ENERGYSENSE

# SOLAR & GEYSER CONTROL UNIT GCU AND SGCU

# QUICK REFERENCE GUIDE

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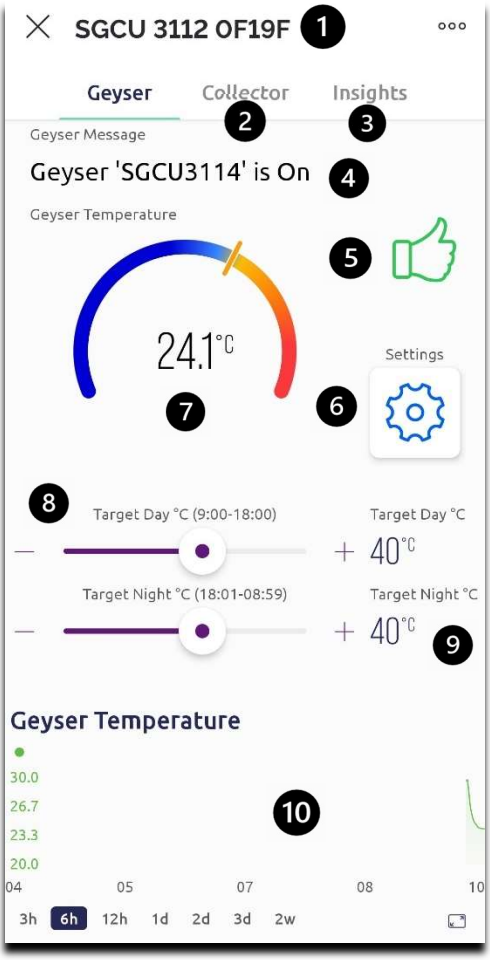
*Features marked by * are only applicable to the SGCU system*

# MOBILE APP DETAILED WALKTHROUGH

This section covers timers, graphs, insights and more

<u>Geyser Page Walkthrough</u>

1. Factory default unit name (can be changed) (Model, Firmware, Name)
2. Collector tab*
3. Insights tab
4. Geyser message
5. System ON/OFF indicator
6. Settings
7. Geyser temp. indicator
8. Day & Night temp. sliders
9. Temperature in °C
10. Geyser temp. graph




From this tab you can:

- Select geyser temperature
- Go to settings
- View geyser temp. graph

To see the setup for the following, continue to the indicated page:

- Geyser temperature……6
- Settings……next page
- Collector temperature..6

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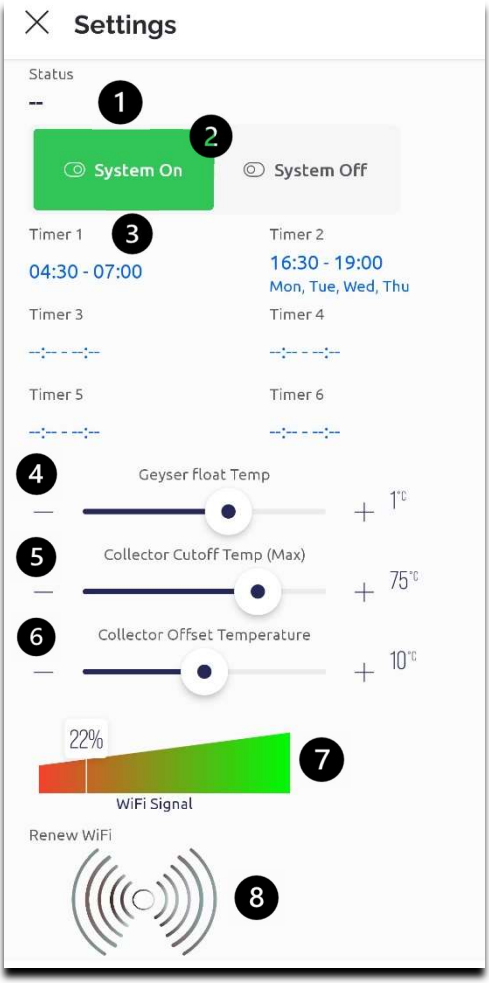
Settings Page Walkthrough

1. Control Unit status
2. System ON/OFF switch
3. Timers
4. Geyser float temperature
5. Collector MAX temperature*
6. Collector offset temperature*
7. WiFi signal strength
8. WiFi renew button




From this page you can:

- Turn the system ON/OFF
- Set up multiple timers
- Select geyser float temp.
- Select collector cut-off temp.
- Select collector offset temp.
- Renew the WiFi connection

To see the setup for the following,
continue to the page indicated:

- Timers……..5
- Geyser temperature…….6

Note: It's recommended that the WiFi signal strength is at least 10% or higher.

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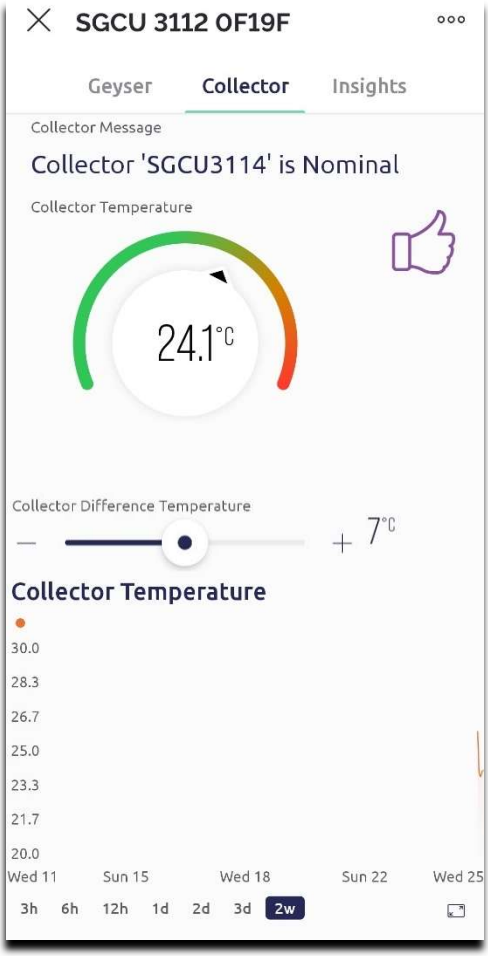
Collector Page Walkthrough*

1. Collector message
2. Collector state
3. Collector temperature
4. Collector offset temp. slider
5. Collector temp. graph

From this tab you can:

- Select the collector offset temperature
- View the collector temperature graph

To view the collector temperature setup, go to page 6.

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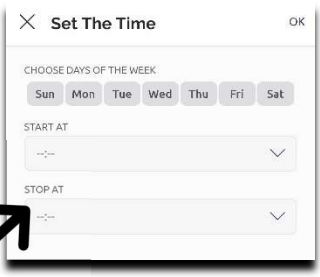
# Timers

*Tapping the timer slot will take you to the setup page for that timer. There is a setup page for each of the 6 timers.*

When you reach this page, you can select the days of the week and the times for your geyser to turn on/off. Tap on the day you want the timer to activate.




Tap on the START AT and STOP AT areas to select when the geyser turns on. Swipe up or down on the hours, minutes, and seconds to set the time. Tap DONE, SAVE, and OK to confirm your settings.


**Android Timer**

When a timer is set up successfully, it will appear like this in the settings.



**IOS Timer**

## HOW TO CLEAR A TIMER

***Disclaimer: Failing to properly clear a timer may result in the geyser turning on unintentionally.*** *To clear a timer, simply go to the timer settings and press the reset or clear button.*

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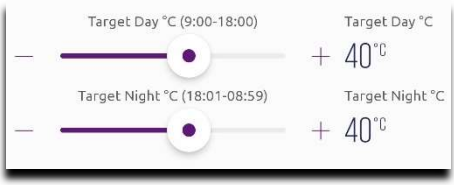
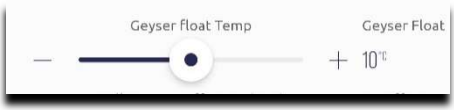
## Geyser temperature

Setting up the geyser temperature is made extremely simple.

There are two temperature sliders allowing control over the geyser the temperature during the day and the night is found in the geyser tab.




**Target Day** allows you to select the desired temperature for the geyser between 9:00 and 18:00.




**Target Night** allows you to select the desired temperature for the geyser is between 18:01 and 8:59.

**Geyser float** (found in settings) allows you to select by how much the geyser temperature can drop before the system turns the geyser back on. It works in the following way :

$$Target\ temperature - Float\ temperature = Trigger\ temperature$$

Once the geyser reaches the **Trigger temperature (within a timer schedule)** the system will turn the geyser back on and start heating again. *A value between* ***5-10°C is recommended****.*

## Collector temperature*


**Collector Difference Temperature** (found in the collector tab) allows you to select the maximum temperature allowed for the collector to be hotter than the geyser. When the collector reaches this point the system will signal the pump to start cycling water through the system. It works in the following way:

$$Current\ geyser\ temperature + Collector\ difference\ temperature = Pump\ trigger\ temperature$$

*It is recommended to set the collector difference temp.* ***between 8-15°C.***

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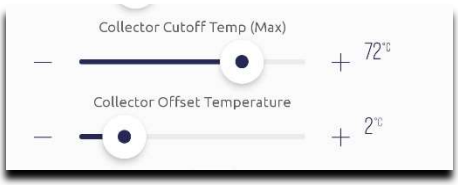
**Collector Cutoff Temp (Max)***
(Found in settings) allows you to select the maximum temperature the collector can reach before the system signals the pump to start cycling water from the collector to the geyser to cool it down. *It is recommended to set this to* ***at least 70°C.***




**Collector Offset Temperature*** is used on cold days (geyser below 30°C) to allow the collector to reach a higher temperature difference with the geyser before the pump starts to cycle water through the system. It works in the following way:

$$Current\ geyser\ temperature + Collector\ difference\ temperature$$

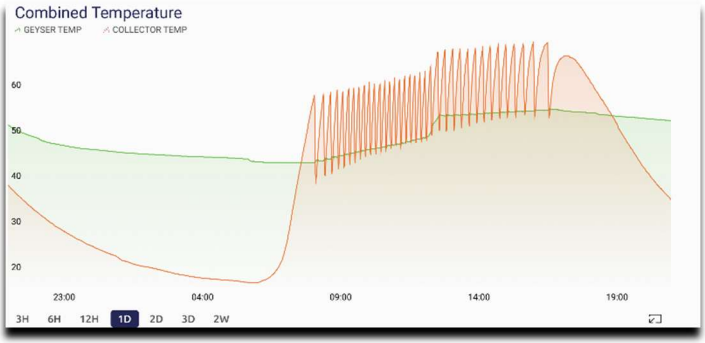
$$+ Collector\ offset\ temperatur = Pump\ trigger\ temperature$$

*It is recommended that this be set* ***between 1 - 5°C.*** *The total should* ***not exceed 70°.***

## Graphs

Graphs provide an insightful look into the system's operation. Through them, you can see how your system reacts to the timers and temperature settings.

You can view any graph in a larger, more detailed, landscape mode by clicking the enlarge icon in the bottom right corner. You are also able you adjust the scale of the graphs ranging from the last 3 hours to the last 2 weeks. If there are multiple graphs at once as below, you also have the option to view 1 at a time by tapping on the graph name in the upper left corner. To return to a portrait view tap the icon again.

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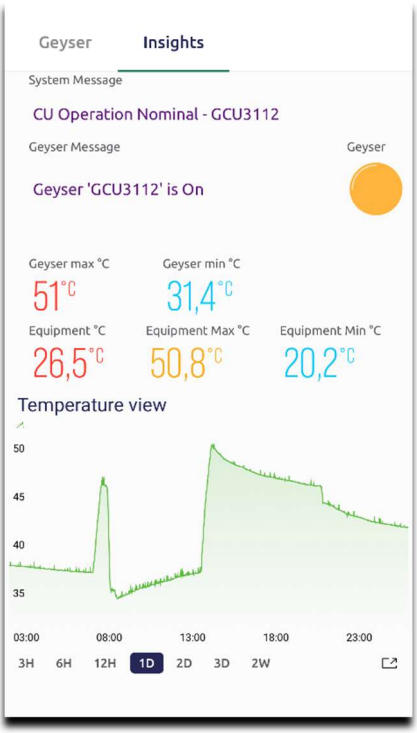
# Insights

Insights provide you with all the relevant information about your system in one place.

## GCU INSIGHTS

From this page, you can see your main system message and geyser message. If any errors occur, they will appear in these messages.




Also available are the MAX and MIN temperatures of your geyser and GCU. Your GCU can operate effectively and safely between -5°C and 60°C, if you see the temperatures exceed these limits or often get close to them, contact your installer to maybe consider moving the unit to a more suitable place.

There is also an indication that shows if your geyser is currently heating. When it turns off this indication will also be off.

Your geyser temperature is also graphed on the bottom of the screen which you can enlarge by clicking on the bottom right corner. The scale can also be adjusted between the last 3 hours and 2 weeks. Through monitoring this graph you should be able to see your system and timers working as intended. If not consult your settings to ensure everything is set up correctly or see the troubleshooting guide.

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## SGCU INSIGHTS*

From this page, you can see your main system message, geyser message and collector message. If any errors occur, they will appear in these messages.

Also available is the MAX and MIN temperature of your geyser, collector and SGCU. Your S can operate effectively and safely between -5°C and 60°C, if you see the temperatures exceed these limits or often get close to them, contact your installer to maybe consider moving the unit to a more suitable place. There is also an indication that shows if your geyser is currently heating and if your pump is active. When it turns off this indication will also be.


You are also able to see at which temperature the pump stopped circulating water through your system for the geyser and collector.

Your geyser temperature vs collector temperature and geyser temperature vs SGCU temperature is graphed on the bottom of the screen which you can enlarge by clicking on the bottom right corner. The scale can also be adjusted between the last hour and 2

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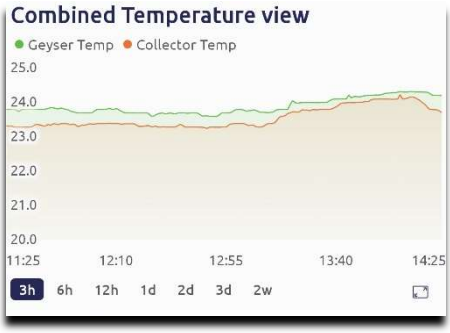
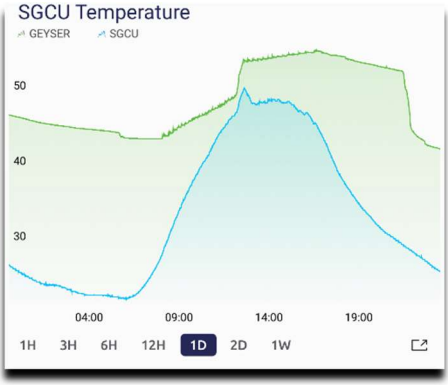
weeks. Through monitoring this graph you should be able to see your system and timers working as intended. If not consult your settings to ensure everything is set up correctly or see the troubleshooting guide

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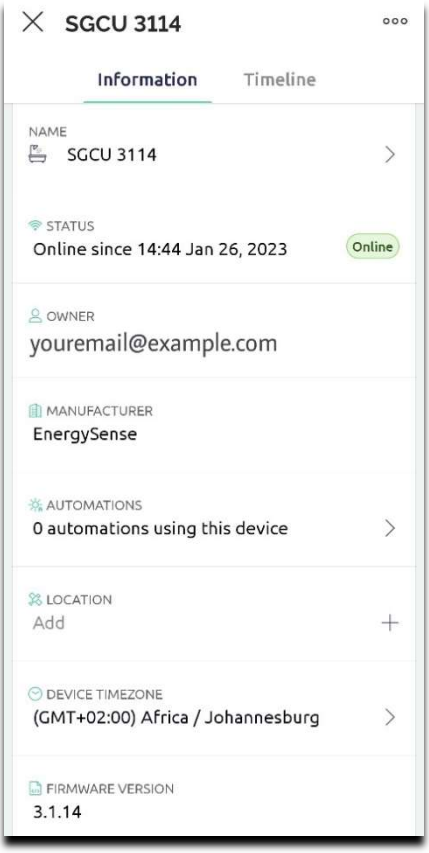
# ADDITIONAL SETTINGS

By clicking this icon, ooo found in the top right corner, you will be sent to additional settings where you will be able to rename your device, view automations and activate/deactivate them and view a timeline of your device which will show its activity and error message history.





The settings icon can be pressed a second time taking you to more settings. (only for installers)

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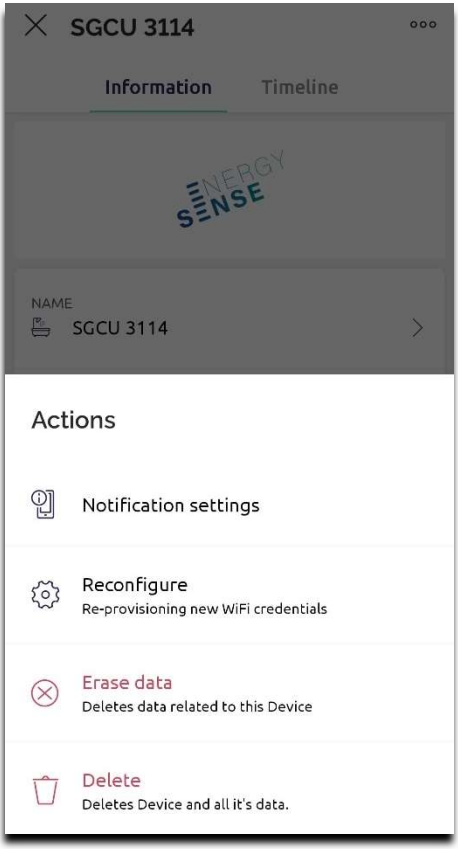


Here certified installers can:

Adjust your notification preferences.

Reconfigure your device, which will prompt you to enter new WiFi details. This can be used when you decide to change the WiFi password, or name or have any issues regarding WiFi.

Erase data will keep the device registered on your phone but delete all accompanying data and history. To use the application after this again it will take you back to the screen you saw when first setting up the application upon installation.

Delete will completely remove the device from your phone along with all its data, settings and history.

Take care not to play around with these settings as you may accidentally delete or erase your valuable information or device.

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# AUTOMATIONS GUIDE

## What are automations?

Automations allow the end-user of the Energy Sense app to create scenarios where the device automatically performs one or more **actions** based on a **condition**. **Note: Automations only work while CU (control unit) is ONLINE.**

## What are the conditions?

A Condition is a factor or state that acts as a trigger for an action. Here is a list of conditions:

- Schedule: triggers an event based on the current date/time reaching a particular set of date/time values (all relative to a specified time zone)
- Sunrise/Sunset: triggers an event when the time before/after sunrise/sunset occurs relative to a set of defined weekdays, at a specific geographic location.
- Device State: triggers an action based on the value of a Datastream (device Sensor or data point).
- Scene: manually triggers an automation scenario from the mobile App.

## What are actions?

An action is some response the system has to a given trigger. Here are examples:

- Notification: sending a mobile app notification
- Device data**:** forwarding device data to some other device datastream
- Email: sending an email
- Delay: setting a delay
- Datastream Setting a datastream value (change in value).

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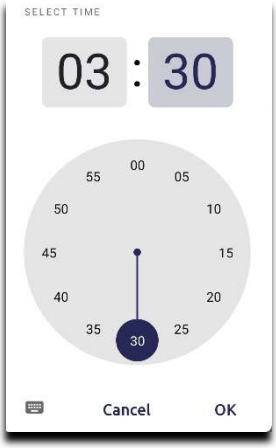
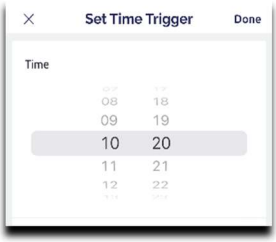
# Selecting conditions

## Schedule

Android




IOS




You will be prompted to select a time. This is when the automation will take place. This is useful for automations you want to happen at a very specific time.

## Sunrise/Sunset


You will be prompted to select a time ranging from 4 hours before sunset or sunrise to 4 hours after.


Schedule and Sunrise/Sunset will allow you to select what day automation to be active. There is also the Run once option which will take away the days of the week functionality and only work at the selected time. After this page, you will be taken to the actions setup page.

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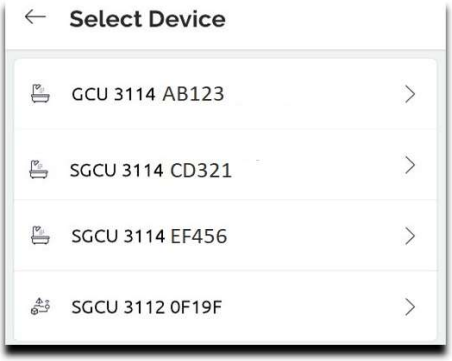
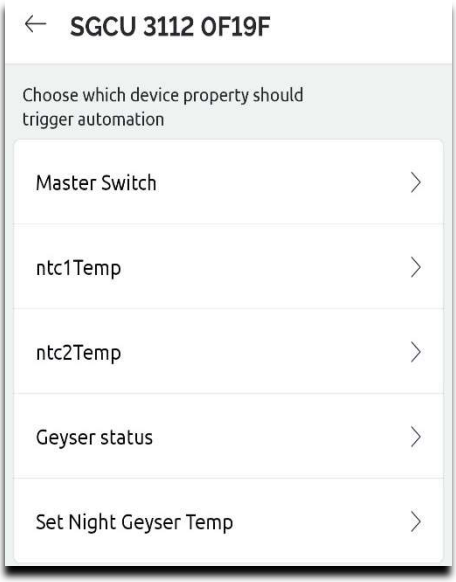
## Device State




Selecting the device state will first ask you to select a device it should work with.

After selecting a device, you will be asked what aspect to monitor.




**Master Switch** allows you to trigger an action when the master switch is on, off or changes.

**Ntc1** (geyser) and **ntc2** (collector) allow you to trigger an action based on the geyser or collector temperature. You can specify for it to trigger on, above or below a certain temperature, or when the temperature is within a selected range.

**Geyser status** allows you to trigger an action when the geyser is ON, OFF or has changed

**Set night geyser temperature** allows you to trigger an action when the geyser night temperature is at, above or below a certain temperature, or when the temperature is within a selected range.

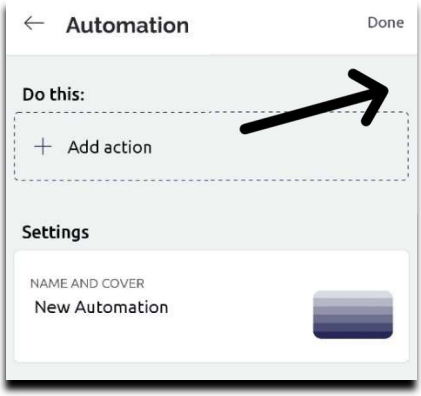
*Features marked by * are only applicable to the SGCU system*

## Scene

This option allows you to manually trigger an action. Upon selection, you will be taken directly to the action setup page.

# Selecting Actions

After selecting a condition, you will be taken to the action setup page where you can set up multiple actions and personalise them. Simply tap to add an action.

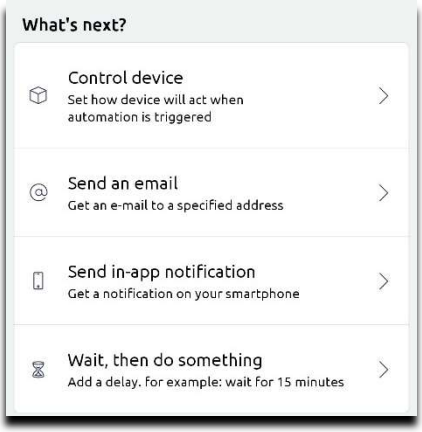



Tapping here will ask you to select what action you would like to take based on your condition.

In the settings, you are able to select your automation's name and personalise it with a colour or background.

You have the option to choose between:

- Control device
- Send an email
- Send in-app notification
- Wait, then do something

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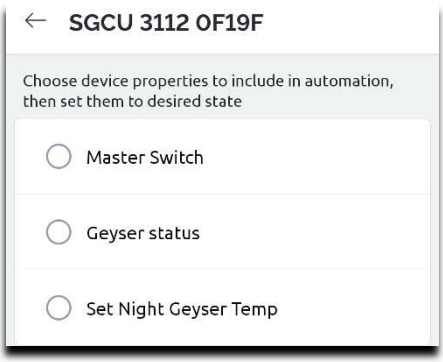
## CONTROL DEVICE

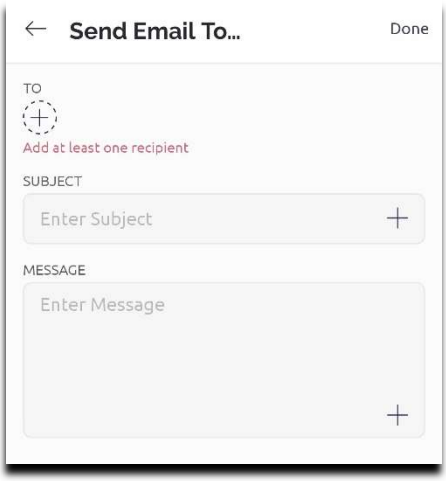
You will be asked to choose which device it needs to control. After selecting the appropriate device, it allows you to turn the Master Switch (MS) ON/OFF, turn the Geyser Status (GS) ON/OFF or change the night temperature of the geyser. If you select MS and ON, it will turn the MS OFF at activation and vice versa. Keep this in mind.




## SEND AN E-MAIL

Here you type the message that needs to be sent and give it a subject.

You can add multiple recipients to the message and the app will always add you as a recipient automatically.

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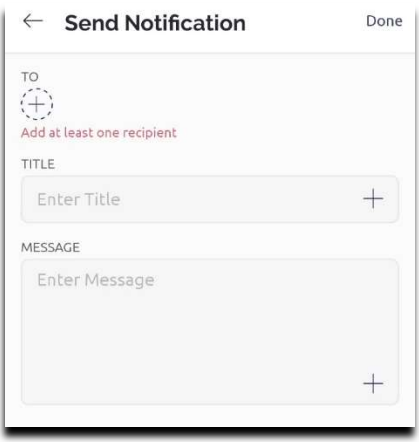
## SEND A NOTIFICATION

Here you type the message that needs to be sent and give it a title.

You can add multiple recipients to the message and the app will always add you as a recipient automatically.




## WAIT

Adding a wait will ask you to set up a timer which will act as a countdown, or set a time, after which you can select another action it should take after the wait is over.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# Sample Holiday Mode Automation

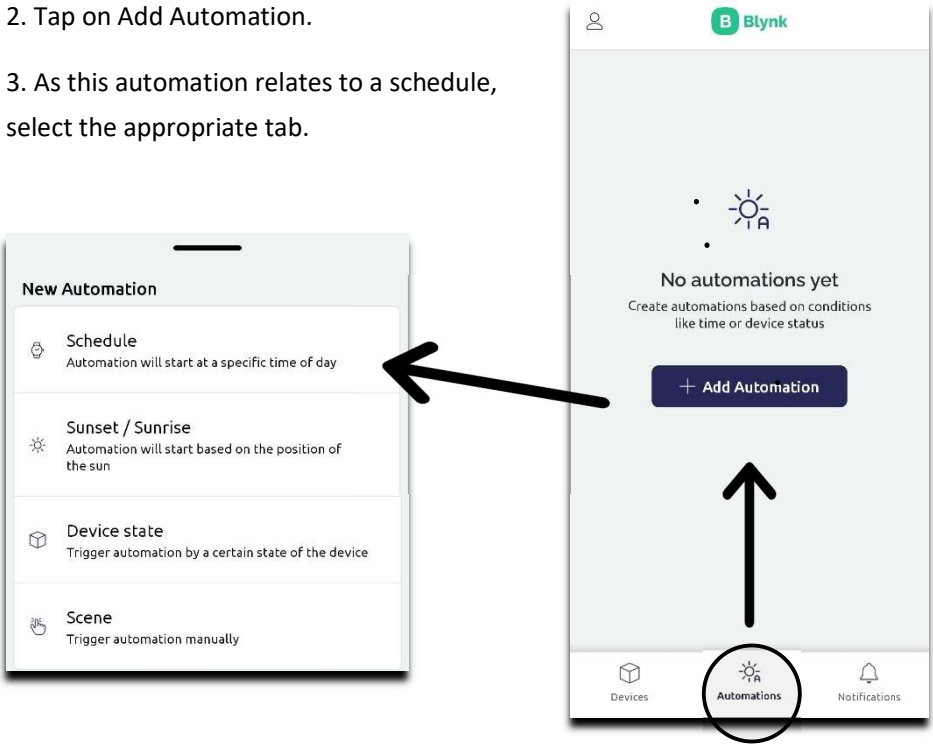
As an example, we will create a vacation automation that should turn off the geyser while you are not home, alert you when the geyser turns on and tells you if the geyser reaches a certain temperature.

Let's say you go on vacation for a week and leave Monday at 4:00 AM and return on Sunday at 2:00 PM. This means the geyser should turn OFF Monday at 3:30 AM and turn ON Sunday at 1:00 PM. This will require 2 automations. 1 to turn the geyser OFF and 1 to turn it ON.

1. Tap on the automations icon found at the bottom of the app home screen.

2. Tap on Add Automation.

3. As this automation relates to a schedule, select the appropriate tab.

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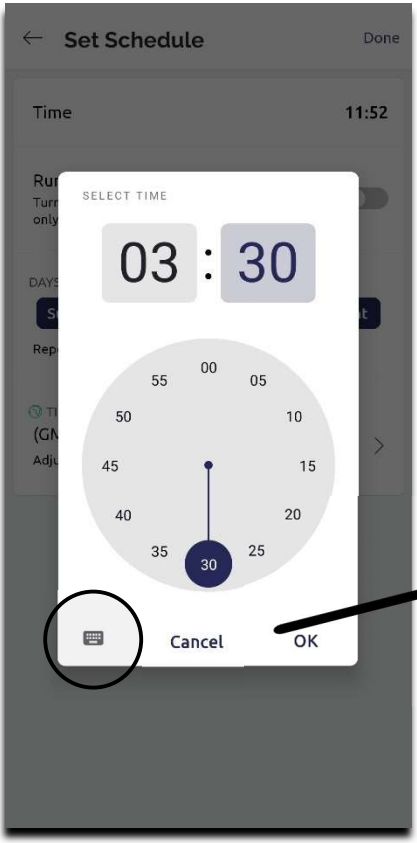
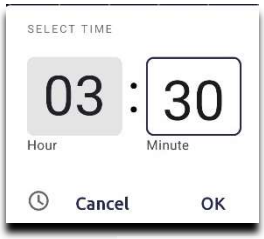
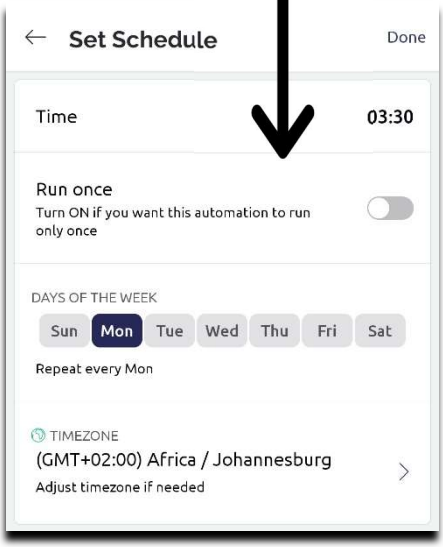



4. You will be prompted to select a time. Set the time for 3:30 AM and select Monday.

If you press the keyboard button on the bottom left a keyboard will appear to type in the time. When you are finished select OK.




5. In order for the weekday functionality to work, 'Run once' must be turned OFF.

When it is turned ON the Automation will start as soon as the selected time arrives and is finished, and we want it to start on Monday only. Select done.

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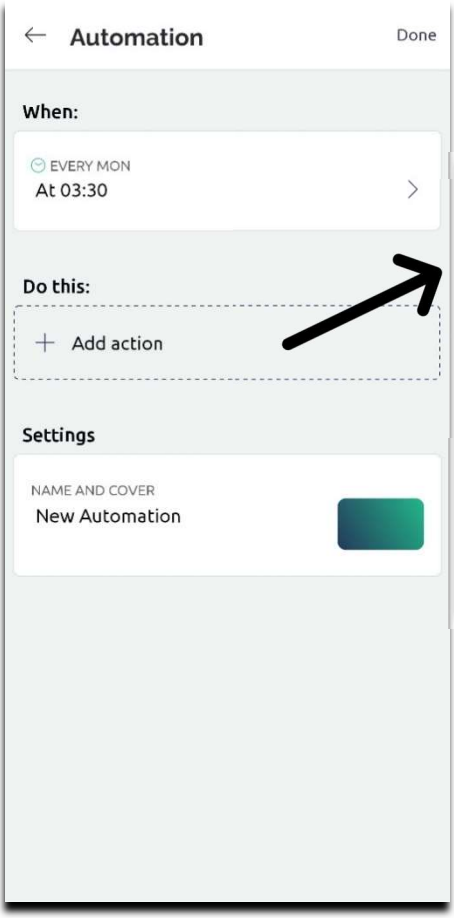
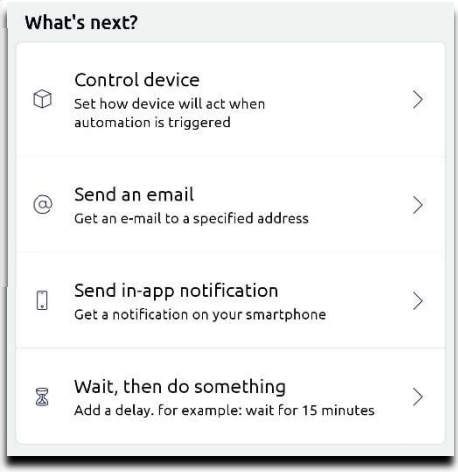



6. Select what the automation should do. We want to control a device so select the appropriate tab.




In this case, it should turn the system switch OFF. Note: The selection switch has a reverse functionality, meaning if you activate it, it will turn OFF the system switch, if it is turned OFF it will turn ON the system switch.

7. Next you will be asked to select a device. Tap on your unit's name.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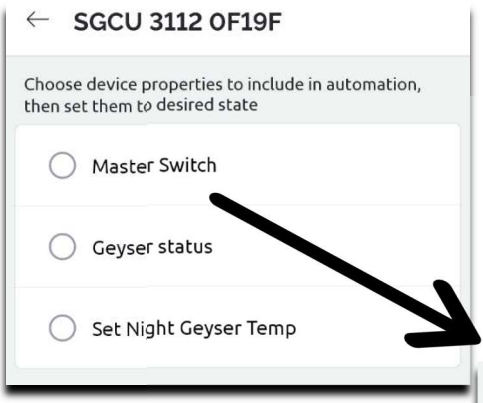
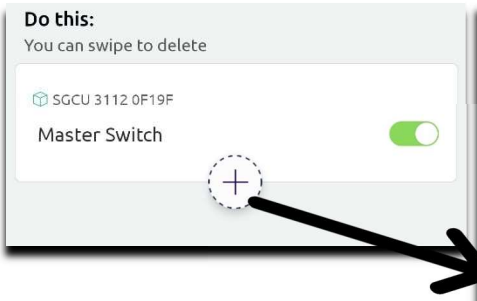
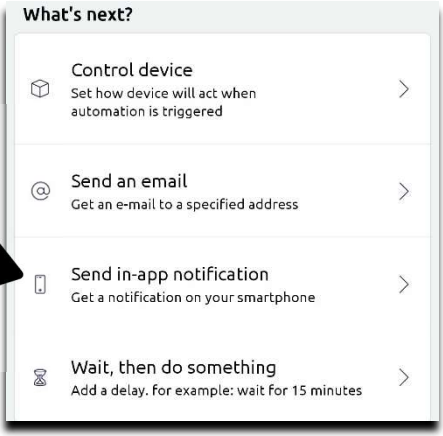



8. You will now be asked what aspect of the device you want to control. Since we want to turn the geyser OFF, select the Master Switch functionality and turn it ON. If we turn it ON here it will turn the system switch OFF. Tap on Done to finish.

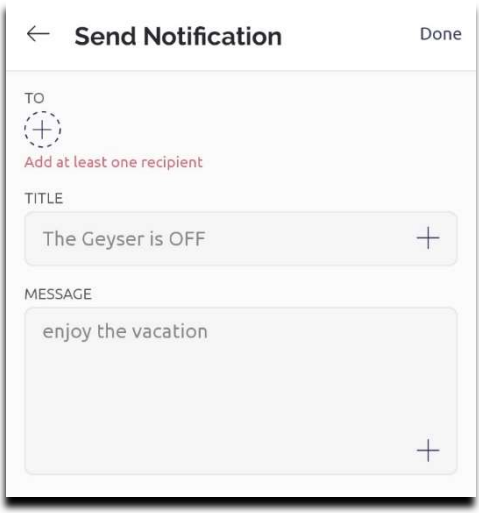

9. Now let's set up a notification to tell us that the system is indeed OFF. To do this, simply add another action.



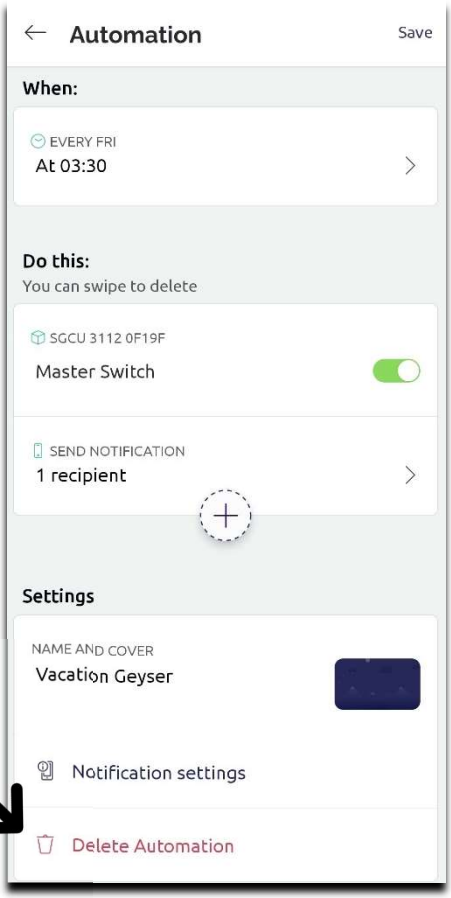




Tap on the + icon and proceed to select if you want to be notified by email or by the app. Let's select the app option.

*Features marked by * are only applicable to the SGCU system*




10. Now you can select the recipients of the message. The app will automatically add you as a recipient. Continue to name the notification and write a message.




10. Now you have completed the first automation setup. If you want to delete this automation or change the notification preferences, tap here.

Let's move on to the next part.

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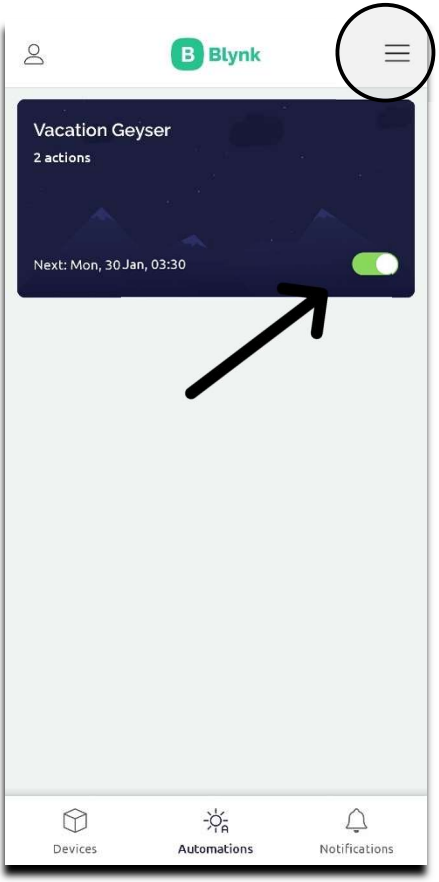
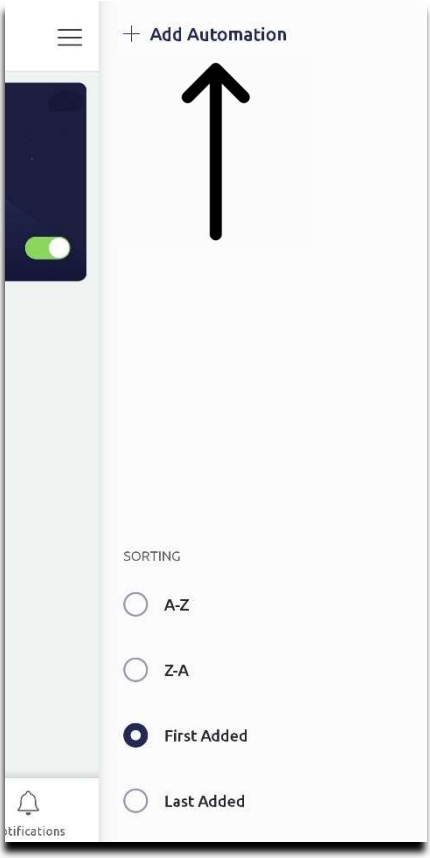
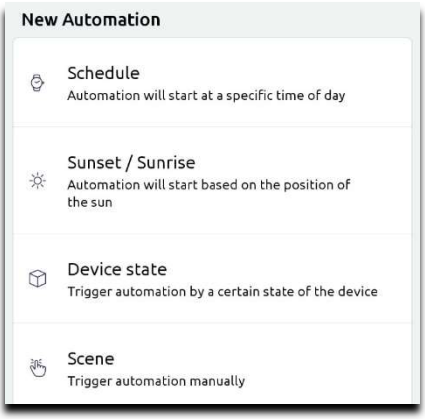



This is how an automation looks after it is set up. Be sure it is activated for it to work.

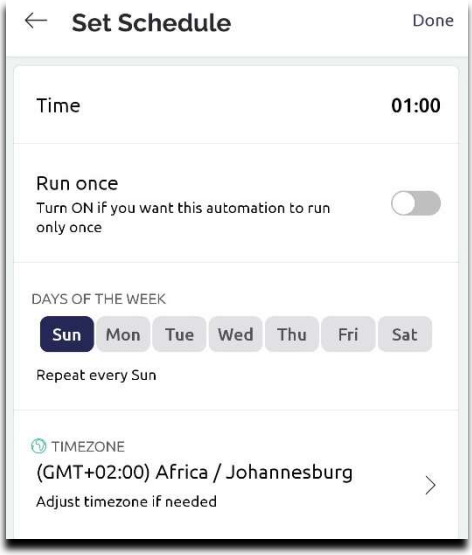
To add more automations, tap on the 3 stripes in the top right corner.



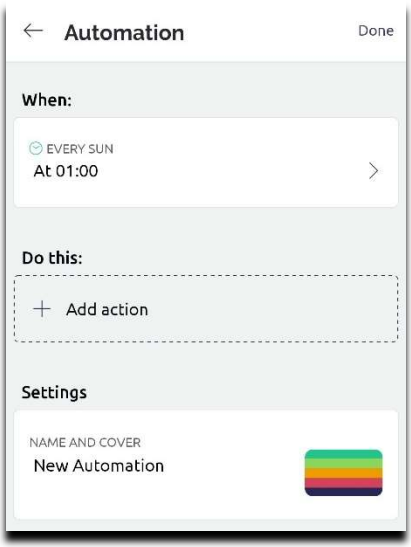

After tapping on add automation you will be taken back to the original screen to select a condition. Since we are still working with a schedule, the steps are very similar to the first part.



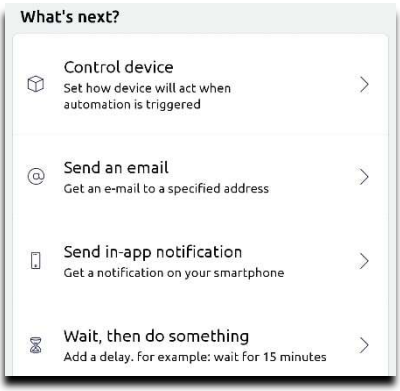

Since we now want to select when the geyser turns back on, select schedule again. And proceed to select the time you want the geyser to turn back ON. 1:00 PM.




Select Sunday and turn OFF Run once. After this tap on Done to proceed to select an action.




Select the control device.

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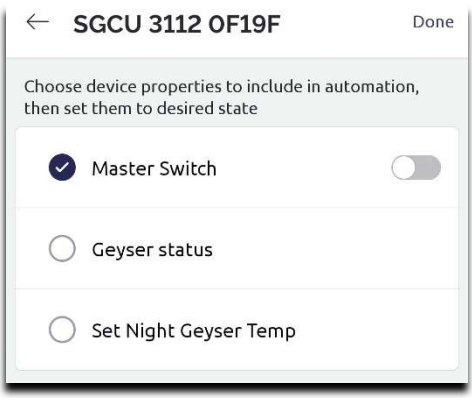
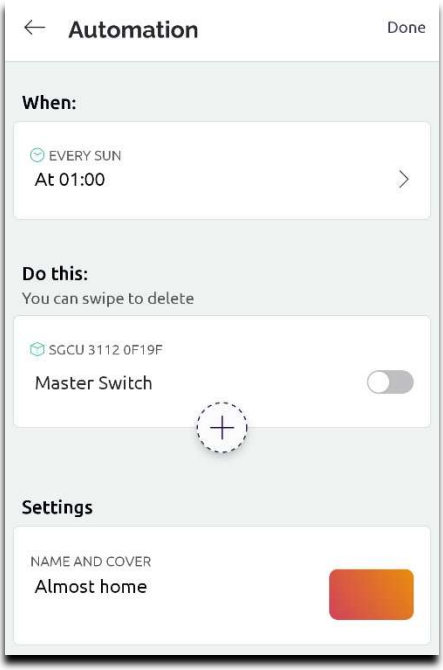
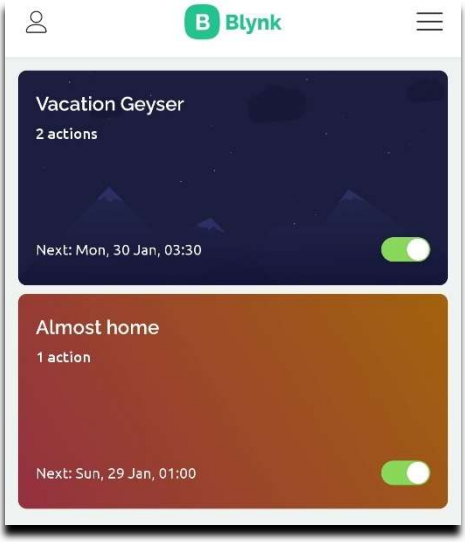
Select your unit.




Now select Master Switch again, this time disabling it, which will turn the geyser back ON.




Proceed to name the automation and personalise it as before. Select Done when you are finished.




You have now successfully set up an automation that will turn your geyser OFF at 3:30 AM Monday and turn it back ON at 1:00 PM Sunday.

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