Raytec Genetec Plug-in User Guide

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1 Introduction

Raytec's range of VARIO2 IP Network illuminators can be fully integrated with the Genetec's Security Center. Enabled via easy plug-in software, VARIO2 IP can be easily configured to respond 'on demand' to multiple alarms driven by a number of different system devices within the Security Center platform, for the most visual and instant response to events on-site.

The Raytec Genetec Plugin supports the following:

- **Discovery of lamps**
  Any lamps that reside on the same subnet as the machine running Genetec Security Desk will be automatically discovered by the plugin.
- **Manual entry of lamps via IP Address**
  Any lamps that can't be discovered automatically on the network can be added by IP Address.
- **Instant control of individual lamps or groups of lamps**
  Users can instantly control a lamp, or group of lamps, from within the plugin. The user can turn the lamp on or instigate deterrent mode.
- **Lamp Triggers based on Genetec alarms**
  The plugin allows users to link Genetec alarms to lamp triggers. Lamp Triggers available are:
  - Standard illumination
  - Hybrid illumination
  - Deterrent
  - Boost
  - Relay control
- **Lamp Events initiating Genetec alarms**
  The plugin utilises features of the lamp to activate Genetec alarms. This can be done at lamp or group level. Lamps report the following:
  - Abnormal state/offline
  - Photocell
  - Contact Closure/External Input

  This feature can only be utilised by lamps that have been automatically discovered.

2 System Requirements

2.1 Pre-requisites

- Genetec Security Center 5.7 SR4 or above
- SQL Server Compact 4.0 (installed as part of plugin installation)
- .NET Framework 4.8 (installed as part of plugin installation)
- Raytec Vario IP lamp(s)

Ensure your lamps are running the version of firmware specified below or higher to enable use with the *Raytec Genetec Plugin*.

Lamp	Minimum supported firmware version
Vario IP PoE	v1.1.0
Vario2 IP PoE	v2.0.1
Vario2 Hybrid IP PoE	v3.1.0

The Raytec Genetec Plugin can only be run in Genetec Security Desk. There is no Config Tool element to the plugin.

This guide assumes you have already set up your Genetec Security Center system and all alarms, you should refer to Genetec documentation if you haven't done so. Any Genetec procedures are beyond the scope of this document.

2.2 Hardware Requirements

See the Genetec Security Center user guide for an overview of Hardware Requirements. The plugin doesn't require anything in addition to these.

3 Installing the Raytec Genetec Plugin

WARNING
If you have v1.1 of the plugin installed, uninstall this prior to installing v3.2.1.

Your setup (groups and configuration) will be available in v3.2.1. It will not be lost when uninstalling v1.1

- Close all the Genetec and its related applications. Also, stop the Genetec Server service.
- Run the executable file *RaytecGenetecInstallerv3_2_1.exe*, you should be presented with the following screen (*Figure 1*). After reading the software license agreement, click '*Next*':

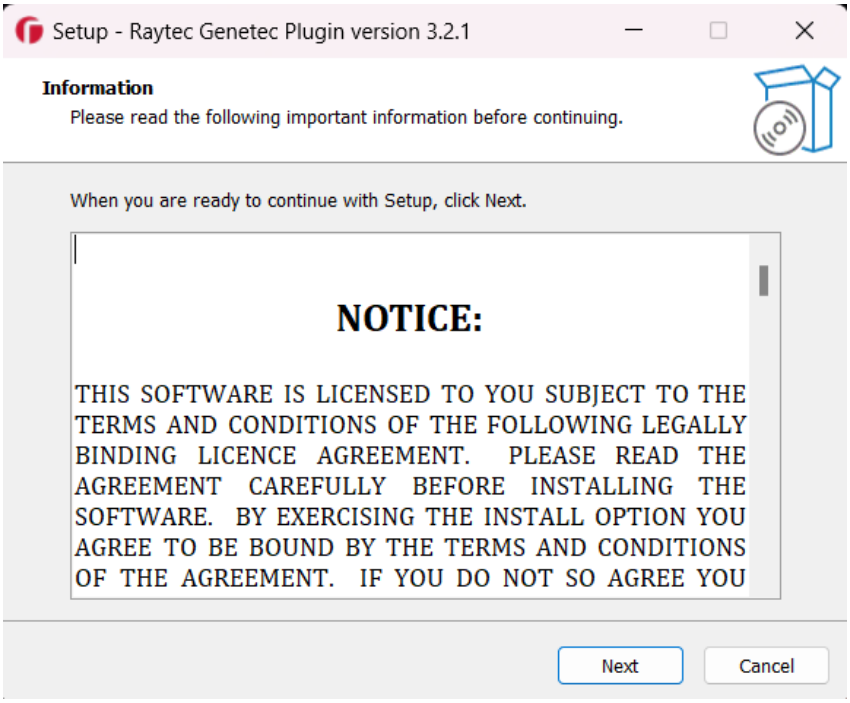


Figure 1 Setup

- Select a location for the install and click *'Next'*. (*Figure 2*)

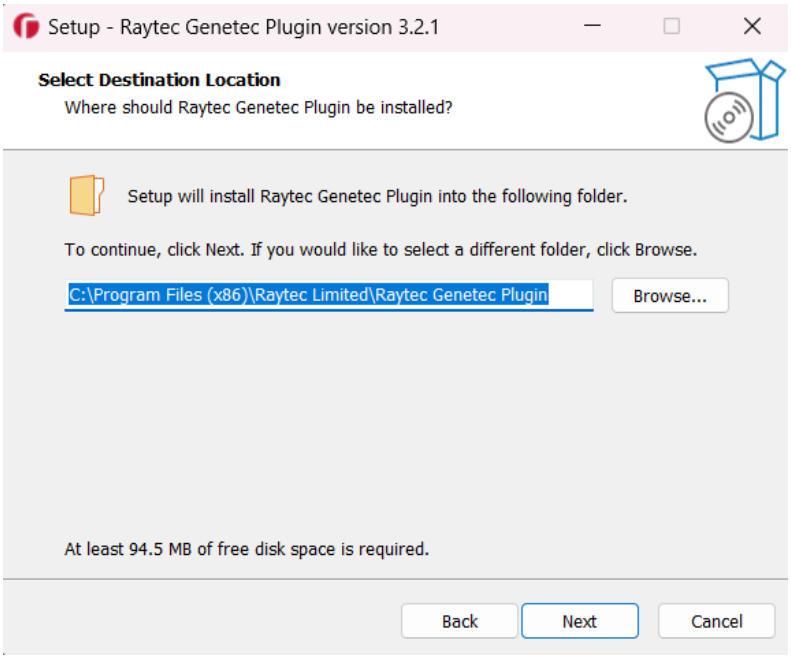


Figure 2 Setup Location

- Confirm you are happy with the installation directory and click *'Install'*. *(Figure 3)*

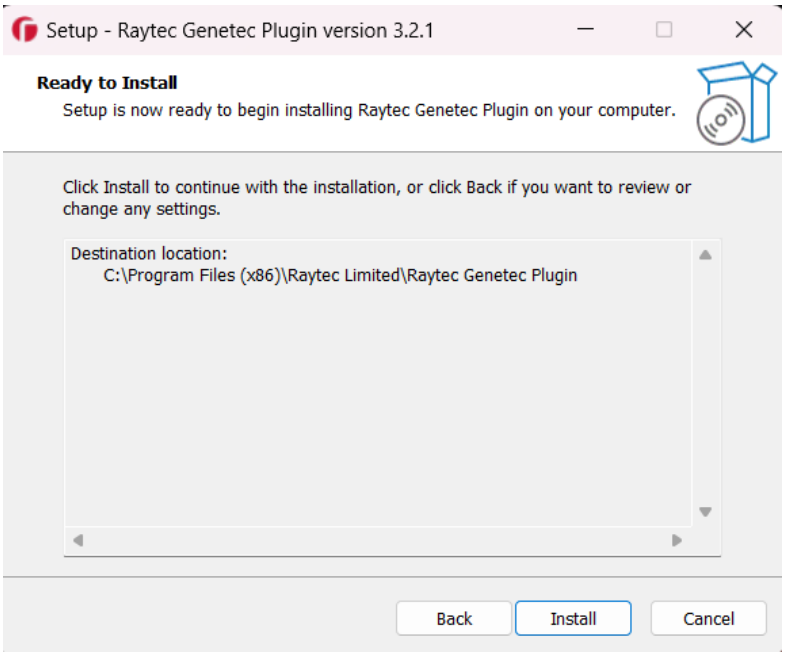


Figure 3 Setup Confirmation

- The installer will attempt to install Microsoft SQL Server Compact 4.0, .NET 4.8 and any outstanding database migrations.
- These installations will fail if you already have these installed and dialogs will pop up to show this, just click *'OK'* and *'Close'* on these dialogs if you see them.
- Click *'Finish'* to close the installer. (*Figure 4*)

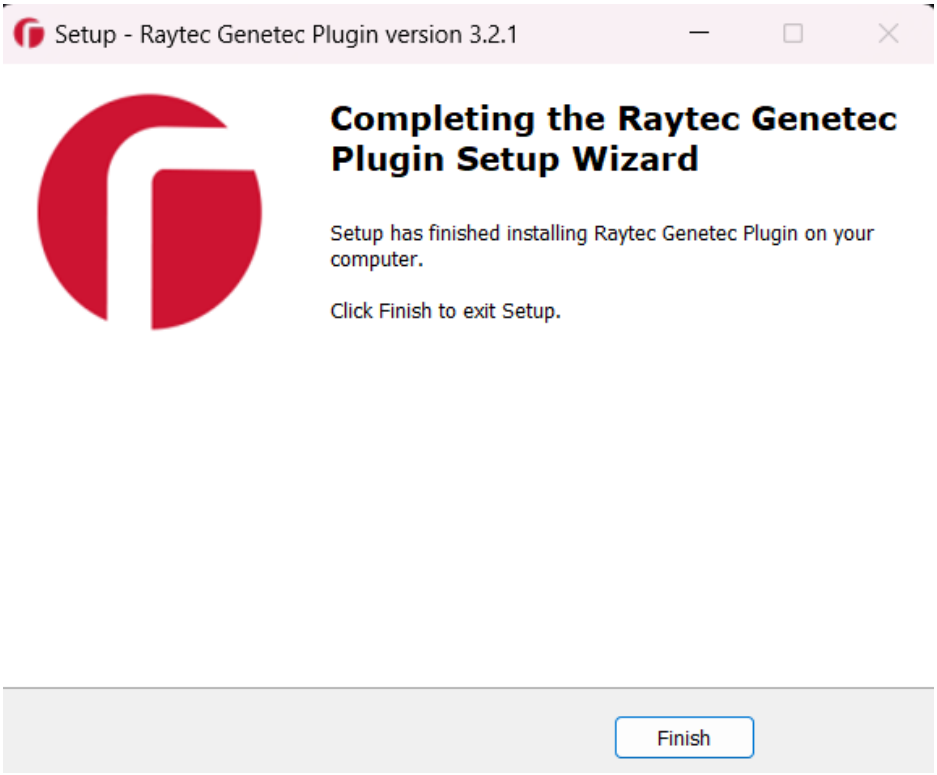


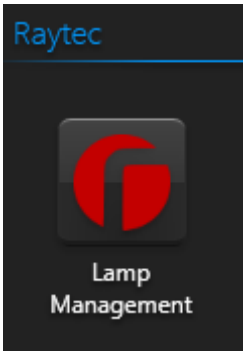
Figure 4 Setup Finish

- Restart the Genetec Server service.

4 The Raytec Task

WARNING
Prior to running the Raytec Task in Gentec Security Desk, ensure the Raytec DiscoMan Tool is not open on any machine on the network. The Raytec DiscoMan Tool communicates with lamps in the same way as the integration and as such they cannot be run together.

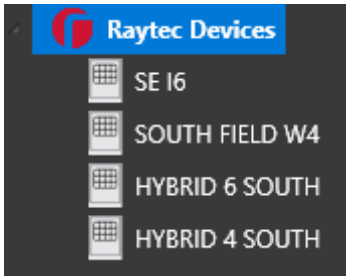
Genetec terms the individual programs running within it as 'Tasks'. The Raytec task is called *'Lamp Management'* and can be found under the *'Raytec'* section in the Genetec Security Desk program.



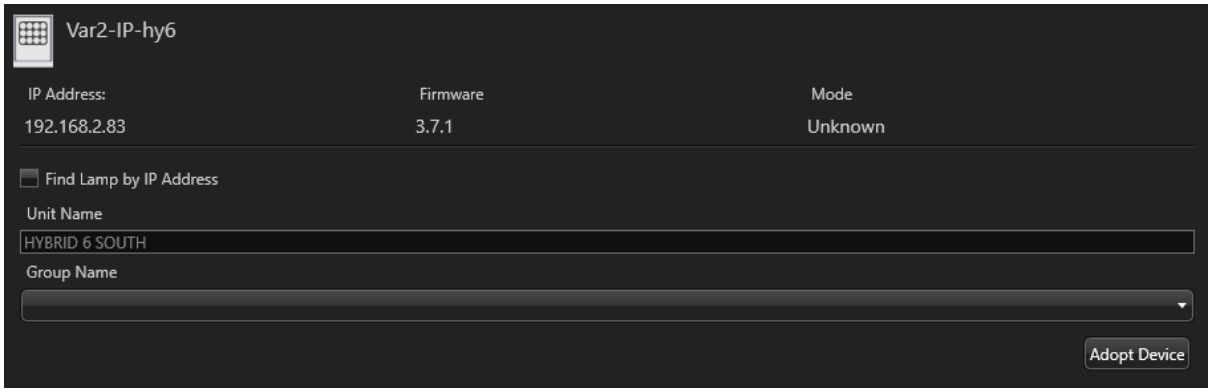
Launch the plugin by clicking on the *'Lamp Management'* task.

4.1 Lamp Discovery

The lamp management task uses auto discovery, automatically adding discovered lamps to the tree on opening the task. If you add lamps to your network after opening the task, just hit the 'Refresh' button to see these.



If you click on one of these lamps, the *'Lamp'* tab will be selected:

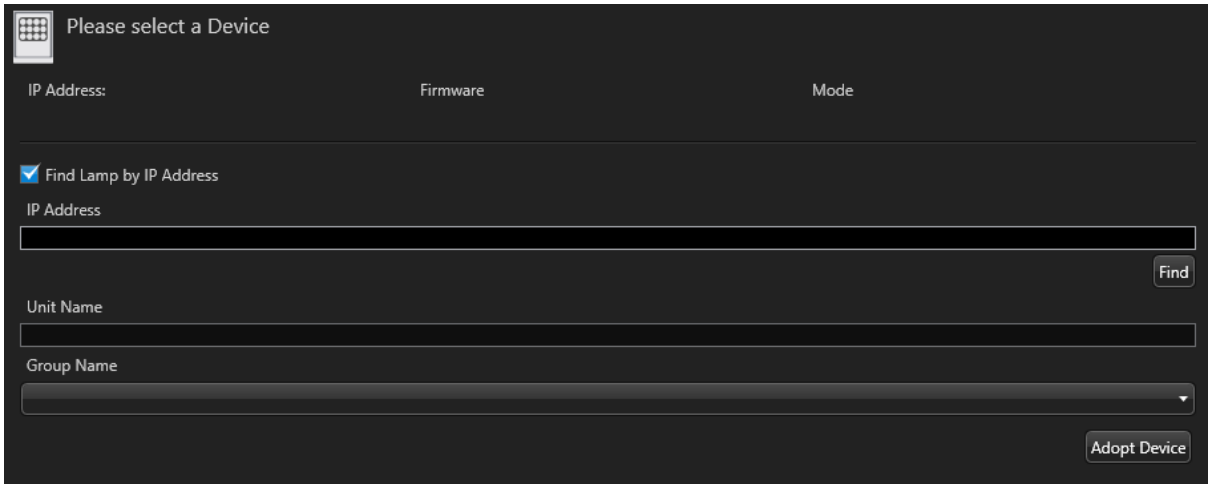


The following can be observed on this tab:

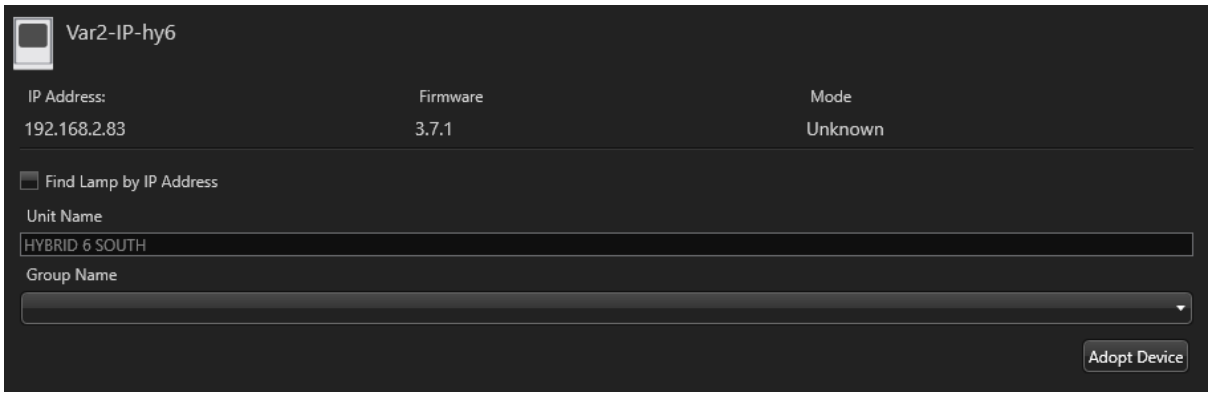
Model: The model's name of the selected lamp
IP Address: The IP address of the selected lamp
Firmware: The version of firmware running on the lamp
Mode: Displays what mode the lamp is in. This is *'Unknown'* until the lamp is *adopted* into a group.
Unit Name: The name of the lamp, this can be changed here. The name is limited to 15 characters and not more than that.
Group Name: The group the lamp belongs to, this can be changed here. The group name is limited to 30 characters and not more than that.

4.2 Manually adding lamps

It is possible to manually add lamps to the Raytec Genetec Plugin in instances where your lamp(s) can't be auto discovered e.g., there is a firewall blocking Raytec's Discovery Protocol.
To add a lamp manually, first check *Find Lamp by IP Address*

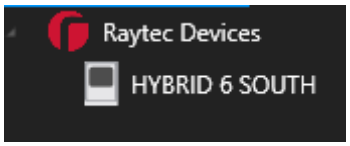


An *IP Address* field and *Find* button will then appear.
Enter the IP Address of your lamp and click *Find*. If the lamp is found, you'll see something like the following:



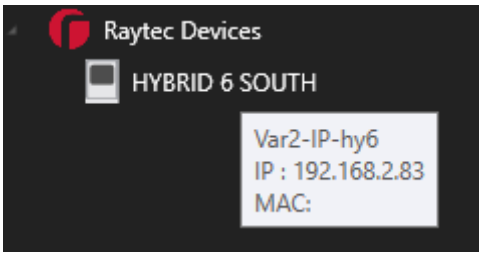
The same information is retrieved as when you have auto discovered the lamp, but the lamp icon is different to differentiate between auto discovered and manually added lamps.

You should see the lamp appear in the tree too:



The rest of this guide uses auto discovered lamps in examples, so it is worth mentioning a few limitations with manually added lamps:

1) The MAC address cannot be retrieved from a manually added lamp as this comes through in discovery messages, if you hover over a manually added lamp in the tree you will see an empty MAC Address



2) You **cannot** utilise the lamp events feature of the plugin for manually added lamps. This means that abnormal state, photocell, and external input events will not be raised in the plugin for these lamps. This is because they use the same protocol as the discovery protocol.

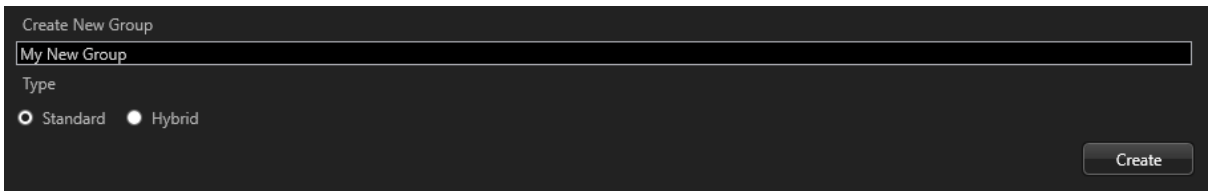
Lamps are **unmanaged** until they are placed in a group in the task. An unmanaged lamp cannot be used in Genetec until it is added to a group. The next section explains creating groups.

4.3 Creating Groups

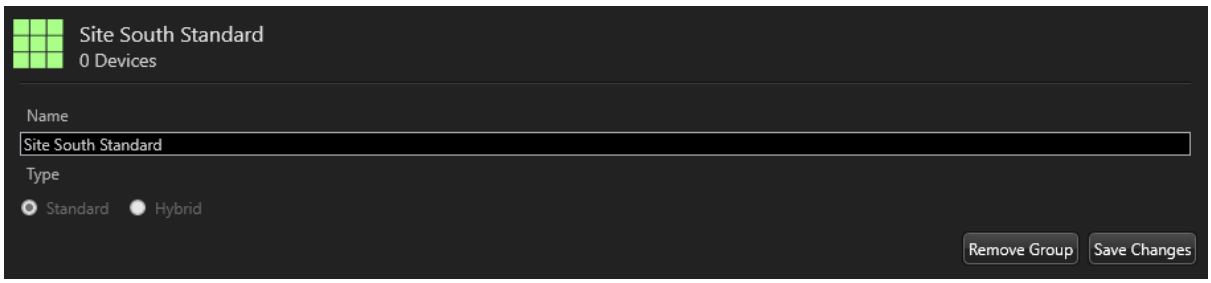
To be able to use lamps in Genetec, you need to put them into groups. To create a group, use the *'Groups'* tab.

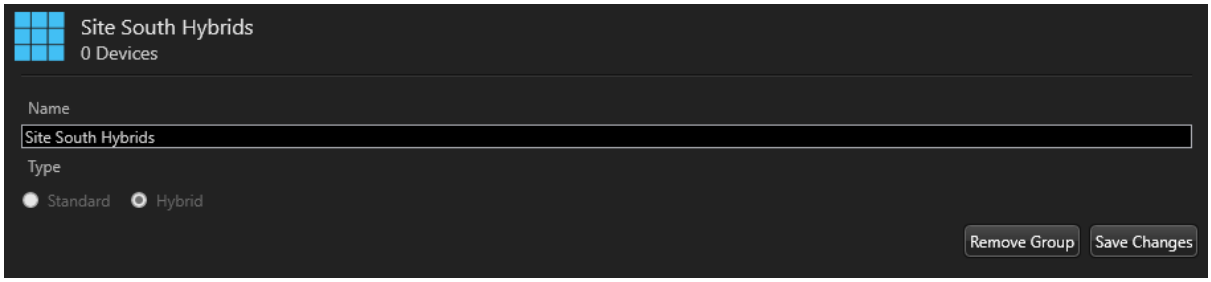
There are two types of group that can be created, standard and hybrid. Since single-wavelength and hybrid illuminators differ in functionality; separate group types must be created for each.

When creating a group, select the type of group you wish to create using the radio buttons.

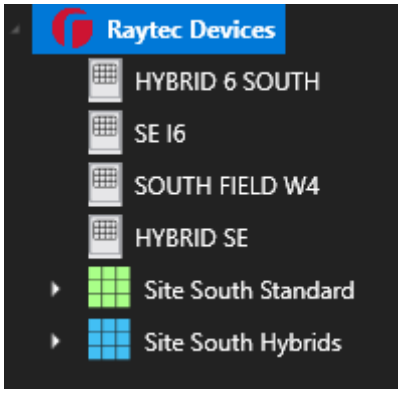


After creating a group, you can change its name but not type. Remember, the group name cannot be more than 30 characters. Standard groups are denoted by a green squares icon and Hybrid groups use a blue squares icon; this can be seen below.

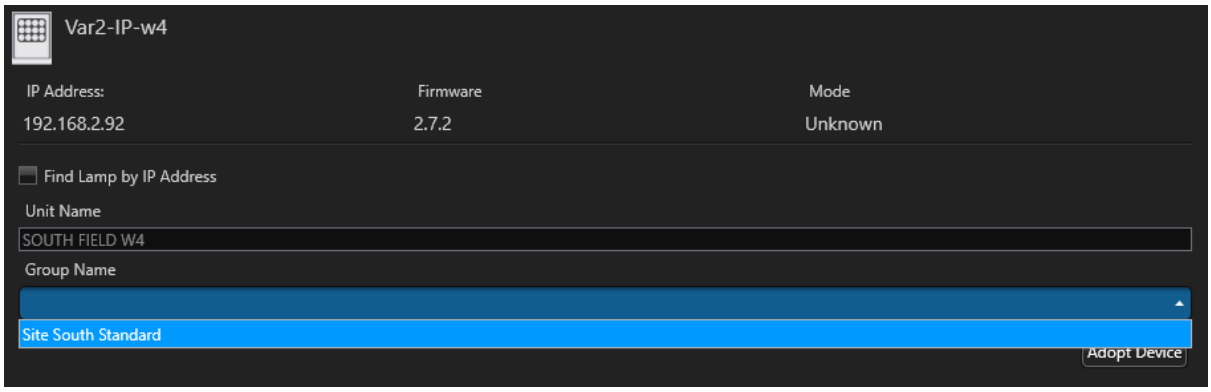




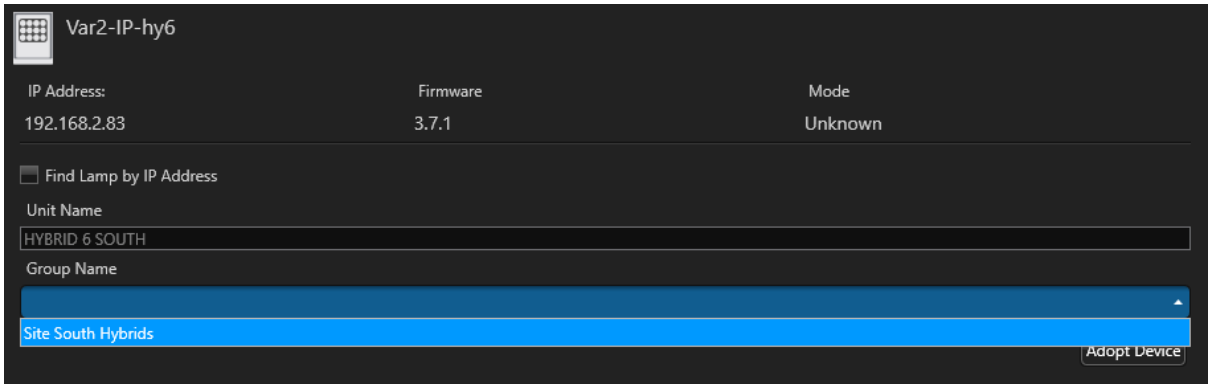
On creating groups, they can be seen in the tree:



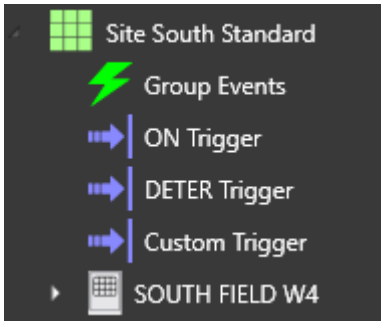
After creating the group, it can then be selected on the *'Lamp'* tab to adopt a device. If you have selected a single-wavelength device, only standard groups will be displayed in the group name combo box.

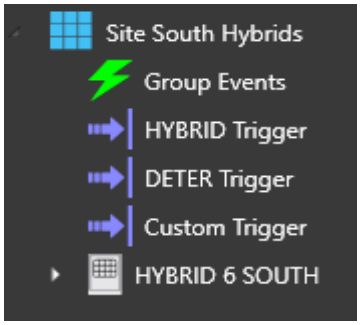


If you have selected a hybrid device, only hybrid groups will appear in the group name combo box.



After adopting devices, they then appear under the group in the tree:



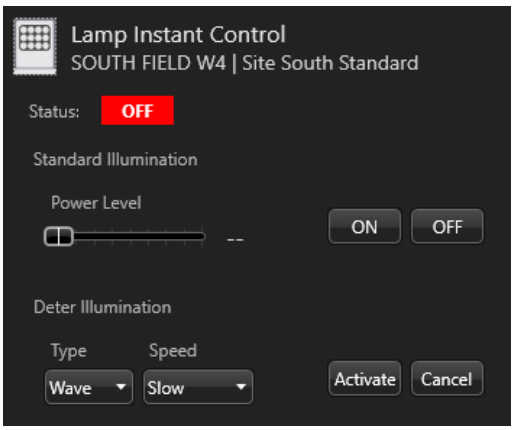


When a lamp is in a group, the lamp is said to be **managed**. Once a lamp is managed, you can start to use it in Genetec.

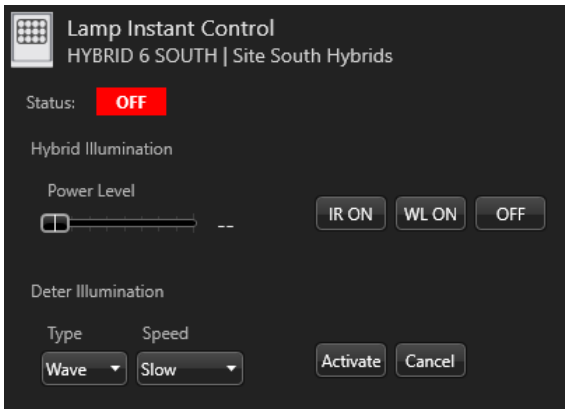
4.4 Lamp Control

If you have a lamp selected in the tree and select the *'Control'* tab, you can take instant control of the lamp.

If you click on a single-wavelength lamp, you'll see the following:



Clicking on a hybrid lamp gives you additional buttons to switch on IR and WL wavelengths.



Lamp On/Off: The lamp can be switched on and off and have its power adjusted using the slider. IR and WL options available for Hybrid units.

Deterrent: Put the lamp into deterrent illumination. You can choose between *SOS*, *Wave* and *Hi-Lo* patterns and change the speed they run at (*Slow, Medium* or *Fast*)

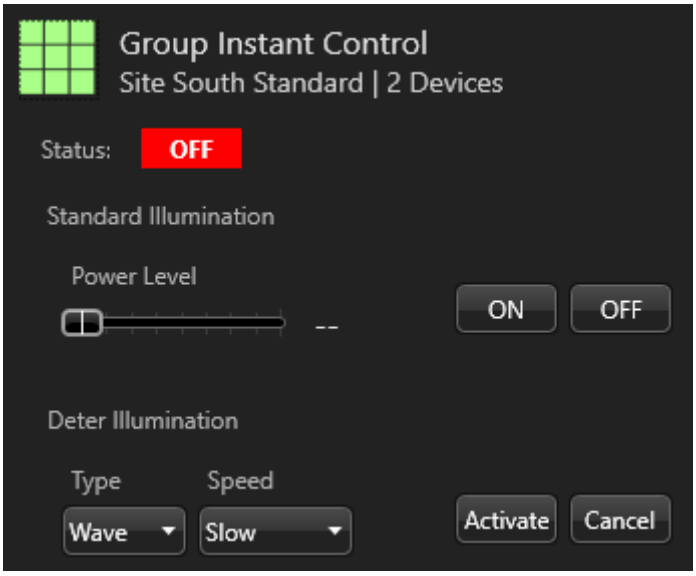
The status will change from **OFF** when you take instant control, statuses that can be seen are:

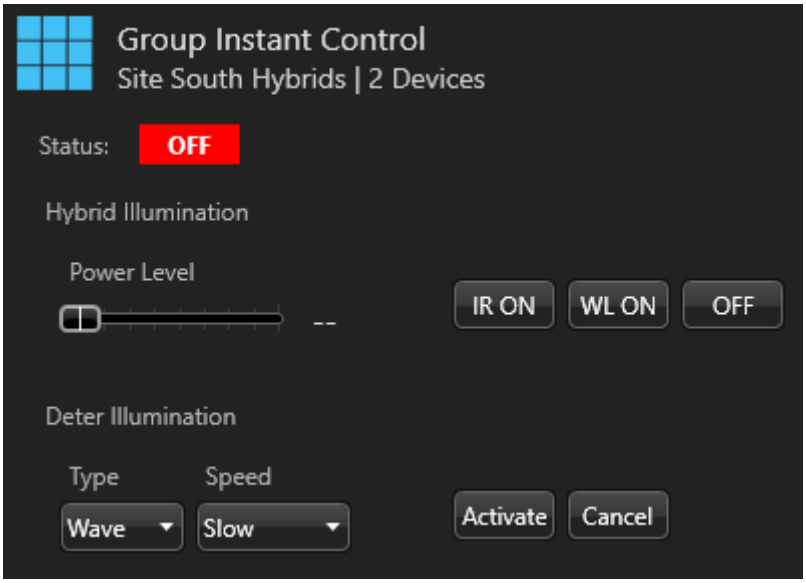
ON	Single-wavelength lamp is on
IR ON	Infrared is on (Hybrid lamp)
WL ON	White light is on (Hybrid lamp)
DETER	Deterrent is on

NOTE
The *status* in the CONTROL and *Trigger status* in TRIGGERS are same, as they represent the illuminating status of the LAMP/GROUP.

4.5 Group Control

As well as taking instant control of a single lamp, you can also take control of a group of lamps. Select a group from the tree and select the '*Control'* tab. The controls are the same as before but the information in the tab header changes to show how many lamps you will be controlling in the selected group.

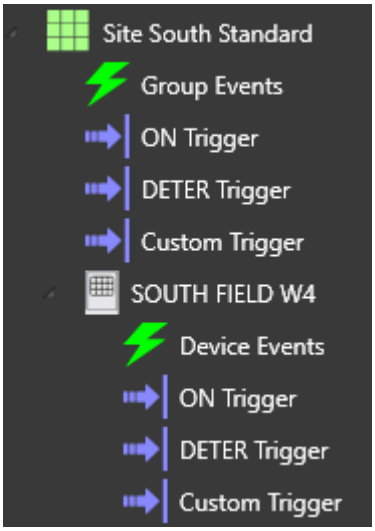


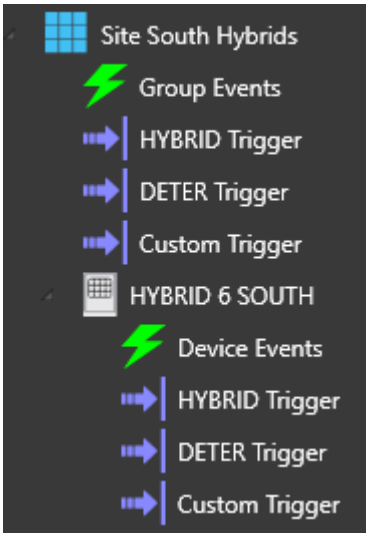


4.6 Triggers

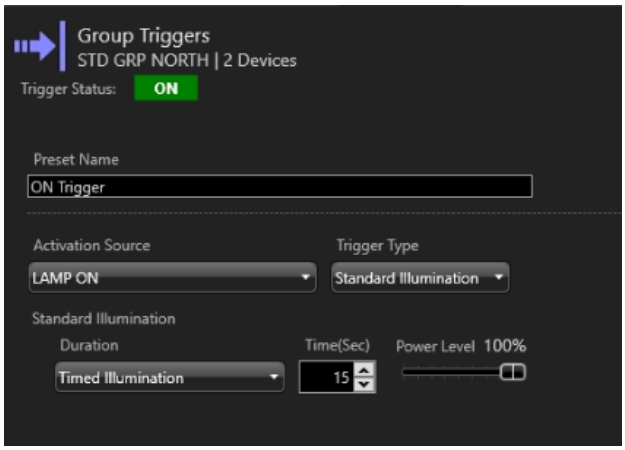
To link a Genetec alarm to a lamp or group action, use the *'Triggers'* tab.

If you expand all tree nodes, you will see that each lamp and group have three default triggers; *'ON'*, *'DETER'* and *'Custom'* for standard lamps/groups and *'HYBRID'*, *'DETER'* and *'Custom'* for hybrid lamps/groups.





Clicking on a trigger opens it on the *'Triggers'* tab:



The following can be observed on this tab:

Trigger Status: When an Alarm is triggered, the LAMP status is Shown here, this way the user can confirm the LED status of the LAMP. "ON" represents the LAMP illuminating.

Preset Name: The name of the trigger, this can be changed to better reflect what it does.

Activation Source: This combo box lists all Genetec alarms.

Trigger Type: The lamp trigger that will occur when the activation source fires, the choices are:
Lamp Off
Standard/Hybrid Illumination – Lamp/Group type dependent
Deterrent Pattern
Boosted Illumination – Not available on Hybrid illuminators.
Relay Control

Each lamp trigger has a different subset of selections:

Lamp OFF

Standard Illumination

Duration

Lamp Stays On

Timed Illumination

Timed Illumination + Revert

Time (sec)

Power Level

Hybrid Illumination

Duration

Lamp Stays On

Timed Illumination

Timed Illumination + Revert

Time (sec)

Light Type

IR

WL

Power Level

Deterrent Pattern

Duration

Continuous Deter

Timed Deter

Timed Deter + Revert

Time (sec)

Type

Wave

HiLo

SOS

Speed

Slow

Medium

Fast

Boosted Illumination

Relay Control

Duration

Relay Stays Closed

Timed Relay Closure

Time (sec)

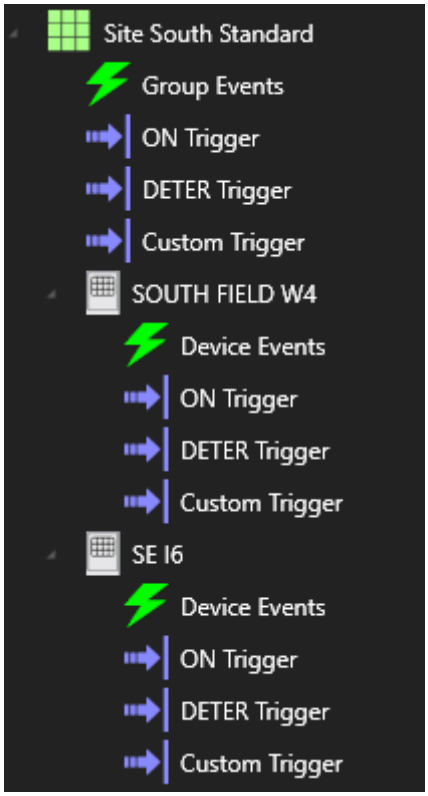
Lamp Off and Boosted Illumination have no additional settings since one just switches the lamp off and the other boosts the lamp power to 110% for 10 seconds.

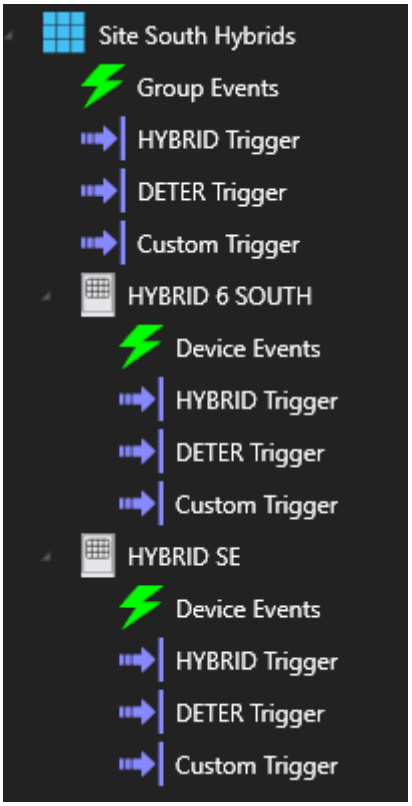
One additional point worth noting; the items that have a '+ Revert' will only work when the lamp is in **VMS** mode and if there was a previous action to revert to.

4.7 Events

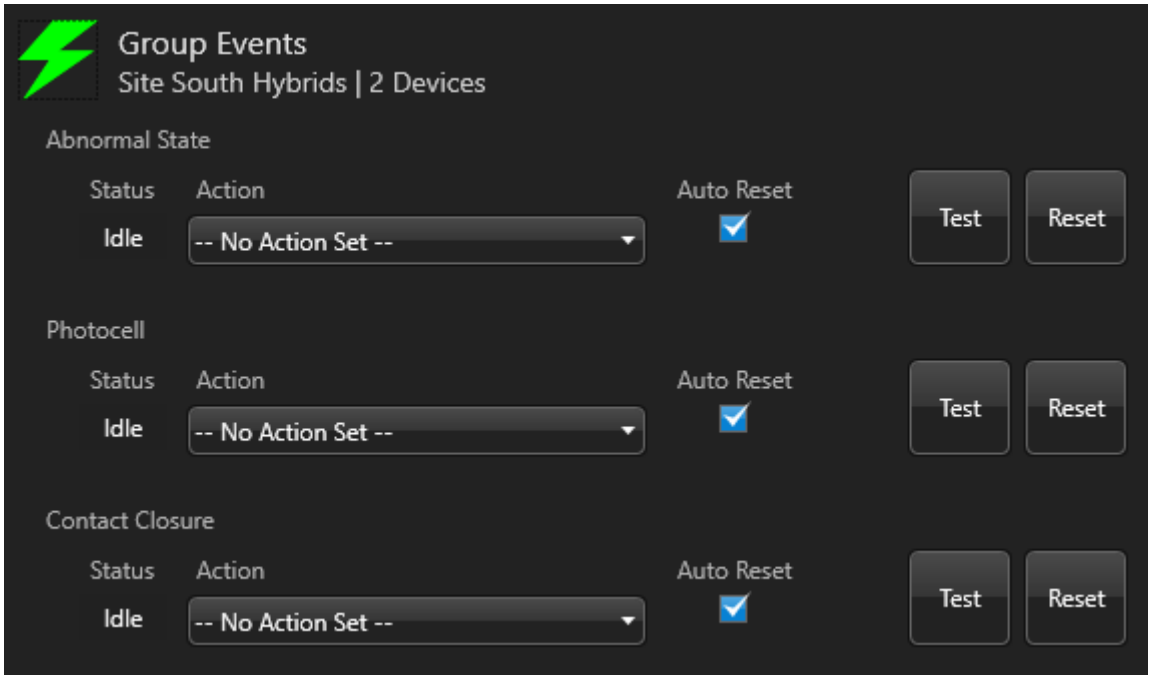
Events are effectively *"triggers in reverse"*, a trigger is a lamp action based on a Genetec alarm whereas events are lamp events causing Genetec alarms to be raised.

Like triggers, events can be configured at the lamp or group level. You will see in the tree that each group has a *"Group Events"* node and each lamp has a *"Device Events"* node:





Clicking on one of these nodes will open the *"Events"* tab:



The following can be observed on this page:

Abnormal State: Reported as active when the lamp goes offline
Photocell: Reported as active when the lamp detects that it is nighttime.
Contact Closure: Reported as active when the external input (telemetry in) wires are connected.

All the descriptions above relate to lamp events but if you are viewing this tab at the group level then *'Active'* is reported for any event that is true for any lamp in the group. You may wish to configure *"Abnormal State"* at the group level, so you only have to do this in one place as opposed to for each lamp.

The *'Auto Reset'* option should be ticked when you want the resulting Genetec alarm to be automatically acknowledged. This is useful in instances such as activating a Genetec alarm from the photocell as it ensures that the lamp switches off automatically when it is daytime; it also means the alarm is automatically acknowledged.

Note: When it comes to events, there are no differences between single wavelength and hybrid illuminators.

WARNING
Lamp events do not trigger for manually added lamps as they rely on the same protocol as the discovery protocol.

5 Example Setup

The following is a fictional setup to demonstrate how to use the various parts of the plugin, we have 4 lamps:

SE I6	Var2-IPPoE-i6
SOUTH FIELD W4	Var2-IPPoE-w4
HYBRID 6 SOUTH	Var2-IPPoE-hy6
HYBRID SE	Var2-IPPoE-hy6

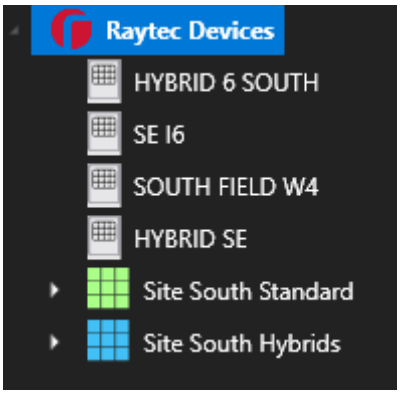
We will create two groups, one standard and one hybrid, to place these lamps into.

Our setup will be as follows:

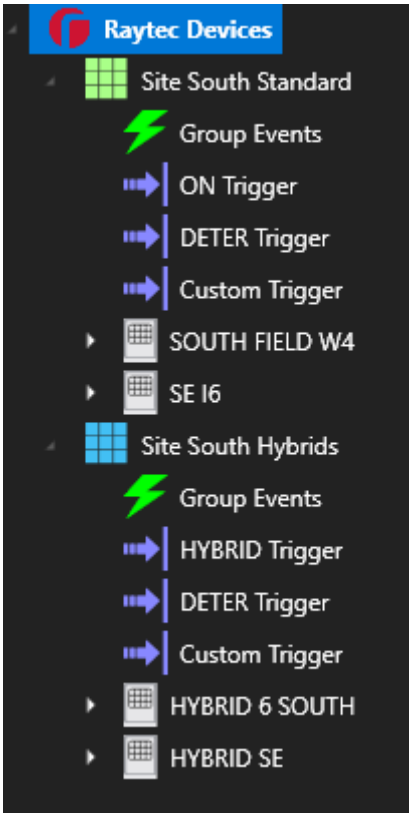
- Use the photocell of the SE I6 lamp to control when all lamps will come on at night.
- Place hybrid lamps and SOUTH FIELD W4 into deterrent on motion detection.

5.1 Create groups and adopt lamps into them

- Create *'South Field Standard'* and *'South Field Hybrids'* groups

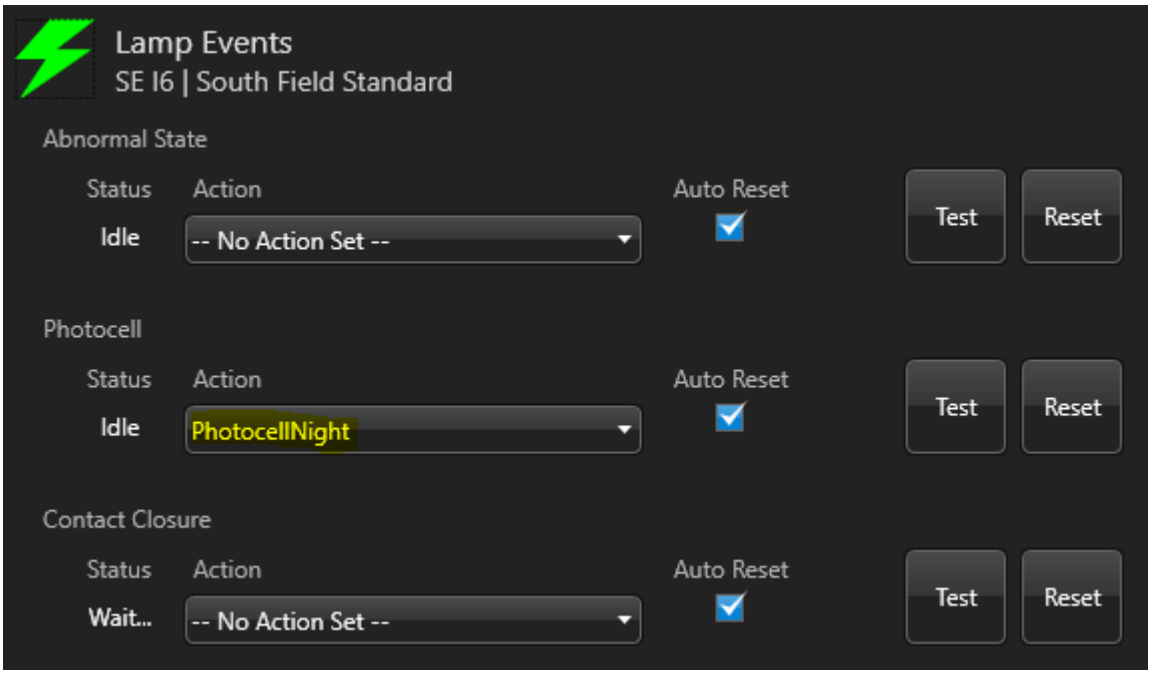


- Click on lamps and adopt the single wavelength lamps i.e., SE I6 and SOUTH FIELD W4 into *'South Field Standard'* and hybrid lamps i.e., HYBRID 6 SOUTH and HYBRID SE into *'South Field Hybrids'*



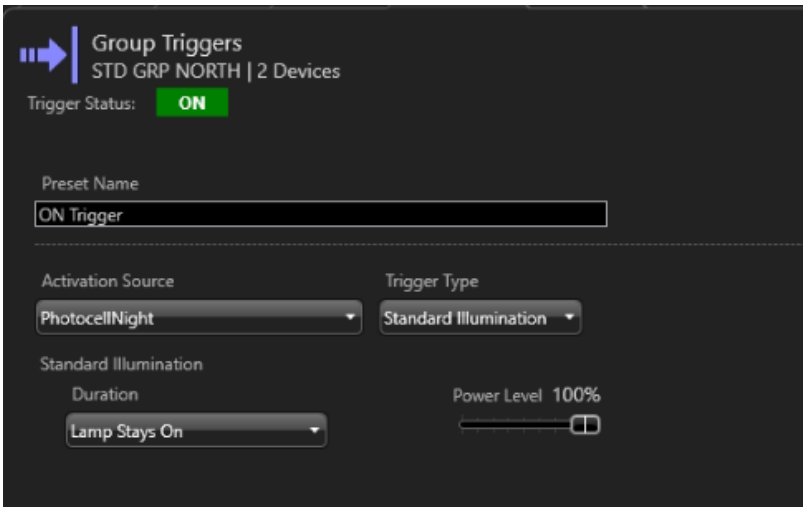
5.2 Use photocell to trigger other lamps

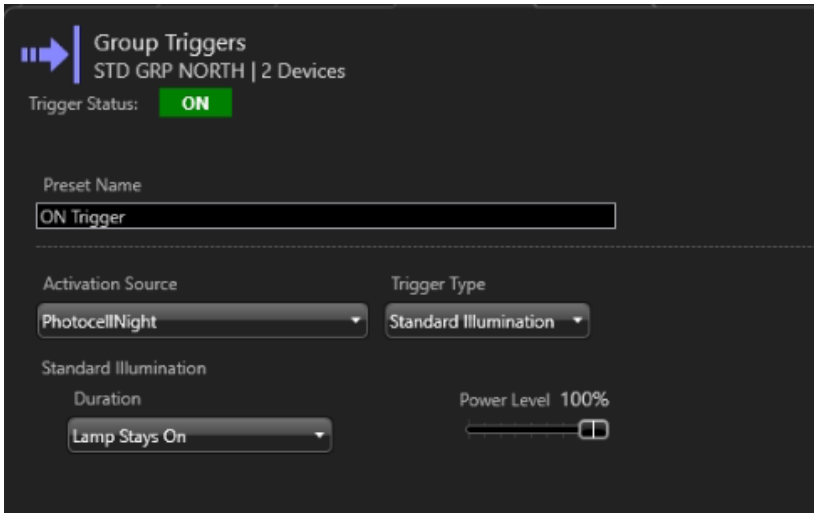
- Trigger alarm *'PhotocellNight'* from the photocell event of the *SE I6*. *Ensure 'Auto Reset'* is ticked so the lamp switches off automatically when it is daytime (and the alarm is auto acknowledged)



5.3 Link PhotocellNight alarm to triggers

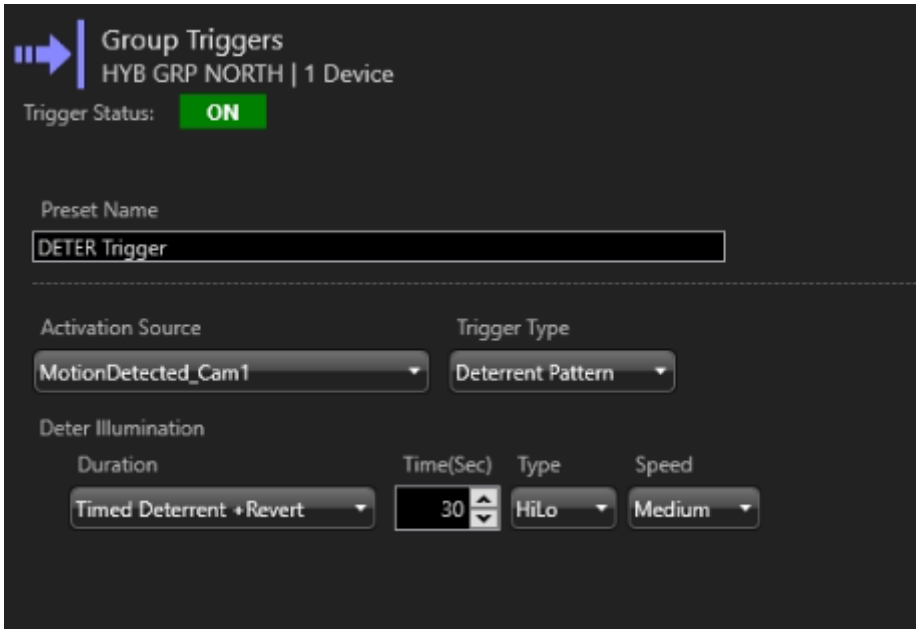
- Switch on all lamps based on *'PhotocellNight'* alarm.

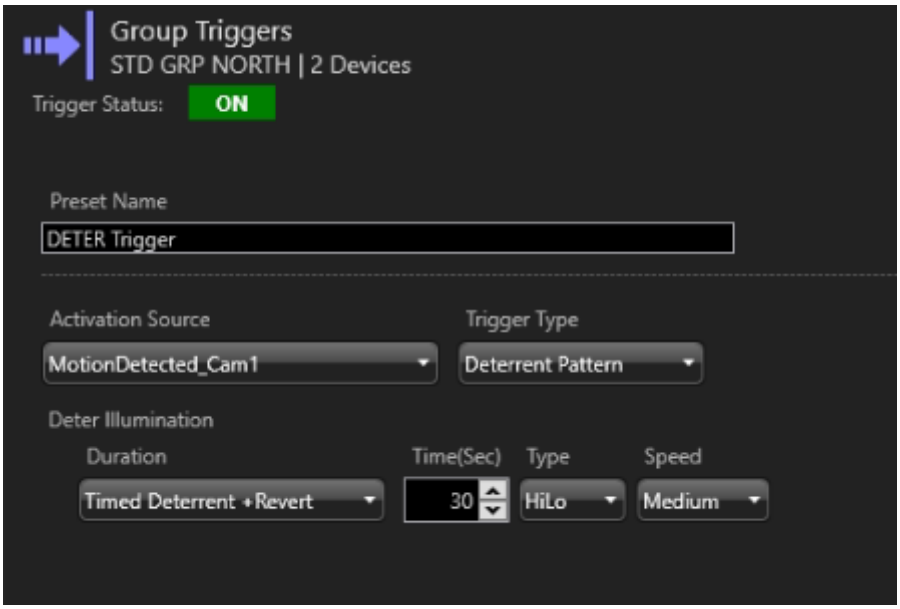




5.4 Setup motion detection trigger for deterrent lighting

- Set Hybrid group and standard single wavelength lamp *'SOUTH FIELD W4'* into deterrent on '*MotionDetected_Cam1'*





Use '*Timed Deterrent + Revert'* so the lamp reverts to the previous state, i.e. settings based on photocell night.

6 Raytec Genetec Troubleshooting

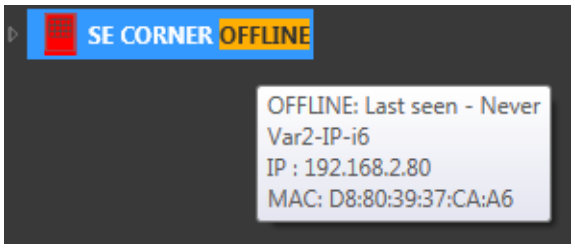
6.1 Lamp configuration checklist

If you are having issues with the Raytec Genetec Integration, ensure all the statements in the list below are true.

O	Genetec Server has *GSC-1SDK-RAYTEC-Vario* license. You only require 1 of these for all your lamps
O	Raytec DiscoMan Tool not running
O	Lamps and machine running Security Desk on the same subnet. (if issue is auto discovery of lamps)
O	Lamps set to **VMS** or **VMS + local** mode.
O	Genetec Alarms have recipient set up correctly.
O	Lamps are all managed i.e. in groups

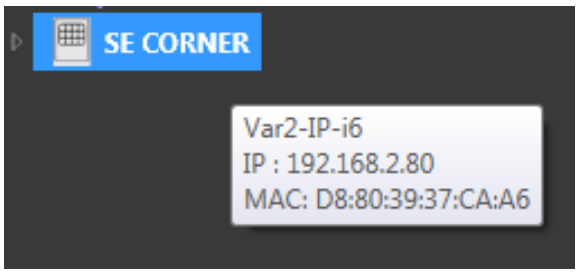
6.2 Lamp statuses in Genetec

The following lamp statuses can be observed in the Raytec Genetec Plugin. A lamp must be **managed** for the plugin to report a status for it.



Seen when:

- Lamp is switched off
- Lamp is not on same subnet as the machine running Genetec Security Desk

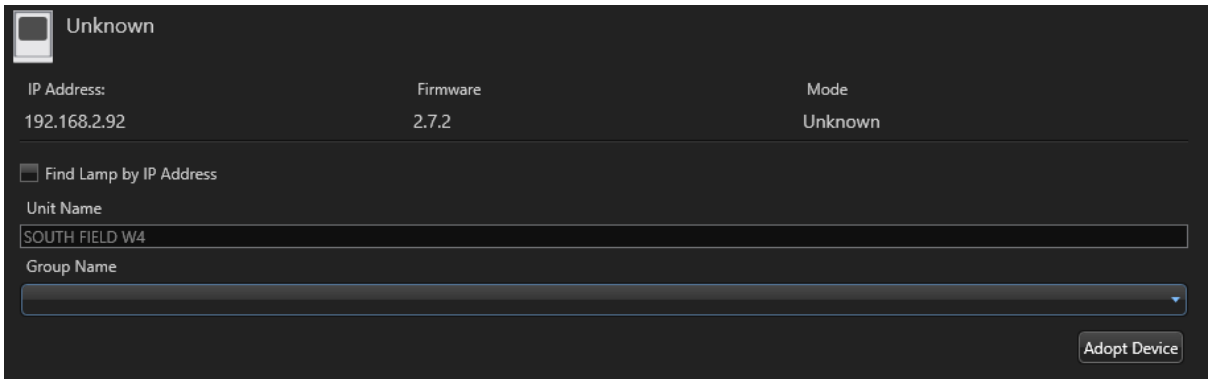


Seen when lamp is operating correctly

Note: An offline status isn't possible for manually added lamps.

6.3 Model not shown for manually added lamps

If you see *Unknown* next to your lamp icon when manually adding a lamp, then the plugin has failed to poll the lamp for its model.



This occurs when the user has changed the network settings of the lamp so that:

1) HTTP is disabled, and/or
2) HTTP port is not the default of 80

Whereas the firmware and unit name of the lamp are retrieved from the Raytec API, the plugin pulls the model from the logon page and as such it must be able to access:

http://<ip address>:80/logon.htm

The plugin only requires access to this URL when adding the lamp.

If you find yourself in this scenario, return the lamp to its default network settings to add the lamp and then set the network settings you desire.