ICP DAS

IoTstar 2025

"Report Service"

Function Manual

[Version 1.0.0 - 2025/02/03]

ICP DAS 泓格科技

ICP DAS CO., LTD.

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1 Introduction

IoTstar 2025 is the latest version of ICP DAS's IoT cloud management software. It integrates the original IoTstar software and service packages (Dashboard Service, Report Service, Bot Service, etc.) into a single product, streamlining IoTstar's purchasing and installation process while making the system more intuitive and convenient to use. In addition to retaining all features and service packages from the previous version, IoTstar 2025 introduces several new user-centric functions and significantly enhances the overall user experience.

IoTstar 2025 can be installed on private PCs or VM (Virtual Machine) systems hosted on cloud platforms such as Microsoft Azure, IBM Bluemix, Amazon AWS and Google Cloud. This enables users to quickly establish their own IoT cloud monitoring systems. With IoTstar 2025, users can create IoT cloud systems that deliver the following services:

1. Controller Remote Access Service: Status Monitoring, System Setting, and Firmware Update for WISE/PMC/PMD controllers.
2. Sensor Data Collection Service: Collect the data of the sensor connected to the controller and import the data into the Database on cloud.
3. Sensor Data Visualization Service: Review the data of the sensor connected to the controller through Dashboard interface.
4. Sensor Data Report Service: Provide statistical report for the data of the sensor connected to the controller.
5. Bot Service with Mobile Phone: Review the data of the sensor connected to the controller by mobile phone Bot service.

Figure 1-1: System Architecture of IoTstar 2025

IoTstar 2025 Report Service function provides statistic report service for the sensors connected to WISE/PMC/PMD controllers. By using IoTstar 2025 Report Service function, the data measured by the sensors can be converted into valuable statistical reports, so that the statistical reports of the operation status of the machines, equipment and facilities monitored by WISE/PMC/PMD can be provided as basis for making decisions, avoid biases and blind spots in decision-making, and be able to adjust the operation modes of the machines, equipment, and facilities to most appropriate to optimize the maximum benefit of system.

- Features
  - ➢ Provide a variety types of statistical reports for sensors and power meters.
  - ➢ In addition to the report for single I/O channel (or power meter loop), it also

provides the report for group of I/O channels (or power meter loops).

- Support the query of the "Daily/Weekly/Monthly/Quarterly/Yearly" statistical report with customized date.
- Provide data comparison function for comparing values of I/O channel (or power meter loop).
- Built-in editor for users to flexibly edit the report content (header and footer) to create desired report format.
- PDF & Excel file format supported for report output.

- Types of Report supported

Type of Report		Description
Report for Power Meter Loop	Single power meter loop	● Information for specified power meter loop.
		● Comparison of the data in different time periods for specified power meter loop.
	Group of power meter loops	● The energy consumption(kWh) and Max. Demand(kW) of the group.
		● Comparison of the data of each power meter loop included in the group in the same time period.
Report for I/O Channel	Single I/O channel	● Information for the specified I/O channel.
		● Comparison of the data in different time periods for specified I/O channel.
	Group of I/O channels	● Comparison of the data of each I/O channel included in the group in the same time period.

The following is the examples of reports built by IoTstar 2025 Report Service function:

- Report for "Power Meter Loop"

Power meter loop report

PMC-5231(Xindian office) / PM-4324-MTCP(Power meter of Area A) / Loop1(wall socket 1)

Day | Week | Month | Quarter | Year | Single Mode | Today 2021/10/08 | Data Shown | Template Management | Download PDF | Download Excel

Time	Max. Demand(kW)	Energy Consumption(kWh)	Avg. PF(%)	Avg. I Phase A(A)	Avg. V Phase A(V)	Avg. I Phase B(A)	Avg. V Phase B(V)	Avg. I Phase C(A)	Avg. V Phase C(V)	Avg. kVA	Avg. kvar
0	0.048	0.047	90.011	0.165	107.849	0.164	107.845	0.165	107.855	0.053	0.023
1	0.048	0.048	89.676	0.166	108.607	0.166	108.604	0.167	108.613	0.054	0.024
2	0.049	0.048	89.734	0.166	108.812	0.165	108.808	0.166	108.818	0.054	0.023
3	0.049	0.049	89.57	0.168	108.977	0.167	108.973	0.168	108.983	0.054	0.024
4	0.049	0.049	89.478	0.169	109.092	0.168	109.088	0.169	109.098	0.054	0.024
5	0.049	0.049	89.318	0.167	109.258	0.167	109.254	0.168	109.264	0.055	0.024
6	0.049	0.048	89.628	0.166	108.734	0.165	108.73	0.166	108.74	0.054	0.024
7	0.049	0.048	89.913	0.166	108.324	0.165	108.32	0.166	108.329	0.053	0.023
8	0.047	0.045	91.828	0.155	104.762	0.155	104.759	0.155	104.768	0.049	0.019
9	0.045	0.044	91.552	0.156	104.732	0.155	104.728	0.156	104.736	0.049	0.019
10	0.044	0.044	91.384	0.156	104.273	0.155	104.269	0.156	104.277	0.048	0.019
Summary											

Daily Highest Usage: 0.049kW
Occurrence Time: 2021-10-08 05:23:00
Daily Total Electricity Consumption: 0.721kWh

- Report for "Power Meter Loop Group (Loop Comparison mode)"

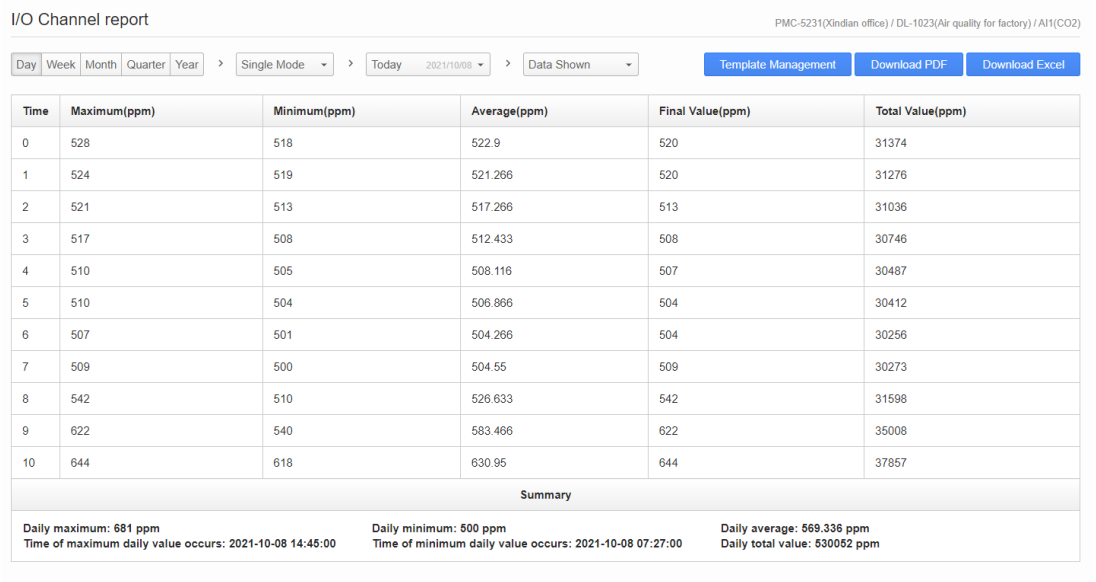
Power meter loop group report

PM Group

Day | Week | Month | Quarter | Year | Custom Date 2021/09/29 | Loop Comparison | Avg. V | Template Management | Download PDF | Download Excel

Time	Xindian office Power meter of Area B Loop1	Xindian office Power meter of Area A Loop2	Xindian office Power meter of Area A Loop3	Xindian office Power meter of Area A Loop5	Xindian office Power meter of Area A Loop6	Xindian office Power meter of Area A Loop7
0	109.437	109.394	109.392	109.411	109.402	109.397
1	110.25	110.207	110.204	110.223	110.212	110.209
2	110.325	110.282	110.278	110.297	110.287	110.283
3	110.495	110.454	110.45	110.469	110.459	110.456
4	110.456	110.414	110.409	110.429	110.418	110.416
5	110.417	110.372	110.37	110.389	110.378	110.373
6	109.78	109.737	109.734	109.753	109.743	109.739
7	108.815	108.775	108.771	108.791	108.781	108.779
8	105.546	105.504	105.5	105.516	105.508	105.506
9	104.663	104.625	104.62	104.635	104.627	104.627
10	104.432	104.394	104.388	104.403	104.397	104.396
Summary						
Daily electricity consumption of each loop	**0**	**0**	**0**	**0**	**0**	**1.149**
Daily Total Electricity Consumption	**1.149**					

- Report for "I/O Channel"



I/O Channel report

PMC-5231(Xindian office) / DL-1023(Air quality for factory) / AI1(CO2)

Day | Week | Month | Quarter | Year | Single Mode | Today 2021/10/08 | Data Shown | Template Management | Download PDF | Download Excel

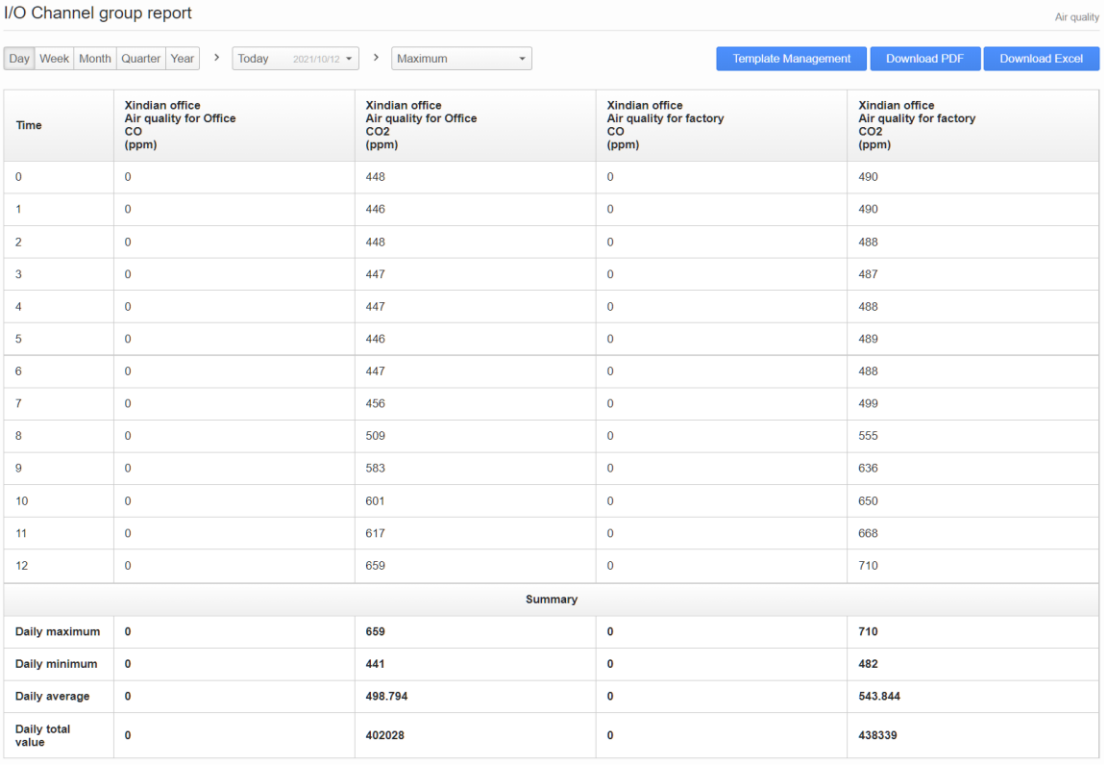
Time	Maximum(ppm)	Minimum(ppm)	Average(ppm)	Final Value(ppm)	Total Value(ppm)
0	528	518	522.9	520	31374
1	524	519	521.266	520	31276
2	521	513	517.266	513	31036
3	517	508	512.433	508	30746
4	510	505	508.116	507	30487
5	510	504	506.866	504	30412
6	507	501	504.266	504	30256
7	509	500	504.55	509	30273
8	542	510	526.633	542	31598
9	622	540	583.466	622	35008
10	644	618	630.95	644	37857
Summary					

Daily maximum: 681 ppm
Time of maximum daily value occurs: 2021-10-08 14:45:00

Daily minimum: 500 ppm
Time of minimum daily value occurs: 2021-10-08 07:27:00

Daily average: 569.336 ppm
Daily total value: 530052 ppm

- Report for "I/O Channel Group"



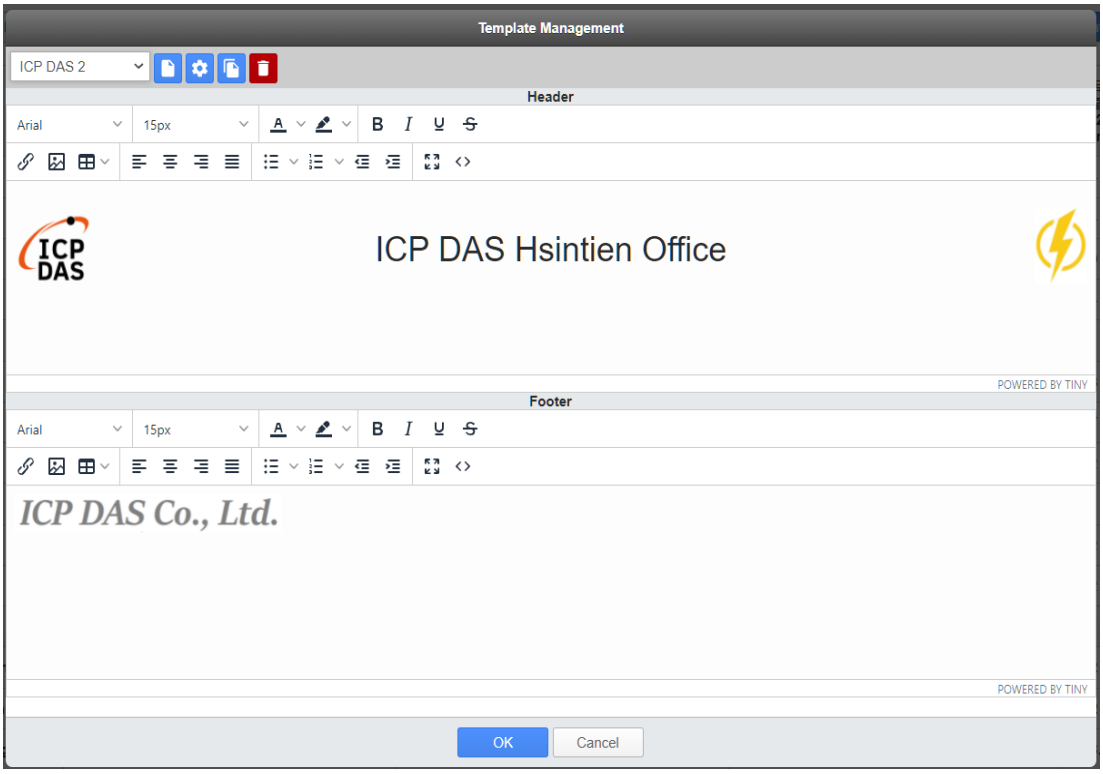
I/O Channel group report

Air quality

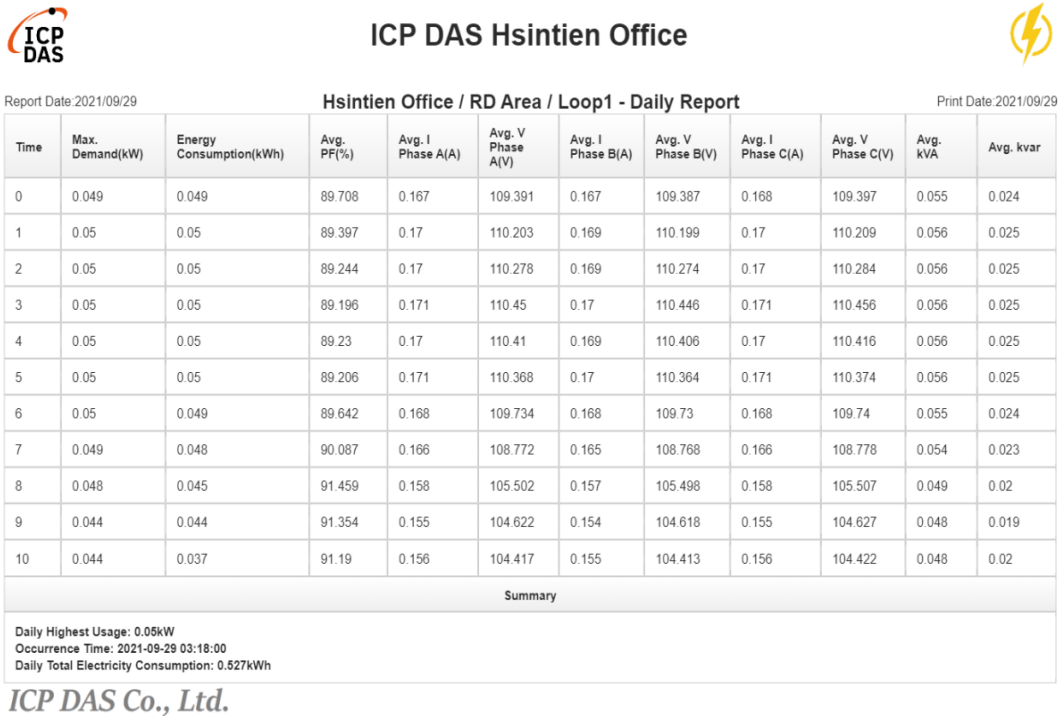
Day | Week | Month | Quarter | Year | Today 2021/10/12 | Maximum | Template Management | Download PDF | Download Excel

Time	Xindian office Air quality for Office CO (ppm)	Xindian office Air quality for Office CO2 (ppm)	Xindian office Air quality for factory CO (ppm)	Xindian office Air quality for factory CO2 (ppm)
0	0	448	0	490
1	0	446	0	490
2	0	448	0	488
3	0	447	0	487
4	0	447	0	488
5	0	446	0	489
6	0	447	0	488
7	0	456	0	499
8	0	509	0	555
9	0	583	0	636
10	0	601	0	650
11	0	617	0	668
12	0	659	0	710
Summary				
Daily maximum	0	659	0	710
Daily minimum	0	441	0	482
Daily average	0	498.794	0	543.844
Daily total value	0	402028	0	438339

- Report "Template Management (Editing for Report header and footer)"



- Report download (PDF file format)



ICP DAS Hsintien Office

Report Date:2021/09/29 — Hsintien Office / RD Area / Loop1 - Daily Report — Print Date:2021/09/29

Time	Max. Demand(kW)	Energy Consumption(kWh)	Avg. PF(%)	Avg. I Phase A(A)	Avg. V Phase A(V)	Avg. I Phase B(A)	Avg. V Phase B(V)	Avg. I Phase C(A)	Avg. V Phase C(V)	Avg. kVA	Avg. kvar
0	0.049	0.049	89.708	0.167	109.391	0.167	109.387	0.168	109.397	0.055	0.024
1	0.05	0.05	89.397	0.17	110.203	0.169	110.199	0.17	110.209	0.056	0.025
2	0.05	0.05	89.244	0.17	110.278	0.169	110.274	0.17	110.284	0.056	0.025
3	0.05	0.05	89.196	0.171	110.45	0.17	110.446	0.171	110.456	0.056	0.025
4	0.05	0.05	89.23	0.17	110.41	0.169	110.406	0.17	110.416	0.056	0.025
5	0.05	0.05	89.206	0.171	110.368	0.17	110.364	0.171	110.374	0.056	0.025
6	0.05	0.049	89.642	0.168	109.734	0.168	109.73	0.168	109.74	0.055	0.024
7	0.049	0.048	90.087	0.166	108.772	0.165	108.768	0.166	108.778	0.054	0.023
8	0.048	0.045	91.459	0.158	105.502	0.157	105.498	0.158	105.507	0.049	0.02
9	0.044	0.044	91.354	0.155	104.622	0.154	104.618	0.155	104.627	0.048	0.019
10	0.044	0.037	91.19	0.156	104.417	0.155	104.413	0.156	104.422	0.048	0.02

Summary

Daily Highest Usage: 0.05kW
Occurrence Time: 2021-09-29 03:18:00
Daily Total Electricity Consumption: 0.527kWh

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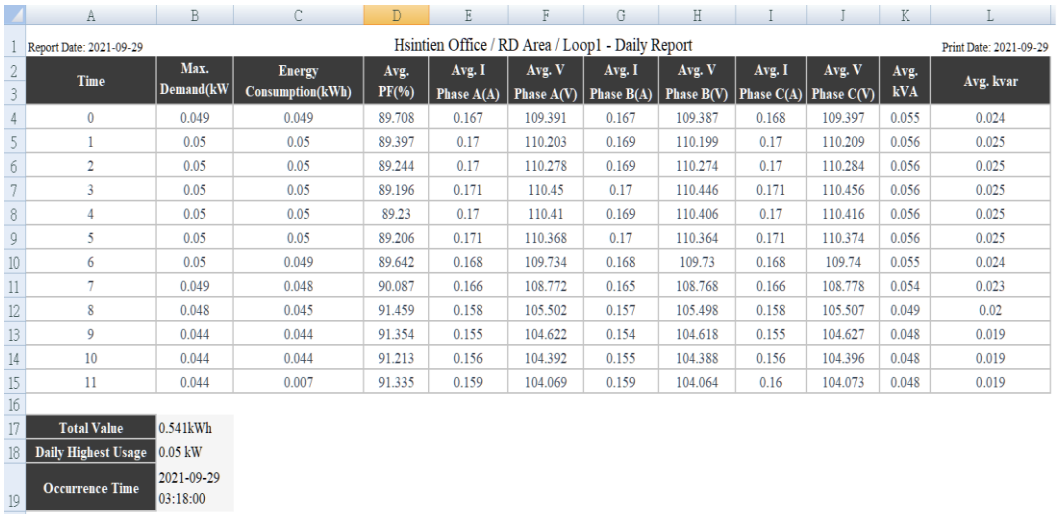
- Report download (Excel file format)



Report Date: 2021-09-29 — Hsintien Office / RD Area / Loop1 - Daily Report — Print Date: 2021-09-29

Time	Max. Demand(kW	Energy Consumption(kWh)	Avg. PF(%)	Avg. I Phase A(A)	Avg. V Phase A(V)	Avg. I Phase B(A)	Avg. V Phase B(V)	Avg. I Phase C(A)	Avg. V Phase C(V)	Avg. kVA	Avg. kvar
0	0.049	0.049	89.708	0.167	109.391	0.167	109.387	0.168	109.397	0.055	0.024
1	0.05	0.05	89.397	0.17	110.203	0.169	110.199	0.17	110.209	0.056	0.025
2	0.05	0.05	89.244	0.17	110.278	0.169	110.274	0.17	110.284	0.056	0.025
3	0.05	0.05	89.196	0.171	110.45	0.17	110.446	0.171	110.456	0.056	0.025
4	0.05	0.05	89.23	0.17	110.41	0.169	110.406	0.17	110.416	0.056	0.025
5	0.05	0.05	89.206	0.171	110.368	0.17	110.364	0.171	110.374	0.056	0.025
6	0.05	0.049	89.642	0.168	109.734	0.168	109.73	0.168	109.74	0.055	0.024
7	0.049	0.048	90.087	0.166	108.772	0.165	108.768	0.166	108.778	0.054	0.023
8	0.048	0.045	91.459	0.158	105.502	0.157	105.498	0.158	105.507	0.049	0.02
9	0.044	0.044	91.354	0.155	104.622	0.154	104.618	0.155	104.627	0.048	0.019
10	0.044	0.044	91.213	0.156	104.392	0.155	104.388	0.156	104.396	0.048	0.019
11	0.044	0.007	91.335	0.159	104.069	0.159	104.064	0.16	104.073	0.048	0.019

Total Value	0.541kWh
Daily Highest Usage	0.05 kW
Occurrence Time	2021-09-29 03:18:00

The following chapters will explain the operation of the Report Service function of IoTstar 2025 (hereinafter referred to as IoTstar). For instructions on software installation, system settings and other functions of IoTstar 2025, please refer to the IoTstar 2025 IoT Cloud Management Software User Manual.

2 Operation of IoTstar "Report Service" Function

When the installation of IoTstar is completed and the IoTstar Report Service function is enabled, user can use the function provided by IoTstar Report Service function to query the corresponding statistical report to review the I/O channel data (or Power data) from the I/O modules, sensor, or power meter connected to WISE / PMC / PM controllers. Following is the description for the function of IoTstar Report Service.

2.1 Launch IoTstar Report Service

Log in to IoTstar website, click on the "Report Service" button on the "Data Display & Analysis" section of IoTstar Webpage to enter the IoTstar Report Service page; the list of WISE / PMC / PMD controllers managed by IoTstar, the I/O channels of the sensors (and the power loops of the power meters) connected to the WISE / PMC / PMD controllers, and the I/O channel groups (and the power loop groups) will be shown in the Data Review/System Setting section. User can select the desired I/O channel (group) or power meter loop (group) to query the corresponding statistical report.

Please note: For the pre-setting of the I/O channel group and power meter loop group, please refer to the description of "Chapter 8 Grouping Setting" in the user manual of ICP DAS IoTstar IoT Cloud Management Software.

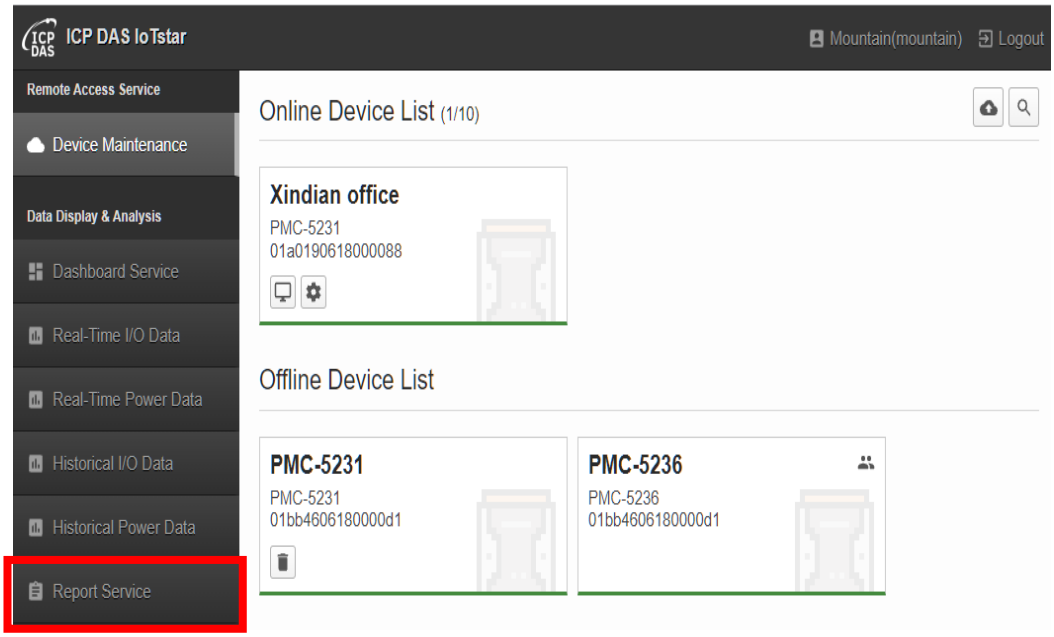


Figure 2-1: Launch IoTstar Report Service

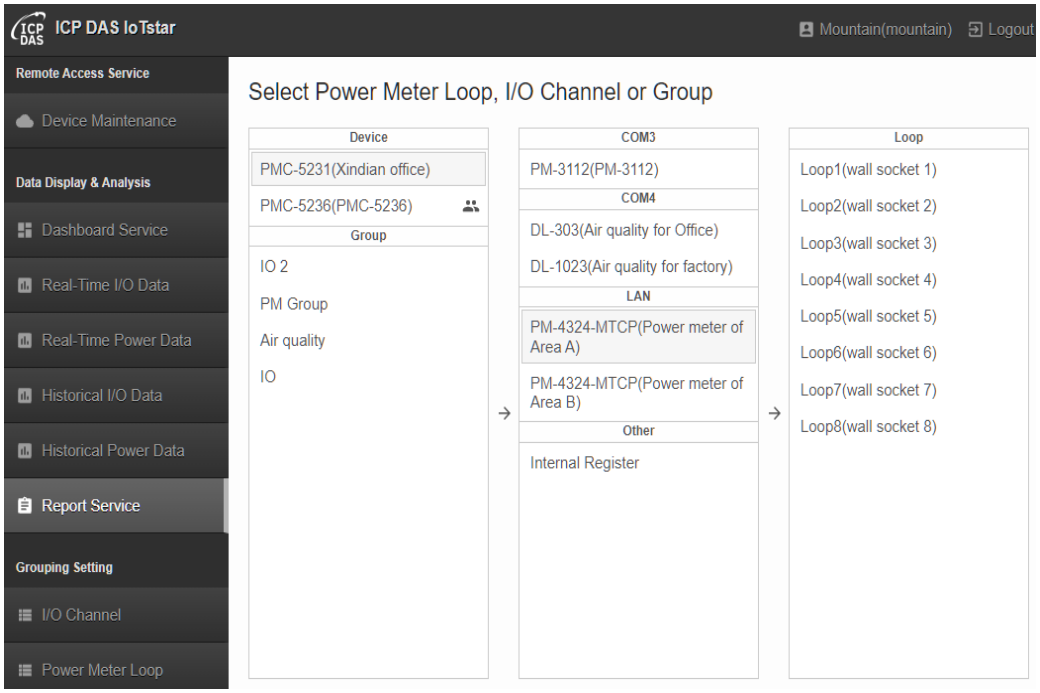
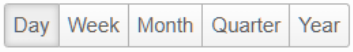


Figure 2-2: Enter IoTstar Report Service Page

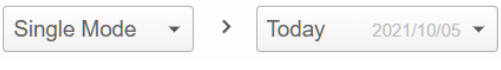
2.2 Power Meter Loop Report

When the desired power meter loop is selected, it will enter the "Power meter loop report" setting page. Please refer to the following steps for the setting of the report.

i. Select the Timeline 

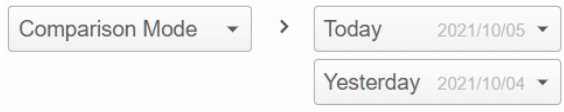
of this report at the upper left of the page. It provides 5 options: Daily report, Weekly report, Monthly report, Quarterly report and Yearly eport.

ii. Assign the Start date of the Timeline for the reoprt, the system provides following two options.

- Single Mode: After selecting "Single Mode", continue to assing the "Start Date" 

, It provides 5 options : Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" is completed, the system will generate the statistical report of the specified power meter loop according to the setting of "Start date + Timeline".

- Comparison Mode: After selecting "Comparison Mode", continue to assign the "Start Date" and "Comparison Date".



. It provides 5 options: Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" and "Comparison Date" are completed, the system will query and generate the comparison statistical report of the specified power meter loop in the "Start date + Timeline" and "Comparison Date + Timeline" time periods.

iii. After complate the Time period setting, user can select the desired power data type shown in the report. In the "Data shown" field, it provides "Max. Demand (kW)", "Energy Consumption(kWh)" , "Avg. PF(%)", "Avg I Phase A(A)", "Avg V phase A(V)", "Avg I Phase B(A)", "Avg V phase B(V)" "Avg I Phase C(A)", "Avg V phase C(V)", "Avge kVA" and "Avg kvar" for selection (multiple choice supported).

iv. After complete all settings, the system will generate the corresponding statistical report for the specified power meter loop.

Power meter loop report

PMC-5231(Xindian office) / PM-4324-MTCP(Power meter of Area A) / Loop1(wall socket 1)

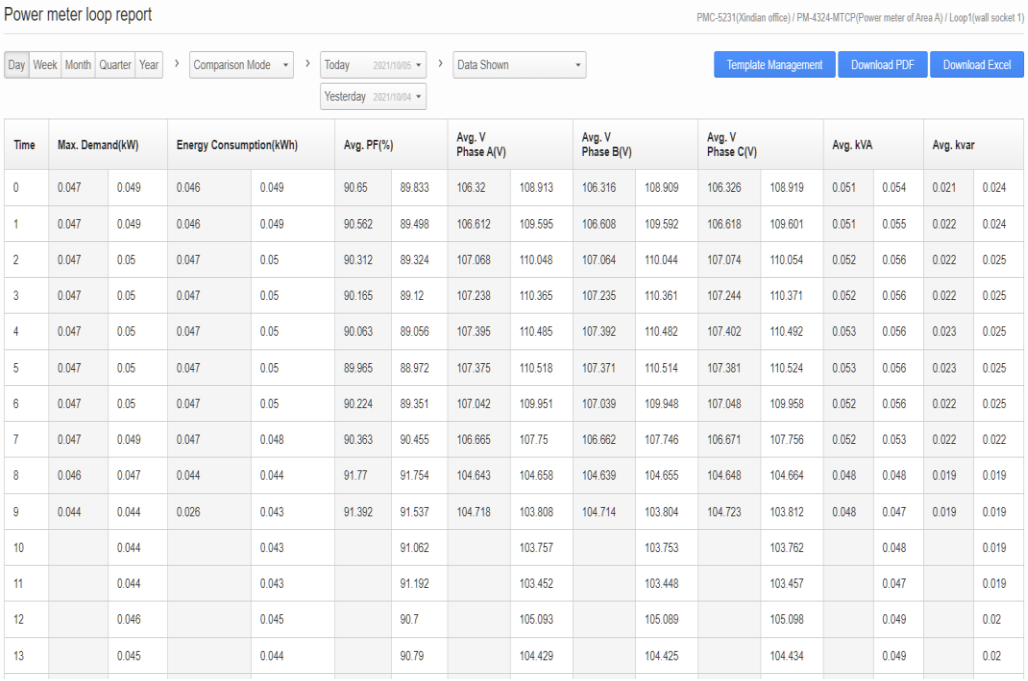
Day | Week | Month | Quarter | Year | Single Mode | Today 2021/10/05 | Data Shown | Template Management | Download PDF | Download Excel

Time	Max. Demand(kW)	Energy Consumption(kWh)	Avg. PF(%)	Avg. I Phase A(A)	Avg. V Phase A(V)	Avg. I Phase B(A)	Avg. V Phase B(V)	Avg. I Phase C(A)	Avg. V Phase C(V)	Avg. kVA	Avg. kvar
0	0.047	0.046	90.65	0.162	106.32	0.161	106.316	0.162	106.326	0.051	0.021
1	0.047	0.046	90.562	0.163	106.612	0.162	106.608	0.163	106.618	0.051	0.022
2	0.047	0.047	90.312	0.164	107.068	0.163	107.064	0.164	107.074	0.052	0.022
3	0.047	0.047	90.165	0.163	107.238	0.163	107.235	0.163	107.244	0.052	0.022
4	0.047	0.047	90.063	0.164	107.395	0.163	107.392	0.164	107.402	0.053	0.023
5	0.047	0.047	89.965	0.165	107.375	0.165	107.371	0.166	107.381	0.053	0.023
6	0.047	0.047	90.224	0.163	107.042	0.162	107.039	0.163	107.048	0.052	0.022
7	0.047	0.047	90.363	0.163	106.665	0.162	106.662	0.163	106.671	0.052	0.022
8	0.046	0.044	91.77	0.155	104.643	0.154	104.639	0.155	104.648	0.048	0.019
9	0.044	0.026	91.392	0.156	104.718	0.155	104.714	0.156	104.723	0.048	0.019

Summary

Daily Highest Usage: 0.047kW
Occurrence Time: 2021-10-05 04:47:00
Daily Total Electricity Consumption: 0.449kWh

Figure 2-3: Power Meter loop Report - Single mode


Power meter loop report

PMC-5231(Xindian office) / PM-4324-MTCP(Power meter of Area A) / Loop1(wall socket 1)

Day | Week | Month | Quarter | Year › Comparison Mode › Today 2021/10/05 › Data Shown

Yesterday 2021/10/04

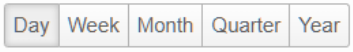
Template Management | Download PDF | Download Excel

Time	Max. Demand(kW)		Energy Consumption(kWh)		Avg. PF(%)		Avg. V Phase A(V)		Avg. V Phase B(V)		Avg. V Phase C(V)		Avg. kVA		Avg. kvar	
0	0.047	0.049	0.046	0.049	90.65	89.833	106.32	108.913	106.316	108.909	106.326	108.919	0.051	0.054	0.021	0.024
1	0.047	0.049	0.046	0.049	90.562	89.498	106.612	109.595	106.608	109.592	106.618	109.601	0.051	0.055	0.022	0.024
2	0.047	0.05	0.047	0.05	90.312	89.324	107.068	110.048	107.064	110.044	107.074	110.054	0.052	0.056	0.022	0.025
3	0.047	0.05	0.047	0.05	90.165	89.12	107.238	110.365	107.235	110.361	107.244	110.371	0.052	0.056	0.022	0.025
4	0.047	0.05	0.047	0.05	90.063	89.056	107.395	110.485	107.392	110.482	107.402	110.492	0.053	0.056	0.023	0.025
5	0.047	0.05	0.047	0.05	89.965	88.972	107.375	110.518	107.371	110.514	107.381	110.524	0.053	0.056	0.023	0.025
6	0.047	0.05	0.047	0.05	90.224	89.351	107.042	109.951	107.039	109.948	107.048	109.958	0.052	0.056	0.022	0.025
7	0.047	0.049	0.047	0.048	90.363	90.455	106.665	107.75	106.662	107.746	106.671	107.756	0.052	0.053	0.022	0.022
8	0.046	0.047	0.044	0.044	91.77	91.754	104.643	104.658	104.639	104.655	104.648	104.664	0.048	0.048	0.019	0.019
9	0.044	0.044	0.026	0.043	91.392	91.537	104.718	103.808	104.714	103.804	104.723	103.812	0.048	0.047	0.019	0.019
10		0.044		0.043		91.062		103.757		103.753		103.762		0.048		0.019
11		0.044		0.043		91.192		103.452		103.448		103.457		0.047		0.019
12		0.046		0.045		90.7		105.093		105.089		105.098		0.049		0.02
13		0.045		0.044		90.79		104.429		104.425		104.434		0.049		0.02

Figure 2-4: Power Meter loop Report - Comparison mode

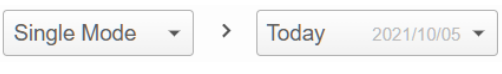
2.3 I/O Channel Report

When the desired I/O channel is selected, it will enter the "I/O channel report" setting page. Please refer to the following steps for the setting of the report.

i. Select the Timeline 

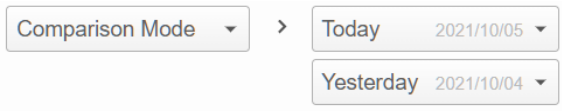
of this report at the left upper of the page. It provides 5 options: Daily report, Weekly report, Monthly report, Quarterly report and Yearly eport.

ii. Assign the Start date of the Timeline for the reoprt, the system provides following two options.

- Single Mode: After selecting "Single Mode", continue to assing the "Start Date" 

, It provides 5 options : Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" is completed, the system will generate the statistical report of the specified I/O channel according to the setting of "Start date + Timeline".

- Comparison Mode: After selecting "Comparison Mode", continue to assign the "Start Date" and "Comparison Date".



. It provides 5 options: Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" and "Comparison Date" are completed, the system will generate the comparison statistical report of the specified I/O channel in the "Start date + Timeline" and "Comparison Date + Timeline" time periods.

iii. After complate the Time period setting, user can select the desired I/O channel data type shown in the report. In the "Data Shown" field, it provides "Maximum", "Minimum", "Average", "Final Value" and "Total Value" for selection (multiple choice supported).

iv. After complete all settings, the system will generate the corresponding statistical report for the specified I/O channel.

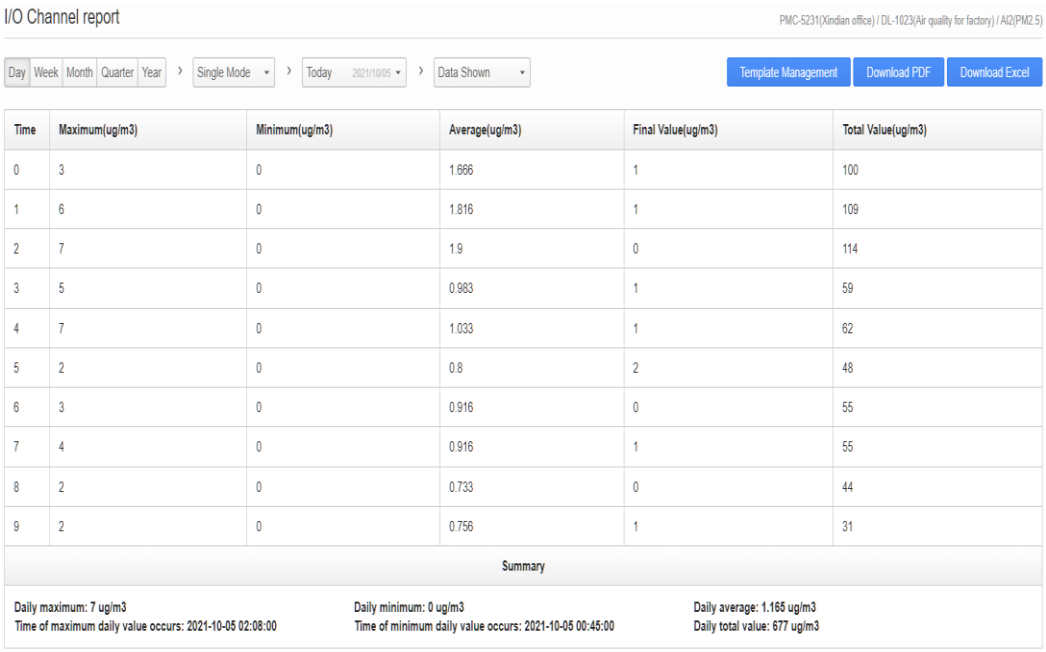
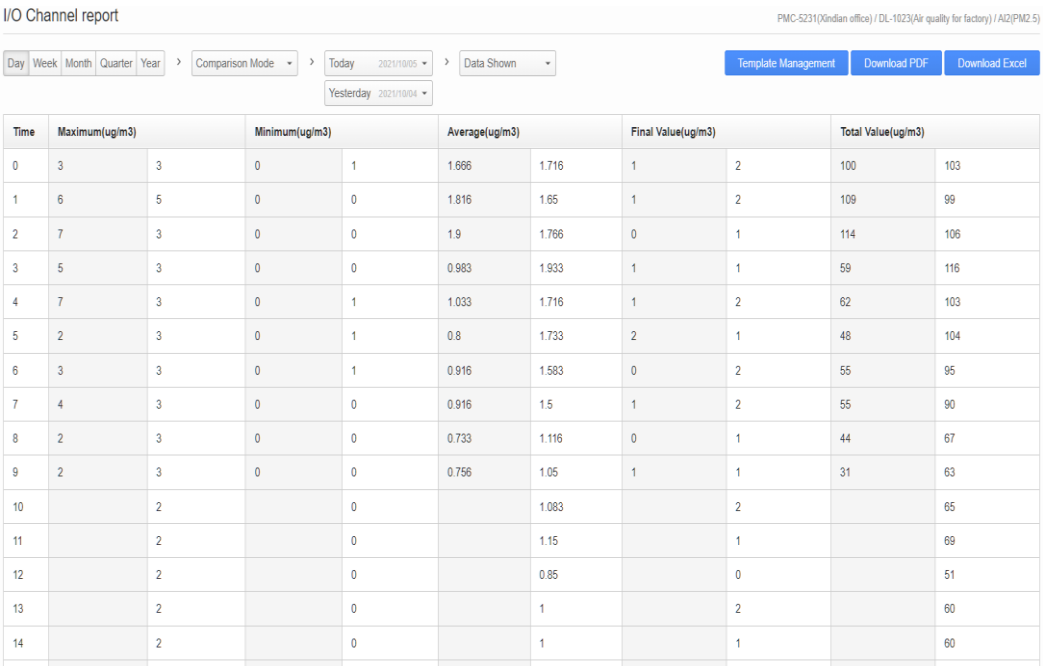


Figure 2-5: I/O Channel Report - Single mode

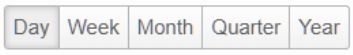


Time	Maximum(ug/m3)		Minimum(ug/m3)		Average(ug/m3)		Final Value(ug/m3)		Total Value(ug/m3)	
0	3	3	0	1	1.666	1.716	1	2	100	103
1	6	5	0	0	1.816	1.65	1	2	109	99
2	7	3	0	0	1.9	1.766	0	1	114	106
3	5	3	0	0	0.983	1.933	1	1	59	116
4	7	3	0	1	1.033	1.716	1	2	62	103
5	2	3	0	1	0.8	1.733	2	1	48	104
6	3	3	0	1	0.916	1.583	0	2	55	95
7	4	3	0	0	0.916	1.5	1	2	55	90
8	2	3	0	0	0.733	1.116	0	1	44	67
9	2	3	0	0	0.756	1.05	1	1	31	63
10		2		0		1.083		2		65
11		2		0		1.15		1		69
12		2		0		0.85		0		51
13		2		0		1		2		60
14		2		0		1		1		60

Figure 2-6: I/O Channel Report - Comparison mode

2.4 Power Meter Loop Group Report

When the desired power meter loop group is selected, it will enter the "Power meter loop group report" setting page. Please refer to the following steps for the setting of the report.

i. Select the Timeline  of this report at the left upper of the page. It provides 5 options : Daily report, Weekly report, Monthly report, Quarterly report and Yearly eport.

ii. Assign the Start date  of the Timeline for the reoprt, it provides 5 options : Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" is completed, the system will generate the statistical report of the specified power meter loop group according to the setting of "Start date + Timeline".

iii. Assign the type of group reoprt, the system provides following two options.

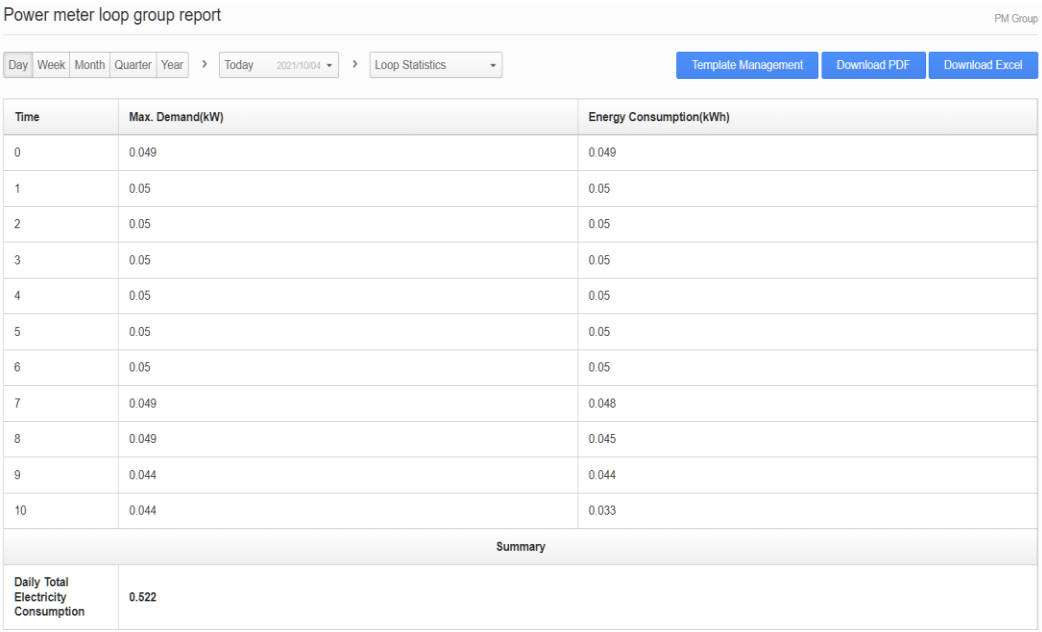
- Loop Statistics: After selecting "Loop Statistics"

Loop Statistics , the system will generate the statistical reports for the energy consumption(kWh) and Max. Demand(kW) of the power meter loop group.

- Loop Comparison: After selecting "Loop Comaprison "

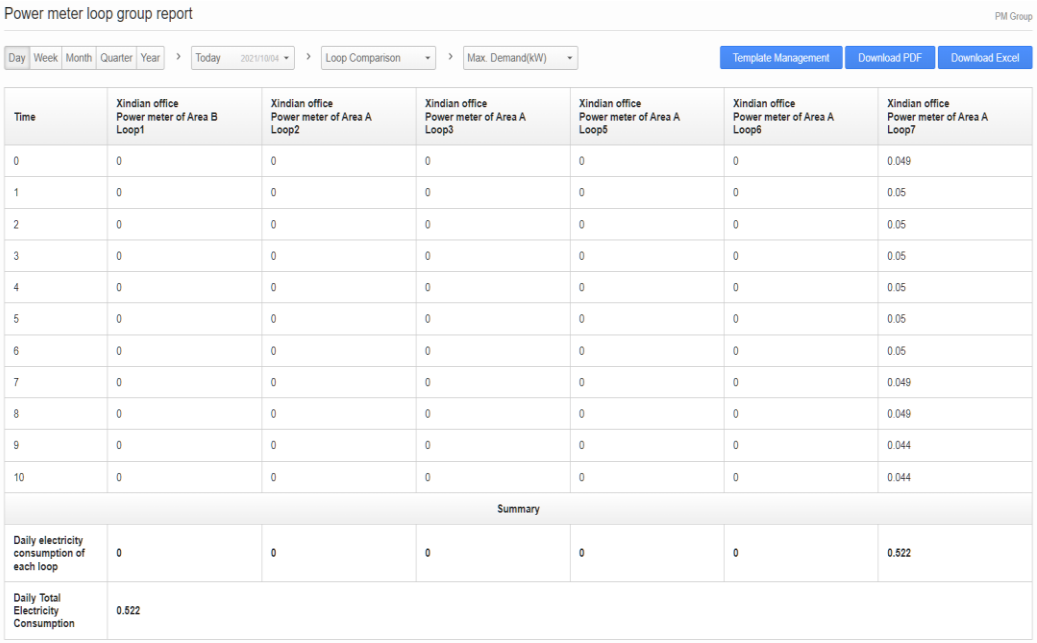
  Loop Comparison , user needs to select the desired item for the comparison of the data of each power meter loop included in the group. It provides 7 options: "Max. Demand (kW)", "Energy Consumption(kWh)" , "Avg. PF(%)", "Avg I", "Avg V", "Avge kVA" and "Avg kvar".

iv. After complete all settings, the system will generate the corresponding statistical report for the specified power meter loop group.



Time	Max. Demand(kW)	Energy Consumption(kWh)
0	0.049	0.049
1	0.05	0.05
2	0.05	0.05
3	0.05	0.05
4	0.05	0.05
5	0.05	0.05
6	0.05	0.05
7	0.049	0.048
8	0.049	0.045
9	0.044	0.044
10	0.044	0.033
Summary		
Daily Total Electricity Consumption	0.522	

Figure 2-7: Power Meter Loop Group Report - Loop Statistics



Power meter loop group report

PM Group

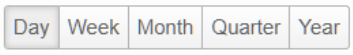
Day | Week | Month | Quarter | Year | Today 2021/10/04 | Loop Comparison | Max. Demand(kW) | Template Management | Download PDF | Download Excel

Time	Xindian office Power meter of Area B Loop1	Xindian office Power meter of Area A Loop2	Xindian office Power meter of Area A Loop3	Xindian office Power meter of Area A Loop5	Xindian office Power meter of Area A Loop6	Xindian office Power meter of Area A Loop7
0	0	0	0	0	0	0.049
1	0	0	0	0	0	0.05
2	0	0	0	0	0	0.05
3	0	0	0	0	0	0.05
4	0	0	0	0	0	0.05
5	0	0	0	0	0	0.05
6	0	0	0	0	0	0.05
7	0	0	0	0	0	0.049
8	0	0	0	0	0	0.049
9	0	0	0	0	0	0.044
10	0	0	0	0	0	0.044
Summary						
Daily electricity consumption of each loop	0	0	0	0	0	0.522
Daily Total Electricity Consumption	0.522					

Figure 2-8: Power Meter Loop Group Report - Loop Comaprison

2.5 I/O Channel Group Report

When the desired I/O channel group is selected, it will enter the "I/O channel group report" setting page. Please refer to the following steps for the setting of the report.

i. Select the Timeline 

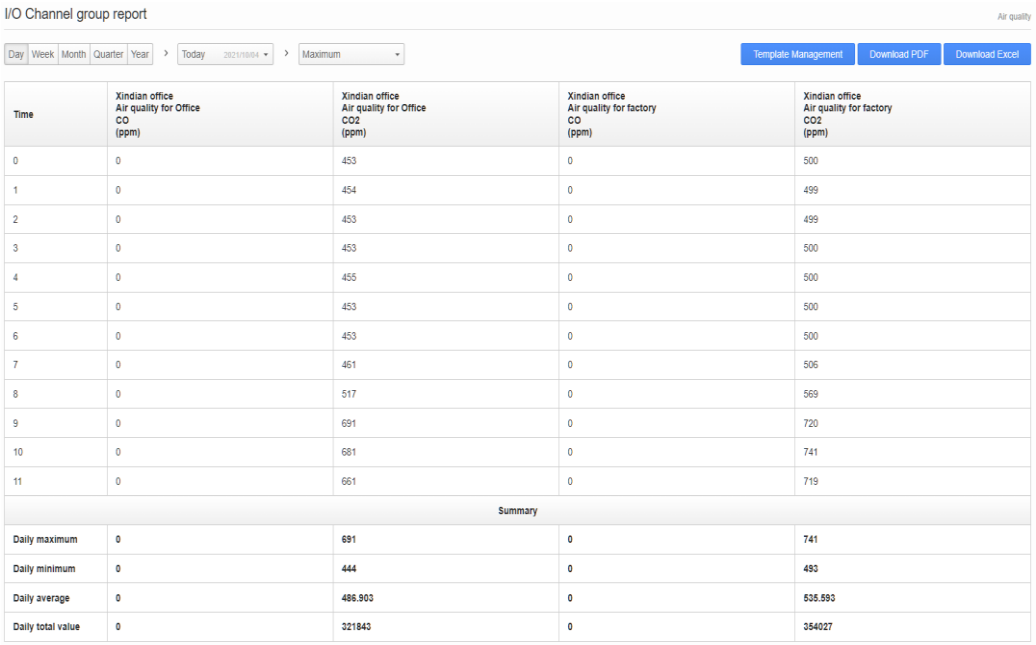
of this report at the left upper of the page. It provides 5 options: Daily report, Weekly report, Monthly report, Quarterly report and Yearly eport.

ii. Assign the Start date 

of the Timeline for the reoprt, it provides 5 options : Today, Yesterday, Same day in Last Week, Select Date and Custom Range. When the setting of "Start Date" is completed, the system will generate the statistical report of the specified I/O channel group according to the setting of "Start date + Timeline".

iii. Select the desired item for the comparison of the data of each I/O channel in this group. It provides 5 options: "Maximum", "Minimum", "Average", "Final Value" and "Total Value ".

iv. After complete all settings, the system will generate the corresponding statistical report for the specified I/O channel group.



I/O Channel group report

Air quality

Day | Week | Month | Quarter | Year | Today | Maximum | Template Management | Download PDF | Download Excel

Time	Xindian office Air quality for Office CO (ppm)	Xindian office Air quality for Office CO2 (ppm)	Xindian office Air quality for factory CO (ppm)	Xindian office Air quality for factory CO2 (ppm)
0	0	453	0	500
1	0	454	0	499
2	0	453	0	499
3	0	453	0	500
4	0	455	0	500
5	0	453	0	500
6	0	453	0	500
7	0	461	0	506
8	0	517	0	569
9	0	691	0	720
10	0	681	0	741
11	0	661	0	719
Summary				
Daily maximum	0	691	0	741
Daily minimum	0	444	0	493
Daily average	0	486.903	0	535.593
Daily total value	0	321843	0	354027

Figure 2-9: I/O Channel Group Report

2.6 Report Template Management

After user completes the setting for the power meter loop (group) report or I/O channel (group) report according to the instructions in the previous sections, the "Report Template Management" function of IoTstar Report Service can be activated. Through the built-in editor of "Report Template Management", it allows user to flexibly edit the header and footer of the report to create an exclusive report format for himself. The following will describe the "Report Template Management" function of IoTstar Report Service.

Please note: The "Report Template Management" editor is provided by TinyMCE.

- Enter the "Report Template Management" editor

  After complet the settings of the power meter loop (group) report or I/O channel (group) report, click the "Template Management" button at the upper right of the page to open the "Template Management" editor for

the report.

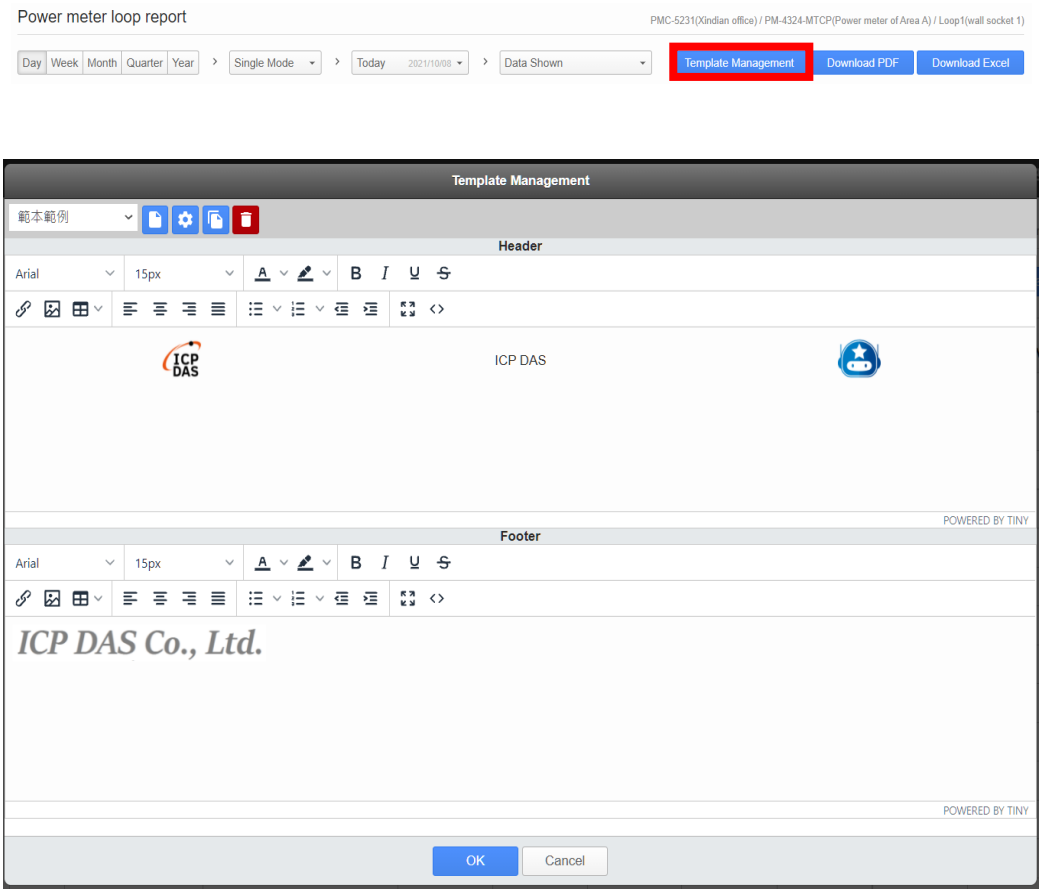
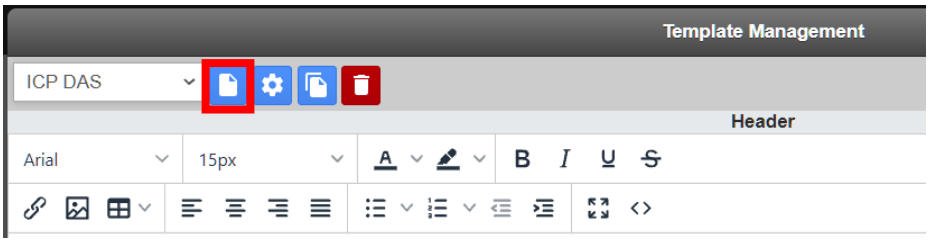
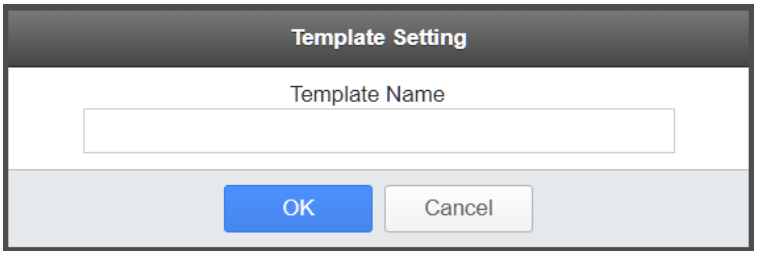


Figure 2-10: "Report Template Management" editor

- Create Template

  If user enters the "Template Management" editor for the first time, please click the "Create" button at the upper left of the page, and the system will create a new report template. After complete the setting of the template's name, the name of the new report template will be shown in the "Report Template" list at the upper left of the page.





- Edit Template

  User can edit the content of the report header and footer through the "Template Management" editor (for example: import text, import table, import image file, adjust format etc.).

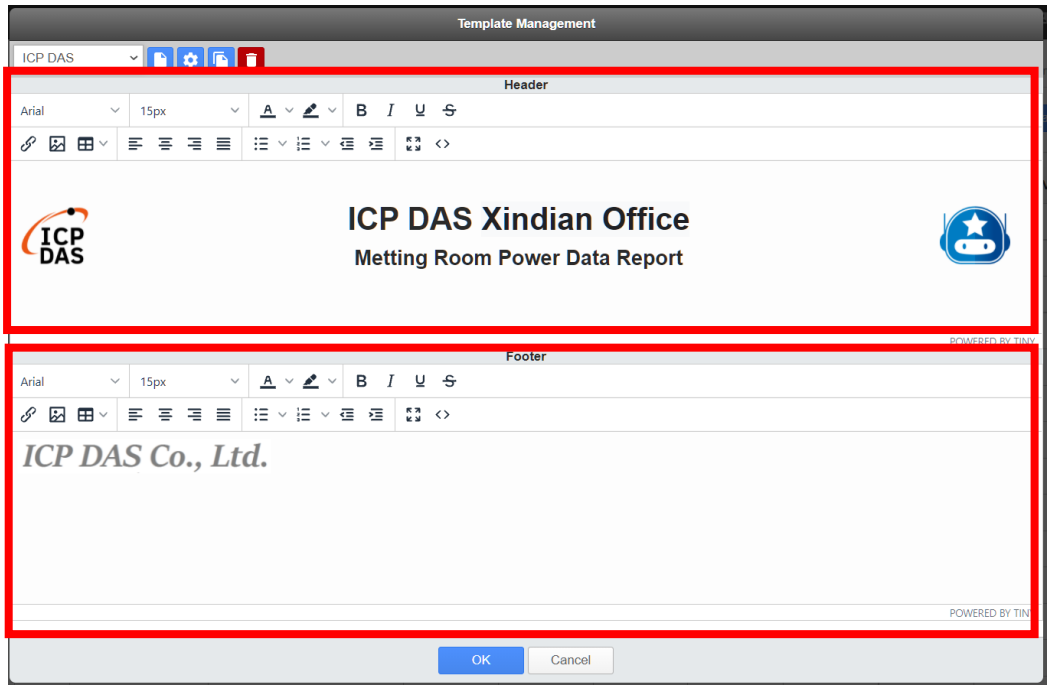
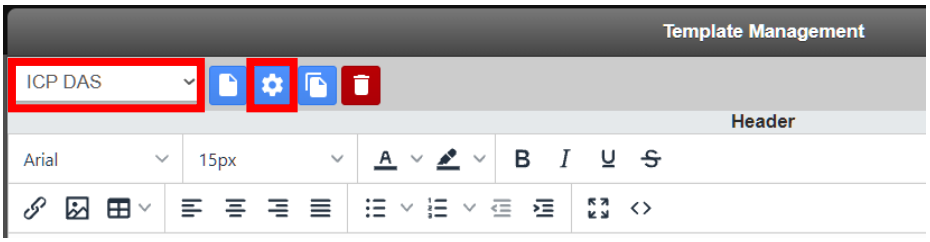
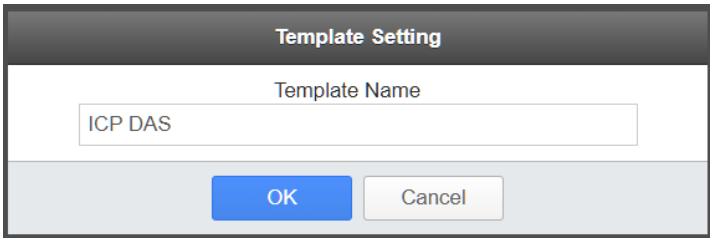


Figure 2-11: Editing for the Report header and footer

- Change the name of Template

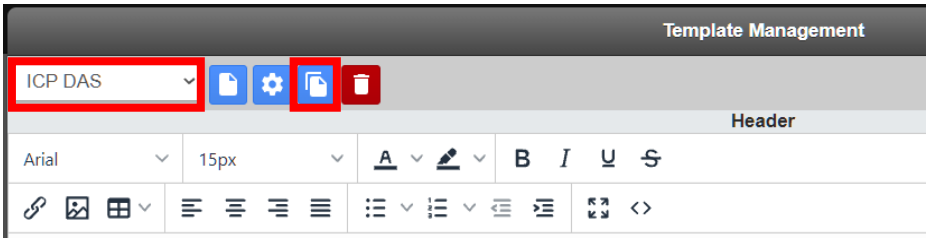
  User can select the report template from the "Report Template" list on the upper left of the editor, and click the "Edit" button to change the template's name.





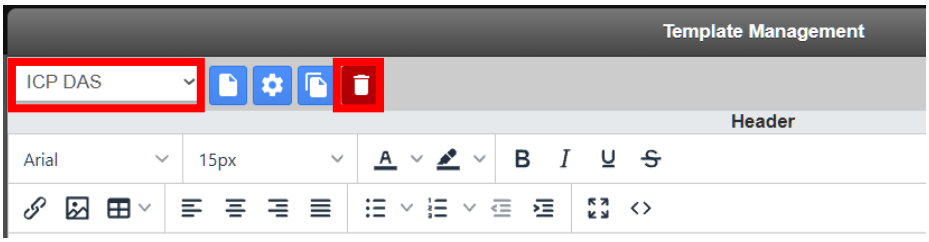
- Copy Template

  If user wants to copy the content of an existing report template to the new template, he can select the original report template from the "Report Template" list at the upper left of the editor, and click the "Copy" button to copy the contents of the specify template to the new template, and the default name of the new template is "Name of the original template-copy".



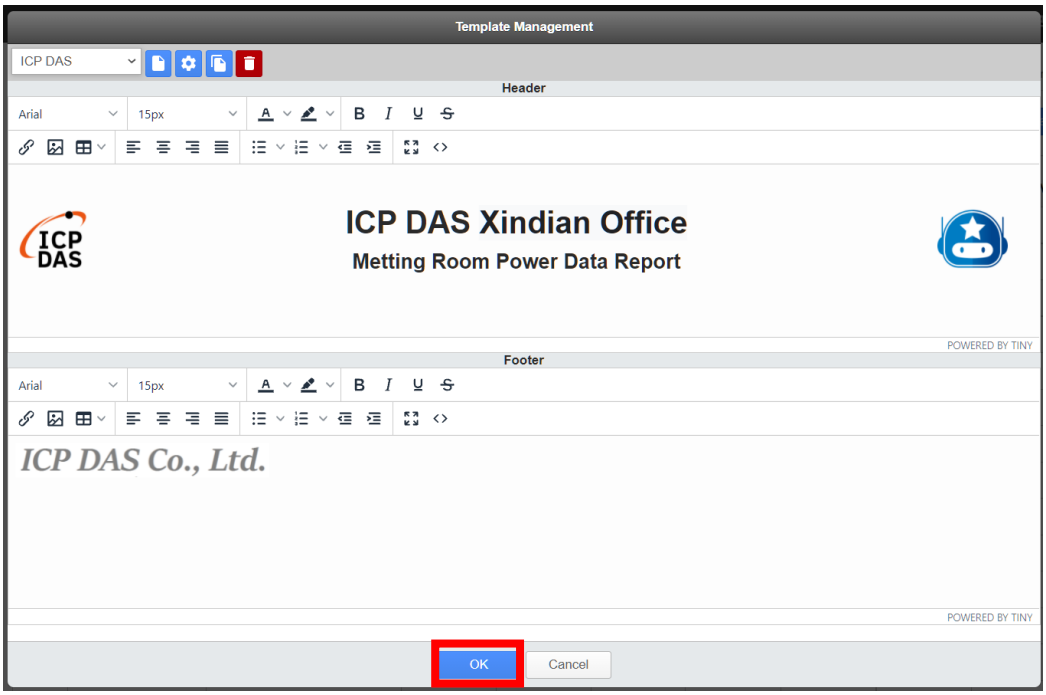
- Remove Template

  If user wants to remove an existing report template, he can select the template to be removed from the "Report Template" list on the upper left of the editor, and click the "Remove" button to delete the specified Template.



- Exit the "Report Template Management" editor

  After complete the editing of the report template or the management of the report template, click the "OK" button below the editor to exit the "Report Template Management" editor.



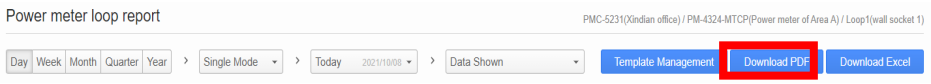
2.7 Download Report file

IoTstar Report Service provides the report file download operation. It supports two file formats as "PDF file" and "Excel file". The following will describe the report file download operation.

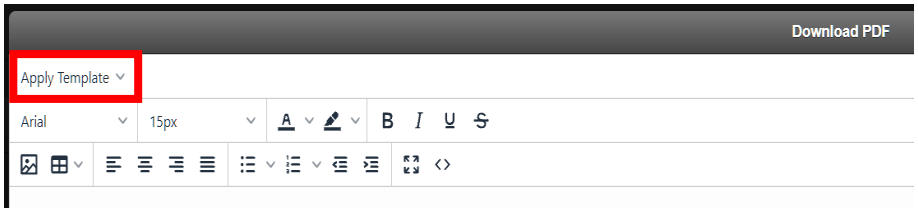
- Report file download (PDF file format)

  After completing the setting of the power meter loop (group) or I/O channel (group) report, click the "Download PDF" button at the upper right of the IoTstar Report Service page to open the "Download PDF"

window.



In the "Apply Template" list, select the desired report template want to apply to this report (if "No Template" is selected, it means that no report template is applied to this report), and confirm the report content. If user wants to adjust the report format again, he can use the built-in editor which the "Download PDF" window provide for adjustment.



After confirming the report content, click the "Download" button at the bottom of the window to open the preview window for the PDF file of the report.

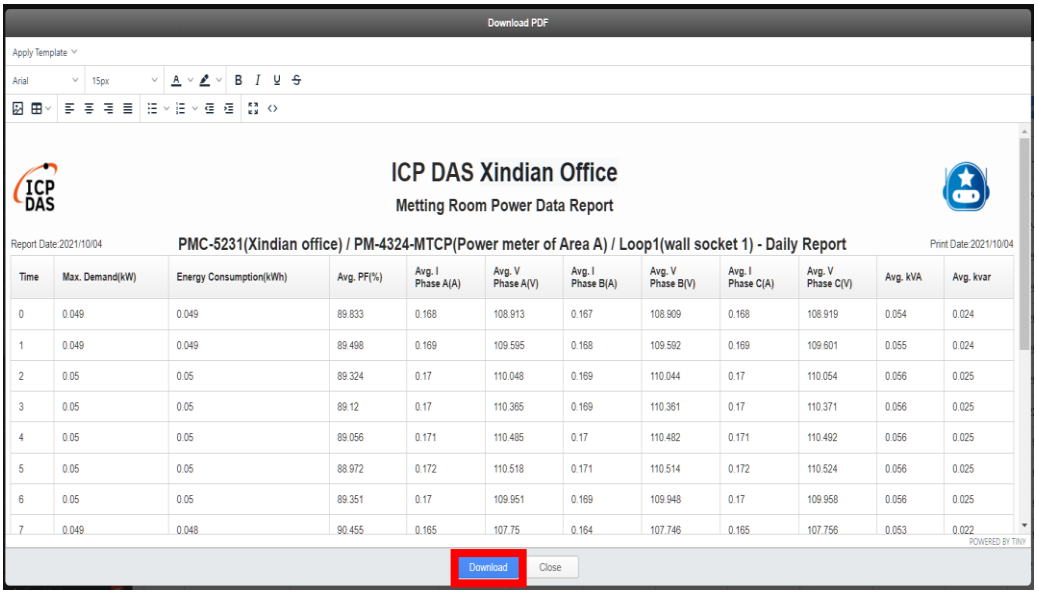


Figure 2-12: "Download PDF" Window

Users can eview the contents of the report in PDF file format that the system generate, and adjust the orientation and the margins of the PDF

file. After all setting is completed, click the "Download" button to download the report file (PDF format).

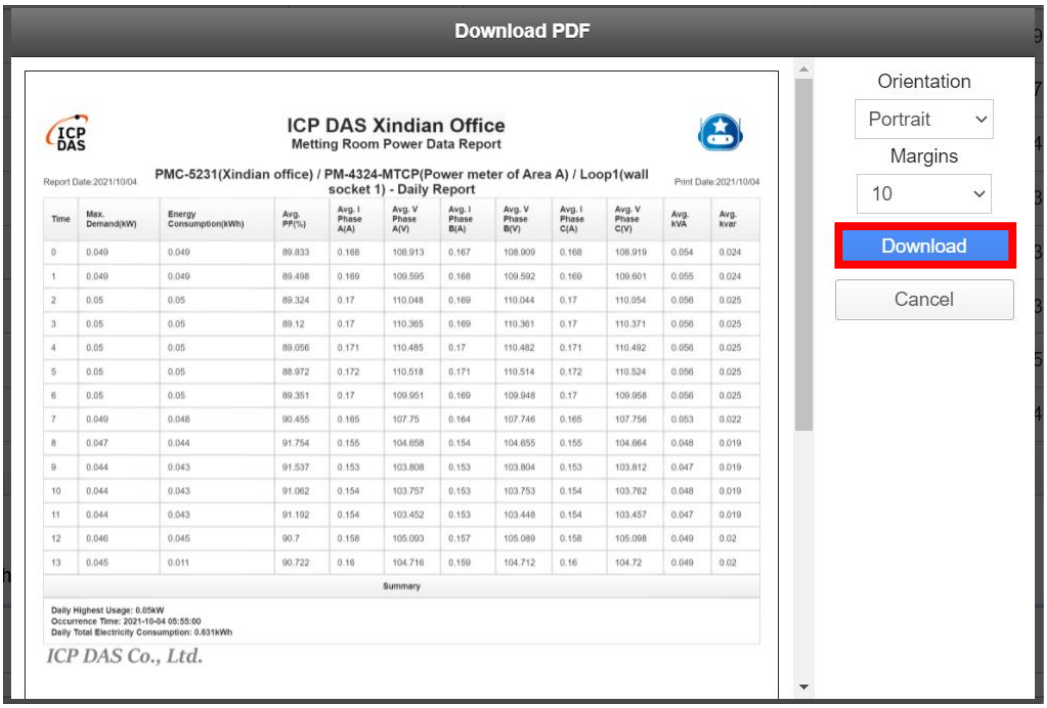
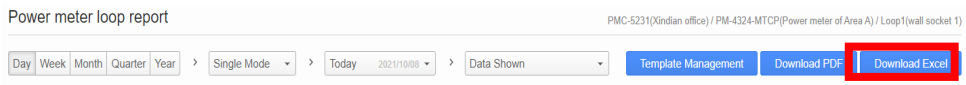


Figure 2-13: Preview and downlaod report file (PDF format)

- Report file download (Excel file format)

  After completing the setting of the power meter loop (group) or I/O channel (group) report, click the "Download Excel" button at the upper right of the IoTstar Report Service page to open the "Download Excel" window.



  In the "Apply Template" list, select the report template to be applied to this report (if "No Template" is selected, it means that no report template is applied to this report), then click the "Download" button to download the report file (Excel format).

  In the "Apply Template" list, select the desired report template want to apply to this report (if "No Template" is selected, it means that no report template is applied to this report), then click the "Download" button to download the report file (Excel format).

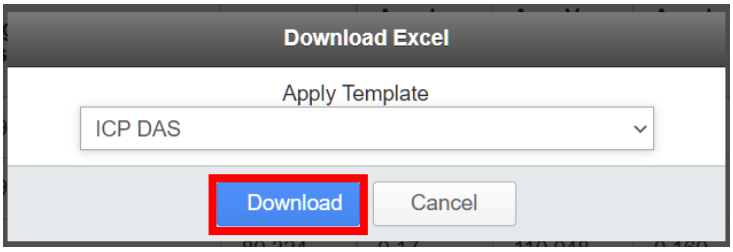


Figure 2-14: Downlaod report file (Excel format)