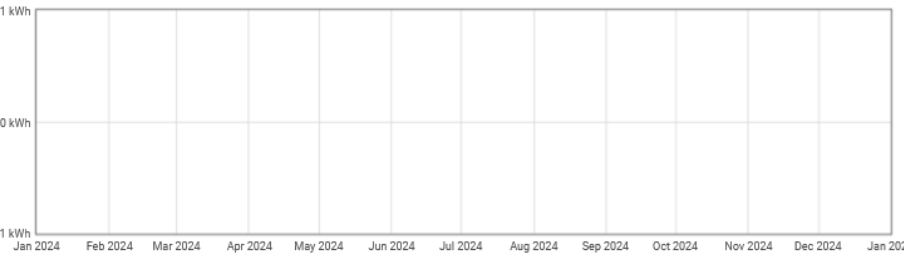
Daily Power Consumption



AC Daily Consumption
DC Daily Consumption

min	max	avg
14.66 kWh	34.89 kWh	24.78 kWh
13.87 kWh	33.02 kWh	23.45 kWh

Monthly Power Consumption



AC Monthly Consumption
DC Monthly Consumption



NMS Power TBG

Power Consumption details



🕒 Realtime - Current day



AC

DC

total

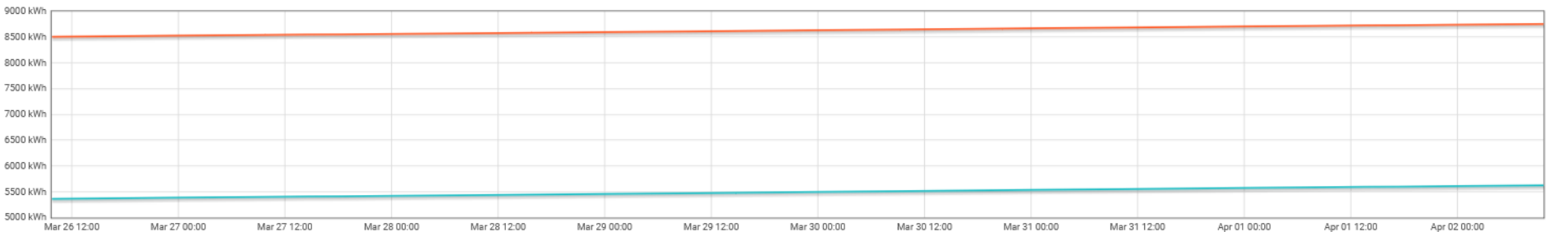
14.66 kWh

13.87 kWh

AC/DC kWh Meter



🕒 Realtime - last 7 days



DC Energy Consumption

AC Energy Consumption

min

max

avg

latest

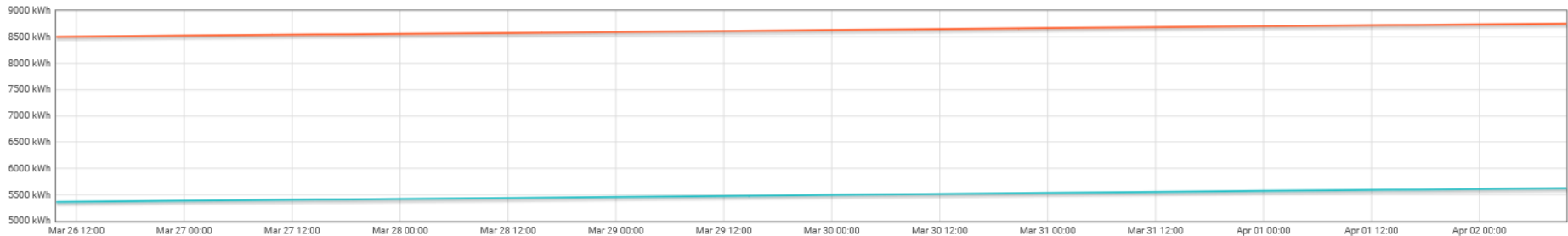
8506.39 kWh 8754.07 kWh 8630.31 kWh 8754.07 kWh

5364.57 kWh 5626.22 kWh 5495.51 kWh 5626.22 kWh



NMS Power TBG

Power Consumption details



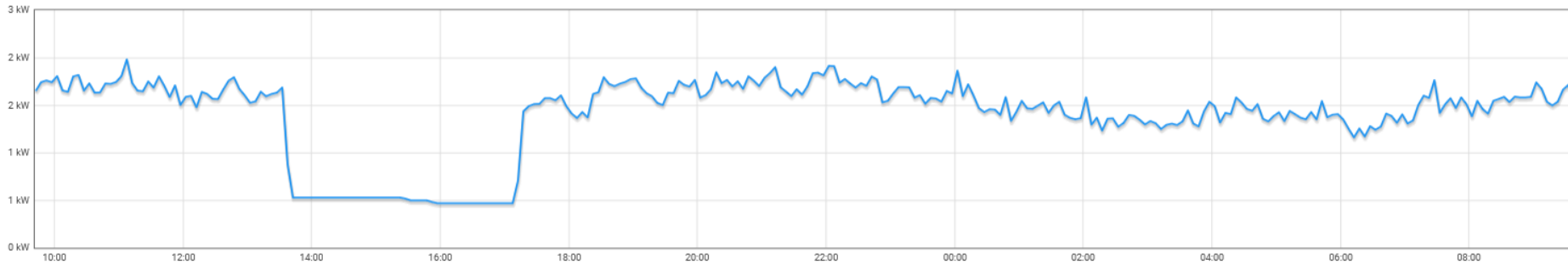
— DC Energy Consumption

— AC Energy Consumption

	min	max	avg	latest
DC Energy Consumption	8506.39 kWh	8754.07 kWh	8630.31 kWh	8754.07 kWh
AC Energy Consumption	5364.57 kWh	5626.22 kWh	5495.51 kWh	5626.22 kWh

Dc Total Power

🕒 Realtime - last day



min max avg latest



Thank You

