

GNC APEX Harness to BlueRay

Introduction

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Connection

Neptune APEX NG 2016 comes with 4 (four) Variable Dim ports which can be used to connect the APEX Base Unit to GNC APEX Harness. You will use the two included Network Cables (or any RJ45 Cat6 network cable) to connect port1 in the APEX to port1 in the Harness and port2 in the APEX to port2 in the harness.

The GNC APEX Harness is also compatible with the APEX EL, but since APEX EL does not have the Variable Speed Ports included you will need an additional module called VDM (Variable Speed Pump Control - VDM) than can be found here: [Neptune Systems Variable Speed Pump Control - VDM | Neptunestore.eu](https://www.neptunestore.eu/Neptune-Systems-Variable-Speed-Pump-Control-VDM)

The GNC APEX Harness is compatible with APEX Classic.



Next you need to connect the phone cable (in the middle) to your Airlink.

The airlinks should be configured as slaves since from this point onward the APEX will be the master.

This connection will map for the GNC BlueRay the following channels in APEX:

VarSpeed Port 1 (Varspd4_I1): Red Channel

VarSpeed Port 2 (Varspd4_I2): Unused

VarSpeed Port 3 (Varspd4_I3): White Channel

VarSpeed Port 4 (Varspd4_I4): Blue Channel

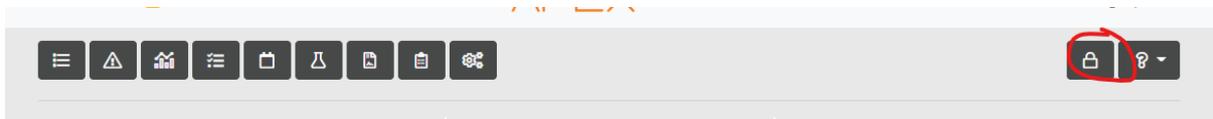
Programming

Programming the lights is now very easy. The basic setup is shown below and for more advanced features like a button to enable specific configuration for photo mode for instance check in the section **Advanced**.

Let's start by bringing all the VSPD ports to the dashboard.



Log in to APEX Fusion, click on the lock icon on the top right corner

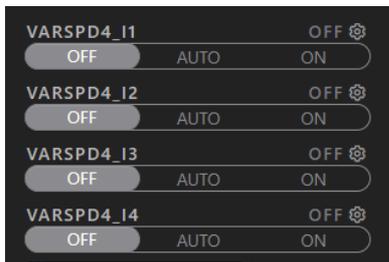


Locate all the VSPD ports and drag them to the dashboard



Once that is done you can click again on the lock to close the editing view.

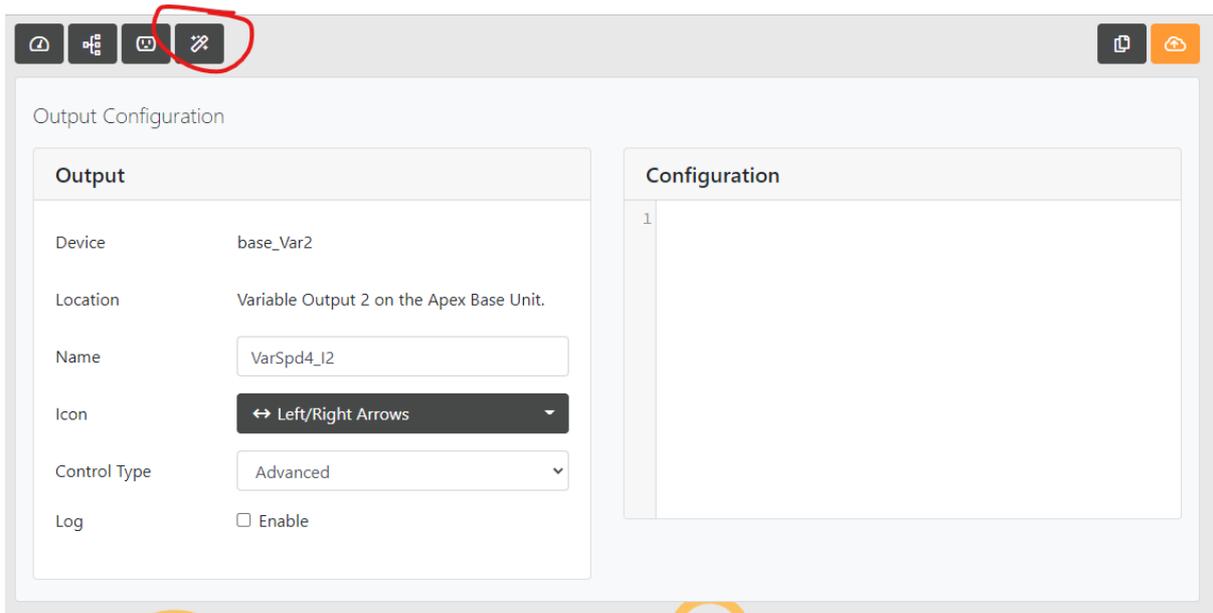
When done you should have all four in the dashboard like shown below.



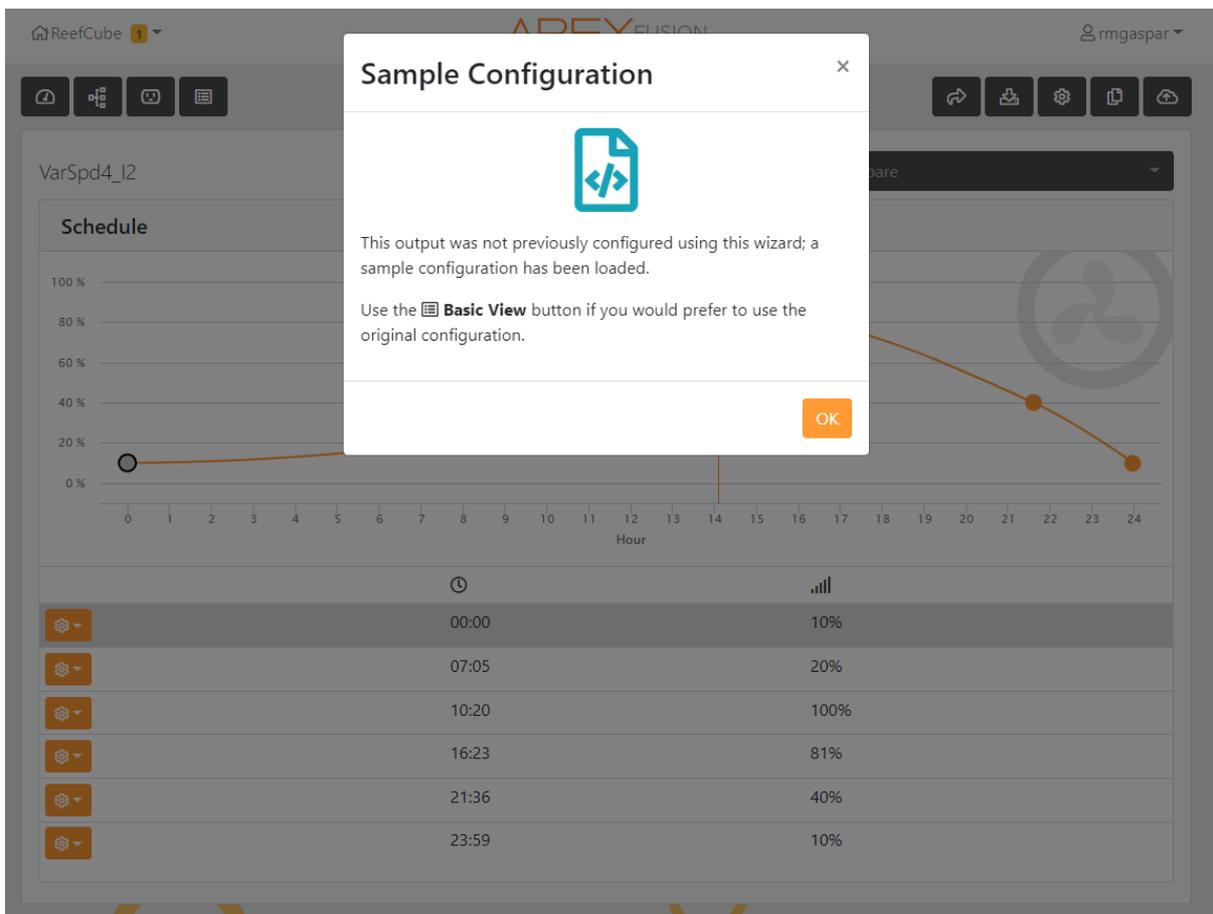
The following steps are the same for each of the channels. We will do it here for one and you just need to repeat for all the other channels.

You can now press the wheel on one of the ports.

If it's not landing directly on the wizard and showing the page below you can click on the wizard icon to start the wizard configuration.

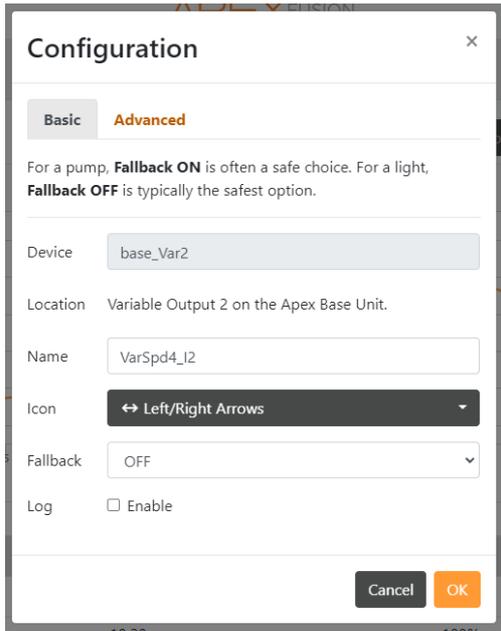


Wizard will load with a pre-defined set.



Click ok. You are now ready to start configuring your light channel

Let's start by giving it a name. Press wheel (third icon on the top right) and name the outlet to RED or whatever name you want to give to your channel by replacing the name from VarSpd4_Ix.

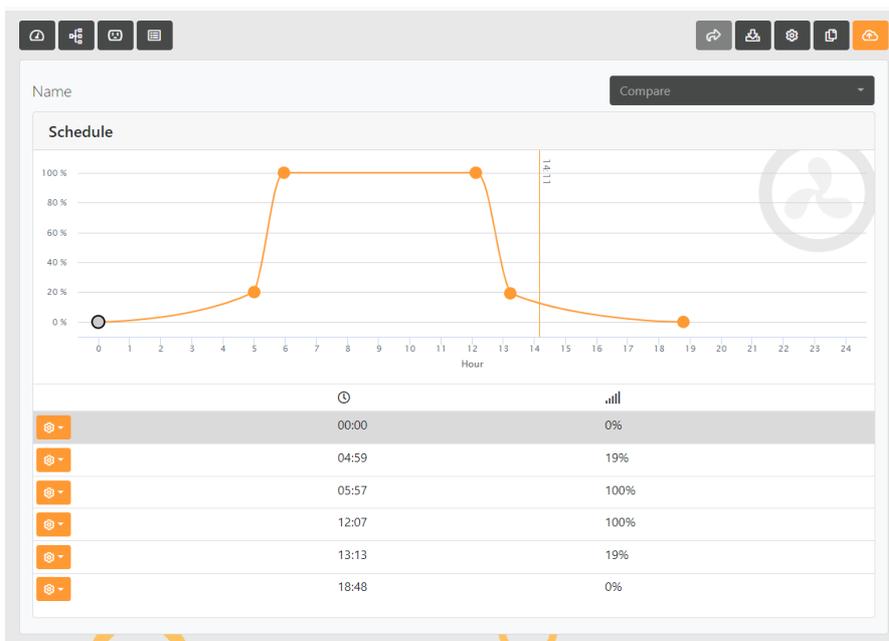


Press ok.

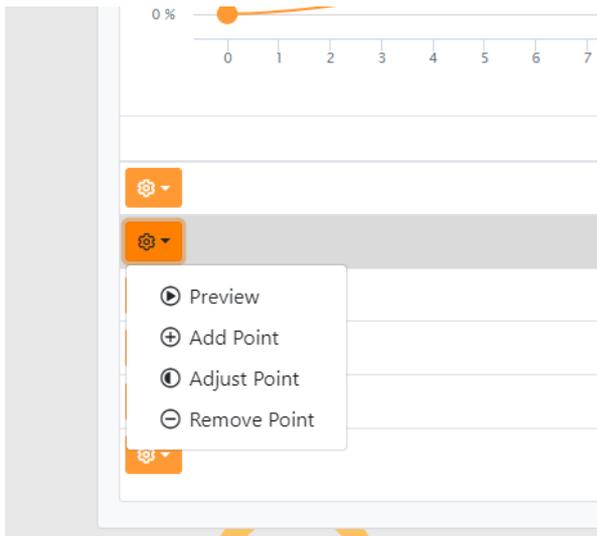
Don't forget to upload your change by pressing the up arrow again on the top right corner (it should have changed to orange indicating a change that needs to be applied)



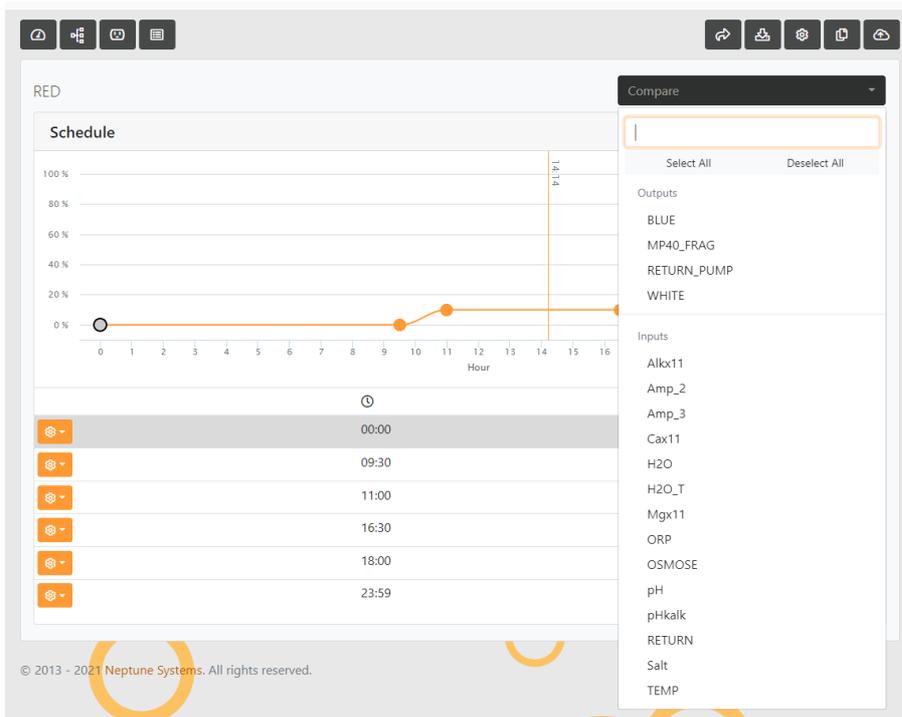
Adjust your points to create the schedule you need.



You can adjust each point by clicking it with the mouse and drag and drop in the point you want, or you can click on the wheel next to the list to adjust.



Another great feature is that you can no go to the other channels, repeat the process by coping it and adjusting as needed and you can also compare it with the other channels





Again, don't forget to upload your new schedule and repeat for all the other channels.

Advanced – Photo Mode

One of the wonders of the GNC APEX Harness is that now you can assign a button for instance to enable a PHOTO MODE.

In this example we are showing how to setup a photo mode that will last for 10 minutes and then revert back automatically to the given light schedule.

You can do the same and replicate this process to enable for instance ... lightning, acclimation mode for your corals, etc ...

It's good to have a BoB (break out box) so that you can use push buttons but it's not necessary as you will control everything by a Virtual Outlet in APEX.

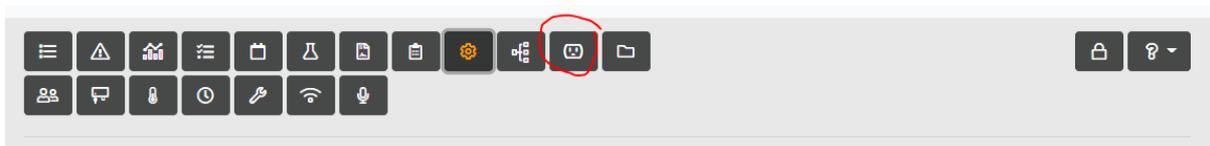
BoB



Again you can find the BoB in: [Neptune Systems I/O Breakout Box | Neptunestore.eu](https://www.neptunestore.eu)

To configure an advanced photo mode we will need a virtual outlet to act as a timer.

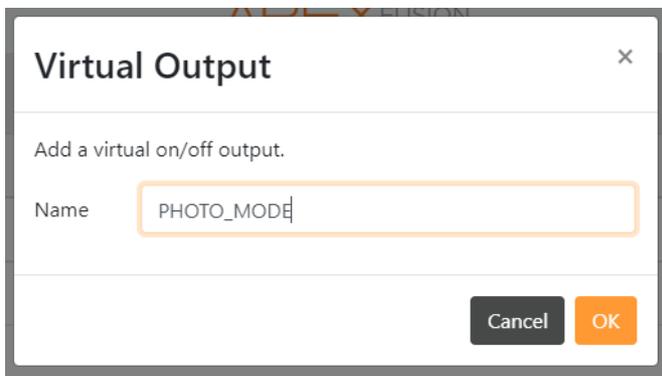
In the APEX Fusion dashboard click on the wheel



Then choose outputs. Click on the wheel and select '+ Add a virtual Output'

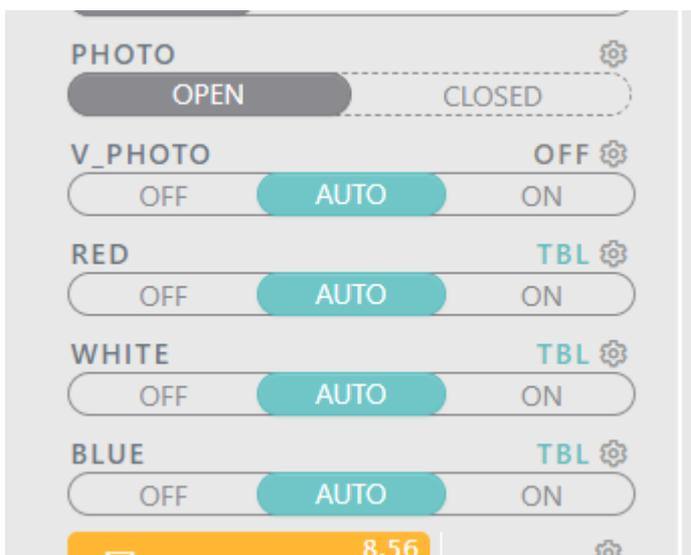


Give it a name and press OK



Once back in the dashboard you will notice the 'lock' icon on the top right corner of the page changing color and stating (when you mouse over) that you have new icons.

Find the one you just created and drag and drop to the dashboard again



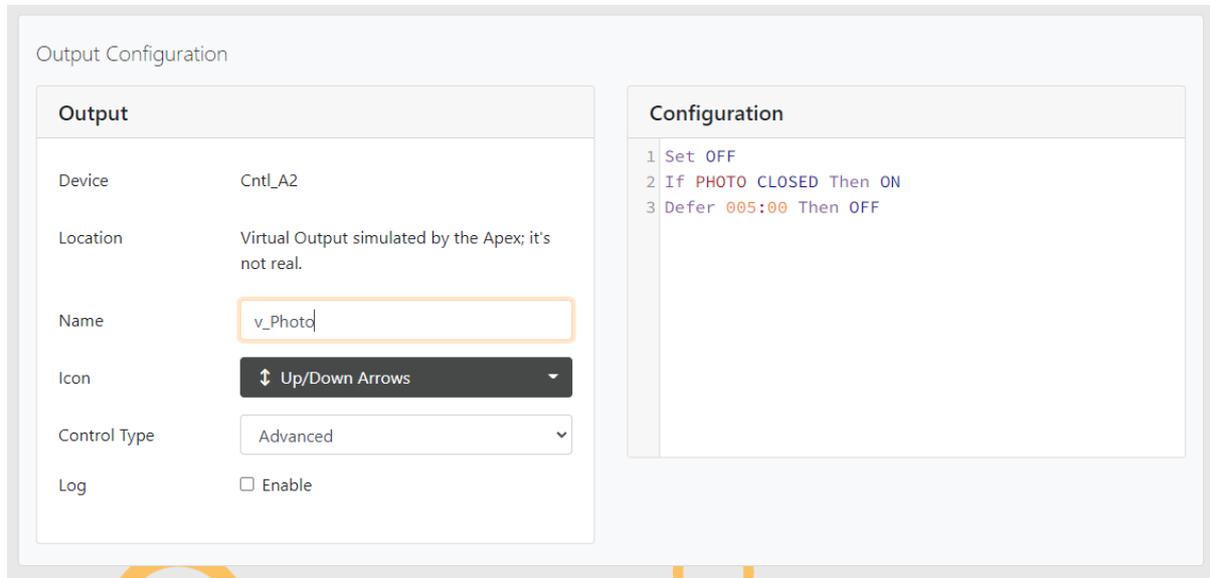
You should have something like the above. In this example:

PHOTO is the Physical momentary press switch

V_PHOTO is the Virtual Output we just created

RED, WHITE, and BLUE are the channels already configured using the procedure described above.

Now click on the wheel next to the Virtual Output you have just created



The screenshot shows the 'Output Configuration' interface. It is divided into two main sections: 'Output' and 'Configuration'.

Output Section:

- Device: Cntl_A2
- Location: Virtual Output simulated by the Apex; it's not real.
- Name: v_Photo (highlighted with an orange border)
- Icon: Up/Down Arrows (dropdown menu)
- Control Type: Advanced (dropdown menu)
- Log: Enable

Configuration Section:

```
1 Set OFF
2 If PHOTO CLOSED Then ON
3 Defer 005:00 Then OFF
```

You should have a picture like the above. If not please change the 'control type' from whatever is there to "Advanced".

If you have a BoB and a physical button just use line 2 (two)

If you don't have a BoB remove line two (2) and just use line 1 and 3 in your programming.

Specify the amount of time you want for the duration in the "defer" line. For instance if you want 10 minutes just change the line to "defer 010:00 then OFF"

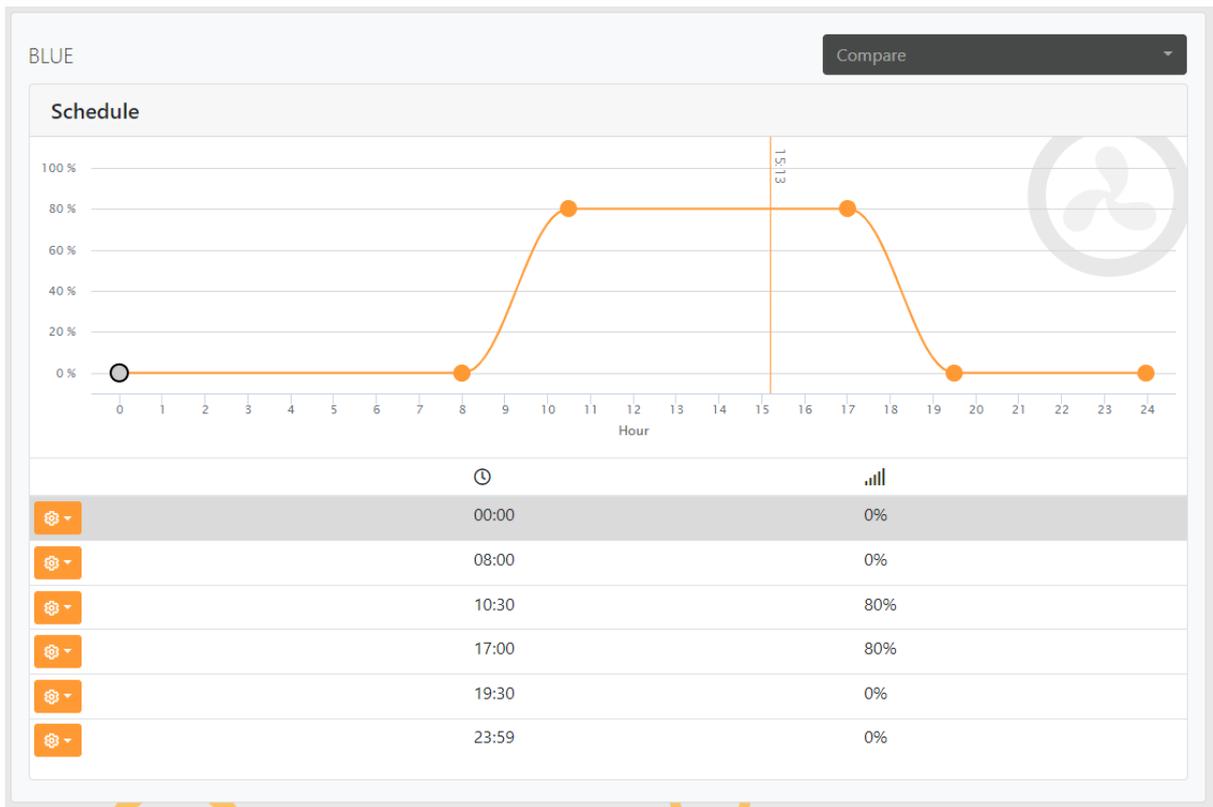
In this case there is a small caveat to the solution. You will have to put the outlet to ON and then to AUTO.

In the case of a physical button it's just a momentary press and done!

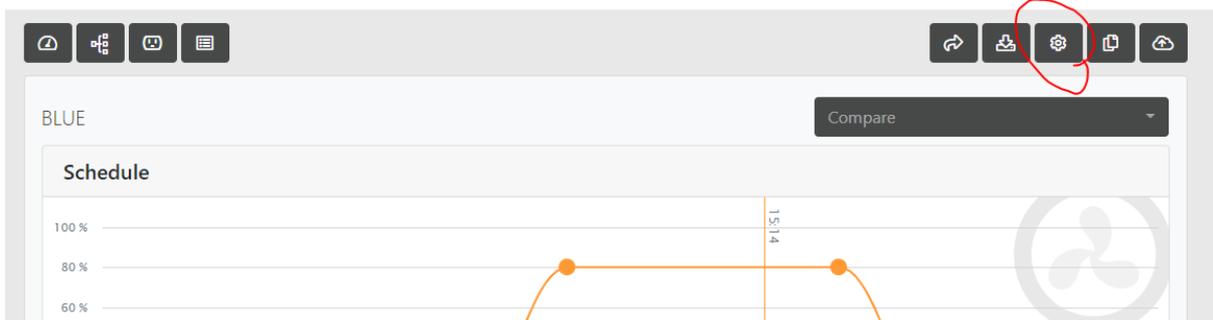
Don't forget to upload the configuration and will go for next step which is to configure a profile for each of the channels to the desired light state at the *photo mode*.

Back in the APEX Fusion Dashboard there is one last step.

Click on the wheel next to one of the channels. It should show the initial scheduled you saved



Click on settings icon



Change to 'advanced'

Configuration x

Basic
 Advanced

Program statements may be entered here, and will be evaluated last. For example, if you'd like to specify a feed mode, this is the place.

Program

```
1 If Output v_Photo = ON Then 80
```

And write the following line: if output <VO_Name> = ON then <Percentage>

Where VO_Name is the name of the virtual outlet you created, and Percentage is the amount (number between 0 and 100) of intensity you want in that given channel

In our example it should be:

If output PHOTO_MODE = ON Then 80 (representing 80% of the intensity for the blue channel)

Now replicate for all the other channels and you are done!