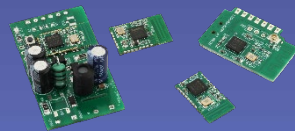


Keilton Energy Monitoring Instruction

Deng Ming/ CTO / Dec 2021

*People who are really serious about software
should make their own hardware-Alan Kay*



Keilton lighting control system is capable of providing energy monitoring report for customers and clients to better analyze and optimize the lighting energy consumptions.

The energy data is collected and report is generated by Keilton iOS APP. This instruction document only include the devices, procedure and operations directly related to energy monitoring. Please refer to *Keilton App Instruction* for general introduction of the APP and specifications of Keilton products for their respective instructions.



**CR01 USB Gateway Lite
Energy Monitoring Dongle**

You need a CR01 energy monitoring dongle to collect energy consumption data in order to generate energy report. The features of CR01 include:

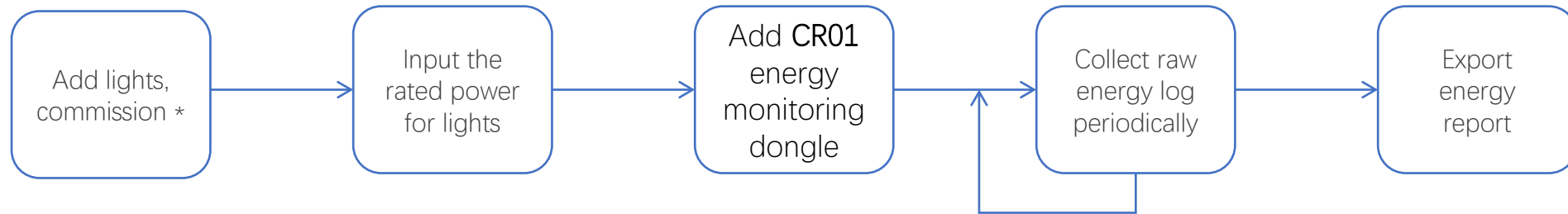
- Powered by USB-A receptacle.
- Embedded RTC for time syncing for all devices in the Zone, include internal battery to keep time during power outage.
- Record energy consumption raw log in TF card.

Please refer to CR01 Specification for detailed information.

CR01 record the energy consumption raw log for every devices in the zone in 15 minutes interval. For a 100 controllers zone, it will generate approximately 28 Mega Bytes data in a month. For keeping 2 years record, please use a TF card with available volume larger than 700MB. Please format the TF card in FAT32 format and insert it properly into the dongle.

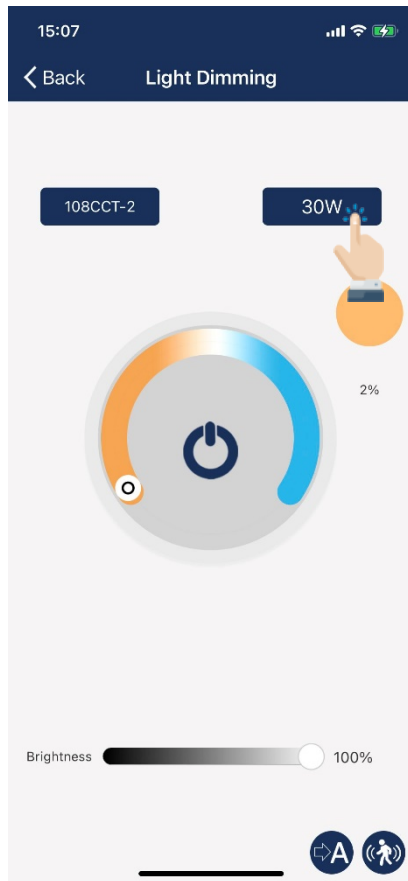
The data will be saved in TF card to one file per month. With file name as YYYYMM.txt in which YYYY is the year and MM is the month.

You only need one CR01 for each zone.

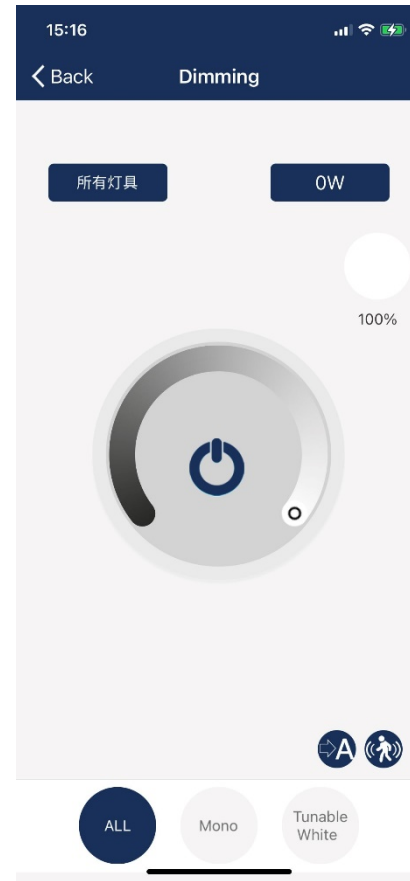


Please refer to *Keilton App Instruction* for adding lights and commissioning.

Input the Rated Power for Luminaires



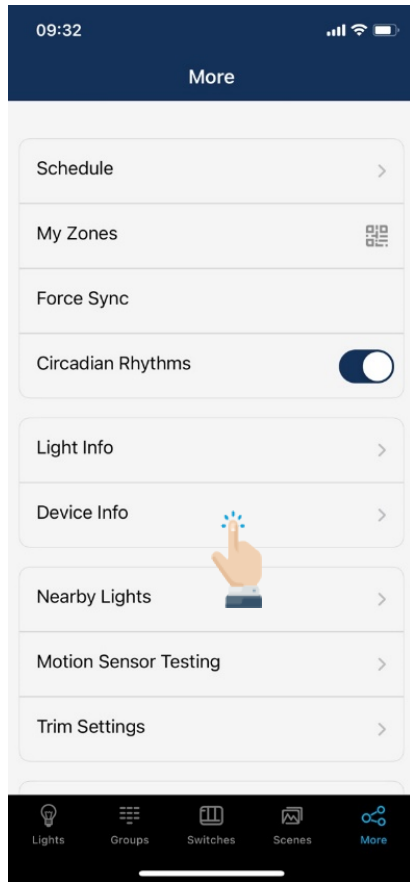
In light's dimming page, click the wattage in the upper right blue box to set the rated power for this light.



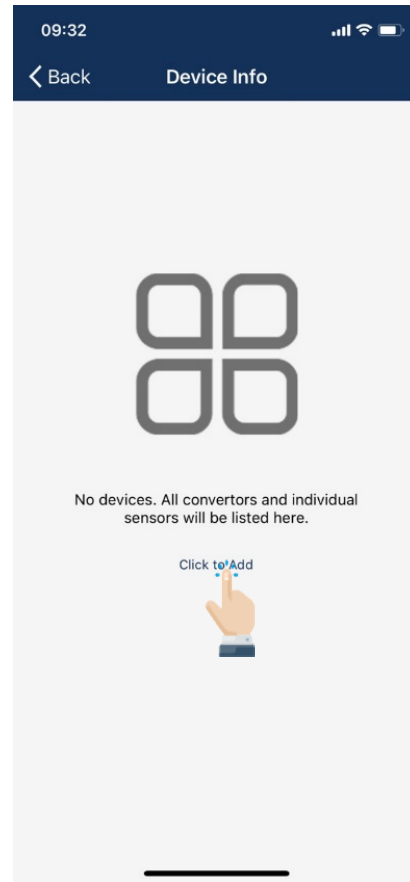
You may also set the rated power for all lights in a group in group dimming page in a batch. This is not the total power of the group, it is the power for each light in this group.

Please note that the rated power is in wattage and is calculated after top-trim settings. E.g., you should input 24 for a 30 watt light with 80% of top-trim setting.

Add CR01 Dongle to the Zone



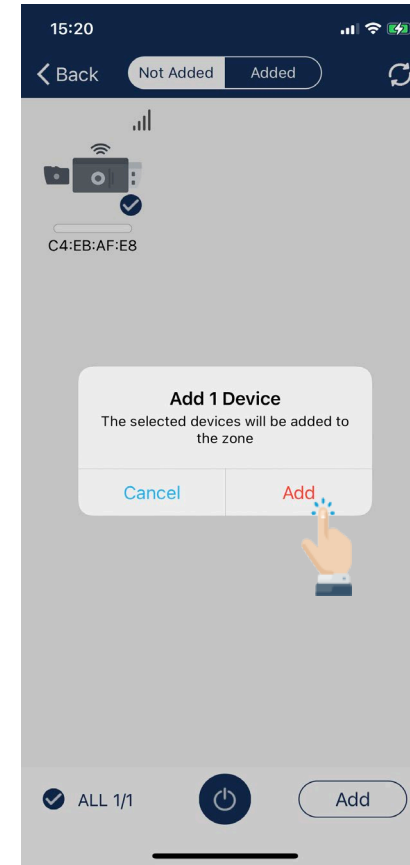
Click "Devices info" in "More" page



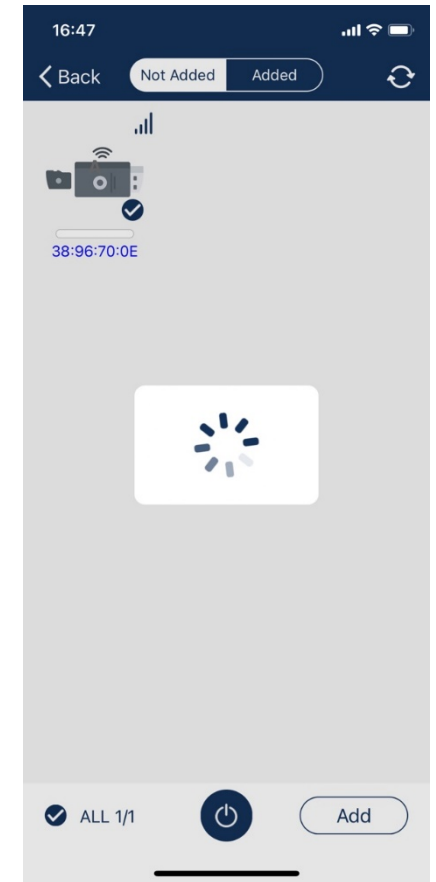
Click "Click to add" to start seaCRhing for CR01 dongle. Please make sure the dongle is powered on



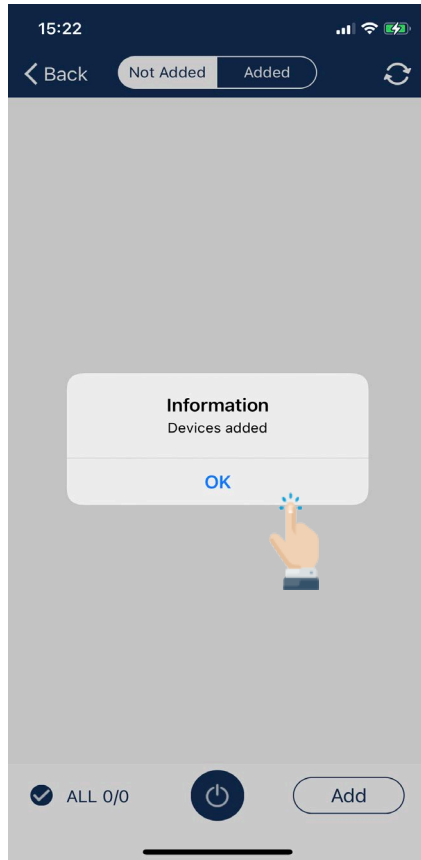
Tick the dongle found and then Click the Add button.



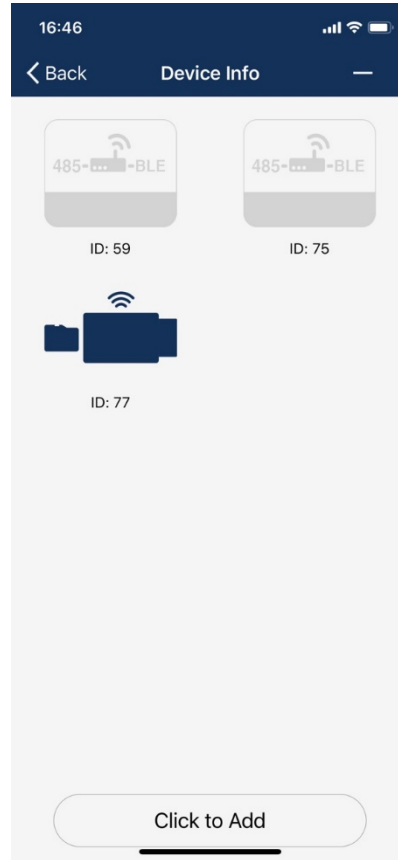
Click Add to confirm adding the dongle, and it will be added to the zone.



Add CR01 Dongle to the Zone



Click OK to return.



You may see the newly added dongle in Device Info page.

Collect raw energy log

When a CR01 dongle is added to a zone and powered on, it will keep recording raw energy raw log of every lights/controllers in 15 minutes interval and save the data along with the time stamp to files. Every month's data into a file with the filename as YYYYMM.txt.

User need to collect the raw energy log to the APP for generating final energy report.

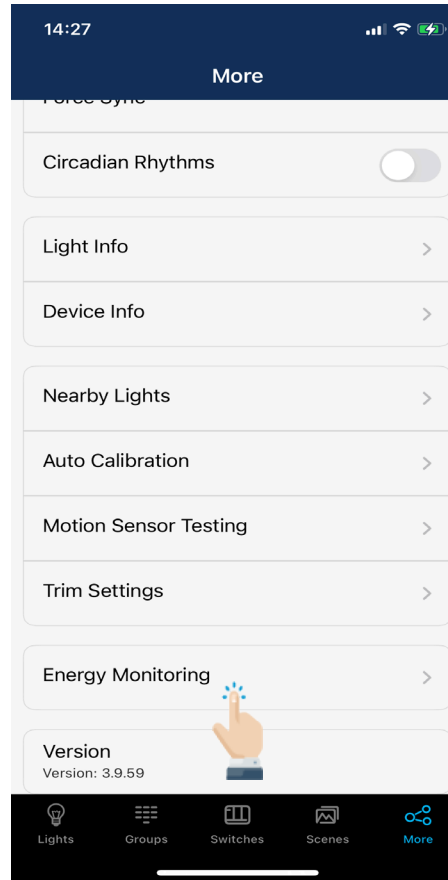
User may use a TF card reader for mobile phone* to directly import the files, or read the file from TF card and transfer it to your mobile phone's storage such as iCloud and then import it.

It's suggested to collect the log monthly.

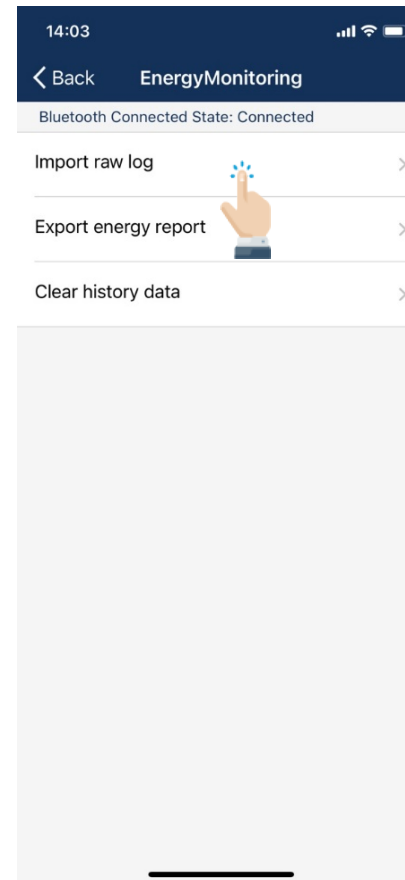


*TF card reader for iPhone

TF card reader is not a products of Keilton system. This picture is for reference only. You may use any model of compatible card readers.



Click Energy Monitoring in More page.

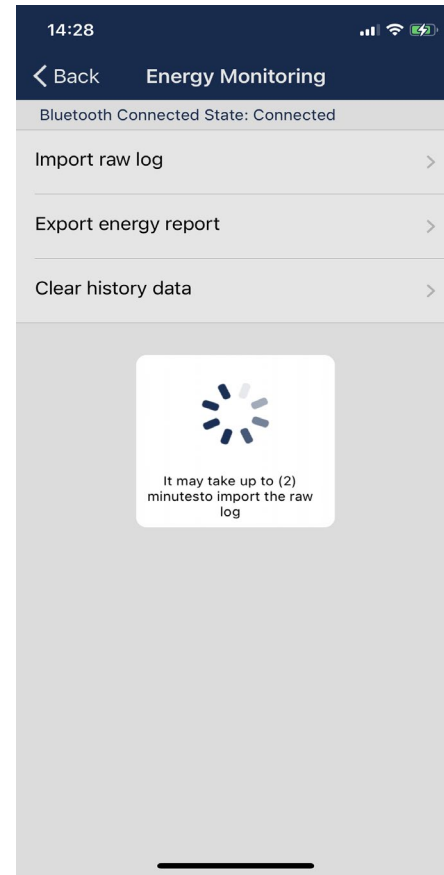


Click Import raw log

Collect raw energy log

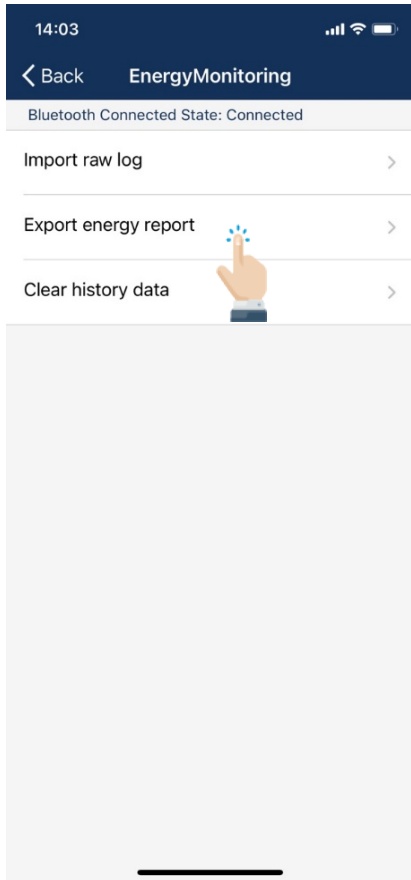


Choose the energy log file.

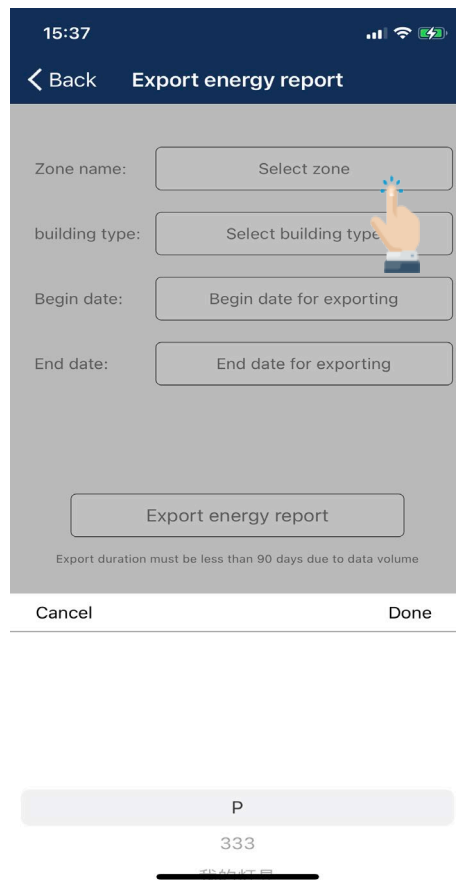


App will read the log file and import it to database. It may take a few minutes.

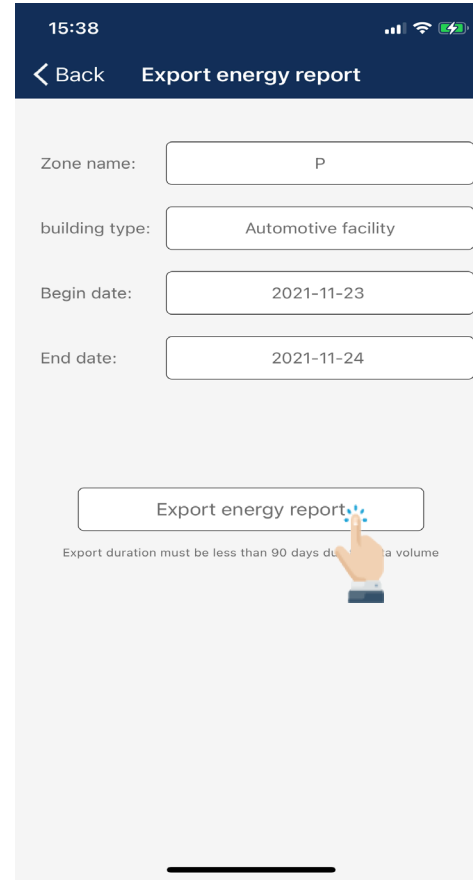
Export Energy Report



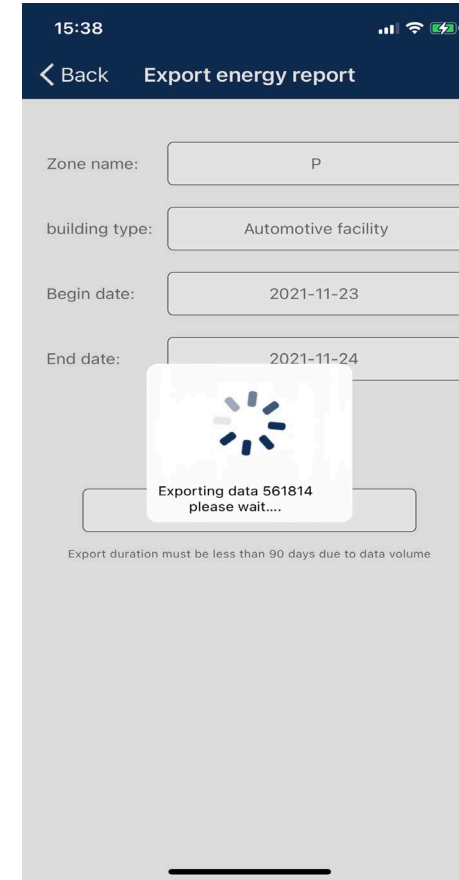
Click Export energy report



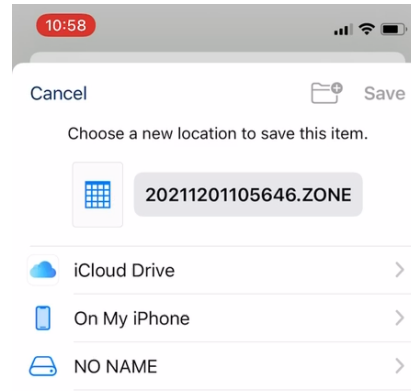
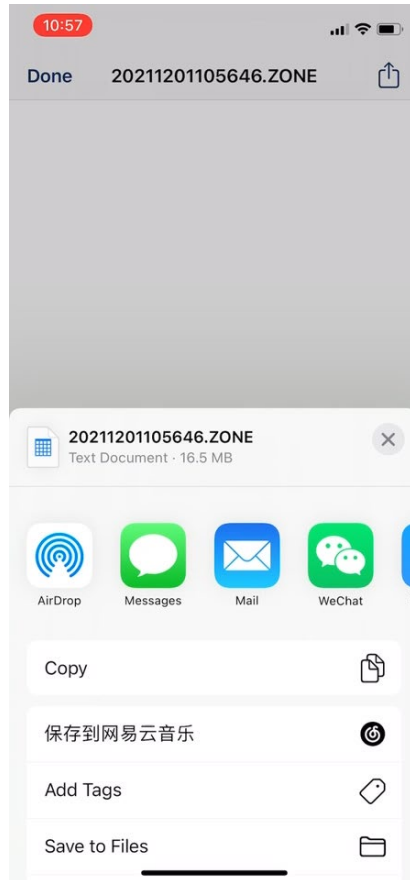
Select the Zone, building type and begin and end date.



Then click Export energy report.



It will take a few minute to generate the report.



App will prompt you to choose where to save the generated report. You may save it to the mobile phone's storage such as iCloud, or save it into the TF card.

Energy report sample



NLC System Manufacturer	Litetrace			
NLC System Product Name / Model	Keilton			
Building / Business Type	Automotive facility			
Energy Data Reporting Interval	15min			
Zone ID / Name	P			
Estimated Savings	Post-retrofit			
Energy Data Reporting Timestamp	Luminaire ID	Maximum Rated Power without Controls	Power by calculation	Light output %
2021/11/23 10:53	68	120	61	51
2021/11/23 10:53	1	120	12	10
2021/11/23 10:53	72	120	6	5
2021/11/23 10:53	2	90	9	10
2021/11/23 10:53	3	90	9	10
2021/11/23 10:53	4	90	9	10
2021/11/23 10:53	6	30	3	10
2021/11/23 10:53	8	120	12	10
2021/11/23 10:53	5	120	12	10
2021/11/23 10:53	9	30	3	10
2021/11/23 10:53	10	30	3	10
2021/11/23 10:53	11	30	3	10
2021/11/23 10:53	12	120	12	10
2021/11/23 10:53	13	30	3	10
2021/11/23 10:53	14	30	3	10
2021/11/23 10:53	16	90	9	10
2021/11/23 10:53	15	30	3	10
2021/11/23 10:53	17	90	9	10
2021/11/23 10:53	18	120	12	10
2021/11/23 10:53	20	90	9	10
2021/11/23 10:53	19	120	12	10