



The Moodifier™ Daemon



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The Moodifier Daemon Application

Each Moodifier unit has a number of channels where lights are connected. The Moodifier application lets you easily and effectively control the lights that are connected to these channels from any web browser on any device.

The Moodifier Daemon will also let you control Philips hue and other hue compatible ZigBee lights by connecting to a Philips hue bridge.

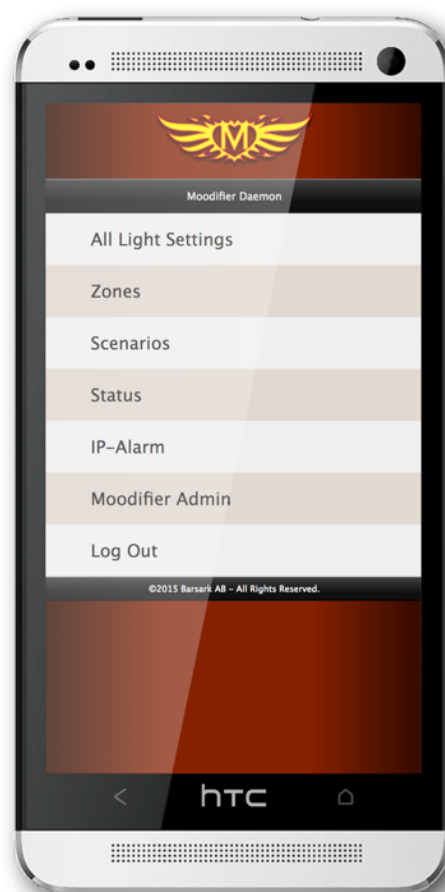
The Moodifier Daemon enables you to easily create your own light settings (light scenes) by simply dragging the light intensity channel sliders for each channel or light as you prefer. You can create as many light settings as you like, and each light setting can also easily be activated, dimmed and scheduled as you like.

The Moodifier Daemon web interface lets you control all your light scenes remotely from any smartphone or web browser. It enables any handheld device like iPhones, iPods, iPads, Androids etc. to act as a powerful remote controls for your lighting.

Once you have installed and started the Moodifier Daemon application on your computer you can access the Moodifier Daemon web interface by surfing in to the IP number of the computer running the application, or by visiting <http://home.moodifier.net> (you will then be redirected to the right IP number)

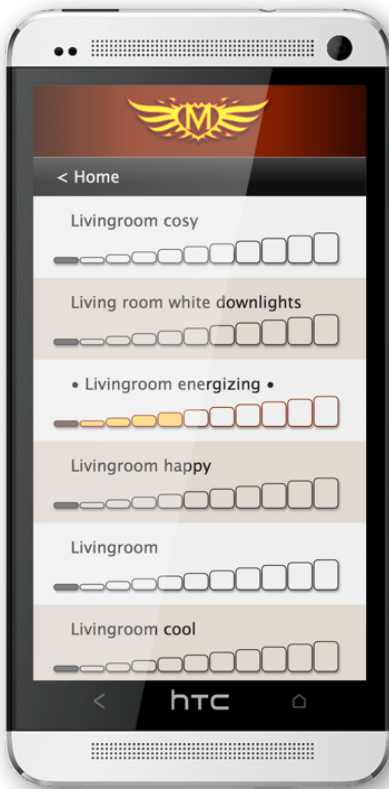
Once you log in to the Moodifier Daemon web interface you will be presented to the main menu where you can:

- Access and control "All light settings"
- Access and control all "Zones"
- Access and control all light "Scenarios"
- Monitor the "Status" of all devices
- Access and control the "IP-Alarm"
- Access the "Moodifier Admin" area
- "Log Out" of Moodifier Daemon

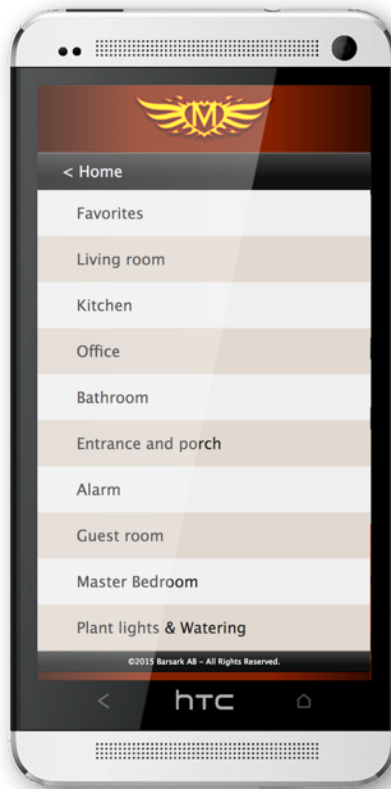


The main views of Moodifier Daemon

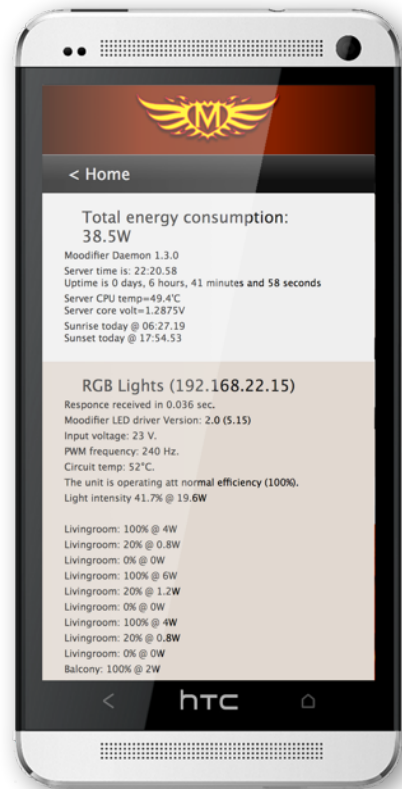
All Light Settings



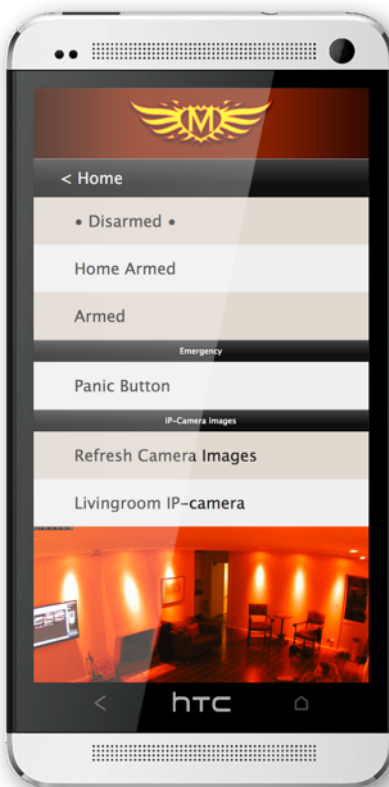
Zones



Status



IP-Alarm



Moodifier Admin



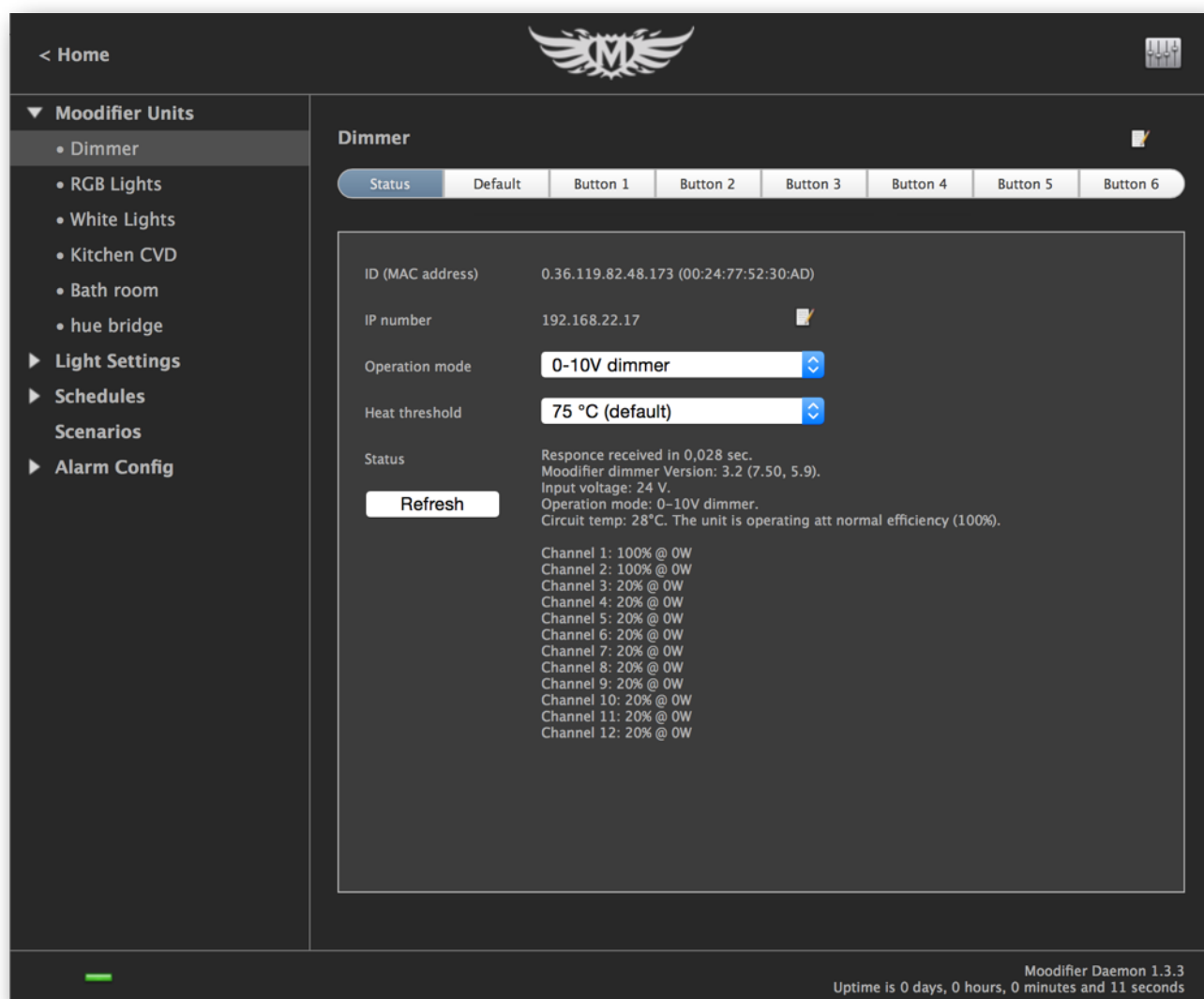
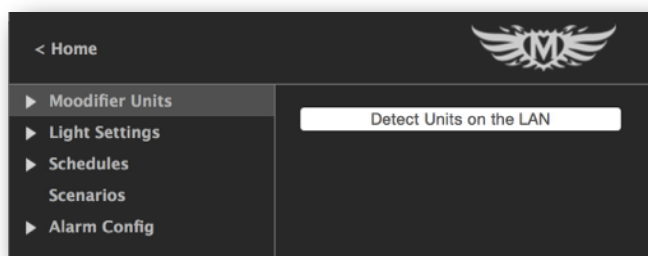
Detecting Moodifier units & Philips hue bridges on the LAN

Download, install and start the latest version of the Moodifier application from <https://www.barsark.com/moodifier-daemon>

Log in to the Moodifier Daemon web interface and go to the "Moodifier Admin" area. When there click on "Moodifier Units" in the main menu. A button to "Detect Units on the LAN" is shown, click it.

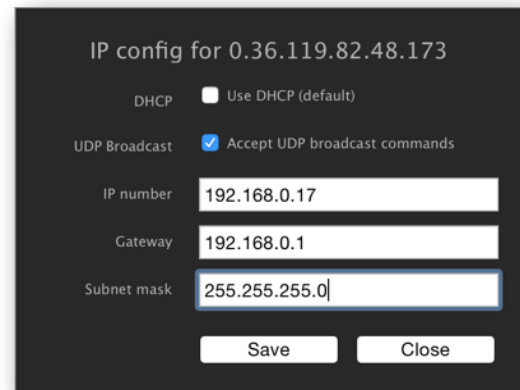
All Moodifier units and Philips hue bridges on the local area network (LAN) will now be listed and shown under "Moodifier units" in the main menu.

Click on a unit and you will see the current status of that unit.



Configuring Moodifier network settings

By default all Moodifier units have DHCP enabled, but if you want to configure the network settings manually just click on the edit symbol to the right of the IP number in the status view. A popup window will then appear where you can enable/disable DHCP and manually set IP number, gateway and sub net mask of the unit as well as control if the unit should accept UDP broadcast commands or not.



IP config for 0.36.119.82.48.173

DHCP ☐ Use DHCP (default)

UDP Broadcast ☒ Accept UDP broadcast commands

IP number

Gateway

Subnet mask

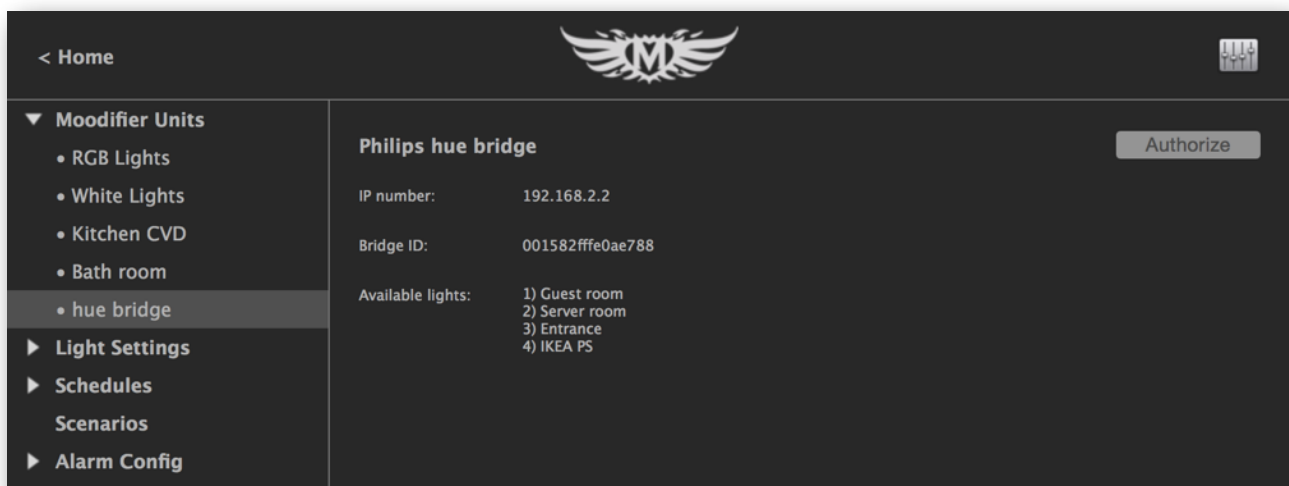
Setting up and authorizing Philips hue bridges



Before you can access a philips hue bridge and the lights that are connected to it you need to set up the hue bridge and connect the hue lights to it using the official Philips hue app.

You will then need to authorize Moodifier Daemon to access and control the lights.

To authorize Moodifier daemon to access the bridge and control the lights you simply select the hue bridge in the main menu of Moodifier daemon, then you press the button on the hue bridge and lastly click the "Authorize" button in Moodifier daemon.

Your hue lights should then appear in the list of lights that are shown for the available lights list.



< Home  

▼ Moodifier Units

- RGB Lights
- White Lights
- Kitchen CVD
- Bath room
- hue bridge

► Light Settings

► Schedules

Scenarios

► Alarm Config

Philips hue bridge

IP number: 192.168.2.2

Bridge ID: 001582fffe0ae788

Available lights:

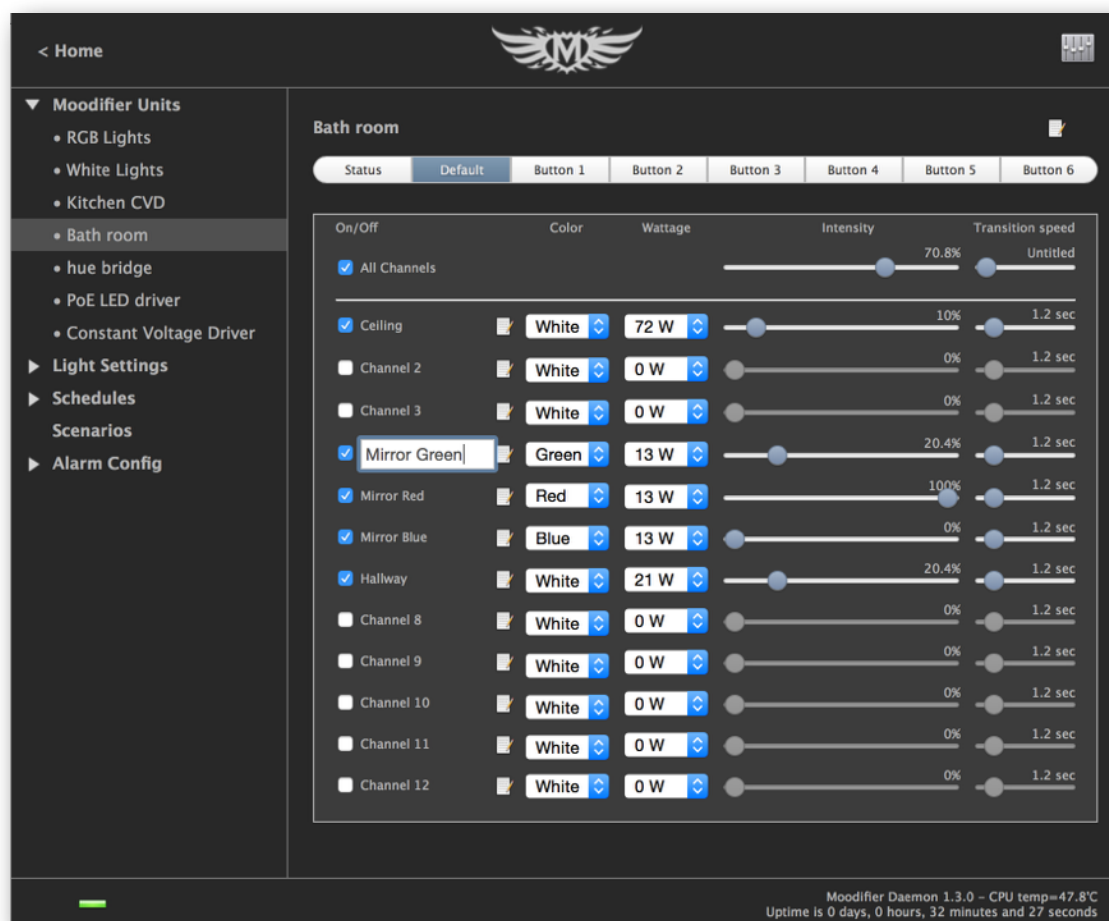
- 1) Guest room
- 2) Server room
- 3) Entrance
- 4) IKEA PS

Moodifier unit setup and the default settings

Each Moodifier unit has a default settings that can be configured. The default setting is activated whenever the unit is powered on (or after a power outage). The settings is usually only set up once, when the unit is installed and activated for the first time. The default settings let you configure the following:

- Assign a name to the unit.
- Assign an individual name for each channel on the unit.
- Assign the color of the LED lights that are connected to each channel (red, green, blue or white).
- Assign a channel to act as an on/off switch instead of a dimmer.
- Assign the wattage of the lights that are connected to each channel, choosing "Custom" in the popup menu will let you type in any numeric value.
- Set the default light setting that is activated every time the unit is powered on or after a power failure.

The default setting of a Moodifier unit is set by clicking on the Moodifier unit and then the "default setting" tab. Then you simply drag the light intensity sliders of each channel on the unit to the level you prefer. If a particular channel on the Moodifier unit is not used (has no lights connected to it) you can simply deactivate it by unchecking the check-box for that channel.



You can give the Moodifier unit its own name like "Livingroom", Bedroom" etc. by clicking on the units name at the top. If you have multiple Moodifier units you simply do the same procedure for each one.

Assigning a colors to channels

If you have multi colored RGB lights connected to any of the channels of the Moodifier unit you need to manually set the color of those channels. This is easily done by simply choosing the matching color in the popup menu to the right of each channels intensity slider.

On/Off NO/NC Channel Modes

Any Moodifier channel can be set to "On/Off NO" or "On/Off NC" mode by selecting the modes in the color popup menu of the Moodifier unit view.

On/Off NO channel mode

The On/Off NO mode will make the channel act as an on off switch instead of a sliding dimmer. It will restrict you to turn the channel either full on or full off, with nothing in between.

The On/Off NO mode can be used to control relays or other peripherals that can only be turned on or off.

All channel levels above 0 is full on 100%.

The On/Off NC channel mode

The On/Off NC channel mode works just like the On/Off NO mode, but in reverse.

When you turn a channel on in the software, it turns off on the unit, and when you turn it on in the software, it turns off on the unit. All reporting for the channel status, within the software, is also reversed, so when the software says that a NC channel is ON, it is actually OFF and visa versa.

The On/Off NC mode DOES NOT work as expected when an input button is set to "On/Off Push to dim" mode. It is best suited when combined with the "Return to default" or "Momentarily on while held in" button modes.

What you actually do when turning ON a On/Off NC channel is to turn it OFF, and since the "On/Off Push to dim" button mode simply turns the light OFF when released there will be no change (the channel will always stay the same).

By using any of the "Return to default" or "Momentarily on while held in" you can actually control in what state the channel ends up in after a button input is triggered by setting the channel state in the default setting.

The On/Off NC mode can be a bit difficult to understand, but once you do it can be a very powerful way to set up very fail safe secure solutions with external NC (active) equipment. If you are dealing with any type of emergency control or emergency lighting you should definitely check it out.

Configuring inputs for wall mounted push buttons or sensors

Moodifier units have connectors for up to 6 wall mounted push buttons. The inputs enables you to connect and control the Moodifier lighting in a traditional way with standard wall mounted push buttons. The push buttons makes the Moodifier units fully operational as a stand alone unit if the IP-network goes down or is disconnected.

The Moodifier Daemon application lets you easily set the light scene that each button should activate. Choose the button that you want to modify by clicking that buttons tab. Create the light scene you want that button to activate, de-activate and dim by dragging the channel sliders to the level you prefer. A push on the button will then activate, deactivate and dim that light scene. The "Transition" slider controls the speed of the dim-transition when the light scene is activated and deactivated. If you want one or more channels to be unaffected by a push on the button you simply deactivate those channels by unchecking the check-box at the left of the channel sliders. The push buttons light settings are permanently stored in the Moodifier unit, but if you like you can change them again at any time by repeating the same procedure.

The screenshot displays the Moodifier Daemon application interface. On the left is a sidebar menu with options: Moodifier Units (Dimmer, RGB Lights, White Lights, Kitchen CVD, Bath room, hue bridge), Light Settings, Schedules, Scenarios, and Alarm Config. The main area is titled 'Dimmer' and features tabs for Status, Default, Button 1, Button 2, Button 3, Button 4, Button 5, and Button 6. The 'Button 1' tab is selected. Below the tabs, the 'Functionality' is set to 'On/off, push to dim (default)', and there are options for 'NO -' and 'UDP broadcast events' (checked). The main configuration area lists 12 channels. Each channel has an 'On/Off' checkbox, a 'Color' dropdown (all set to 'White'), a 'Wattage' dropdown, an 'Intensity' slider, and a 'Transition speed' slider. Channels 1 and 2 are checked and set to 100% intensity with a 0.8 sec transition. Channels 3 through 12 are unchecked and set to 0% intensity with a 0.8 sec transition. At the bottom right, the version 'Moodifier Daemon 1.3.3' and uptime 'Uptime is 0 days, 0 hours, 0 minutes and 11 seconds' are displayed.

On/Off	Color	Wattage	Intensity	Transition speed
<input checked="" type="checkbox"/> All Channels			100%	0.8 sec
<input checked="" type="checkbox"/> Channel 1	White	12 W	100%	0.8 sec
<input checked="" type="checkbox"/> Channel 2	White	10 W	100%	0.8 sec
<input type="checkbox"/> Channel 3	White	20 W	0%	0.8 sec
<input type="checkbox"/> Channel 4	White	25 W	0%	0.8 sec
<input type="checkbox"/> Channel 5	White	30 W	0%	0.8 sec
<input type="checkbox"/> Channel 6	White	5 W	0%	0.8 sec
<input type="checkbox"/> Channel 7	White	40 W	0%	0.8 sec
<input type="checkbox"/> Channel 8	White	10 W	0%	0.8 sec
<input type="checkbox"/> Channel 9	White	10 W	0%	0.8 sec
<input type="checkbox"/> Channel 10	White	0 W	0%	0.8 sec
<input type="checkbox"/> Channel 11	White	0 W	0%	0.8 sec
<input type="checkbox"/> Channel 12	White	0 W	0%	0.8 sec

Input/button/sensor functionalities

Each input of the Moodifier unit can be configured to behave in a few different ways depending on what version of Moodifier unit you have. All options may not be available on older units.

On/off, push-to-dim input mode (default)

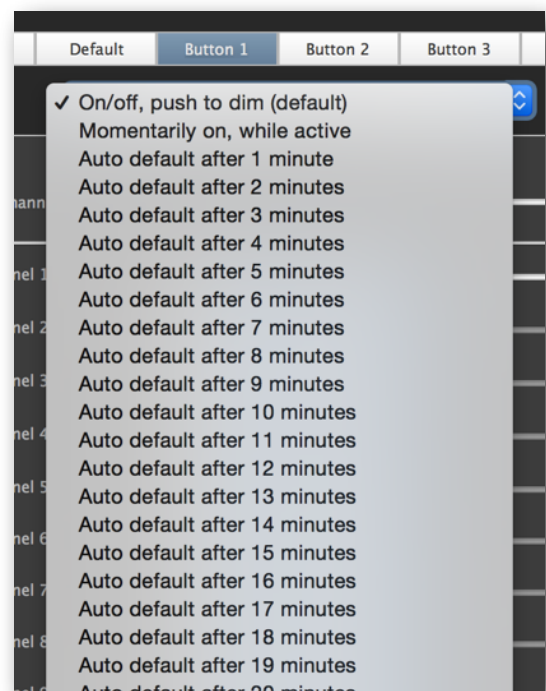
A push on each button activates/de-activates a given light scene. Holding in the push button will enable dimming of the light scenes (0-100%). By default each of the 6 push button inputs will control channel 1 through 6, 0-100%, but you can easily use the Moodifier software to define your own custom light scene for any given input. The set light scenes are stored in the Moodifier unit even after a power cut so there is no need for reset after power failures.

Auto-return input mode

Each of the 6 inputs can optionally be set to "auto-return" to the "default setting" in 1-250 minutes. This functionality is useful if you for instance have a motion detecting sensor that should turn the lights on whenever motion (presence) is detected. By using the auto-return feature the lights can automatically be set to the default light setting (dimmed to any level) or off¹ after 1-250 minutes of no motion (no presence).

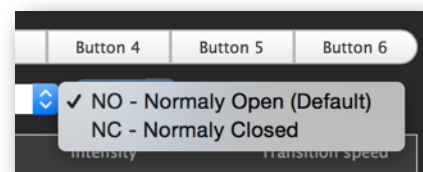
Momentary input mode

Each of the 6 inputs can optionally be set to "momentarily" activate it's light setting while active (while a push button is held in) and return to the "default setting" once de-activated (when the push button is released). The shortest active momentary duration is limited to 1-2 seconds.



NO/NC

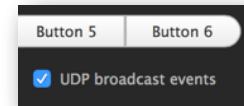
Each input can be configured to work as a normally open (default) or normally closed circuit.



¹ Depending on version of the unit.

UDP broadcast event notifications

If checked the Moodifier unit will send out UDP broadcast event notifications whenever a push button or sensor triggers the input.



A button/sensor input event occurs when:

- 1) A button/sensor input circuit is closed (pushed in). If any other input circuits are closed (pushed in) at the time of the event it will also report the closed status of those inputs.
- 2) An input "auto-return" delay times out. If any input circuits are closed (pushed in) at the time of the event it will also report the closed status of that input circuit.
- 3) A "momentary" set input button/sensor is released. If any input circuits are closed (pushed in) at the time of the event it will also report the closed status of that input circuit.

The datagram data that is sent out is in the format "btn=X", below are some examples.

"btn=0,1" => input circuit 1 was closed when the event occurred.

"btn=0,2,4" => input circuit 2 and 4 were closed when the event occurred.

"btn=0" => no input circuits were closed when the event occurred (an input auto-return timeout or momentary input release event occurred)

Upon interception of this UDP broadcast input event notification the receiver will know that an input event has occurred, and what input circuits were closed at the time of the event.

Creating your own light settings (light scenes)

The Moodifier application lets you easily create as many light settings as you like.

To create a new light setting you simply choose "Light settings" in the admin main menu and click the green "+" sign at the bottom of the light setting list.

A light setting view with your Moodifier units and all their channels as well as all available Philips hue lights is then shown. If you have more than 5 Moodifier units you will need to add the Moodifier units you want to include in the light setting manually. This is done by choosing the light setting you want to add in the popup menu and then click the "Add Unit to Light Setting" button. The unit will then be added to the light setting.

You can remove Moodifier units from a light setting by clicking the "[X]" symbol at the top right of the unit view.

Drag the light intensity sliders of each channel and light to the levels you prefer. The lights react in realtime as you drag the sliders so you get instant visual feedback.

The "Transition" slider, at the right of the intensity slider, controls the transition speed when the light scene is activated and deactivated.

If you want one or more channels to be unaffected in any particular light setting you simply deactivate those channels by unchecking the check-box at the left of the channel intensity sliders.

You can change the name of the light setting by clicking on the edit symbol of the light setting at the top right, and then typing in a new name for the light setting/scene. Save the new name by clicking the enter key.

The screenshot displays the Moodifier application interface. On the left is a sidebar menu with options: Moodifier Units, Light Settings (selected), Schedules, Scenarios, and Alarm Config. The main area is titled 'Livingroom' and includes a 'Restrict access to:' dropdown set to 'Lighting Controllers' and a 'Kitchen CVD' dropdown. An 'Add Unit to Light Setting' button is present. Below this is the 'RGB Lights' section, which shows a table of light settings with columns for 'On/Off', 'Intensity', and 'Transition speed'. The table lists various channels for the 'Livingroom' scene, including 'All Channels' and individual color channels (r, g, b) for multiple units. The 'Intensity' column shows sliders and percentage values (e.g., 67.2%, 100%, 20%, 20.4%, 100%). The 'Transition speed' column shows a slider and a value of 1.6 sec. At the bottom, there are two green '+' buttons and a status bar indicating 'Moodifier Daemon 1.5.1 - CPU temp=47.2°C' and 'Uptime is 0 days, 1 hours, 44 minutes and 41 seconds'.

On/Off	Intensity	Transition speed
<input type="checkbox"/> All Channels	67.2%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (r)	100%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (g)	100%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (b)	20%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (r)	100%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (g)	100%	1.6 sec
<input checked="" type="checkbox"/> Livingroom (b)	20.4%	1.6 sec
	100%	1.6 sec

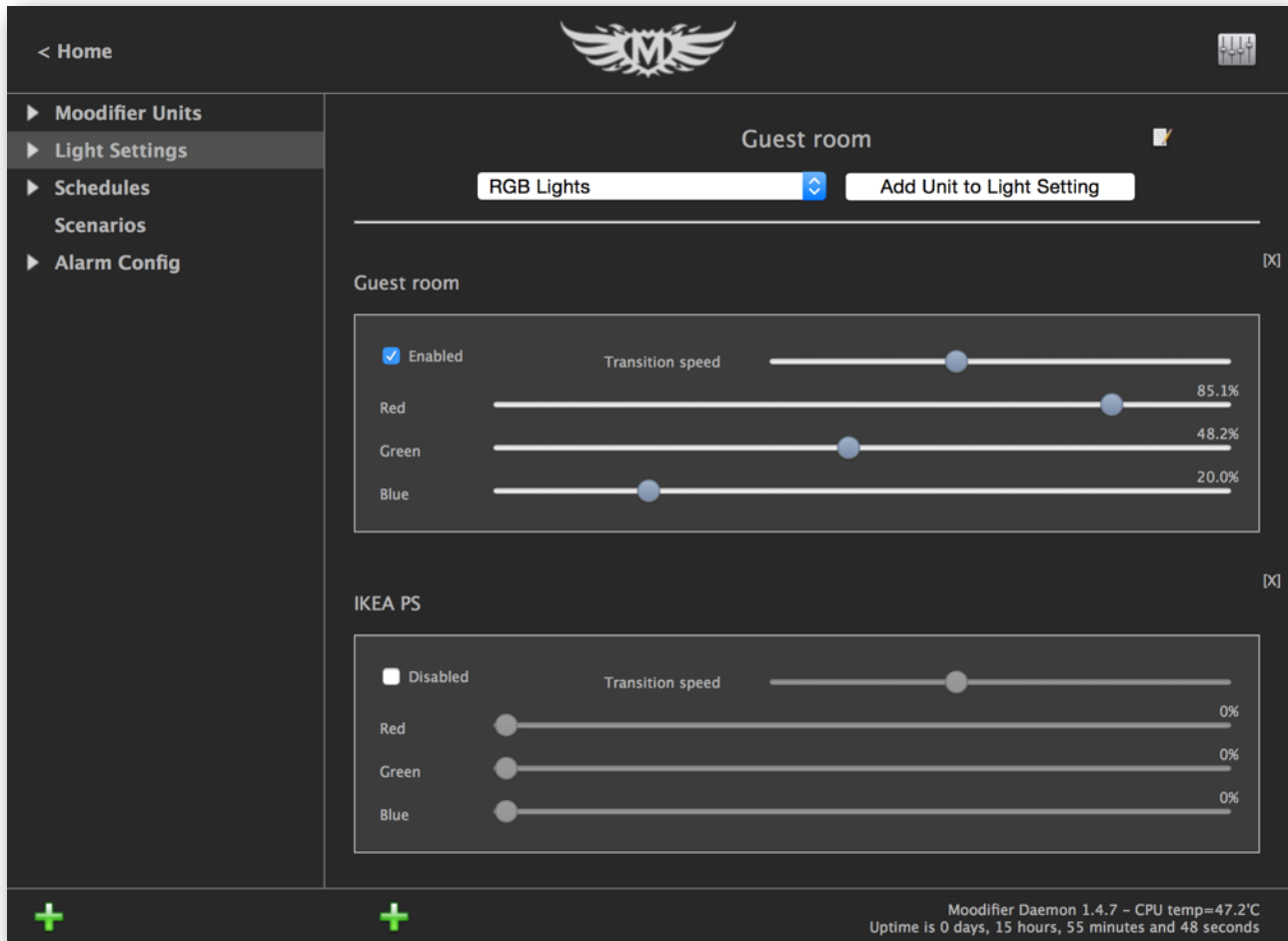
Restricting access to light settings

You can also restrict access to the light setting. Moodifier Daemon has three different user roles (user levels), "Lighting Controllers", "Lighting and Alarm Controllers" and "Administrators". Each user role has a different login password that is set in the Admin area. Users are assigned a role when they log in, based on the password they use. Restrict access to the light setting by choosing the minimum role (user level) that is required to access the light setting in the Restrict access popup menu.

Configuring light scenes with Philips hue lights

Each Philips hue light will show up in the list of available lights. Enable or disable the lights that you want to be active in the light scene you are creating and drag the light intensity sliders to your desired dim/color level.

The hue lights will react in realtime when you drag the light/color intensity sliders for instant visual feedback to make it straight forward and simple to get the dim/color levels of your light scene exactly as you like.



Working with Zones

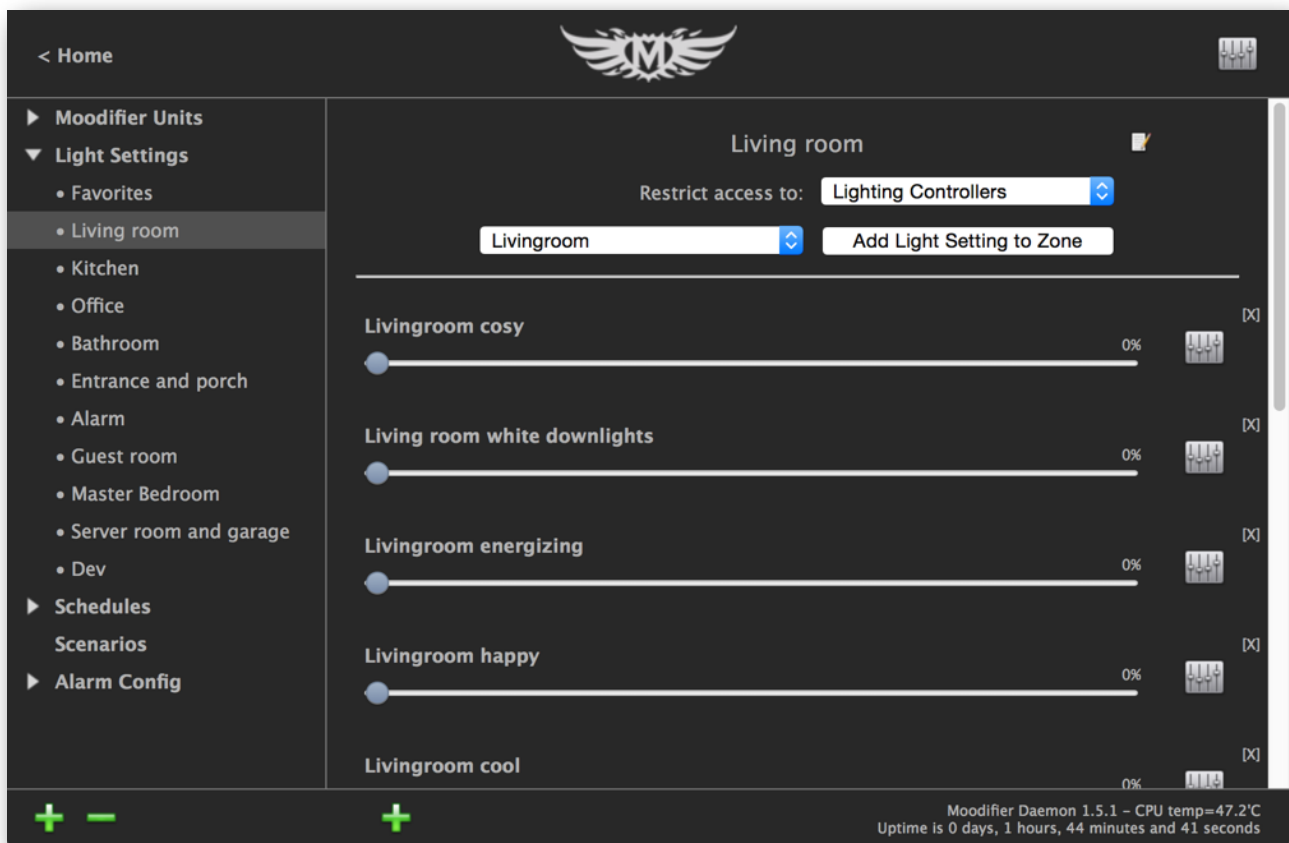
When you have created many light settings it may be practical to organise them into different zones. You can for instance create different zones for your living room, kitchen, master bedroom etc.

Creating a zone is easy, just click on "Light settings" in the main menu and then click on the green "+" sign below the menu and a new zone named "New Zone" is created.

Adding light settings to a zone is simple, just drag the light setting from the main light setting list on to the zone or choose the light setting you want to add in the popup menu and click "Add Light Setting to Zone" button.

You can remove light settings from zones by clicking the "[X]" symbol at the top right of each light setting.

Click on the zone to see what light settings are in that zone. You can easily give the zone a unique name by clicking on the edit symbol at the top right of the zone list. Hit the enter key to save the new name.



Restricting access to zones

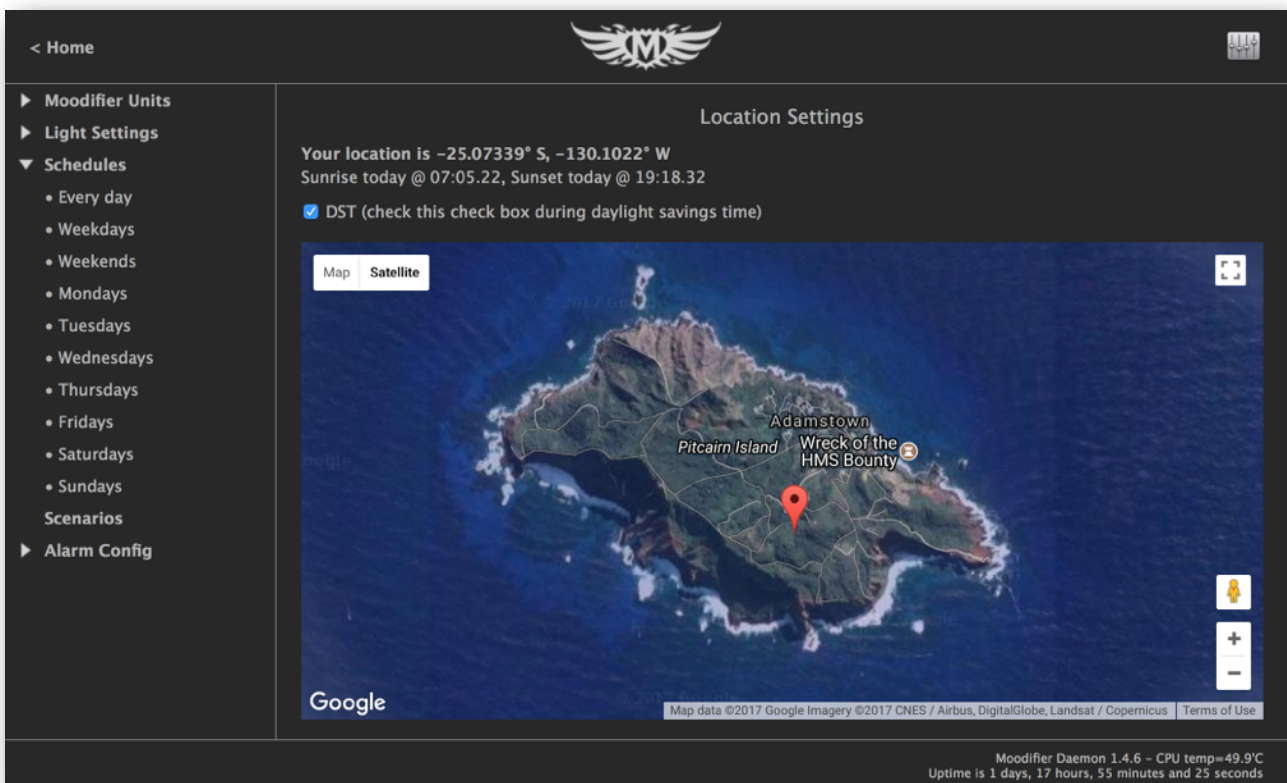
You can also restrict access to a zone. Moodifier Daemon has three different user roles (user levels), "Lighting Controllers", "Lighting and Alarm Controllers" and "Administrators". Each user role has a different login password that is set in the Admin area. Users are assigned a role when they log in, based on the password they use. Restrict access to the zone by choosing the minimum role (user level) that is required to access the light setting in the Restrict access popup menu.

Scheduling, automation & the astronomical clock

The Moodifier application lets you schedule and automate your whole lighting so that lights are turned on and of or dimmed at given times or in relation to sunrise or sunset².

Setting up latitude and longitude

To set up your astronomical clock to correctly be able to calculate the time of sunrise and sunset for your location you first need to define your location. This is easily done by clicking on "Schedules" in the main menu and locate your location on the map by clicking on your location in the map. Your latitude, longitude and time of sunrise and sunset should then be presented at the top of the map.



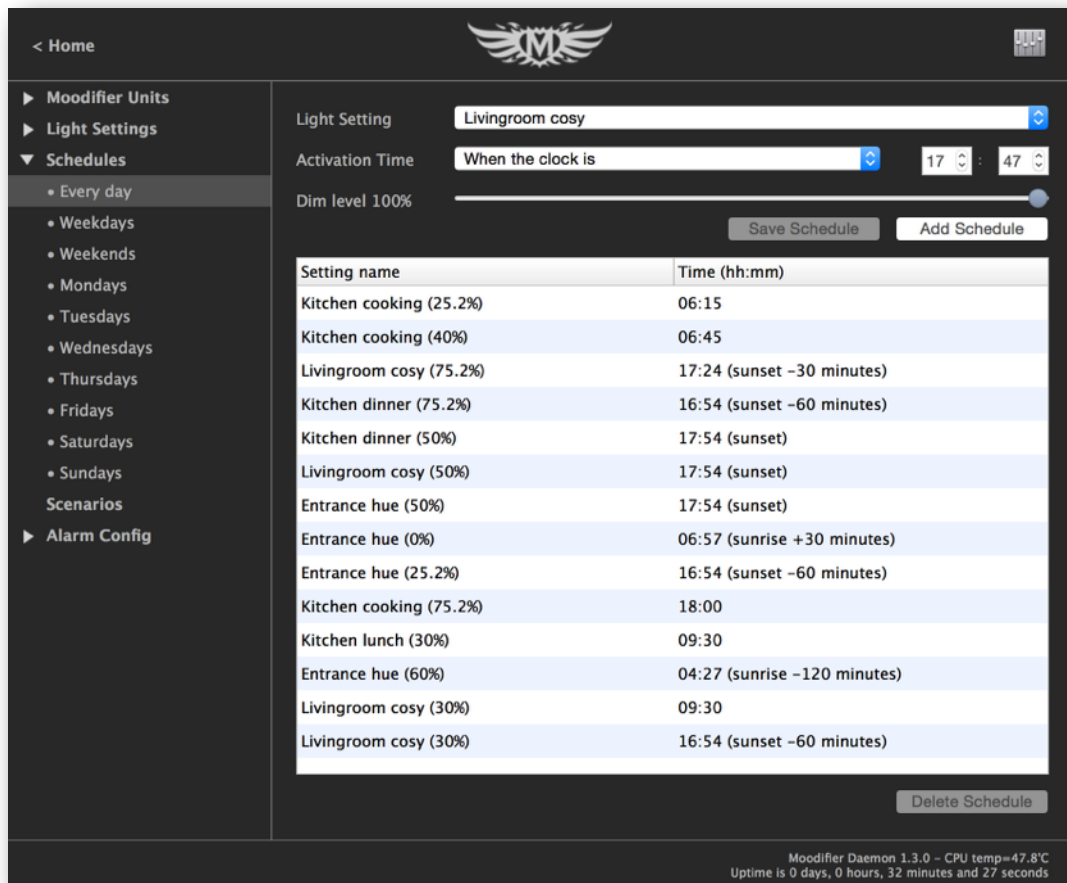
The DST check box should be checked during daylight savings time, and unchecked when not in daylight savings time.

² The calculated time of sunrise and sunset is based on approximations with a precision of about 3 minutes. Together with factors like altitude, air pressure and temperature etc. it may offset the time of sunrise or sunset by 5 minutes or more.

Adding scheduled light settings

Scheduling a light setting is simple. Expand "Schedules" in the main menu, choose what days you want the schedule to be active (Every day, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, Weekdays, Weekends) type in the time (24h clock) or sunrise / sunset +/- offset, set desired dim level and click the "Add Schedule" button. The light setting is added to the list of active schedules.

To remove an active scheduled light setting you simply click on it in the list of active schedules and then click the "Delete Schedule" button.



The screenshot shows the Moodifier Daemon interface. On the left is a sidebar menu with options: Moodifier Units, Light Settings, Schedules (selected), Scenarios, and Alarm Config. Under Schedules, 'Every day' is selected. The main panel shows the configuration for a light setting named 'Livingroom cosy'. The activation time is set to 'When the clock is' with a time range from 17 to 47. The dim level is set to 100%. Below this is a table of active schedules.

Setting name	Time (hh:mm)
Kitchen cooking (25.2%)	06:15
Kitchen cooking (40%)	06:45
Livingroom cosy (75.2%)	17:24 (sunset - 30 minutes)
Kitchen dinner (75.2%)	16:54 (sunset - 60 minutes)
Kitchen dinner (50%)	17:54 (sunset)
Livingroom cosy (50%)	17:54 (sunset)
Entrance hue (50%)	17:54 (sunset)
Entrance hue (0%)	06:57 (sunrise + 30 minutes)
Entrance hue (25.2%)	16:54 (sunset - 60 minutes)
Kitchen cooking (75.2%)	18:00
Kitchen lunch (30%)	09:30
Entrance hue (60%)	04:27 (sunrise - 120 minutes)
Livingroom cosy (30%)	09:30
Livingroom cosy (30%)	16:54 (sunset - 60 minutes)

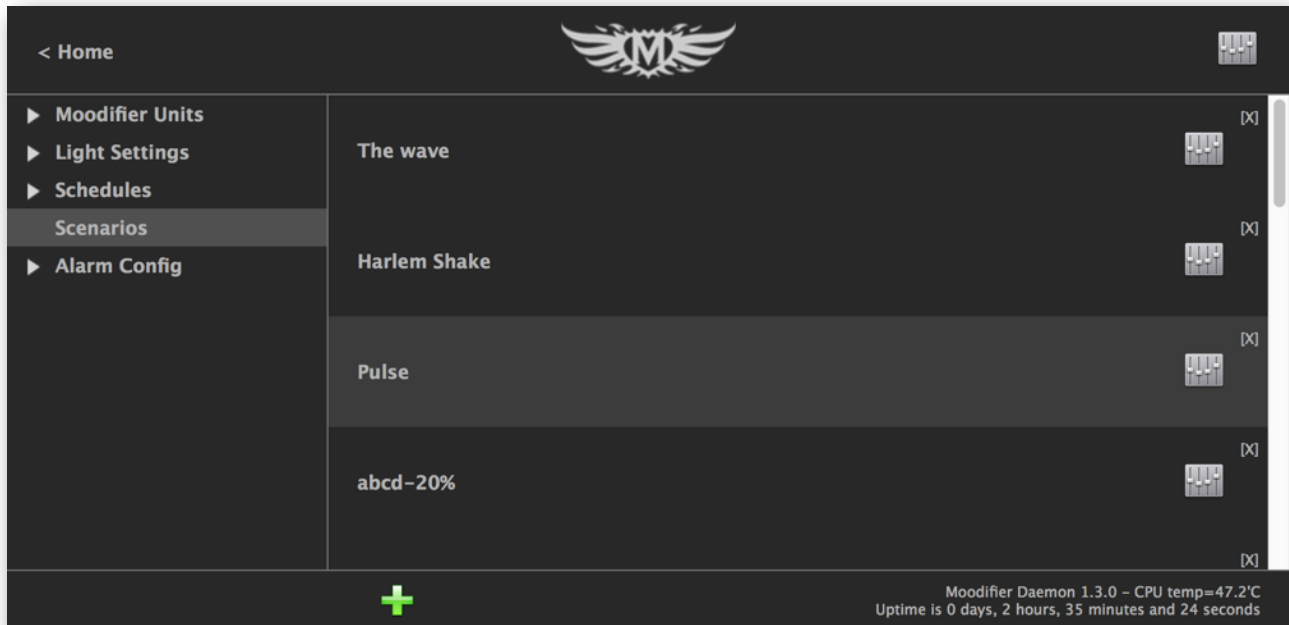
Buttons for 'Save Schedule', 'Add Schedule', and 'Delete Schedule' are visible. At the bottom, system status is shown: Moodifier Daemon 1.3.0 - CPU temp=47.8°C, Uptime is 0 days, 0 hours, 32 minutes and 27 seconds.



This is a close-up of the 'Add Schedule' dialog box. It shows the 'Light Setting' dropdown set to 'Livingroom cosy'. The 'Activation Time' is set to 'At Sunrise (06:27.19)' with a '+10 minutes' offset. The 'Dim level' is set to 100%. 'Save Schedule' and 'Add Schedule' buttons are at the bottom.

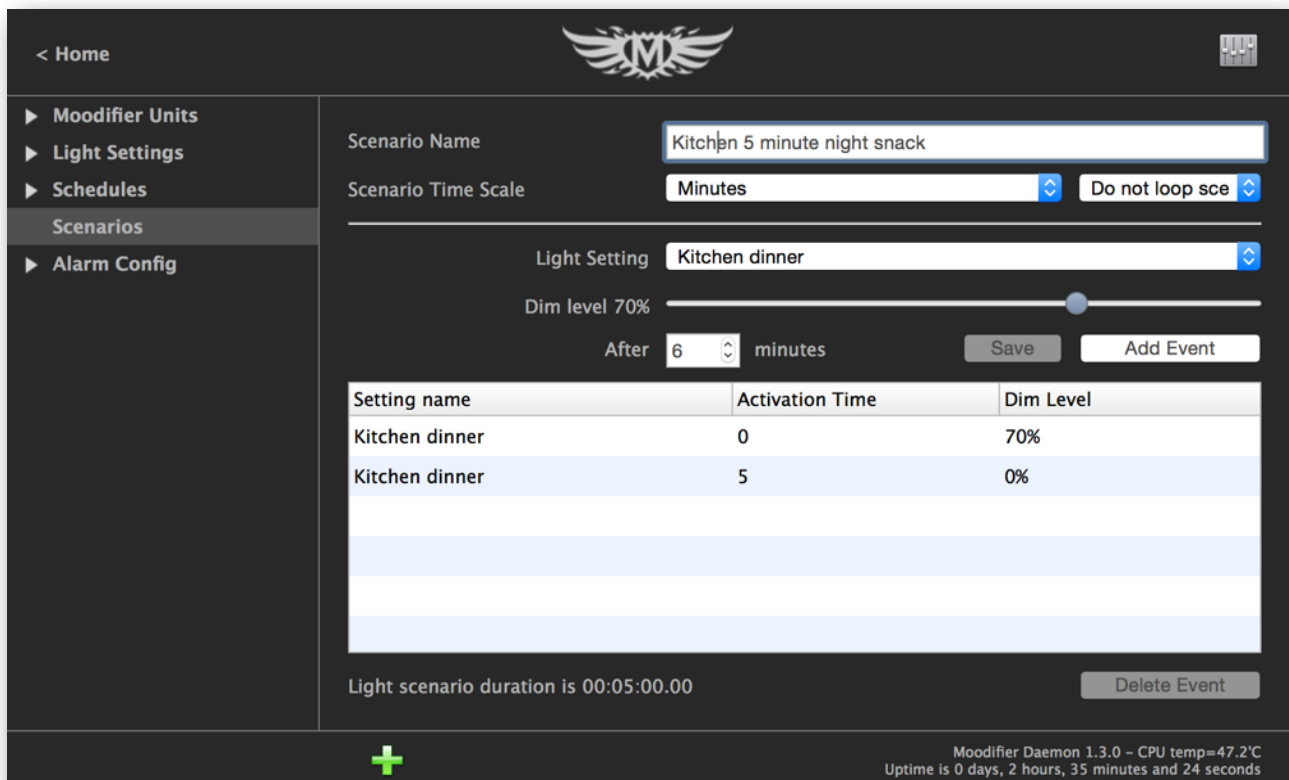
Light Scenarios

A light scenario is a chain of timely triggered light scenes. It lets you activate a series of light settings as a timed playlist. Light scenarios can be used for many things from simple activation of one or more light settings one after the other to the creation of spectacular light shows and effects.



A simple light scenario can consist of two lighting events (light settings).

- 1) Turn the kitchen lights on when the light scenario starts (Kitchen ON).
- 2) Turn the kitchen lights off 5 minutes later (Kitchen OFF).



To create a new light scenario select "Light scenarios" in the main menu and then click on the "+" at the bottom of the light scenario list.

Give the light scenario a suitable name by filling in the light scenario name field.

Each light scenario can have its own internal time scale ranging from 1/100 of a second to 1 minute. The time scale controls how quickly the light scenario can trigger the light settings. A time scale of 1/100 of a second will let you execute up to 100 lighting events per second and a time scale of 1 minute will let you execute 1 lighting event per minute. You can not execute multiple events at the same time. Choose a suitable time scale depending on what you aim to accomplish.

A light scenario can optionally be set to loop up to 3600 times before stopping playback. This is specially useful then you are creating lighting effects that you want to repeat over and over.

Once you have set the name, time scale and looping for the light scenario you are ready to add lighting events (light settings). Choose the light setting you want to activate with the Activate light setting popup menu, then type in at what time (from when the light scenario is started) that you want the light setting to activate. Click Add event to add the light setting to the playlist.

You can easily change the activation time of the added light settings by clicking the activation time field in the list of active light settings and entering a new time.

Light scenario logic and functionality

Say you have a light scenario that turns a given light on when activated and then turns it off 5 minutes later.

If you activate this light scenario at 09:05 it will turn the light on at 09:05 and then turn the light off at 09:10.

If you activate the light scenario again at 09:15 it will turn the light on again at 09:15 and schedule to turn it off again at 09:20. But, if you now activate the light scenario again, before it has turned off, say at 09:17, it will simply re-start the scenario at 09:17 and postpone the previously scheduled turn off by 5 minutes and turn the light off at 09:22 instead of 09:20.

Securing access to the Moodifier Daemon web interface

Access to the Moodifier Daemon web interface can be secured with encrypted HTTPS and restricted by passwords. This is done in the configuration area of the Moodifier admin interface, Click the top right configuration icon to enter the configuration view.

In the configuration view you can:

- Set passwords for accessing lighting control, IP-alarm control and to administer Moodifier Daemon.
- Backup and restore your Moodifier light settings.
- Activate secure and encrypted HTTPS access with a self signed SSL certificate.
- Manage your Moodifier Daemon software license.
- Activate event forwarding.

< Home

M

► Moodifier Units

► Light Settings

► Schedules

► Scenarios

► Alarm Config

Password to access lighting control

Password to access lighting control & Alarm

Admin Password (access to everything)

Repeat Admin password

Save All Passwords

Backup your light settings

Locate and upload light settings

+ -

Upload

Certification fields for new SSL certificate

Generate a new self signed SSL certificate

Activate HTTPS encrypted access on port 443

Manage your Moodifier Daemon software license

No Event Forwarding (Off)

Moodifier Daemon 1.4.6 - CPU temp=49.4°C
Uptime is 0 days, 15 hours, 57 minutes and 40 seconds

Manual IP Takeover³.

The Manual IP Takeover functionality is only available on Moodifier units version 3.1 and above.

In the settings area of the admin interface you can enable or disable "Manual IP Takeover". If you enable the feature you will be able to take manual control over any light setting. What that means is described below.

Channels (lights) on Moodifier units can be controlled by both light settings in the Moodifier software (commands sent over the network) and by the push button inputs on each Moodifier unit.

If you set a light setting to manual takeover mode you will prevent any of the push button inputs on any of the Moodifier units to change any of the channels (lights) that are active in that light setting.

Manual IP takeover prevents the push button inputs from changing any of the channels (lights) that are active in the light setting.

To take manual control over a light setting and all channels (lights) that are active in the light setting you simply check the "Manual Ctrl" check box of the light setting.

You can take manual IP control over any light setting you like (push buttons that are connected to the units will no longer be able to change the lights that are in the light setting).

You can also take manual control over multiple light settings at a time.

When you no longer want manual control over a light setting you simply uncheck the "Manual Ctrl" button of that light setting.

When you have disabled manual control for a given light setting the push button inputs will be able to control the channels that are active in the light setting again, unless there is some other light setting that is also in in manual mode that also has the same channels active.



³ Only available on Moodifier units version 3.1 and above.

Status reporting to external SCADA systems etc.

Some newer Moodifier hardware (version 3.2 and later) can be configured to send out UDP broadcast event notifications whenever a status changing event occurs on the unit (an input is triggered or a HTTP command is received). Moodifier Daemon can be set to translate and forward these events, with the new current status of the unit, as HTTP/REST requests to external web services and/or SCADA systems.

Changes that are made to units via the Moodifier Daemon web interface (like activating a light setting) and scheduling of light settings will also generate status change reports with the new current status of each unit⁴.

The functionality enables sophisticated monitoring and measuring of the power consumption of your whole Moodifier setup on a per unit and per channel level on external services, like a SCADA systems etc.



The screenshot shows a web interface for configuring status reporting. It features a text input field labeled "Report status (JSON) to" with a dropdown arrow, containing the URL "https://mydomain.com/status". Below this field is a button labeled "Save Status Reporting URL".

The request made to the receiving system contains data in a POST variable named "data". The data contains a representation of the current status of a specific unit, in the following JSON format⁵.

```
{
  "Moodifier Unit": {
    "timestamp": "2017-08-15T13:16:23+02:00",
    "id": "0.96.19.62.42.133",
    "name": "Dimmer",
    "ip": "192.168.0.7",
    "power_w_tot": "46.72",
    "channels": {
      "ch1": {
        "rate_%": "29.2",
        "power_w": "5.84"
      },
      "ch2": {
        "rate_%": "29.2",
        "power_w": "8.76"
      },
      "ch3": {
        "rate_%": "29.2",
        "power_w": "11.68"
      }
    }
  }
}
```

⁴ Due to the potentially very rapid update frequency of light scenarios (up to 100 commands per second per Moodifier unit) we have chosen to exclude light scenario activity from all status reporting.

⁵ The wattage values in the data relies on that the wattage for each channel is correctly set for each channel of each unit.

```

    },
    "ch4": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch5": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch6": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch7": {
        "rate_%": "29.2",
        "power_w": "20.44"
    },
    "ch8": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch9": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch10": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch11": {
        "rate_%": "29.2",
        "power_w": "0"
    },
    "ch12": {
        "rate_%": "29.2",
        "power_w": "0"
    }
}
}
}

```


Moodifier IP-Alarm

The IP-Alarm functionality integrates Moodifier with standard IP-cameras (and other networked connected devices) to create an intelligent and effective IP based surveillance and burglar alarm system.

The IP-alarm concept is simple and straight forward.

When an unauthorized intrusion occurs the following chain of events happen.

- 1) An IP-camera detects presence through PIR sensor or motion detection and sends an alarm trigger request over the network to the Moodifier Daemon application.
- 2) The Moodifier Daemon can then immediately activate a bright light setting (turns on the lights) to ensure that the IP-cameras get clear good pictures (IP-cameras do not work well in dark or low light conditions).
- 3) The Moodifier Daemon can also immediately start to record video from all available IP-cameras.
- 4) The Moodifier Daemon can also immediately send email and SMS⁶ notifications to notify you about the intrusion.
- 5) The Moodifier Daemon can continuously email pictures from all IP-cameras to let you know what is going on and to visually identify the intruders.

To get started with the IP-alarm you will need the Moodifier Daemon and one or more IP-cameras with PIR sensor and/or motion detection that supports HTTP actions. You will also need basic network knowledge on how to configure the IP-cameras and computers with fixed IP-numbers on your LAN.

⁶ Via email to SMS gateways like <https://www.world-text.com>

IP-Alarm fundamentals

The IP-alarm can be set to three different states; "Disarmed", "Home Armed" and "Armed".

You can for instance set the alarm state to "disarmed" when you are active in the home and "home armed" when you are sleeping during the night and "armed" when you are away.

A set of actions can be set to execute when the alarm triggers during each of the three alarm states.

The following actions can be set to trigger for each of the three alarm states:

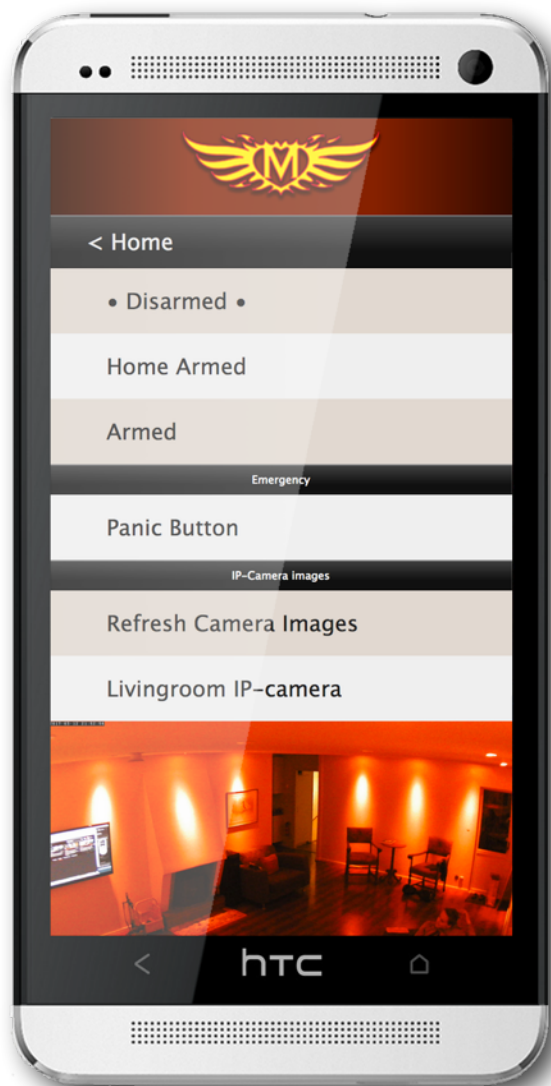
- Activation of any light setting or light scenario.
- Record video from all active IP-cameras for a specified duration.
- Send alarm notification emails and SMS (via email to SMS gateways⁷)
- Send emails with pictures from all active IP-cameras.

Each IP-camera can also be set to be active or inactivate for each of the three alarm states.

Say for instance that you have one IP-camera covering the entrance of your home and you always want an image and/or a short video recording of everyone entering or exiting the premises. You would set that IP-camera to be active during all three alarm states. A second IP-camera may cover a different area that only needs to send images and record video when the alarm state is armed, you then set that second IP-camera to be inactive during in the "disarmed" alarm state. To always take a photo of or record everyone entering or exiting the premises you set the actions for the "disarmed" alarm state to send images and/or record video. You will then always get an image and/or short video of everyone entering or leaving the premises. As soon as you set the alarm state to "armed" you will get images and/or recordings from all cameras in the premises.

You can easily set the different alarm states, Disarmed, Home Armed or Armed with the popup menu in the IP-Alarm section of the Moodifier Daemon web interface from any device anywhere.

The Moodifier Daemon web interface will also present an up to date picture from all the IP-cameras that have been added to the system.



⁷ <https://www.world-text.com>

IP-Alarm setup and activation

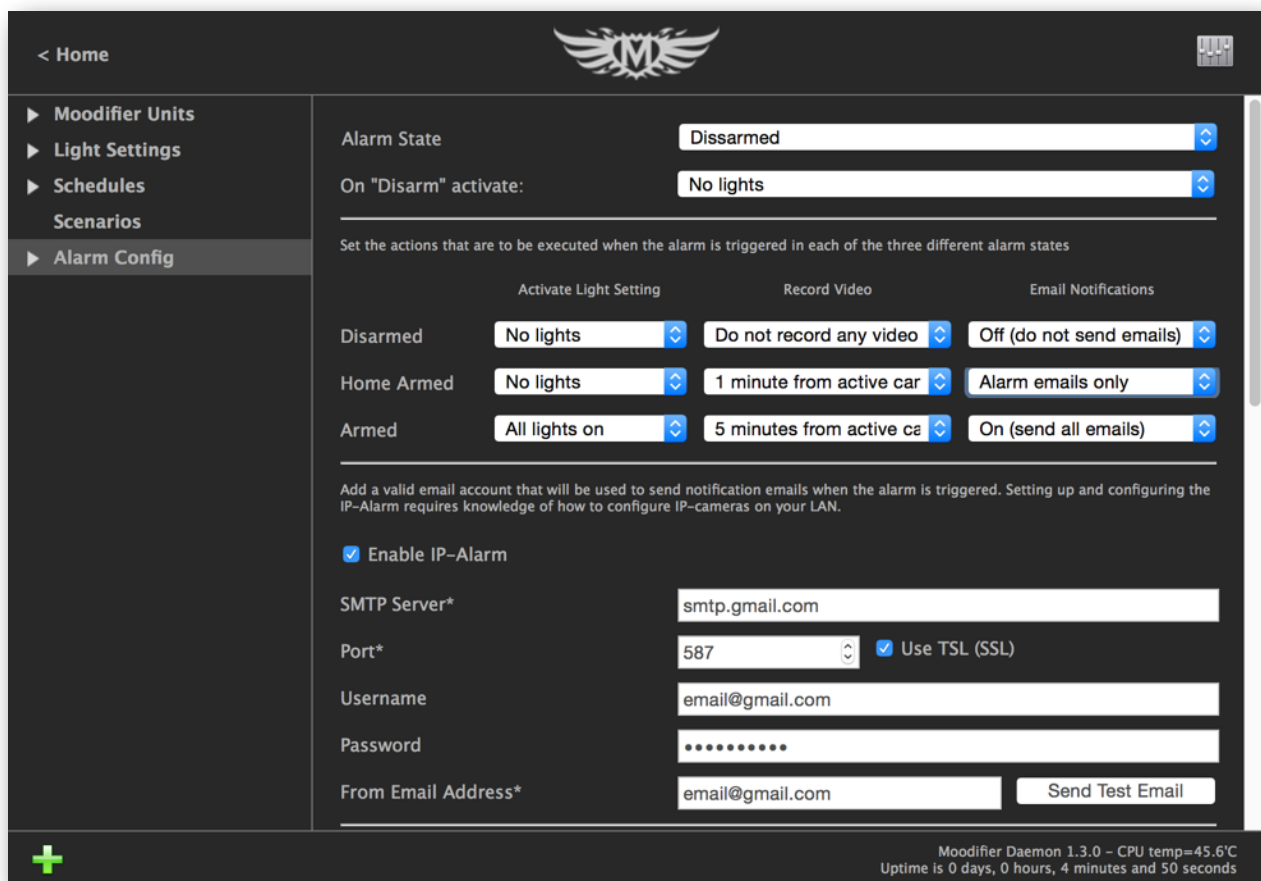
Before you can start using the IP-alarm functionality you will need to configure the Moodifier IP-alarm so that it can send email, and optionally record video etc.

Moodifier relies on the VLC media player for video recording so in case you do not have the VLC Media Player installed you will need to install it as a separate application if you want to be able to record video from your IP-cameras. VLC is a free and open source cross-platform multimedia player and framework that plays most multimedia files as well as DVD, Audio CD, VCD, and various streaming protocols.

VLC media player is available as a free download on <https://www.videolan.org>

Once you have installed the VLC media player you can enable video recording in Moodifier Daemon.

You also need to configure an email account that will be used to send out emails with notification and pictures from the IP-cameras as well as email addresses of those you want to email alarm notifications and pictures to.



The screenshot shows the Moodifier IP-Alarm configuration web interface. On the left is a sidebar with navigation links: Home, Moodifier Units, Light Settings, Schedules, Scenarios, and Alarm Config (which is highlighted). The main content area is titled 'Alarm Config' and features a 'Moodifier' logo at the top. The 'Alarm State' is currently set to 'Disarmed'. Below this, the 'On "Disarm" activate:' setting is 'No lights'. A section titled 'Set the actions that are to be executed when the alarm is triggered in each of the three different alarm states' contains three columns: 'Activate Light Setting', 'Record Video', and 'Email Notifications'. For the 'Disarmed' state, settings are 'No lights', 'Do not record any video', and 'Off (do not send emails)'. For 'Home Armed', settings are 'No lights', '1 minute from active car', and 'Alarm emails only'. For 'Armed', settings are 'All lights on', '5 minutes from active ca', and 'On (send all emails)'. Below this, a note states: 'Add a valid email account that will be used to send notification emails when the alarm is triggered. Setting up and configuring the IP-Alarm requires knowledge of how to configure IP-cameras on your LAN.' The 'Enable IP-Alarm' checkbox is checked. The email configuration fields include: SMTP Server* (smtp.gmail.com), Port* (587, with a 'Use TSL (SSL)' checkbox checked), Username (email@gmail.com), Password (masked with dots), and From Email Address* (email@gmail.com). A 'Send Test Email' button is located next to the From Email Address field. At the bottom right, system status information is displayed: 'Moodifier Daemon 1.3.0 - CPU temp=45.6°C' and 'Uptime is 0 days, 0 hours, 4 minutes and 50 seconds'.

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Moodifier

- Moodifier Units
- Light Settings
- Schedules
- Scenarios
- Alarm Config

Alarm State: Disarmed

On "Disarm" activate: No lights

Set the actions that are to be executed when the alarm is triggered in each of the three different alarm states

	Activate Light Setting	Record Video	Email Notifications
Disarmed	No lights	Do not record any video	Off (do not send emails)
Home Armed	No lights	1 minute from active car	Alarm emails only
Armed	All lights on	5 minutes from active ca	On (send all emails)

Add a valid email account that will be used to send notification emails when the alarm is triggered. Setting up and configuring the IP-Alarm requires knowledge of how to configure IP-cameras on your LAN.

☒ Enable IP-Alarm

SMTP Server*: smtp.gmail.com

Port*: 587 ☒ Use TSL (SSL)

Username: email@gmail.com

Password:


From Email Address*: email@gmail.com


Moodifier Daemon 1.3.0 - CPU temp=45.6°C
Uptime is 0 days, 0 hours, 4 minutes and 50 seconds

You can also set Moodifier Daemon up to constantly monitor your IP-cameras and send email notifications in case a camera does off line or is sabotaged.

If you like you can also set Moodifier Daemon to notify you whenever someone has viewed the camera images through the Moodifier Daemon web interface.

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► Moodifier Units

► Light Settings

► Schedules

Scenarios

► Alarm Config

Enter the email addresses that should be notified when the alarm is triggered.

Emails with alarm notifications will be sent to the email addresses in the Alarm notifications list when an alarm is triggered.

Email to SMS services can be used to send SMS messages.

Emails with pictures from all available IP-cameras will be sent to the email addresses in the Picture notifications list when an alarm is triggered.

☒ Monitor IP-cameras and send sabotage notification emails to:

☒ Monitor IP-camera image access and email access activity to:

Enter the non-root user account name for the user that will perform video recording. The user needs to exist as a real user on the computer, and have write privileges to the recording folder.

Video recording user name:

Video recording folder:

Alarm notifications

email@gmail.com

email@yahoo.com

Delete email

Add email

Picture notifications

email@mydomain.com

email@yourdomain.com

Delete email


Add email

me@mydomain.com

me@mydomain.com

pi

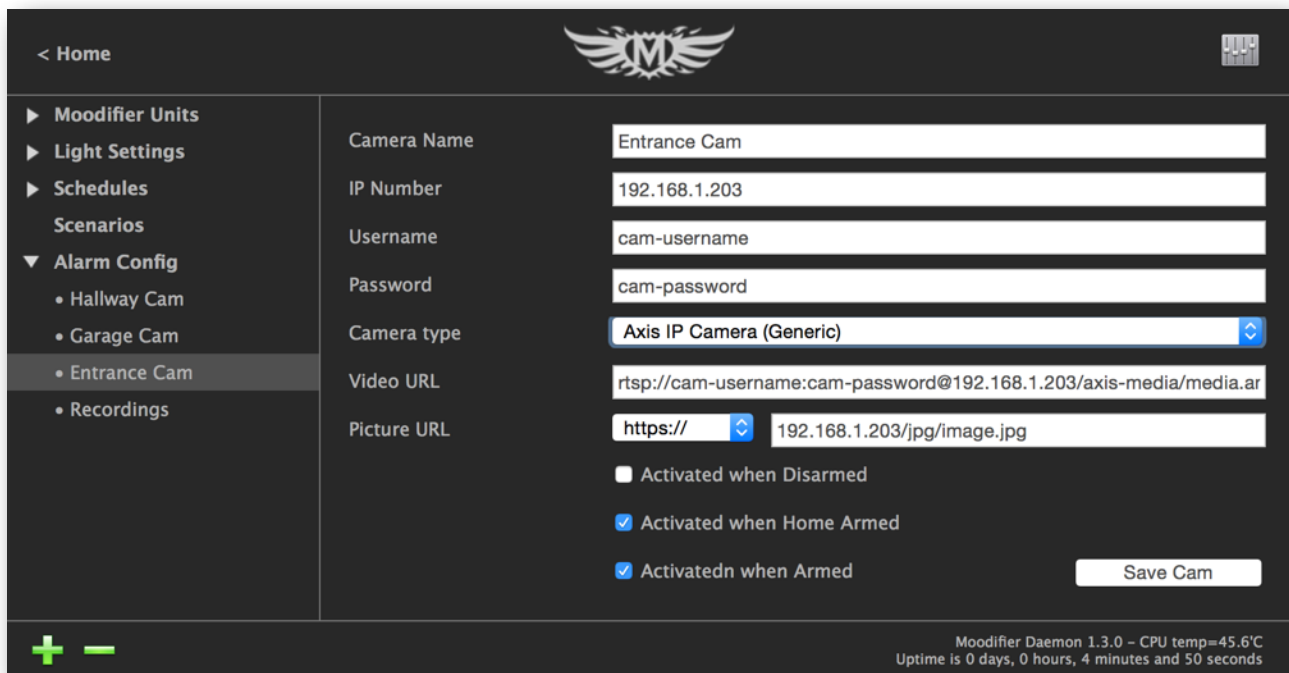
/home/pi/Videos/MoodifierRecordings/



Moodifier Daemon 1.3.0 – CPU temp=45.6°C
Uptime is 0 days, 0 hours, 4 minutes and 50 seconds

Adding IP-cameras to the Moodifier application

Adding an IP-camera to the Moodifier IP-alarm is easy, just select "Alarm Config" in the main admin menu and click the green + symbol below the main menu. A New IP-camera is created, select the new camera in the menu, give the camera a name, fill in the IP number of the camera, and the username and password to access the camera. If you have an Axis or Zavio camera you can then just choose "Axis IP Camera (Generic)" or "Zavio IP Camera (Generic)" in the camera popup and the video and image URLs will auto propagate. Otherwise you simply add the video and image URL that apply to your camera. Lastly you can set the alarm states where you want the camera to be active by clicking the "Activated..." checkboxes. When you are done, click "Save Cam".



The screenshot shows the 'Alarm Config' section of the Moodifier application. On the left is a sidebar menu with options: Moodifier Units, Light Settings, Schedules, Scenarios, Alarm Config (selected), Hallway Cam, Garage Cam, Entrance Cam (highlighted), and Recordings. The main area is titled 'Entrance Cam' and contains the following fields and options:

- Camera Name: Entrance Cam
- IP Number: 192.168.1.203
- Username: cam-username
- Password: cam-password
- Camera type: Axis IP Camera (Generic)
- Video URL: rtsp://cam-username:cam-password@192.168.1.203/axis-media/media.ar
- Picture URL: https:// 192.168.1.203/jpg/image.jpg
- Activated when Disarmed: ☐
- Activated when Home Armed: ☒
- Activated when Armed: ☒
- Save Cam button

At the bottom right, system status information is displayed: Moodifier Daemon 1.3.0 - CPU temp=45.6°C, Uptime is 0 days, 0 hours, 4 minutes and 50 seconds.

Recommended and compatible IP-cameras

Any IP-camera with motion detection and/or PIR sensor that supports HTTP actions, rtsp streaming (h264), and jpeg image capture should be compatible. Below we have chosen to highlight a few IP-camera brands and models that we particularly like and know work well with Moodifier Daemon.

If you are buying a new IP-camera we strongly recommend that you choose an IP-camera with a PIR sensor, since the PIR sensor can detect motion and presence in complete darkness. Plain video motion detection does not work as well in low light situations or complete darkness and it is also more exposed to trigger false alarms.

Axis

Axis Communications is the market leader in IP-cameras and all their cameras are of high quality and offer a plethora of advanced features. Axis offers a full range of IP-cameras suitable for any situation. All Axis IP-cameras are fully compatible with the Moodifier IP-alarm system. The HTTP actions of the Axis cameras will also let you use the cameras for general Moodifier lighting control.

<http://www.axis.com>

Hikvision

Hikvision offers a wide range of affordable in-door and out-door IP cameras with and without PIR sensors that work very well in a Moodifier IP-alarm system. Hikvision cameras do not offer general HTTP action functionality, and can therefore not be used for general Moodifier lighting control.

<http://www.hikvision.com>

Zavio

Zavio offers a very nice and affordable range of very feature rich IP-cameras with excellent image quality and PIR sensors that all work perfectly with the Moodifier IP-alarm system. The HTTP actions of the Zavio cameras will also let you use the cameras for general Moodifier lighting control.

<http://www.zavio.com>

Configuring IP-cameras to trigger the Moodifier IP-Alarm

The Moodifier IP-Alarm is part of the Moodifier application (Moodifier Remote) and alarms are triggered by simple http-requests to the web interface of the Moodifier application. We therefore strongly recommend that you set up a fixed IP number for the computer that is running the Moodifier application. This can be done in the Admin section of your router.

Presuming that you have set the fixed IP number of the computer running the Moodifier Daemon to 192.168.1.99, using port 80, you would trigger the Moodifier IP-Alarm by requesting the following URL:

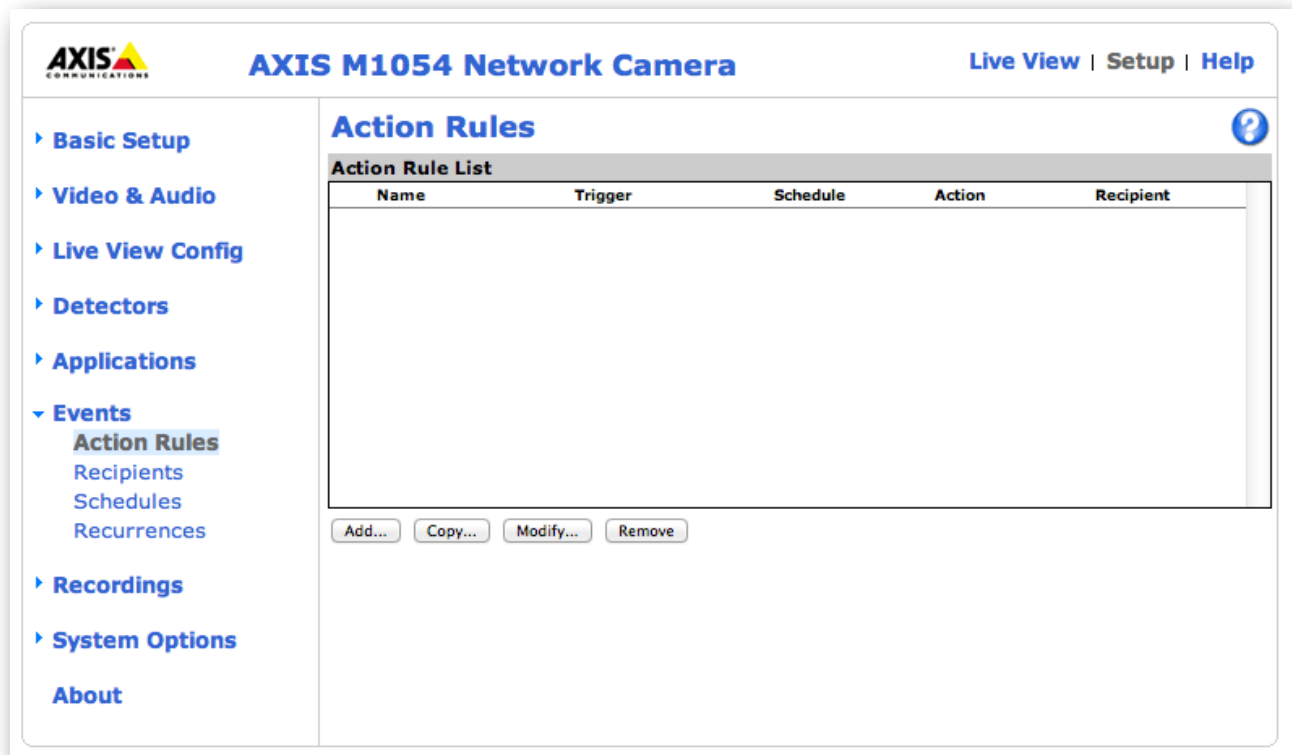
<http://192.168.1.99/TRIGGER>

Before an IP camera will be allowed to trigger the alarm you must add it to the list of IP-cameras in the Moodifier application. Once a camera (or IP number) is added to the list of cameras in the Moodifier application it will be able to trigger the IP-alarm. You can add as many IP-cameras as you like.

What you then want to do is basically to set up your IP-camera to execute a http-request to <http://192.168.1.99/TRIGGER> whenever the PIR-sensor or motion detection of the camera is triggered.

Setting up an Axis IP-camera

1) Log in to the Axis camera web interface and navigate to "Events" → "Action Rules" in the Setup menu.



2) Click the "Add..." button to add a new action rule. The action rule setup window appears. Fill in the fields according to the below image.

Action Rule Setup ?

☒ Enable rule

Name:

Condition

Trigger:

Active: ☒ Yes ☐ No

Schedule:

☒ Additional conditions

Wait at least before re-running the rule (max 23:59:59)

Actions

Type:

Recipient:

- 3) Click the "New Recipient" button to add a new recipient (Moodifier). The recipient setup window appears. Fill in the fields according to the image below (presuming that you have set the ip number of the computer running the Moodifier Daemon to 192.168.1.99 on port 80).

Recipient Setup ?

Name:

Type:

URL:

Login Credentials

User name:

Password:

☐ Proxy settings

Test

Test the connection to the specified HTTP server

General

Name

Server Setting

Server type

URL

Port

User ID

Password

Re-type Password

Proxy Address

Proxy Port

Proxy User Name

Proxy Password

4) Click OK in the recipient setup window and check that the new recipient is set in the action rule setup window.

Action Rule Setup

?

General

☒ Enable rule

Name:

Condition

Trigger:
Active:
☒ Yes
☐ No

Schedule:

☒ Additional conditions

Add...
Modify...
Remove

Wait at least before re-running the rule (max 23:59:59)

Actions

Type:

Recipient:

*Message parameter:

*Custom parameter:

Name	Value
<div></div>	

Add...
Modify...
Remove

[*See help for more info](#)

5) Click OK and you are done. The Axis IP-camera is now configured as a Moodifier IP-alarm sensor and camera.

- [Basic Setup](#)
- [Video & Audio](#)
- [Live View Config](#)
- [Detectors](#)
- [Applications](#)
- ▾ [Events](#)
 - Action Rules**
 - [Recipients](#)
 - [Schedules](#)
 - [Recurrences](#)
- [Recordings](#)
- [System Options](#)
- [About](#)

Action Rules ?

Action Rule List

	Name	Trigger	Schedule	Action	Recipient
<input checked="" type="checkbox"/>	PIR	Detectors - PIR	-	Send Notification	Modifier ▾

[Add...](#)
[Copy...](#)
[Modify...](#)
[Remove](#)

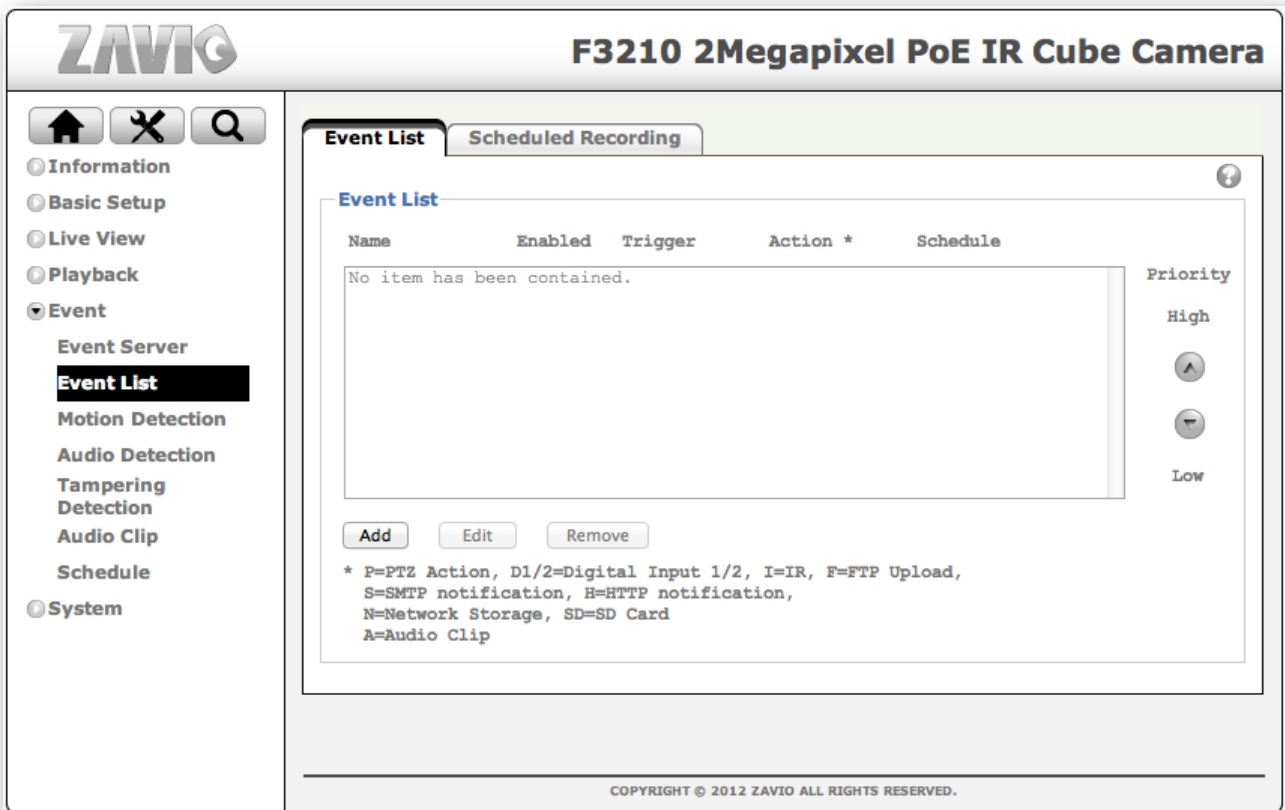
Setting up a Hikvision IP-camera

Setting up a Hikvision camera for Moodifier is very easy. Just type in the ip number, username and password for the Hikvision camera and choose "Hikvision Surveillance Center Registration Request" in the "Camera type / action" popup menu and then click the "Save Cam" button. That's it, all "Notify Surveillance Center" events of the Hikvision camera will then be sent to the Moodifier Daemon.

Camera Name	<input type="text" value="Hikvision"/>	
IP Number	<input type="text" value="192.168.0.120"/>	
Username	<input type="text" value="admin"/>	
Password	<input type="text" value="password"/>	
Camera type / action	<div>Hikvision Surveillance Center Registration Request</div>	
Video URL	<input type="text" value="rtsp://admin:password@192.168.0.120/live.sdp"/>	Link
Picture URL	<div><input type="text" value="http://"/><div></div><input type="text" value="192.168.0.120/Streaming/channels/1/picture"/></div>	Link
<div><input type="checkbox"/> Activated when Disarmed</div> <div><input checked="" type="checkbox"/> Activated when Home Armed</div> <div><input checked="" type="checkbox"/> Activatedn when Armed</div>		
		<div>Save Cam</div>

Setting up a Zavio IP-camera

- 1) Log in to the Zavio camera web interface and navigate to "Event" -> "Event List" in the menu. Click "Add" to add a new event.



2) A new event window appears. Click the "Send Notification" check box and then click on "Please Configure [HTTP Server](#)".

The screenshot shows a configuration window with four main sections: General, Trigger, Action, and Schedule. At the bottom are 'Save' and 'Cancel' buttons.

- General**
 - Name: PIR
 - Event: ☒ On ☐ Off
- Trigger**
 - Triggered by: PIR
 - Set min time interval between triggers: 10 Sec
 - Detection Type: Start
- Action**
 - ☐ Send Image
 - ☒ Send Notification
 - Please Configure [HTTP Server](#)
 - ☐ Activate Digital Output
 - ☐ Night Mode
 - ☐ Audio Clip
- Schedule**
 - ☒ Always
 - ☐ Schedule Working_Day
 - Please Configure [Schedule](#)

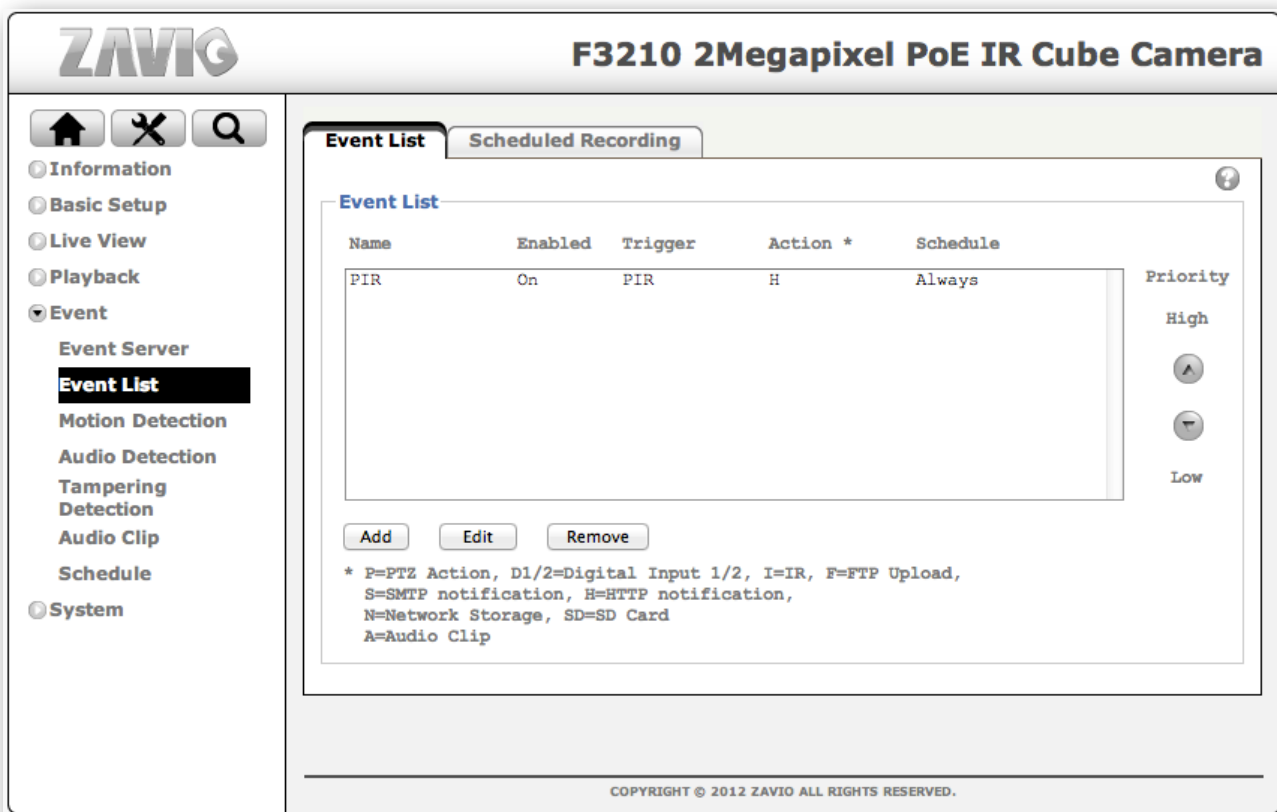
3) A new recipient window appears. Fill in the fields according to the image below (presuming that you have set the ip number of the computer running the Moodifier Daemon to 192.168.1.99 on port to 80). Then click "Save", the window closes.

4) Fill in the fields and settings of the new event window according to the image below.

The image shows a configuration window for a camera event. It is divided into four sections: General, Trigger, Action, and Schedule. At the bottom are 'Save' and 'Cancel' buttons.

- General**
 - Name: PIR
 - Event: ☒ On ☐ Off
- Trigger**
 - Triggered by: PIR
 - Set min time interval between triggers: 10 Sec
 - Detection Type: Start
- Action**
 - ☐ Send Image
 - ☒ Send Notification
 - HTTP: Moodifier
 - Custom Parameters:
 - Please Configure [HTTP Server](#)
 - ☐ Activate Digital Output
 - ☐ Night Mode
 - ☐ Audio Clip
- Schedule**
 - ☒ Always
 - ☐ Schedule Working_Day
 - Please Configure [Schedule](#)

5) Click "Save", the window closes and you are done. The Zavio camera is now configured as a Moodifier IP-alarm sensor and camera.



Using IP-cameras for automated smart lighting control

IP-cameras can be seen as super intelligent IP based occupancy sensors on steroids. With both PIR sensors, advanced video detection and built in scheduling they make a giant leap forward when it comes to smart occupancy sensors.

Moodifier's IP network foundation and unique features enables full IP-camera integration that in turn takes automated smart lighting control to the next level.

An IP-camera can easily be configured to monitor a room or area and, based on motion detection in the room as a whole or any part(s) of the room, it can execute the following Moodifier lighting commands over the network.

- Activate any light setting.
- Activate any light scenarios (chain of light settings)..
- Trigger the IP-alarm (to send notifications and/or record video and/or turn the lights on/off).

A simple example would be an IP camera in your kitchen that, during night time, if someone steps in to the kitchen, the lights will automatically turn on with a nice dimmed scene and once they leave, the lights will turn off after 5 minutes. With a more advanced setup you can even make individual lights come on and off as someone moves around in the kitchen.

Activating a light setting from an IP-camera or other networked device

First you need to add the IP-camera (the IP-number of the external device) to the Moodifier Daemon.

Each Moodifier light setting has a unique URL that activates the light setting through the Moodifier Daemon web interface. To find out what the URL is you simply open the Moodifier Daemon web interface in any web browser, navigate to, and activate, the light setting and you will see the URL in the address field of the web browser. The full URL will look something like this:

`http://192.168.1.99/moodifier?mood=L-2014011615052161&dim=100&rnd=131#S60`

The part you are interested in is the first bit that reads:

`http://192.168.1.99/moodifier?mood=L-2014011615052161`

If you set your IP-camera up to execute an HTTP-event with that URL it will activate the light setting.

The process of setting up the IP-camera is very similar to how you set it up to trigger the IP-alarm. Please consult the IP-camera documentation for further setup instructions.

Activating a light scenario from an IP-camera or other networked device

First you need to add the IP-camera (the IP-number of the external device) to the Moodifier Daemon.

Each Moodifier light scenario also has a unique URL that activates the light scenario through the Moodifier Daemon web interface. To find out what the URL is you simply open the Moodifier Daemon web interface in any web browser, navigate to and activate the light scenario and then you will see the URL in the address field of the web browser. The full URL will look something like this:

`http://192.168.1.99/scenarios?scenario=S-20140116012744`

If you set your IP-camera up to execute an HTTP-event with that URL it will activate the light scenario.

The process of setting up the IP-camera is very similar to how you set it up to trigger the IP-alarm. Please consult the IP-camera documentation for further setup instructions.

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