Manual for

TrueView People Counter®
TrueView Occupancy®
TrueView One Way®
TrueView Tailgating®
TrueView Random Inspection®

Embedded for Axis IP Cameras

Version 3.x

Table of Contents

About this document

This documents describes the product TrueView People Counter and the intermediate level functions TrueView Occupancy, One Way, Tailgating and Random Inspection.

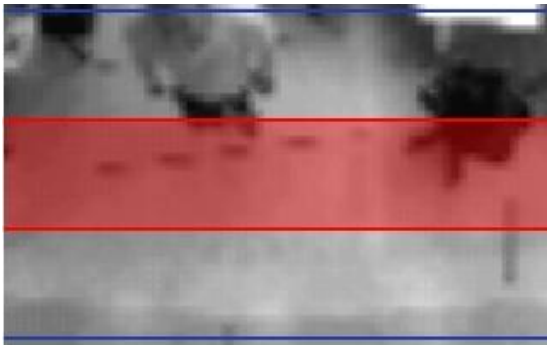
The basis for all intermediate level functions are the TrueView People Counter.
The intermediate level functions are described at the end of this document in the Appendix. They are sold as standalone applications and are referred to with their own branded names such as TrueView Occupancy, etc.

Overview

TrueView People Counter application is a fully embedded software module for Axis IP cameras, intended for shops and other environments where you need to count people. TrueView People Counter offers an unbeaten solution for people counting with features such as

1. **Embedded people counter** – Fully embedded into Axis IP camera. TrueView People Counter is a powerful stand-alone people counter directly in your Axis camera. Requiring no dedicated computer, all counting is done automatically in the camera, effectively converting the camera into a sensor.

2. **Anonymized** – Configure your people counter to be in anonymized mode so that passing pedestrians can no longer be identified from the camera.



Anonymized video stream.

3. **IP technology** – Using IP technology it offers a cost efficient, infinitely scalable, easy-to-install and flexible system for automatic people counting.

4. **Maintenance** – Maintain your people counter remotely over IP, set and check parameters, and stream video. Now supported to utilize different account privileges of the camera so that unauthorized personnel can view statistics but not change any settings of the counter.

5. **Web reporting** – Automatically export counting data to TrueView Web Report®.

6. **Bi-directional counting** – The module simultaneously differentiates and counts people moving upwards and downwards in the camera's field of view.

7. **Statistics** – Built in graphs in the camera web interface.

Easy to set up, with this software you can instantly monitor your customer traffic. Integrated with your network, it supports your staff planning and entrance management. With the TrueView People Counter you may collect data such as customer flows, trend analysis, evaluation of advertising and promotions and enhance your strategic marketing

decisions through effective monitoring of customer traffic. Improve your network video surveillance system with new cost-efficient analytics.

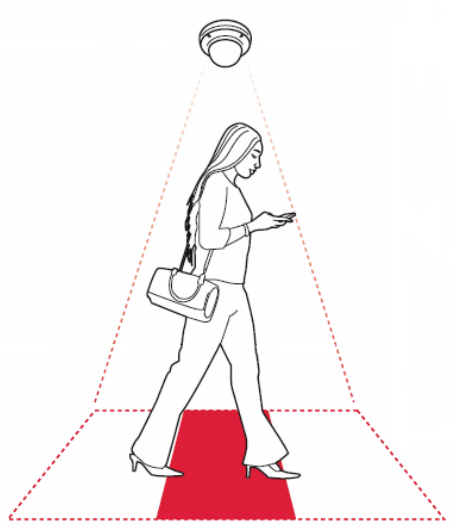
There are several ways to use the data from the People Counter:

- View real-time counting data and compare it with sales statistics directly on the camera through a web browser.
- View graphs of historical data directly on the camera.
- Download data through an open API.
- Use TrueView Web Report®, a powerful statistical software package, for managing and monitoring historical data.

Historical data is available on the camera for up to 90 days and is updated every 15 minutes. The data is stored in 15-minute bins representing the in and out counts for the 15-minute periods.

Mounting the camera

The camera should be mounted straight above the point where people should be counted and should be facing straight down.



Mount the camera facing straight down.

Height and width

TrueView People Counter allows a mounting height range from 270 cm and up depending on camera model. The recommended minimum height, however, is 300 cm. As a rule-of-thumb, one counter unit will cover a passage as wide as the camera mounting height. Depending on the camera model and zoom setting, both the height range and the covered width can be increased. The maximum width that one counter can cover for most camera models is about 5 meters. For some more powerful models, such as Axis M3006, P3364 and P3367, you will be able to reach a maximum width of 8 meters if the camera is mounted high enough.

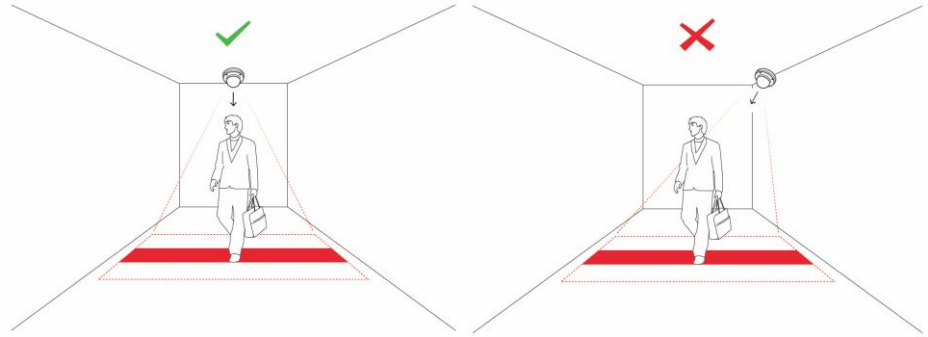
Positioning the camera

Adjust the position of the camera so that it is natural for people to pass through the camera's view vertically. If you install TrueView People Counter prior to mounting the camera, you can use the lines indicating the counting zone to guide you. The red area should run from left to right, across the path people will take when passing underneath the camera.

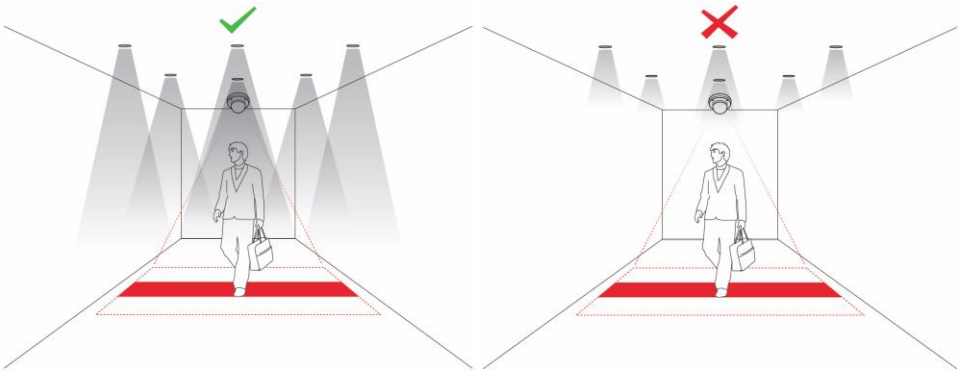
General guidelines

In order for the camera and, in effect, TrueView People Counter to function properly, make sure that the lighting is sufficient. A minimum of 80 LUX in the scene is required.

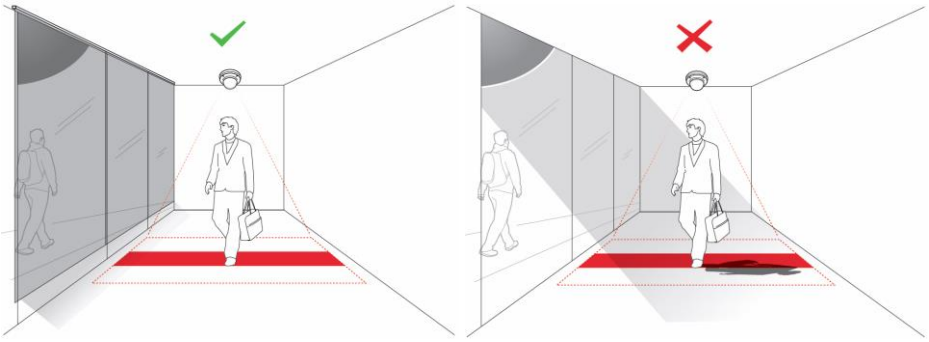
Make sure that no doors or other items are moving within the counting area. Do not mount the camera, for example, above an escalator. Also try to avoid getting very strong light and sharp shadows in the camera view.



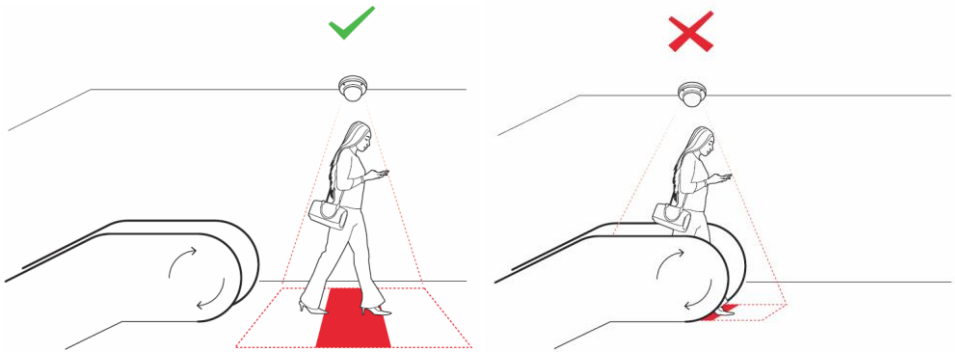
Place the camera straight over the area where people are walking. Make sure that the camera is looking straight down and is not tilted.



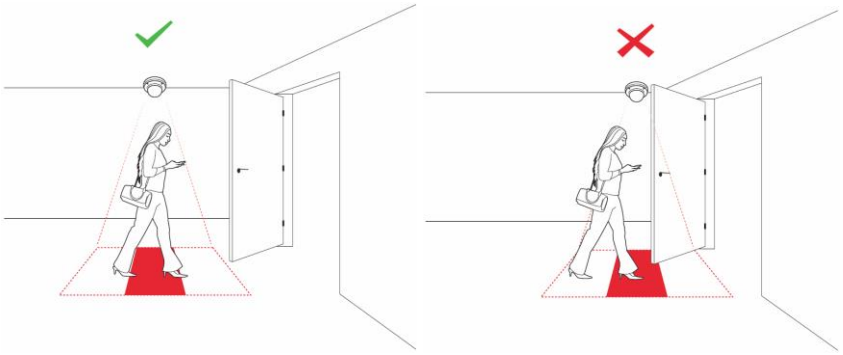
Make sure there is enough light.



Avoid having direct sunlight into the counting zone.



Avoid having moving objects like an escalator steps in counting area.



Make sure that doors are not opened into the counting zone.

Notice! The TrueView People Counter application is designed for retail scenarios and will not count objects under about 110 to 130 cm of height depending on camera model, camera lens and counter sencitivity used within the application.

Installing the software

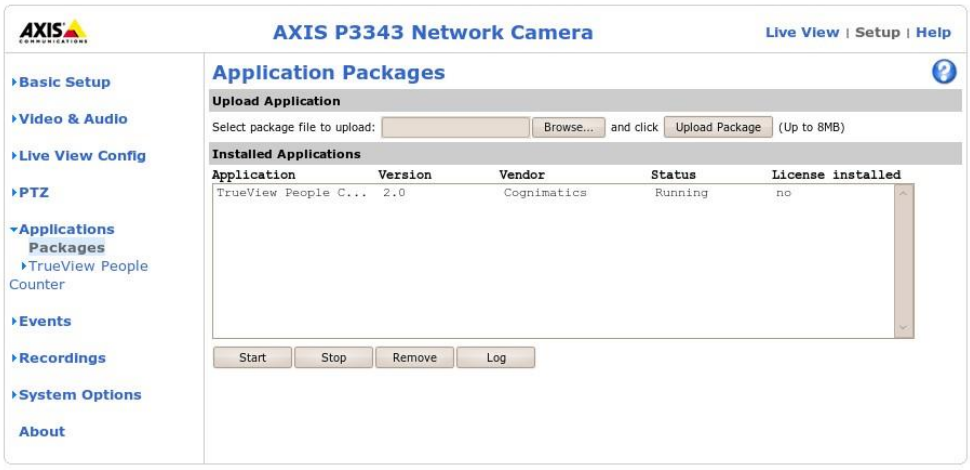
If TrueView People Counter software module is not already installed from your vendor it must be installed manually in your Axis camera.

1. Make sure you have one of the supported Axis IP cameras and that you have the correct corresponding software module of TrueView People Counter. The supported cameras and the corresponding software modules are listed in Appendix A.

2. Install the camera on your network, start it up, and point your web browser to it. Supported web browsers are the most recent versions of Google Chrome, Mozilla Firefox, Internet Explorer, and Safari.

3. Upload the TrueView People Counter installation file by clicking **Setup** -> **Applications**. Under the section *Select package file to upload,* specify the path to the TrueView People Counter installation file or use the **Browse** button. Click on the **Upload Package** button.

4. If Axis firmware version 5.55.x or older you should now be redirected to the registration page. If this fails, Press **Start** to start the product. Click the **TrueView People Counter** link to get to the People Counter interface.

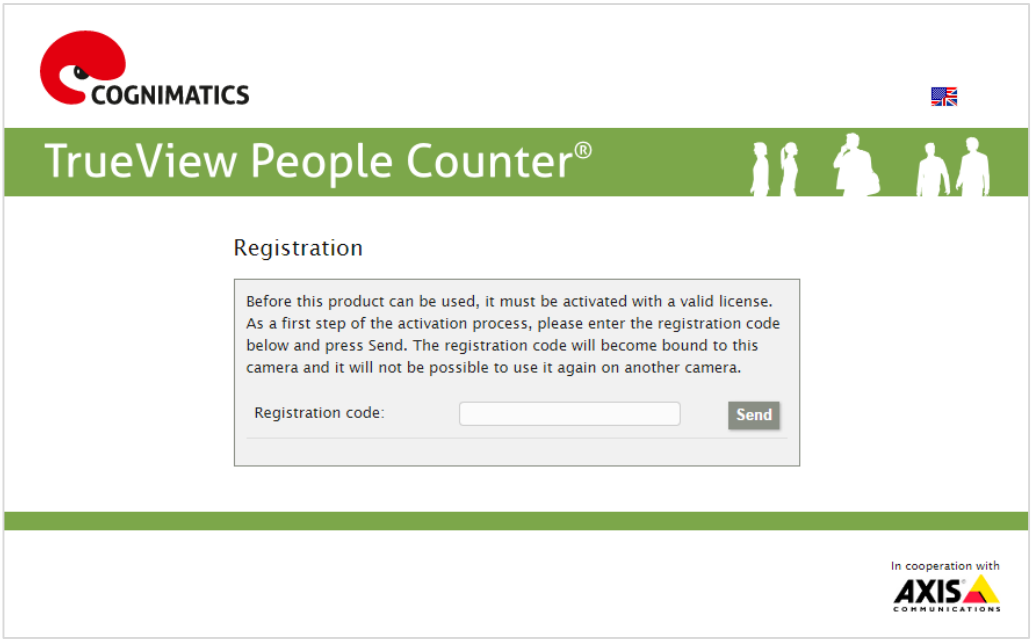


Axis application package page

If Axis firmware, version 5.7x or newer you will not be redirected after the installation of the application. Instead, reload the web page in order to get to the registration page.

5. The first time you use the product, you will be asked to enter your license code. Enter your license code and follow the instructions. The software will attempt to activate the license automatically by connecting to a registration server. If the server cannot be reached you will be asked to activate the license on a computer with Internet access. When the license activation is complete the camera is ready to be used for counting.

   Note that your software license is for one camera only. You cannot activate the software on another camera without a new registration key.



Registration page.

6. When you update any setting it can sometime take up to a couple of minutes for the counter to calibrate. You can see if the counter is counting by navigating to the **Live view** page and view people passing the counting zone.

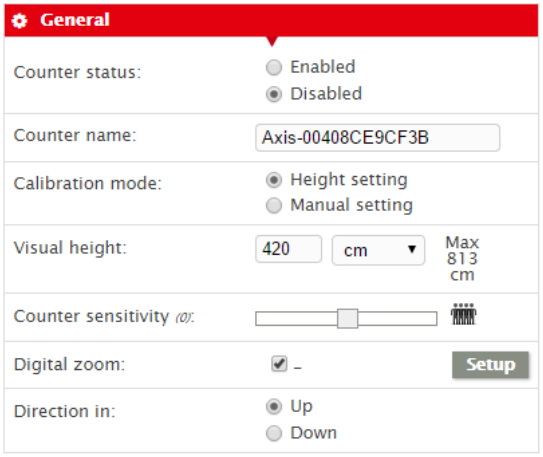
Configuring TrueView People Counter

Note: To ensure accurate counting of persons passing the camera, the TrueView People Counter must be calibrated before use. This is done using either the Visual height setting or the manual calibration procedure.

The people counter settings are divided into three categories: *Basic/counting, Data/ reporting* and *Connectivity*. There are also direct links to some basic Axis camera settings for your convenience.

Basic counting configuration

For the basic setup, go to the *General* section. This is where one toggles the counter status, name the counter and set the most fundamental parameters.



1. Verify that Counter **status** is set to Enabled.
2. Enter the **name** of the camera or location the TrueView People Counter is viewing. Note that all cameras used for people counting need to have unique names.
3. Set an initial calibration for the counter. Depending on which camera model you are using, this is done in two different ways:
   - If there is a Cognimatics calibration available for your unit, input the mounting height in the Visual height field, along with the appropriate unit.
   - If there is no calibration available, set the Calibration mode to Manual setting and click setup. Let a person stand underneath the camera and set the size of the yellow box such that it just covers one person.

   Depending on e.g. lighting conditions, the counter may need to be fine-tuned for optimal performance. The **sensitivity setting** is used for fine-tuning. See the section called "Tuning and validation" for more info.
4. If the camera supports digital zoom, you can enable it with the checkbox and click setup to toggle the zoom. This will increase the maximal height to mount the camera

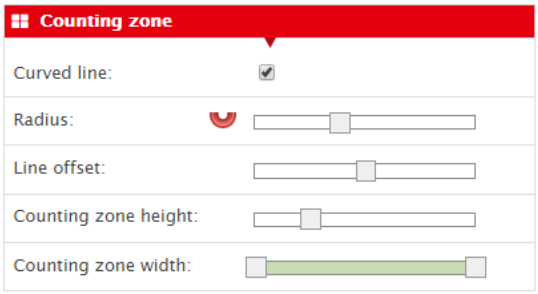
at. If the camera has optical zoom instead, it can be found as a link under Axis settings.

5. Set the **direction** through the camera view, in which people are to be counted as going in when passing underneath the camera.

Manual calibration

Under the **Network and time** section you will find settings which are vital for your camera to keep the correct time for a longer period of time. Tick the *Use default settings* to use default DNS and NTP servers. This is to continuously sync the time against servers on the internet or optionally syncing against your own local servers. Set the time zone of your location by the *Time Zone* scrollbar. If you have daylight saving time changes in your time zone it is wise to check the checkbox at the bottom for an automatic hour switch at these moments.

Under the **Counting zone** section one can adjust the area, in which counting will take place. The counting zone is indicated in the image by two blue lines and a red area. The red area is the virtual counting line and the blue lines show the extent of the counting zone. For proper counting, a person needs to be visible within the entire zone. In addition to adjusting the size and position of the counting zone, one can also change the shape of the counting line. Use the curvature settings to change its shape such that it is natural for people to pass through the count line at as close to a straight angle as possible. You will notice that there are certain limitations on these values as well as the visual height setting. Note that the position of the red and blue lines over the video on the settings page are just an estimate of where the line will be. For the actual position, go to the live view page.



1. The *Line offset* moves the entire counting zone upwards or downwards. How much it can be moved will depend on the counting zone size.

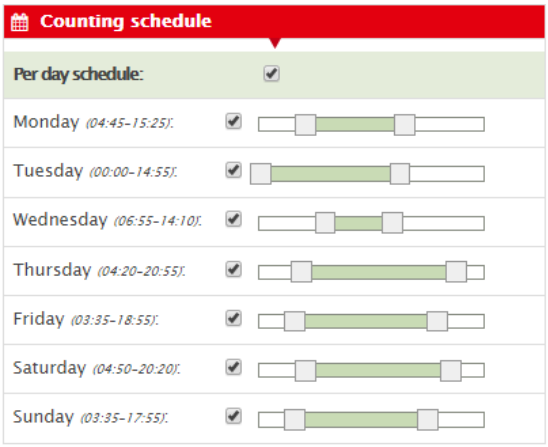
2. The *Counting zone* size slider sets the size of the counting area. How much it can be changed will depend on the visual height setting.

3. Use the *Counting line interval* setting to shorten/move the counting lines sidewise.

4. Let the counter use a curved counting area by checking the *Curved* check-box. Doing so will enable another slider with an icon next to it. Use the slider to adjust the radius and click the icon to change the direction of the curvature.

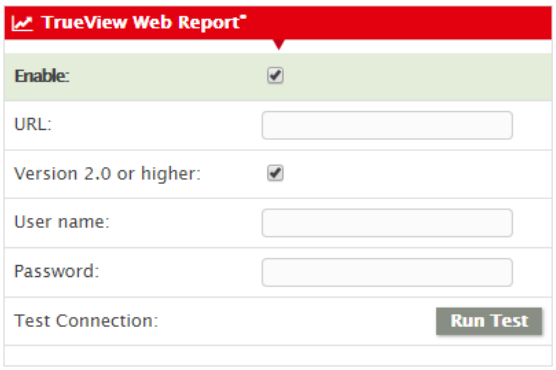
Note! Do not forget to press the Submit button when changes in settings are made, otherwise the settings will not be saved.

Under the *Counting schedule* section start and stop times for the counter can be set individually for each day of the week. By unchecking the *Per day schedule* box, changing the times for one day will affect all days. Unchecking a box by the sliders will disable counting for that particular day.



Data and reporting configuration

Apart from showing statistics in the camera interface and serving CSV/XML/JSON data, TrueView People Counter can also push count data to the TrueView Web Report®. The settings for this are found in the *Web Report* section.



1. Check the *Enable* check-box to enable pushing data to TrueView Web Report®.
2. Select the correct version of TrueView Web Report® that will be accessed.
3. Enter the Web Report server address and your *camera group* credentials.
4. Click *Run Test* to verify the connection to TrueView Web Report®. This will aid you with troubleshooting if some setting or provided information is incorrect.

In the *Events* section you can set the counter to generate events for each passage. Please read more about this functionality in the Events section in the manual.

Axis settings

You can set the standard parameters of the AXIS camera by selecting one of **Users**, **TCP/IP** or **Date & Time** in the *Axis settings* section. See your AXIS camera manual for how to set the parameters. To assure the best counting performance, avoid using any camera built-in functionality that may affect the counting accuracy. Do not set any other parameters than:

a. Optical zoom (If this is supported).

b. Local time

c. IP address

d. Users

Connectivity configuration

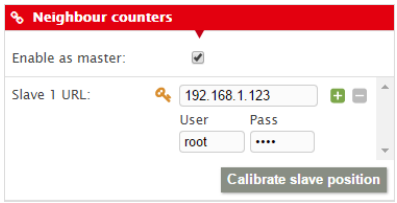
Neighbour counters

If you need to cover a wide entrance with several counters, you can configure them under the *Neighbour counters* tab. In order to determine how many counters are needed to cover the entire width of the entrance, use the Camera Configurator tool available on the Cognimatics website.

Note that this feature only supports cameras of the same model.

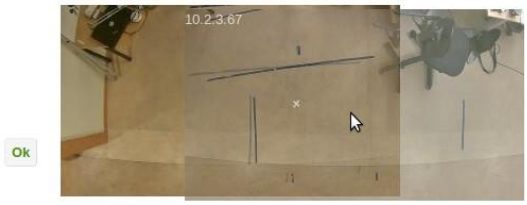
Mount the cameras side by side to one another following the measurements indicated by the Camera Configurator. Then proceed to enable one of the counters as the master counter. The cameras added will be configured as slave counters and will automatically send the counting data collected to the master camera.

If the cameras are configured to send counting data to the TrueView Web Report®, make sure that only the master camera is connected. The master camera will automatically upload the counting data from all the slave counters as one single unit.



When all the counters are connected, proceed to calibrate the slave position.

Calibrate the cameras by dragging the slave camera view over the master camera view. It is of good practice to use an object (such as a sheet of A4 paper) in the middle of the floor as reference when matching up the video streams.



Click and drag the video streams to calibrate them for wide entrances

Once the calibration process has been completed, it will be possible to view all of the counters from the *Live view* of the master counter by pressing on the *Master view* button.

If the video stream from the slave counters is not visible from the master camera, make sure that there are no other connections to the slave cameras open.

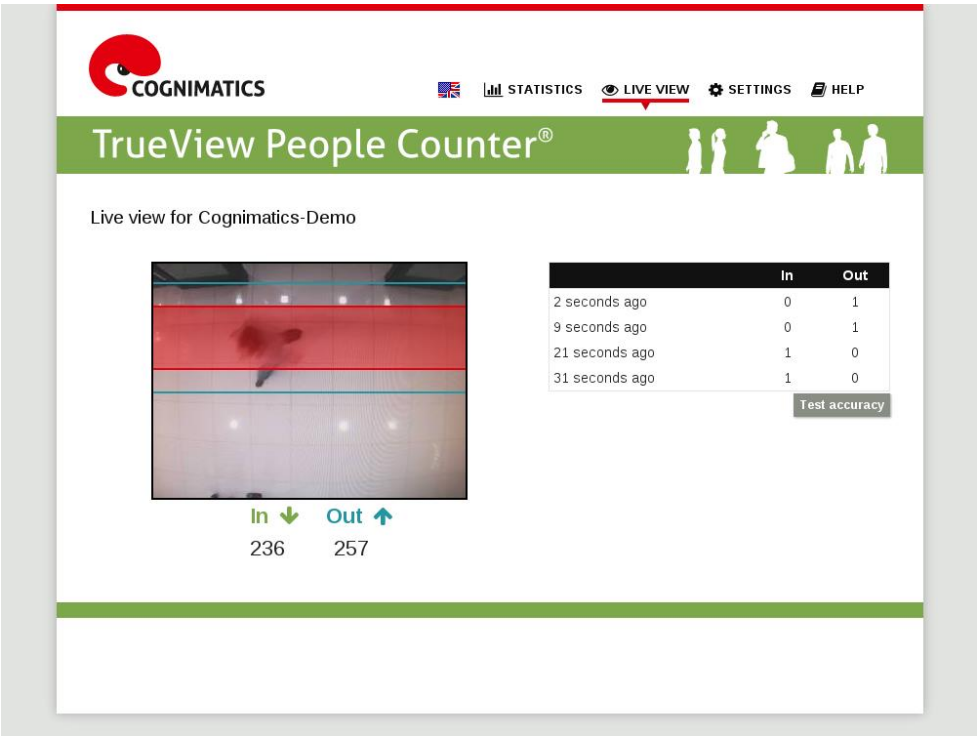
Keep in mind that once the counters have been configured with the *Neighbour counters*

feature, certain slave counter parameters will be controlled by the master camera. Those parameters include:

Visual height
Counter sensitivity
Digital zoom
Network & time
Line offset
Counting zone height
Counting schedule

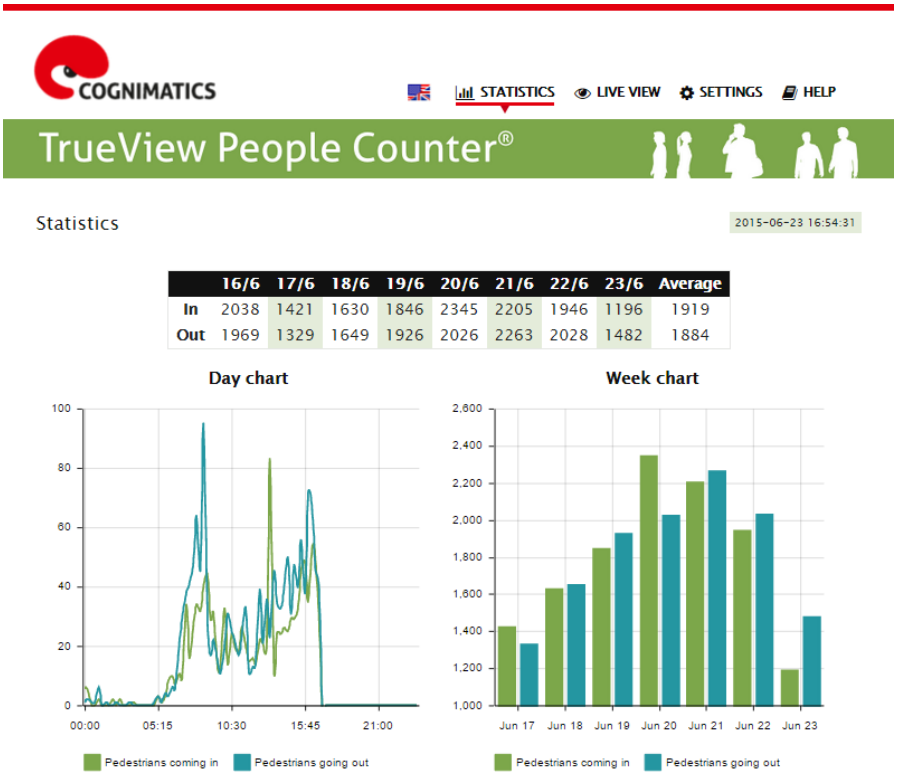
Live view

To see when TrueView People Counter is counting you go to the *Live view* page. This page can also be a great help when polishing the settings. To the right the latest counts are shown in a table. Under this table you will find the *Accuracy* button which starts an accuracy tester application. Use up and down arrow on your keyboard to count the passages and verify against the counter by clicking *Result*. Follow the guidelines in the *Tuning and validation* section to get the best result out of your TrueView People Counter.



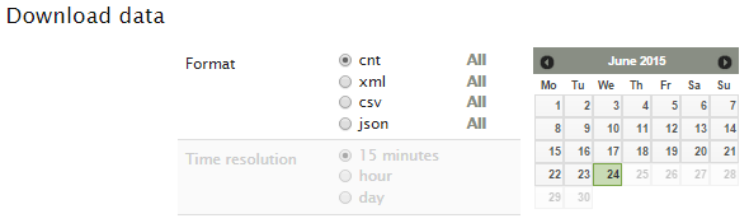
Statistics

You can see the TrueView People Counter statistics in day and week view from the statistics page. The data is updated in real time.



	16/6	17/6	18/6	19/6	20/6	21/6	22/6	23/6	Average
In	2038	1421	1630	1846	2345	2205	1946	1196	1919
Out	1969	1329	1649	1926	2026	2263	2028	1482	1884

Data files can be downloaded in cnt, xml, csv or json format by selecting the format and clicking the day you want the data for in the date picker. .cnt is a proprietary, binary format, available for compatibility reasons. For the text formats different time resolutions can be chosen as well. If you want to download all available data in a certain format just press the corresponding All files link.



Tuning and validation

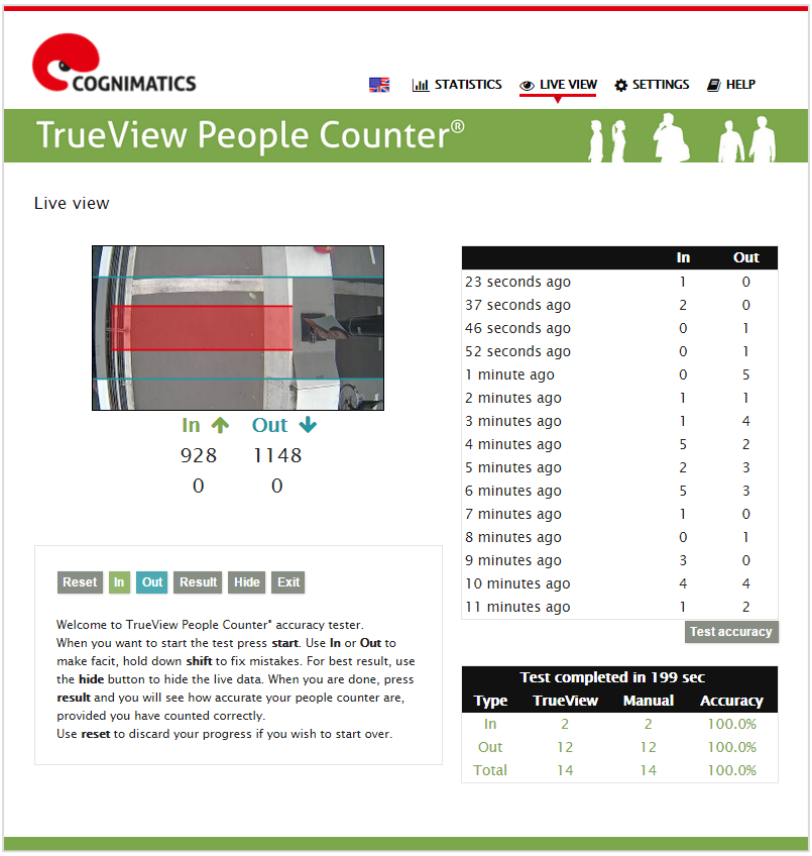
When the cameras are installed and counting it is highly recommended to validate the accuracy and fine-tune the system. This is likely to increase the accuracy or identify counting units with problems.

Begin with an overview of the traffic numbers. Look at the numbers for all cameras a couple of days back. If the difference between number of persons going in and out is <5-10% then this is a good first indication that the TrueView People Counter system is configured correctly.

To validate each camera:

1. Go to the **Live View** page of the camera.
2. Click the **Accuracy** button at the bottom of the table showing the latest counts.
3. Click **Start** and manually count 100 or more passages by pressing the up and down arrows on your keyboard. Click **Reset** if you need to start over and **Result** when you are done counting.
4. An accuracy table will appear showing the TrueView People Counter system count, your manual count and a percentage accuracy calculation. The total accuracy should not be biased by more than 10 %.
5. If the difference is sufficiently small you can move on to the next camera.
6. If the difference is >10 % then TrueView People Counter needs to be manually tuned.
7. Make sure the camera is mounted according to the guidelines in this document.
8. Depending on the camera model used, or rather if the counter is running in calibrated or manual mode, either adjust the Counter sensitivity setting or adjust the size of the yellow box defining the shape of a person. These changes will adjust the internal parameters of the counter.
    a. If TrueView People Counter is counting too much compared to the ground truth, then decrease the counter sensitivity with around 20 units *or* increase the size of the box slightly.
    b. If TrueView People Counter is counting too few compared to the ground truth, then increase the counter sensitivity with around 20 units *or* decrease the size of the box slightly.
9. Go back to step 3 to validate the accuracy. Please note that TrueView People Counter will need

a couple of minutes after saving parameters before counting accurately.



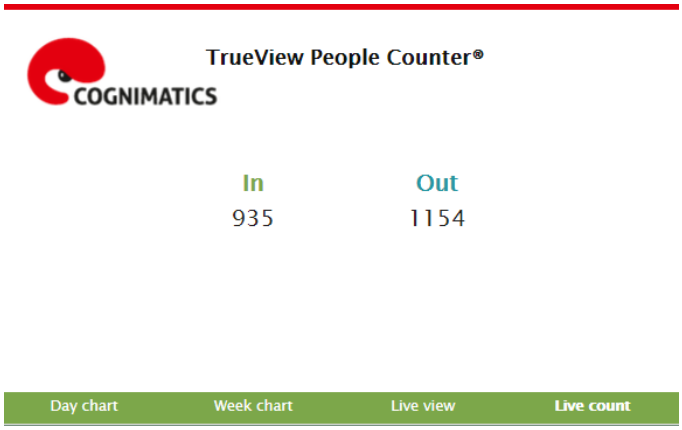
Use the live view with the integrated accuracy tester to guide you

Lite web interface

There is a light-weight version of the web interface at the URL http://<servername>/people-counter/lite/index.html. These pages can for instance be used to embed TrueView People Counter into systems like e.g. Axis Camera Station and Milestone's XProtect Smart Client.

There are four pages available:

1. http://<servername>/people-counter/lite/day.html: The page shows the day plot, the same plot that can be seen on the Statistics page.
2. http://<servername>/people-counter/lite/week.html: The page shows the week plot, the same plot that can be seen on the Statistics page.
3. http://<servername>/people-counter/lite/count.html: A page that shows the live count for the current day.
4. http://<servername>/people-counter/lite/liveview.html: A slim version of the Live view page that shows live count and the video stream with the counting area as overlay.



The Live Count page in the lite interface.

The menu at the bottom of the pages can be disabled by appending ?cleanto the URL:s above, e.g. http://<servername>/people-counter/lite/liveview.html?clean.

You can also add a lang tag before lite to display these pages in other languages, example http://<servername>/people-counter/cn/lite/liveview.html

HTTP API

1. **Request real-time data**: Returns JSON file with real time counting data
2. **List available data**: Returns a list of days where data exists
3. **Download binary data**: Returns Cognimatics proprietary format
4. **Request CSV data**: Returns historical data in CSV format
5. **Request XML data**: Returns historical data in XML format
6. **Request JSON data**: Returns historical data in JSON format
7. **Clear counting data**
8. **Live view information**: Returns information about the placement of the lines in Live view
9. **Show the system log**
10. **Generate a log archive**: Generates a gzip'ed tarball containing log files, settings and data

1. Real-time data

URL

http://<servername>/local/people-counter/.api?live-sum.json

Format

JSON

Method

GET

Return

```
{
  "serial":"<camera-serial>",
  "name":"<counter-name>",
  "timestamp":"<timestamp>",
  "in":<in>,
  "out":<out>
}
```

<camera-serial>
camera serial number

<counter-name>
name of the counter

<timestamp>
time in the camera in the format YYYYMMDDhhmmss

<in>
number of people passing in until now today

<out>
number of people passing out until now

Example

Request real time data from TrueView People Counter.

URL

http://<servername>/local/people-counter/.api?live- sum.json

Return

```
{
  "serial":"00408CAC512B",
  "name":"Exit south",
  "timestamp":"20110615112756",
  "in":12,
  "out":318
}
```

2. List all days, for which there is counting data

URL

http://<servername>/local/people-counter/.api?list-cnt.json

Format

JSON

Method

GET

Return

```
{
  "timestamp":"<timestamp>",
  "days":["YYYYMMDD", [..] "YYYYMMDD"]}
}
```

<timestamp>
time in the camera in the format YYYYMMDDhhmmss

<days>
an array of days where there exists

Example

List all days of data available in TrueView People Counter

URL

http://<servername>/local/people-counter/.api?list- cnt.json

Return

```
{
  "timestamp" : "20100513132513",
  "days":["20100510", "20100511", "20100513"]}
}
```

3. Download .cnt data files

URL

http://<servername>/local/people-counter/.api?export-cnt&date=<date>
where <date>can be

- a date of the form YYYYMMDD
- a date interval of the form YYYYMMDD-YYYYMMDD
- comma separated dates of the form YYYYMMDD,[..],YYYYMMDD
- allfor all available data

Format
cnt

Method
GET

Return
This script returns a Cognimatics proprietary binary data file for the given date(s), to be used in TrueView Report®

Example
Request historical data for the 12th to the 15th of May 2010.

URL

http://<servername>/local/people-counter/.api?export- cnt&date=20100512-20100515

Example
Request all available historical data.

URL

http://<servername>/local/people-counter/.api?export- cnt&date=all

4. Request CSV data

URL

http://<servername>/local/people-counter/.api?export-csv[&date=<date>][&res=<res>]

where <date>can be

- a date of the form YYYYMMDD
- a date interval of the form YYYYMMDD-YYYYMMDD
- comma separated dates of the form YYYYMMDD,[..],YYYYMMDD
- all(default) for all available data and

  <res>can be 15m(default) for data in

  15 minute bins

- 1hfor data in 1 hour bins
- 24hfor data in 1 day bins

Format
CSV

Method
GET

Return
This script returns data in plain text, comma-separated values. The first line contains a description of each element, and the following lines contain the corresponding data for the chosen time interval and resolution.

Example
Request historical CSV data for the 12th and the 15th of May 2010 with 15 minute resolution.

URL

http://<servername>/local/people-counter/.api?export-csv&date=20100512,20100515&res=15m

Example
Request historical data for all available days, with 24 hour resolution.

URL

http://<servername>/local/people-counter/.api?export- csv&date=all&res=24h

5. Request XML data

URL

http://<servername>/local/people-counter/.api?export-xml[&date=<date>][&res=<res>]

where <date>can be

- a date of the form YYYYMMDD
- a date interval of the form YYYYMMDD-YYYYMMDD
- comma separated dates of the form YYYYMMDD,[..],YYYYMMDD
- all(default) for all available data and

<res>can be

- 15m(default) for data in 15 minute bins
- 1hfor data in 1 hour bins
- 24hfor data in 1 day bins

Format
XML

Method
GET

Return
This script returns data in XML format. The DTD file can be found at http://<servername>/people-counter/appdata.dtd

Example
Request historical XML data for the 12th and the 15th of May 2010 with 15 minute resolution.

URL

http://<servername>/local/people-counter/.api?export-xml&date=20100512,20100515&res=15m

6. Request JSON data

URL

http://<servername>/local/people-counter/.api?export-json[&date=<date>][&res=<res>]

where <date>can be

- a date of the form YYYYMMDD
- a date interval of the form YYYYMMDD-YYYYMMDD
- comma separated dates of the form YYYYMMDD,[..],YYYYMMDD
- all(default) for all available data and

<res>can be

- 15m(default) for data in 15 minute bins
- 1hfor data in 1 hour bins
- 24hfor data in 1 day bins

Format
JSON

Method
GET

Return
This script returns data in JSON format.

Example
Request historical XML data for the 12th and the 15th of May 2010 with 15 minute resolution.

URL

http://<servername>/local/people-counter/.api?export-xml&date=20100512,20100515&res=15m

7. Clear local counting data

URL

http://<servername>/local/people-counter/.apioperator?clear- data

Format

text/plain

Method

GET

Return

OK

8. Live view information

URL

http://<servername>/local/people-counter/.api?cntpos.json

Format

JSON

Method

GET

Return

Information about the counting area.

```
{
  "width":<width>,
  "height":<height>,
  "left":<left>,
  "right":<right>,
  "top":<top>,
  "bottom":<bottom>,
  "yfirst":<yfirst>,
  "ylast":<ylast>,
  "radius":<radius>
}
```

<width>, <height>
dimension of the video stream

<left>, <right>
x coordinates in pixels for start and stop for the blue lines in Live view

<top>, <bottom>
y coordinates in pixels for the two blue lines in Live view

<yfirst>, <ylast>
y coordinates in pixels for the top and bottom of the red counting area, disregarding curvature

<radius>
radius in pixels describing the curvature of the red counting area, as measured in the center of the area on both axes, or if the area is not curved

Example

Request Live view information from TrueView People Counter.

URL

http://<servername>/local/people-counter/.api?cntpos.json

Response

```
{
  "width":320,
  "height":240,
  "left":0,
  "right":296,
  "top":88,
  "bottom":224,
  "middle":136,
  "yfirst":88,
  "ylast":152,
  "radius":0
}
```

9. Show the system log

URL

http://<servername>/local/people-counter/.api?show-logs

Format

Plain text

Method

GET

Return

Displays the system logs.

10. Generate a log archive

URL
http://<servername>/local/people-counter/.api?generate-logs

Format
tar.gz

Method
GET

Return
A log archive.

11. List TrueView People Counter parameters

URL
http://<servername>/local/people-counter/.api?params.json

Format
JSON

Method
GET

Return
A JSON object of all the TrueView People Counter related parameters.

12. Set TrueView People Counter parameters

URL
http://<servername>/local/people-counter/.apioperator? setparams

Format
text

Method
POST. The post format has a format where pairs and values need to be specified, best described by an example.
&p1=Counter.Enable&v1=1&p2=Counter.Height&v2=280
&setparams=needstobeincluded

Return
OK

Events

The counter can generate events for each passage, with 1 second time resolution. The daemon that handles the event system can act either as a server or as a client. When running as a server a client may connect to the counter to start receiving events. When running as a client, the daemon itself connects to a provided listener that collects the events and handles the information.

Example code is available for those who want to write their own event handler.

Maintenance

On the *Maintenance* page (found under **Help Maintenance**) there are several options for simplifying maintenance of TrueView People Counter.

1. **Restart** If you find the counting inaccurate or the web interface unusually slow, you may try restarting the running services or restart the camera.

2. **Reset** To clear all counting data from the camera you can click **Clear data**. Restore all settings of TrueView People Counter to default by clicking **Restore settings**.

3. **Anonymize** To anonymize the video stream from the camera so that passing pedestrians are unidentifiable, you can click **Anonymize soft**. This will lock all video streams and images from the camera and replace it with a low resolution stream in TrueView People Counter so that you still can see what is going on but can't identify people. This is reversible by a user with an Administrator account by clicking **Reset anonymization**. If you want this feature irreversible by all users you can click the **Anonymize hard** button. **Warning! This will remove all administrator users and can only be reversed by manually clicking the factory default button of the camera. You will need an operator account to toggle the settings of the counter after this anonymization.**

4. **Parameter backups** It is recommended to backup your TrueView People Counter settings to a computer by pressing the **Backup** button. To restore settings you first choose the file and then press **Restore**.

5. **Logs** If you have any trouble with your camera you can send counter logs to Cognimatics. These can be generated by pressing the **Generate logs** button. After a while you will be prompted with a file you can save to your computer and send to support@cognimatics.com.

6. **Record video** You can use this feature to record video from your camera, locally to your computer. Just select the desired duration of the video and press **Record**.

7. **Record debug data** Use this recording alternative when there seems to be severe issues with the counting of this unit. Here is also an option for sending the data recording directly to a Cognimatics™ server as well as downloading to computer to send it later on.

8. **Registration** You can use these features to alter your license. Use **Renew License** if you have an updated license.

Troubleshooting

The video does not show in Live view.

Make sure no one else is watching the video or that you have a video stream to a VMS or other recoding ongoing. In the Axis 3004 and 3005 only a limited numbers of viewer or video streams is allowed at the same time.

The software asks for registration code every time.

Reset to factory default after installation and restart the camera.

The software prompts me with a warning saying that the frame rate is too low.

- If the scene is too dark, the Axis camera does not deliver enough frames per second for TrueView People Counter to work. The scene must have an illumination of at least 80 LUX.

- When streaming video from the camera make sure to open only one stream at a time and to stream in 320x240 MJPEG format.

The setting page does not show the parameter values. Reset to factory

default after installation and restart the camera. **The software does not**

upload to TrueView Web Report®.

Go to http://<servername>/local/people-counter/.api?show-logs in your web browser and see if the logs can help you. Note that sometimes it can take up to half an hour for the software to upload data to TrueView Web Report®.

The software does not count.

Make sure you reset to factory default after installation and restart the camera. Make sure the scene is well lit. People Counter only works when the scene has at least 80 LUX.

The software does not count after changing parameters.

After changing the parameters the software may need to run up to 10 minutes before the counting accuracy is at optimum.

The software does not count correctly.

- Make sure people are passing the entire counting zone crossing both blue lines – not passing out to the left or to the right.

I still cannot get the software to count.

If you have followed the advice above and still cannot get the software to work, please

contact the Cognimatics support team at support@cognimatics.com. Do not forget to send the archive with logs and other generated material from the page http://<servername>/local/people-counter/.api?generate-logs.

Supported cameras

Table A.1. Supported cameras

Camera model	Software module
Axis M3004	TrueView_People_Counter_x_y_\ ARTPEC-C__x.y.z-b.eap
Axis M3005	TrueView_People_Counter_x_y_\ ARTPEC-C__x.y.z-b.eap
Axis M3006	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis M3014	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis M3024-LVE	TrueView_People_Counter_x_y_\ ARTPEC-C__x.y.z-b.eap
Axis M3044	TrueView_People_Counter_x_y_\ AMBARELLA-S2L_x.y.z-b.eap
Axis M3045	TrueView_People_Counter_x_y_\ AMBARELLA-S2L_x.y.z-b.eap
Axis M3046	TrueView_People_Counter_x_y_\ AMBARELLA-S2L_x.y.z-b.eap
Axis M3113-R	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis M3114-R	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis M3203	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis M3204	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis P1214-E	TrueView_People_Counter_x_y_\ ARTPEC-3__x.y.z-b.eap
Axis P3214, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3215, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3353, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3354, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3363, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3364, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3364-LV, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3364-LVE, 6mm	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap
Axis P3367	TrueView_People_Counter_x_y_\ ARTPEC-4__x.y.z-b.eap

x.y.z is the version number of the software module and b the build number.

Appendix

TrueView Occupancy

About

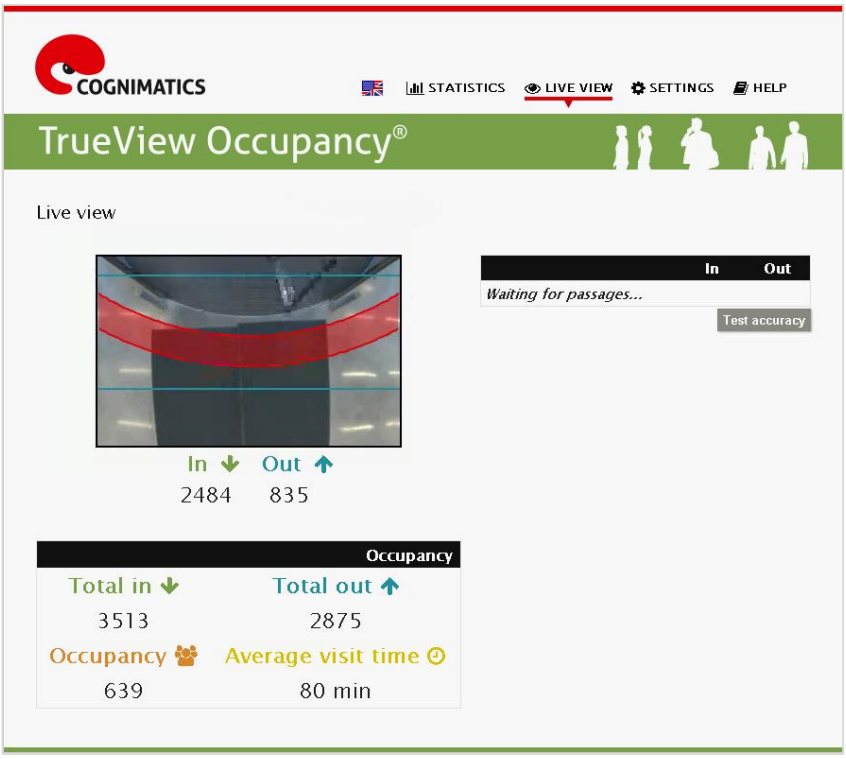
TrueView Occupancy keeps track of how many people currently are occupying a closed area. This could be a single retail shop with one entrance/exit or at a shop that has several entrances or exits levels. It also delivers the time the average person spends within the location.

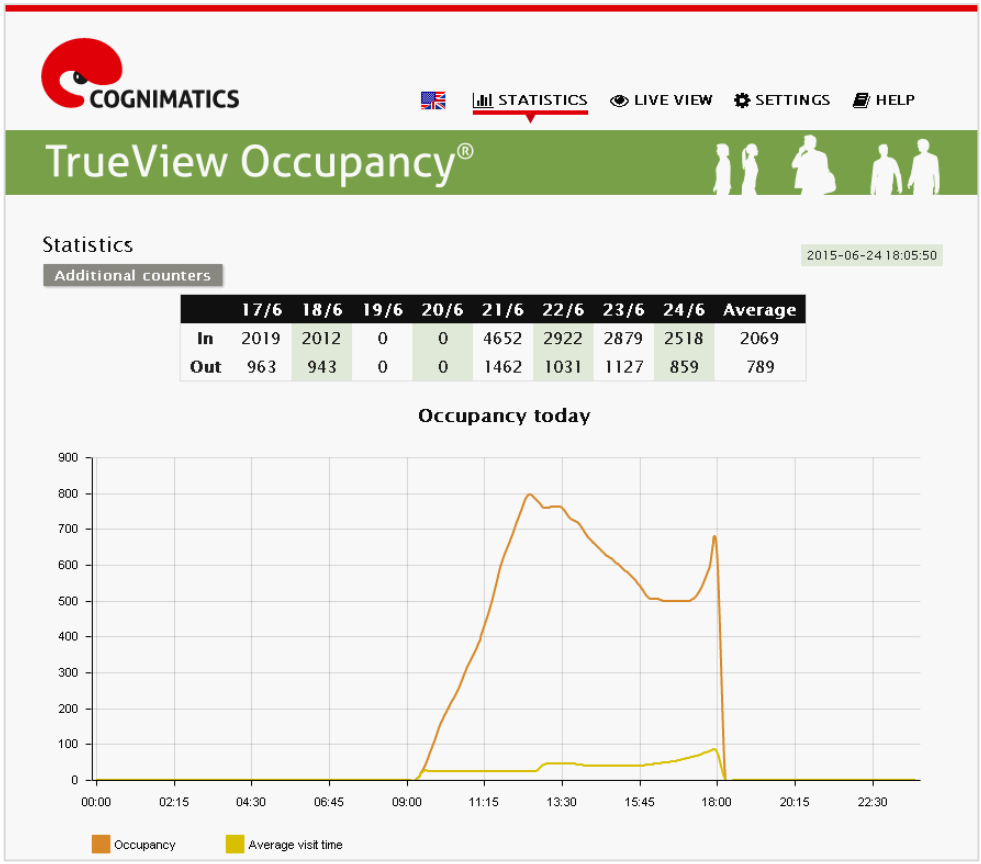
In order to deliver the occupancy and average visit time value, each entrance and exit to a building needs to be equipped with an Axis network camera where the TrueView Occupancy application is installed. The cameras communicates with each other in a master slave concept in order to keep track of the current value.

The master camera fetches raw data from the slave cameras every minute in order to present the occupancy and average time value.

If the master camera is connected to the server based TrueView Web Report, the data stream is sent every 15 minutes. The reports generated from the server can therefore present the data in a minimum of 15 minutes resolution for both the occupancy and the average time value.

Below are some screenshots from the *Live view* and *Statistics* pages within the application.

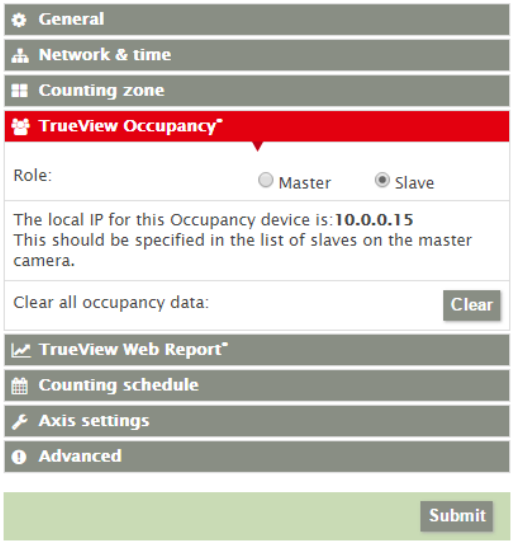




Settings

Slave Cameras

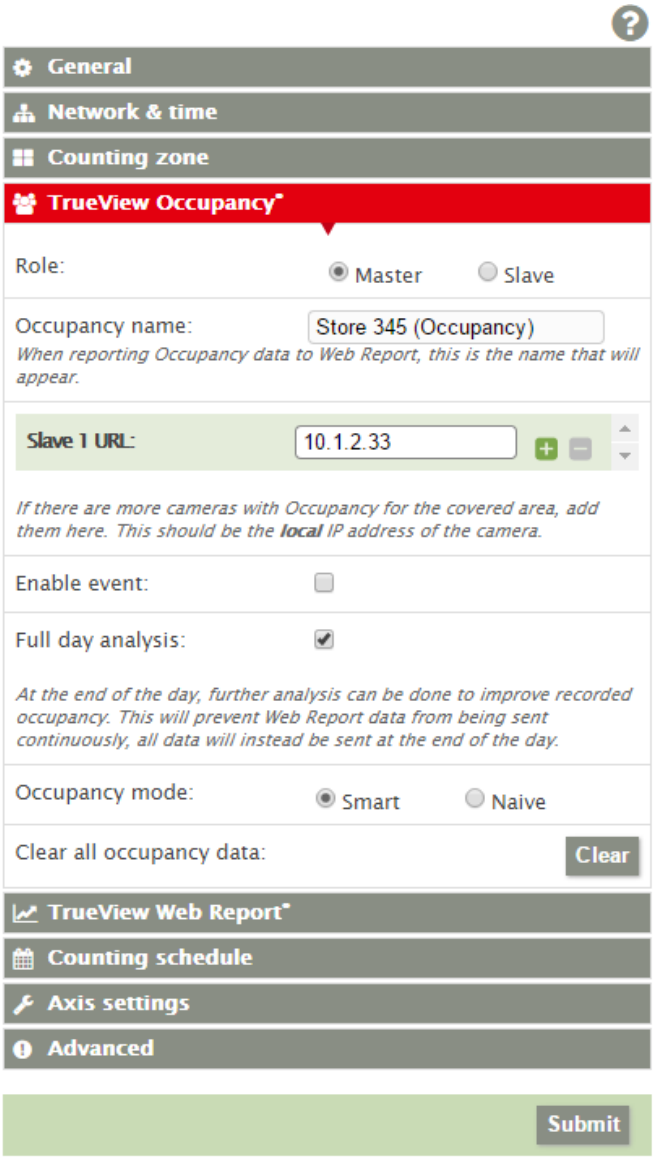
After installing the TrueView Occupancy application on all cameras covering the entrances and exits to the area, select the role Slave for all cameras except one. When selecting Slave, the local IP is displayed. This is the IP that should be entered at the settings page for the master camera.



Master Camera

For one of the cameras select the role Master. This camera will represent the whole area and make the estimations of the occupancy and average visit time for the whole area. Select a name for the whole area in the field “Occupancy name”.

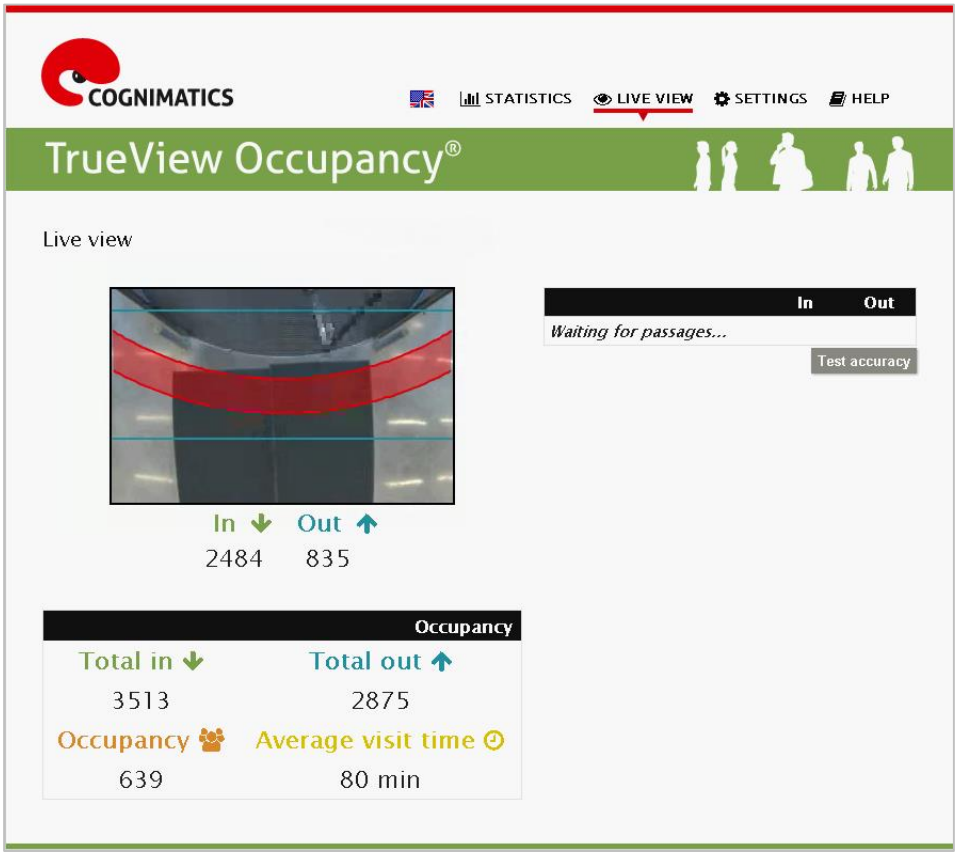
Enter the local IP's to the slave cameras. Enter one IP per field, press ⊞ in order to get another field. If there are no slave cameras, leave the URL field empty.



Live view

In the live view for the master camera, the total amount of entrances and exits to the area is shown. The occupancy and the average visit time for the whole area is also shown.

There will not be enough data to estimate the average visit time immediately after installing the application. In order to have a trustworthy estimation of the average visit time, wait at least 24 hours.



Occupancy APIs

Real-time data
http://IPaddress/local/people-counter/.api?live-occupancy.json

Reset Occupancy
http://IPaddress/local/people-counter/.api?occupancy-reset&occ=[value]

CSV
http://IPaddress/local/people-counter/.api?occupancy-export-csv&date=[date]&res=1m
http://IPaddress/local/people-counter/.api?occupancy-export-csv&date=[date]&res=15m
http://IPaddress/local/people-counter/.api?occupancy-export-csv&date=[date]&res=1h
http://IPaddress/local/people-counter/.api?occupancy-export-csv&date=[date]&res=24h

JSON
http://IPaddress/local/people-counter/.api?occupancy-export-json&date=[date]&res=1m
http://IPaddress/local/people-counter/.api?occupancy-export-json&date=[date]&res=15m
http://IPaddress/local/people-counter/.api?occupancy-export-json&date=[date]&res=1h
http://IPaddress/local/people-counter/.api?occupancy-export-json&date=[date]&res=24h

XML
http://IPaddress/local/people-counter/.api?occupancy-export-xml&date=[date]&res=1m
http://IPaddress/local/people-counter/.api?occupancy-export-xml&date=[date]&res=15m
http://IPaddress/local/people-counter/.api?occupancy-export-xml&date=[date]&res=1h
http://IPaddress/local/people-counter/.api?occupancy-export-xml&date=[date]&res=24h

Advanced settings

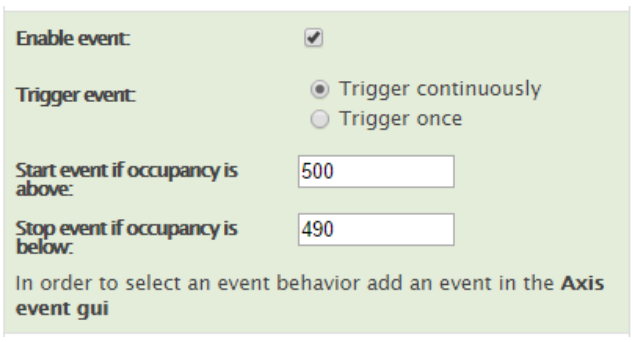
Triggering events

Check “Enable event” in order to create an Axis event for when a certain occupancy limit is exceeded.

Pick “trigger continuously” in order to trigger the axis event repeatedly as long as the conditions are fulfilled. Pick “trigger once” in order to only alarm once when the event is started and then not again until the event has been stopped and started anew.

Specify the conditions for the event. The “start event” limit is the requested occupancy in order to trigger an alarm. The event is then active until the occupancy is below the “stop event” limit.

Don't forget to add the event in the axis interface, where the behaviour of the event is selected. For example a glowing LED can be chosen as an event output.



Full day analysis

This option is selected by default. When selected, the occupancy calculated during the day, will be slightly modified after closing. When the data for a day is complete, more details about that day is available, giving a more precise estimation of the occupancy during the day. The Occupancy application will automatically detect when the area is open or closed, by observing the flow of visitors.

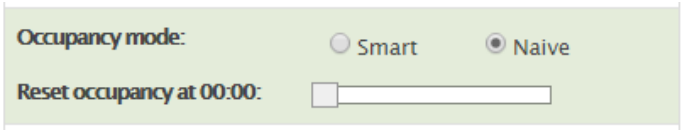
If this option is selected, and the camera sends data to a Web Report server, the Occupancy data will not be sent until the area is closed. The People Counter data will not be affected.

Using naive occupancy

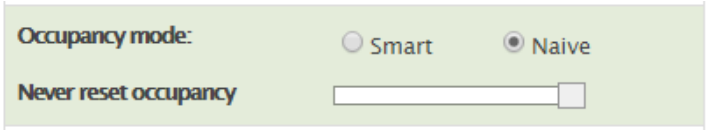
Check this option in order to estimate the occupancy as “people coming in” minus “people coming out”. This estimation is not as sophisticated as the default one, and the occupancy will have an accumulating error as time goes by. The error will be larger if there is a high customer flow and if the People Counter is poorly configured.

When using this naive estimation it is recommended to have a scheduled reset and/or reset manually in the live view.

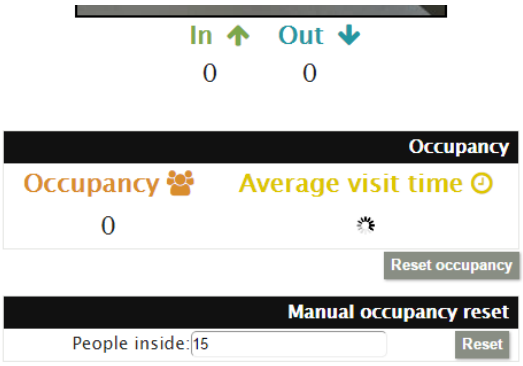
To have a scheduled reset each day, chose the timing of the reset with the slider:



In order to not have a scheduled reset, move the slider to right as in the image below.



To reset manually, press the “Reset occupancy” button on the live view page of the master camera and then specify the number which the occupancy should be reset to.

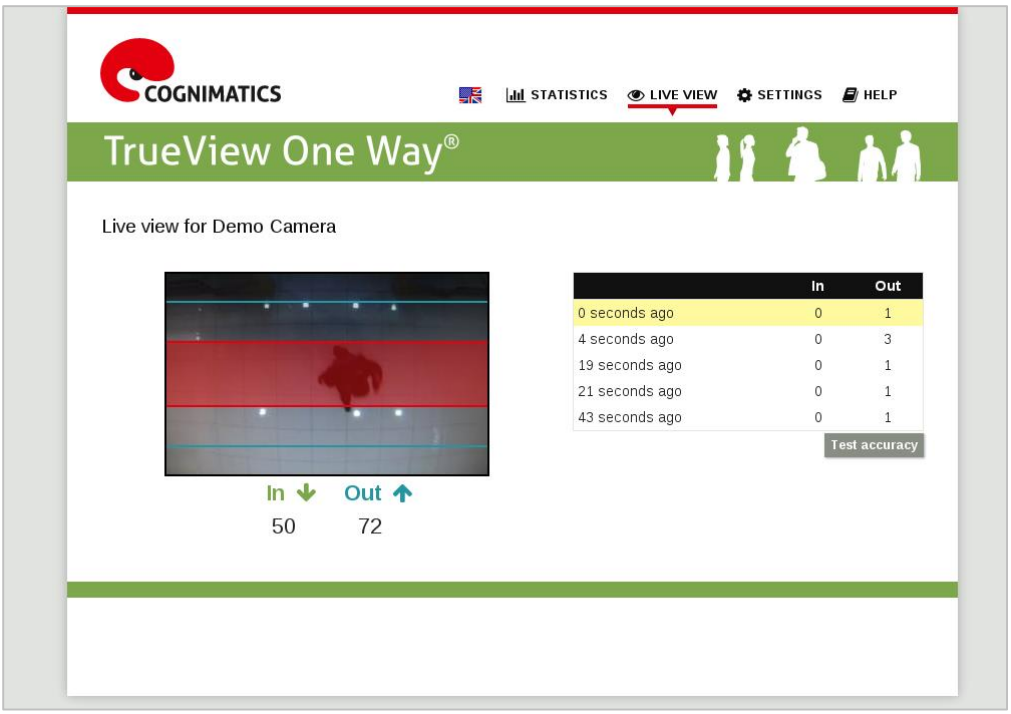


TrueView One Way

About

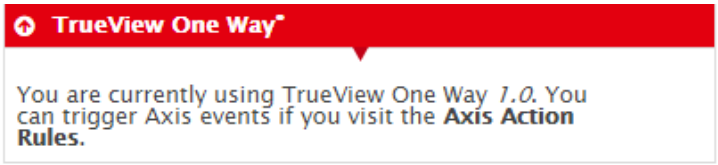
TrueView One Way counts in real time the number of people passing under the camera and in what direction. It also gives you the possibility to trigger an alarm if a person is passing in one direction.

Live view

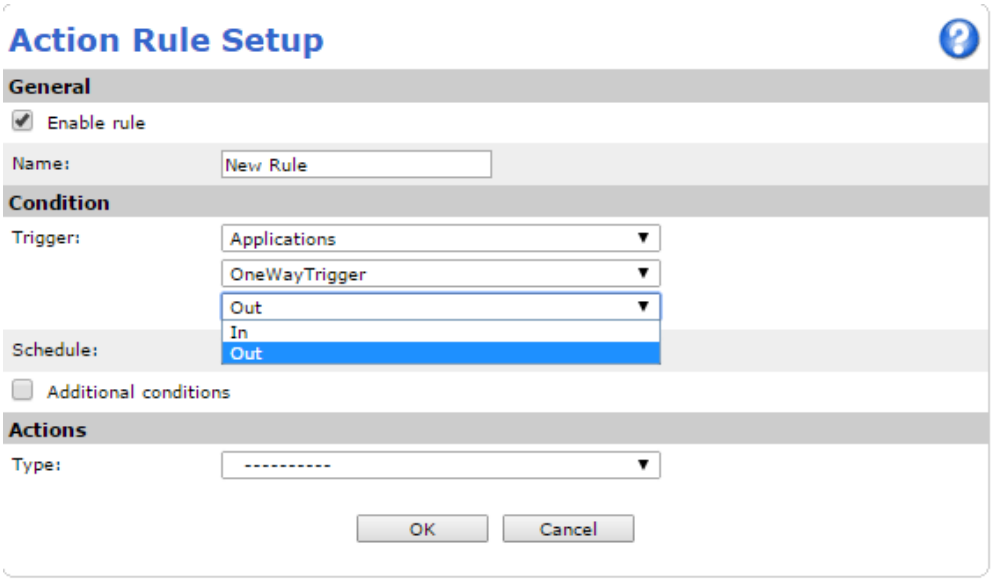


Triggering events

In order to create an Axis event for when a person is detected as walking in the wrong direction, access the Settings page and expand the One Way Trigger section. Proceed to click on the Axis Action Rules link.



From the Axis Events menu, proceed to select the undesired direction and configure the type of event that should be triggered.

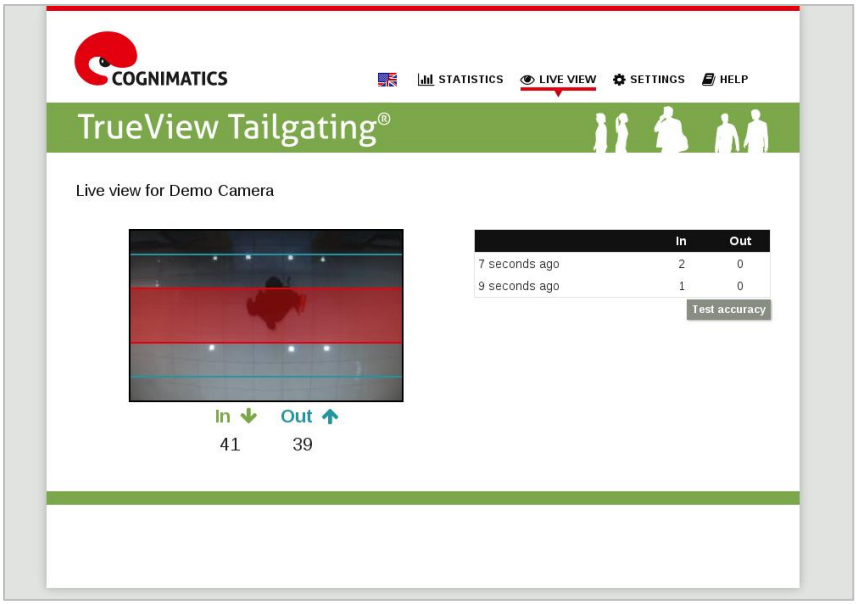


TrueView Tailgating

About

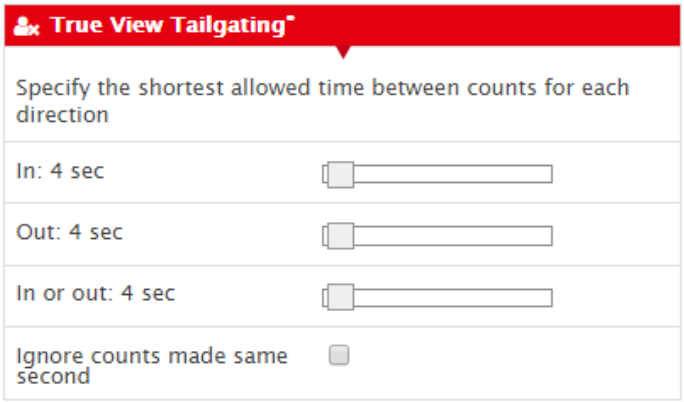
TrueView Tailgating detects if more than one person passes under the camera during a time interval which is configured from within the application. If more than one person is detected, an alarm is triggered and appropriate action can be taken.

Live view



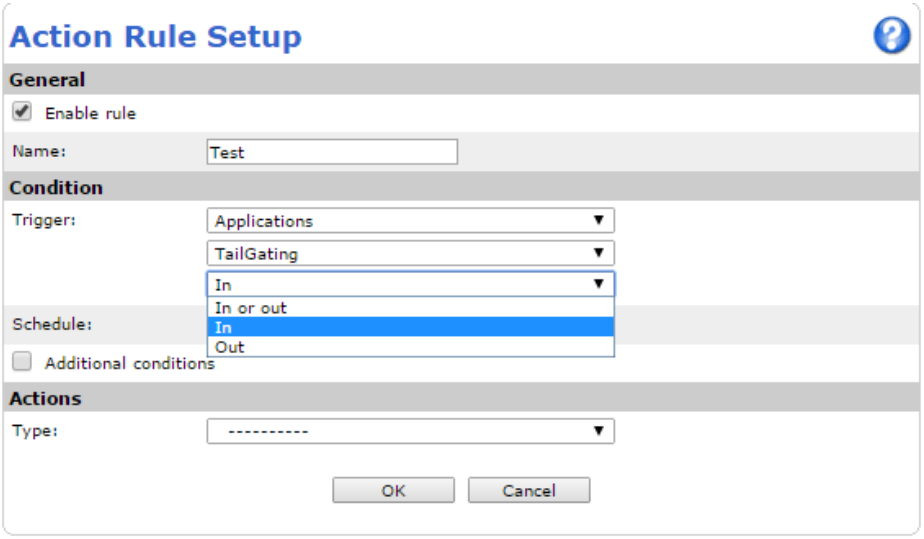
Triggering events

In order to configure the alarms that should be triggered when more than one person is detected, access the Settings page and expand the Tailgating section.



Proceed to customize the type of tailgating behaviour that should be detected and in what direction. In the example above, the counter has been configured to detect if more than one person passes the counter within a four second time interval in all directions.

The next step is to configure the type of Axis event to trigger when the selected tailgating behaviour is detected. This is done from the Axis Events menu.

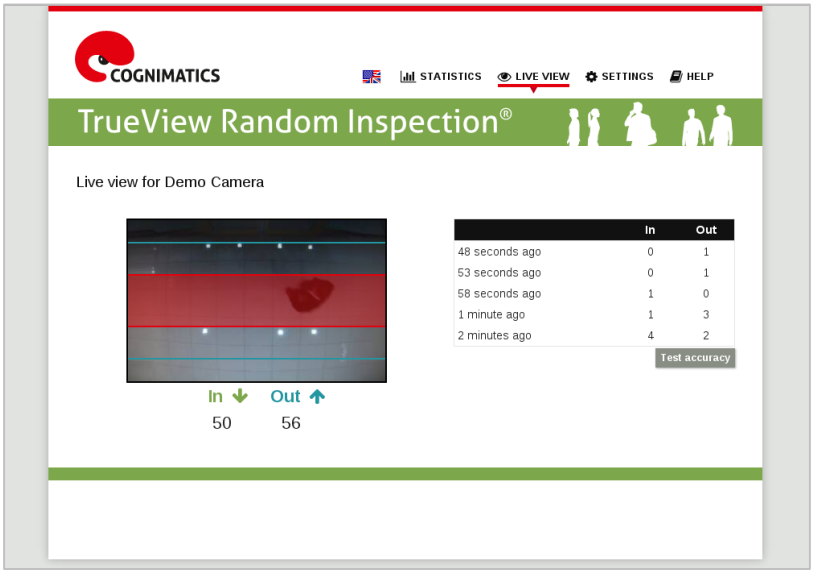


TrueView Random Inspection

About

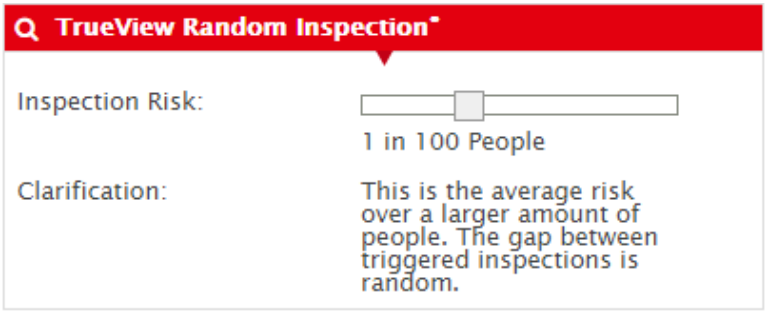
TrueView Random Inspection application detects in real-time when someone is leaving the premises, and randomly determines if the person should be scheduled for inspection or not. The selection of individuals to be inspected is completely done at random, eliminating any bias in a delicate situation which in turn reduces employee discomfort.

Live view



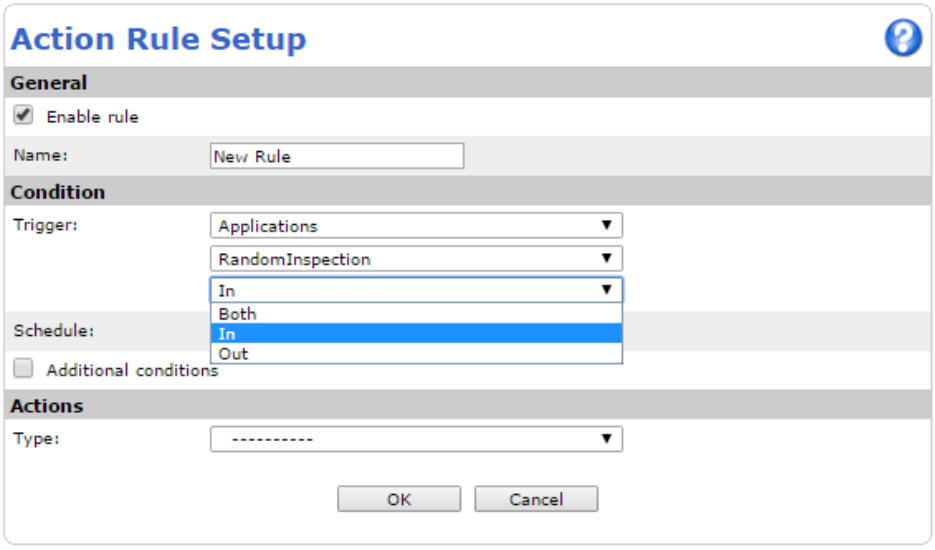
Triggering events

In order to create an Axis event to alert when an individual has been selected for inspection, access the Settings page and expand the Random Inspection section.



Select the frequency in which an individual should be randomly selected for inspection by modifying the sliding bar. In the example shown above, the counter will randomly choose one out of 100 people for inspection.

The next step is to configure the type of Axis event to trigger when the counter selects an individual for inspection. This is done from the Axis Events menu.



Proceed to select the direction in which the counter should detect the passages.