

# VIDEOSPHERE ANALYTICS REFERENCE GUIDE

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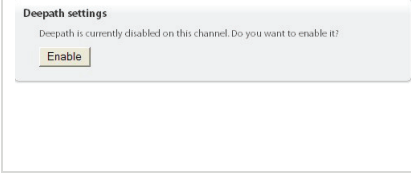

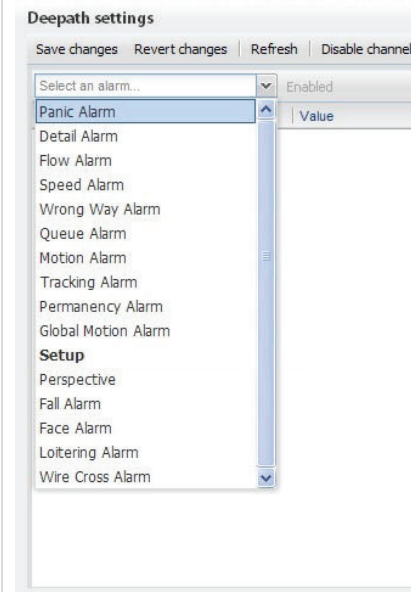
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# VideoSphere Video Analytics User Guide





## Overview

This quick guide explains how to configure all optional alarm features available on VideoSphere devices.

**NOTE:** The VideoSphere Analytics setup menu may look different from the pictures of this user guide, depending on the device model and firmware.


1.0	<p>Click on <b>Deepath/Senses</b> button, then on <b>Camera 1/4</b> button to enable alarm settings. A new menu appears.</p> 	<p><b>Enable:</b> Click on <b>Enable</b> button to enable VideoSphere Analytics on selected camera/encoder.</p>																																												
	<p>Click on the  button to view all the configurable alarms.</p> <p><b>NOTE:</b> If an alarm is active, its name will be displayed in <b>bold</b>.</p> 	<table border="1"> <tr> <td><b>Save changes:</b></td> <td>Click on the <b>Save changes</b> button to save current alarm settings.</td> </tr> <tr> <td><b>Revert changes:</b></td> <td>Click on the <b>Revert changes</b> button to restore saved alarm settings.</td> </tr> <tr> <td><b>Refresh:</b></td> <td>Click on the <b>Refresh</b> button to load current changes to alarm settings.</td> </tr> <tr> <td><b>Disable channel:</b></td> <td>Click on the <b>Disable channel</b> button to remove VideoSphere analysis from camera video stream.</td> </tr> <tr> <td><b>Enabled:</b></td> <td>Click on the <b>Enabled</b> button to enable selected alarm.</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>ALARMS</b></td> </tr> <tr> <td><b>Panic alarm:</b></td> <td>Select the <b>Panic alarm</b> option to detect panic situations where many objects are moving towards different directions at the same time.</td> </tr> <tr> <td><b>Detail alarm:</b></td> <td>Select the <b>Detail alarm</b> option to check video level of details and trigger an alarm when the level of detail lowers.</td> </tr> <tr> <td><b>Flow alarm:</b></td> <td>Select the <b>Flow alarm</b> option to count the number of objects/people moving between two or more zones.</td> </tr> <tr> <td><b>Speed alarm:</b></td> <td>Select the <b>Speed alarm</b> option to measure moving objects speed and trigger an alarm if it exceeds the limit.</td> </tr> <tr> <td><b>Wrong way alarm:</b></td> <td>Select the <b>Wrong way alarm</b> option to detect if an object is moving in the wrong direction.</td> </tr> <tr> <td><b>Queue alarm:</b></td> <td>Select the <b>Queue alarm</b> option to detect temporary queues in the scene.</td> </tr> <tr> <td><b>Motion alarm:</b></td> <td>Select the <b>Motion alarm</b> option to detect moving objects/people, classified by direction, size and speed.</td> </tr> <tr> <td><b>Tracking alarm:</b></td> <td>Select the <b>Tracking alarm</b> option to track objects movement.</td> </tr> <tr> <td><b>Permanency alarm:</b></td> <td>Select the <b>Permanency alarm</b> option to detect an object left unmoved for a given time in the scene.</td> </tr> <tr> <td><b>Global motion alarm:</b></td> <td>Select the <b>Global motion alarm</b> option to detect the movements of the camera and its direction.</td> </tr> <tr> <td><b>Setup:</b></td> <td>Select the <b>Setup alarm</b> option to configure general parameters. <b>NOTE:</b> this option can NOT be disabled.</td> </tr> <tr> <td><b>Perspective:</b></td> <td>Select the <b>Perspective</b> option to draw the perspective of the scene, providing a more accurate background to the analysis system.</td> </tr> <tr> <td><b>Fall alarm:</b></td> <td>Select the <b>Fall alarm</b> option to detect "slip &amp; 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## Preliminary steps

<p>1.1</p>	<p>Before configuring the single alarms, it is strongly recommended to perform these two important tasks to obtain the best performances by the VideoSphere algorithms.</p> <p>Click on the  button, select the <b>Setup</b> option to check how the algorithms recognize the various elements in the scene. If the algorithms are correctly configured, red bounding boxes should appear around the main elements in the scene. Sometimes the red boxes may appear around no element: edit the <b>Min size</b> parameter in the <b>Setup</b> menu to force the algorithms to ignore objects of smaller sizes. If the problem persists or if the algorithms do not recognize important elements in the scene, edit the <b>Luma denoise</b> and <b>Chroma denoise</b> parameters until the algorithms analyze correctly the scene.</p> <p>Please refer to section 5.2 for detailed information about the <b>Setup</b> menu.</p> <div data-bbox="573 464 1151 1276" style="border: 1px solid black; padding: 5px;">  <p>LIVE - NETTUNO CAMX 510826 ENCODER 1 - 01 FEB 1981 07:26:08 - 788.4KBPS</p> <p>Save changes   Revert changes   Refresh</p> <p>Setup <span>Enabled</span></p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Threshold</td> <td>-2</td> </tr> <tr> <td>Min Size</td> <td>sx:0 sy:0 ex:0 ey:0</td> </tr> <tr> <td>Luma Sensitivity</td> <td>255</td> </tr> <tr> <td>Chroma Sensitivity</td> <td>64</td> </tr> <tr> <td>Luma Denoise</td> <td>20</td> </tr> <tr> <td>Chroma Denoise</td> <td>50</td> </tr> <tr> <td>Scene Cut Percent [%]</td> <td>70</td> </tr> <tr> <td>Temp Min Intensity</td> <td>0</td> </tr> <tr> <td>Temp Max Intensity</td> <td>0</td> </tr> <tr> <td>Temp Background</td> <td>True</td> </tr> <tr> <td>Update Frequency [%]</td> <td>70</td> </tr> <tr> <td>BackModel Update</td> <td>100</td> </tr> </tbody> </table> </div>	Attribute	Value	Threshold	-2	Min Size	sx:0 sy:0 ex:0 ey:0	Luma Sensitivity	255	Chroma Sensitivity	64	Luma Denoise	20	Chroma Denoise	50	Scene Cut Percent [%]	70	Temp Min Intensity	0	Temp Max Intensity	0	Temp Background	True	Update Frequency [%]	70	BackModel Update	100
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<p>1.1.1</p>	<p>Setting a perspective is not a required task for many of the alarms, but it is strongly recommended to set a correct perspective of the scene to help the algorithms to perform more precise behavioral analysis. Click on the  button and select the <b>Perspective</b> option to set a perspective on the scene with few clicks. Please refer to section 1.3.2 of this user guide for a step by step tutorial, or see section 1.13 for detailed information about the <b>Perspective</b> menu.</p> <div data-bbox="531 1392 1151 1801" style="border: 1px solid black; padding: 5px;">  </div>																										

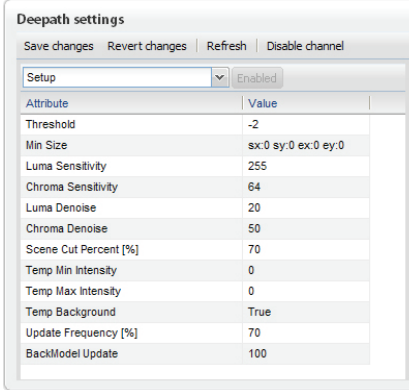

## Setup

1.2

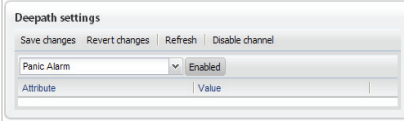
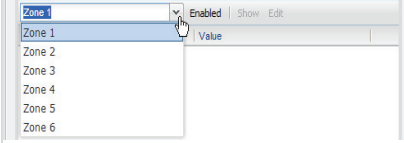
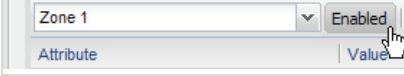
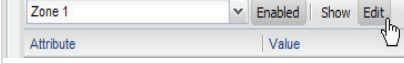

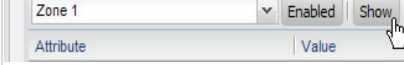


Click on the  button, select **Setup** and click on the **Enabled** button; select the **Setup** option to configure general parameters; these configurations are required to allow the algorithms to work at their best performances.

**INOTE 1:** This option can NOT be disabled.

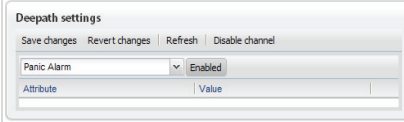
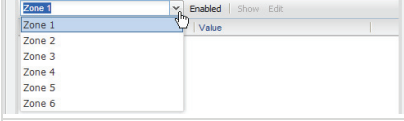
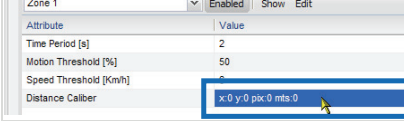
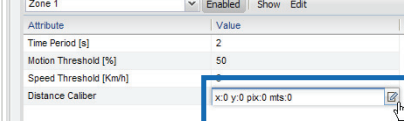
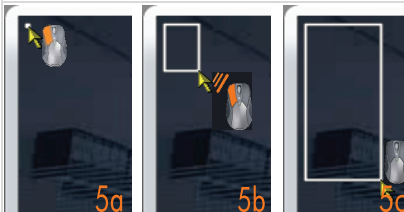
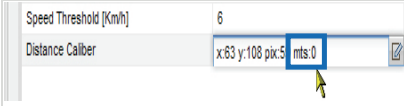


**INOTE 2:** Does not require to set a zone.

 <p>The screenshot shows the 'Deepath settings' window with a 'Setup' dropdown menu set to 'Enabled'. Below the menu is a table with the following settings:</p> <table border="1"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Threshold</td> <td>-2</td> </tr> <tr> <td>Min Size</td> <td>sx:0 sy:0 ex:0 ey:0</td> </tr> <tr> <td>Luma Sensitivity</td> <td>255</td> </tr> <tr> <td>Chroma Sensitivity</td> <td>64</td> </tr> <tr> <td>Luma Denoise</td> <td>20</td> </tr> <tr> <td>Chroma Denoise</td> <td>50</td> </tr> <tr> <td>Scene Cut Percent [%]</td> <td>70</td> </tr> <tr> <td>Temp Min Intensity</td> <td>0</td> </tr> <tr> <td>Temp Max Intensity</td> <td>0</td> </tr> <tr> <td>Temp Background</td> <td>True</td> </tr> <tr> <td>Update Frequency [%]</td> <td>70</td> </tr> <tr> <td>BackModel Update</td> <td>100</td> </tr> </tbody> </table>	Attribute	Value	Threshold	-2	Min Size	sx:0 sy:0 ex:0 ey:0	Luma Sensitivity	255	Chroma Sensitivity	64	Luma Denoise	20	Chroma Denoise	50	Scene Cut Percent [%]	70	Temp Min Intensity	0	Temp Max Intensity	0	Temp Background	True	Update Frequency [%]	70	BackModel Update	100	<p><b>Setup:</b></p>	<p>Select the <b>Setup</b> alarm (click on the  button, select the option and click on <b>Enabled</b> button) option to configure general parameters.</p>
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<p><b>Threshold:</b></p>	<p>Select the <b>Threshold</b> option to set the foreground to background differences in order to make the algorithms recognize objects of on the scene.</p> <p><b>1:</b> automatic. <b>2:</b> automatic with light change robustness.</p>																											
<p><b>Min size:</b></p>	<p>Select the <b>Min size</b> option to set the minimum allowed dimension to detect small objects, excluding noise. If the PERSPECTIVE option is set, the dimensions will be scaled according to the perspective configurations..</p>																											
<p><b>Luma sensitivity:</b></p>	<p>Select the <b>Luma sensitivity</b> option to set the minimum luminance value for analysis.</p>																											
<p><b>Chroma sensitivity:</b></p>	<p>Select the <b>Chroma sensitivity</b> option to set the minimum chrominance value for analysis.</p>																											
<p><b>Luma denoise:</b></p>	<p>Select the <b>Luma denoise</b> option to ignore luminance noises below a specified value.</p>																											
<p><b>Chroma denoise:</b></p>	<p>Select the <b>Chroma denoise</b> option to ignore chroma noise below a specified value.</p>																											
<p><b>Scene cut percent (%):</b></p>	<p>Select the <b>Scene cut percent (%)</b> option to set the minimum percentage of image change for detecting a new scene and recalculate active algorithms. Measured in percentage points.</p>																											
<p><b>Temp min intensity:</b></p>	<p>Select the <b>Temp min intensity</b> option to define the minimum grayscale luminosity for selecting an object.</p> <p><b>INOTE:</b> This feature should be used with a fixed gain thermal camera.</p>																											
<p><b>Temp max intensity:</b></p>	<p>Select the <b>Temp max intensity</b> option to define the maximum grayscale luminosity for selecting an object.</p> <p><b>INOTE:</b> This feature should be used with a fixed gain thermal camera.</p>																											
<p><b>Temp background:</b></p>	<p>Select the <b>Temp background</b> option to filter or keep in analysis selected objects in background.</p> <p><b>TRUE:</b> The algorithms filter the scene, adding new objects to the background after a preset time interval. <b>FALSE:</b> The algorithms keep the initial background.</p>																											
<p><b>Update frequency (%):</b></p>	<p>Select the <b>Update frequency (%)</b> option to set the number of frames used for analysis. High values (80% or more) produce accurate analysis of the scene at the cost of an increased DSP workload. Low values (40% or less) produce a less accurate analysis of the scene, decreasing the DSP workload.</p>																											
<p><b>Backmodel update:</b></p>	<p>Select the <b>Backmodel update</b> option to modify the background image update period. Select low values (&lt;100 ms) to have the background image frequently updated at the cost of an increased DSP workload. Select high values (&gt;400 ms) to save the system resources by updating the background image less frequently.</p> <p><b>INOTE:</b> Option available only with THRESHOLD set to 2.</p>																											

## How to ...

<p>1.3</p>	<p>... create a zone.</p>      	<p>1:</p> <p>Select an alarm from the list and click on the <b>Enabled</b> button.</p>	
		<p>2:</p> <p>Click on the  button to open the <b>Zone</b> menu and select one of the zones.</p>	
		<p>3:</p> <p>Click on the <b>Enabled</b> button to activate the selected zone.</p>	
		<p>4:</p> <p>Click on the <b>Edit</b> button to edit an existing zone or create a new zone.</p>	
		<p>5:</p> <p>Click on the  button to open the <b>VIDEO PREVIEW</b> window and hold the <i>left</i> mouse button on the window to begin drawing (5a). Move the mouse to shape the zone (5b). Release the <i>left</i> mouse button to fix the selection (5c). Repeat the process to add a new selection to the shape.</p>	
		<p>6:</p> <p>Click on the <b>Show</b> button to view the created zone.</p>	

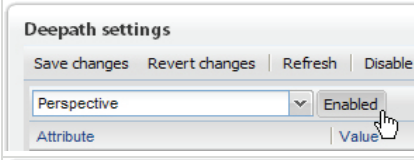
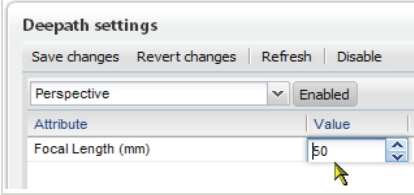
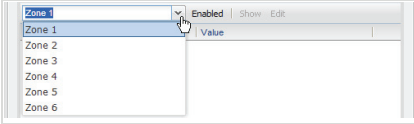
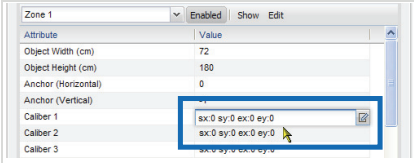
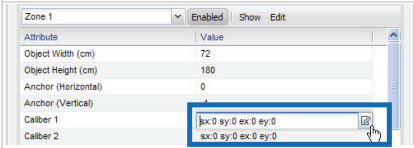

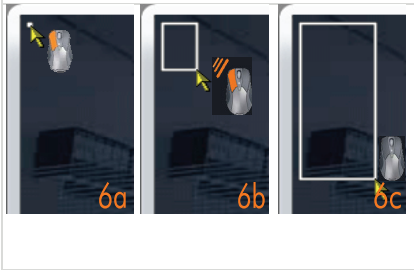

  

<p>1.3.1</p>	<p>... set a real world measure.</p>      	<p>1:</p> <p>Select an alarm from the list that requires a real world measurement (such as panic, speed ..) and click on the <b>Enabled</b> button.</p>	
		<p>2:</p> <p>Create a <b>Zone</b> (see section 1.3).</p>	
		<p>3:</p> <p>Double click on the <b>Distance caliber</b> option. This options set the distance between two objects or the speed and direction an object is moving to and must be properly configured for a correct analysis of the scene.</p>	
		<p>4:</p> <p>Click on the  button to draw the distance caliber.</p>	
		<p>5:</p> <p>Click on the  button to open the <b>VIDEO PREVIEW</b> window and hold the <i>left</i> mouse button on the window to begin drawing (5a). Move the mouse to draw the line (5b). Release <i>left</i> mouse button to fix the length of the line (5c). Repeat the process to draw a new distance caliber.</p>	
		<p>6:</p> <p>Click on the <b>Distance caliber</b> settings and modify the <b>MTS</b> (meter, tone, second) value with the requested real world measure. <b>INOTE:</b> A <b>Perspective</b> must be properly set to evaluate the scene (see 1.3.2).</p>	

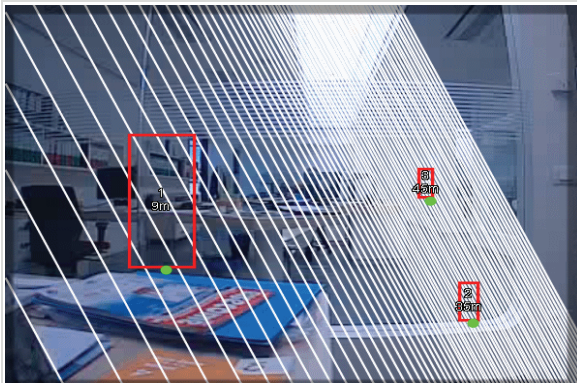
1.3.2

... set perspective.

**INOTE:** This section describes how to set, with few clicks, **Perspective** on an image. For detailed information on how to deeply configure **Perspective** options, please refer to section 6.13.

	<p>1:</p>	<p>Select the <b>Perspective</b> option and click on the <b>Enabled</b> button.</p>
	<p>2:</p>	<p>Double click on the <b>Focal length</b> option to set lens focal value (a parameter based on the lens type, on the perspective and on the actual zoom). The default value corresponds to the standard photography lens focal value.</p>
	<p>3:</p>	<p>Create a <b>Zone</b> (see section 1.3).</p>
	<p>4:</p>	<p>Double click on <b>Caliber X</b> option.</p>
	<p>5:</p>	<p>Click on the  button to draw the caliber.</p>
	<p>6:</p>	<p>Click on the  button to open the <b>VIDEO PREVIEW</b> window and hold the <b>left</b> mouse button on the window to begin drawing (6a). Move the mouse to shape the zone (6b). Release <b>left</b> mouse button to fix the selection (6c).</p> <p><b>INOTE:</b> It is required to define at least three <b>Calibers</b> to set the perspective. Each caliber represents a real world object, positioned in different places on the scene. More Calibers (choose objects or people with the same basic proportion for more precise results) mean a more correct perspective on the image.</p>


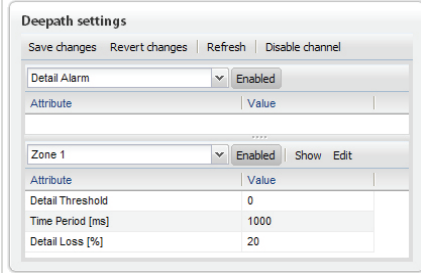

**Wrong perspective configuration:**




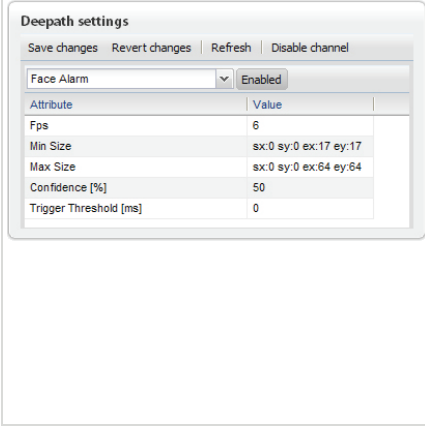



**Correct perspective configuration:**





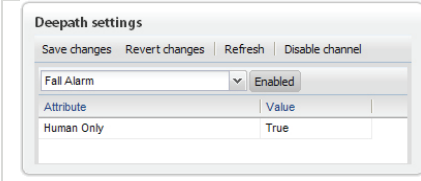
## Detail alarm

1.4	<p>Click on the  button, select <b>Detail alarm</b> and click on the <b>Enabled</b> button; the <b>Detail alarm</b> algorithm checks the detail level on the image and activates an alarm when this level drops.</p> <p><b>INOTE:</b> Requires to set a zone (See section 1.3).</p>		
		<p><b>Detail alarm:</b></p>	<p>Select the <b>Detail alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to check the detail level in the image and activates an alarm when the level drops (i.e. somebody obstructing the camera).</p>
		<p><b>Zone:</b></p>	<p>Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.</p>
		<p><b>Detail threshold:</b></p>	<p>Select the <b>Detail threshold</b> option to define the lowest detail level allowed on the scene before the alarm triggers.</p>
		<p><b>Time period (ms):</b></p>	<p>Select the <b>Time period (ms)</b> option to define the time (measured in milliseconds) interval between the detail loss detection and the alarm activation.</p>
		<p><b>Detail loss (%):</b></p>	<p>Select the <b>Detail loss (%)</b> option to define the detail loss percentage before the alarm triggers.</p>

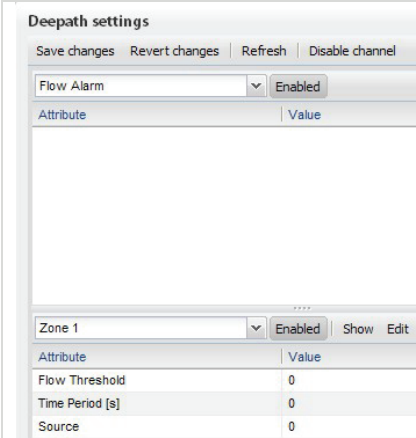
## Face alarm

1.5	<p>Click on the  button, select <b>Face alarm</b> and click on the <b>Enabled</b> button; the <b>Face alarm</b> algorithm detects frontal faces in the scene and activates an alarm if a face is not fully recognized (i.e. mouth or eyes covered).</p> <p><b>INOTE:</b> Does not require to set a zone.</p>																									
 <p>The screenshot shows the 'Deepath settings' window for 'Face Alarm'. It includes buttons for 'Save changes', 'Revert changes', 'Refresh', and 'Disable channel'. The 'Face Alarm' dropdown is set to 'Enabled'. Below is a table of settings:</p> <table border="1" data-bbox="277 394 699 541"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Fps</td> <td>6</td> </tr> <tr> <td>Min Size</td> <td>sx:0 sy:0 ex:17 ey:17</td> </tr> <tr> <td>Max Size</td> <td>sx:0 sy:0 ex:64 ey:64</td> </tr> <tr> <td>Confidence [%]</td> <td>50</td> </tr> <tr> <td>Trigger Threshold [ms]</td> <td>0</td> </tr> </tbody> </table>		Attribute	Value	Fps	6	Min Size	sx:0 sy:0 ex:17 ey:17	Max Size	sx:0 sy:0 ex:64 ey:64	Confidence [%]	50	Trigger Threshold [ms]	0	<table border="1"> <tr> <td data-bbox="699 306 950 457"><b>Face alarm:</b></td> <td data-bbox="950 306 1459 457">Select the <b>Face alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect frontal faces in the scene. Detected faces are highlighted in a square region with a confidence level and a threshold value to filter unwanted alarms. This alarm does NOT require to highlight a zone.</td> </tr> <tr> <td data-bbox="699 457 950 506"><b>Fps:</b></td> <td data-bbox="950 457 1459 506">Select the <b>Frames per second (FPS)</b> option to set how frequently the algorithm analyzes the image.</td> </tr> <tr> <td data-bbox="699 506 950 554"><b>Max size:</b></td> <td data-bbox="950 506 1459 554">Select the <b>Max size</b> option to draw the maximum detectable face size.</td> </tr> <tr> <td data-bbox="699 554 950 602"><b>Min size:</b></td> <td data-bbox="950 554 1459 602">Select the <b>Min size</b> option to draw the minimum detectable face size.</td> </tr> <tr> <td data-bbox="699 602 950 651"><b>Confidence (%):</b></td> <td data-bbox="950 602 1459 651">Select the <b>Confidence (%)</b> option to set the minimum confidence level (in percentage points) for the alarm.</td> </tr> <tr> <td data-bbox="699 651 950 730"><b>Trigger Threshold (ms):</b></td> <td data-bbox="950 651 1459 730">Select the <b>Trigger Threshold (ms)</b> option to set the minimum time interval (in milliseconds) before activating an alarm.</td> </tr> </table>	<b>Face alarm:</b>	Select the <b>Face alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect frontal faces in the scene. Detected faces are highlighted in a square region with a confidence level and a threshold value to filter unwanted alarms. This alarm does NOT require to highlight a zone.	<b>Fps:</b>	Select the <b>Frames per second (FPS)</b> option to set how frequently the algorithm analyzes the image.	<b>Max size:</b>	Select the <b>Max size</b> option to draw the maximum detectable face size.	<b>Min size:</b>	Select the <b>Min size</b> option to draw the minimum detectable face size.	<b>Confidence (%):</b>	Select the <b>Confidence (%)</b> option to set the minimum confidence level (in percentage points) for the alarm.	<b>Trigger Threshold (ms):</b>	Select the <b>Trigger Threshold (ms)</b> option to set the minimum time interval (in milliseconds) before activating an alarm.
Attribute	Value																									
Fps	6																									
Min Size	sx:0 sy:0 ex:17 ey:17																									
Max Size	sx:0 sy:0 ex:64 ey:64																									
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Trigger Threshold [ms]	0																									
<b>Face alarm:</b>	Select the <b>Face alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect frontal faces in the scene. Detected faces are highlighted in a square region with a confidence level and a threshold value to filter unwanted alarms. This alarm does NOT require to highlight a zone.																									
<b>Fps:</b>	Select the <b>Frames per second (FPS)</b> option to set how frequently the algorithm analyzes the image.																									
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<b>Trigger Threshold (ms):</b>	Select the <b>Trigger Threshold (ms)</b> option to set the minimum time interval (in milliseconds) before activating an alarm.																									


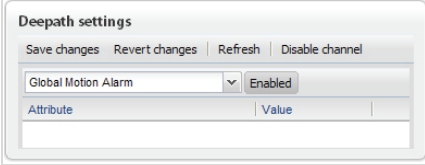

## Fall alarm

1.6	<p>Click on the  button, select the <b>Fall alarm</b> and click on the <b>Enabled</b> button; the <b>Fall alarm</b> algorithm detects people and check for “slip &amp; fall” events.</p> <p><b>INOTE:</b> Does not require to set a zone.</p>	<p><b>Fall alarm:</b></p>	<p>Select the <b>Fall alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people and check for a “slip &amp; fall” event.</p> <p><b>INOTE:</b> A correct <i>PERSPECTIVE</i> must be configured (See section 1.3.2)</p>
		<p><b>Human only:</b></p>	<p>Select the <b>Human only</b> option (<i>TRUE</i>: enabled / <i>FALSE</i>: disabled) to follow only paths detected as human activity, filtering other paths (such as vehicles or moving objects).</p>


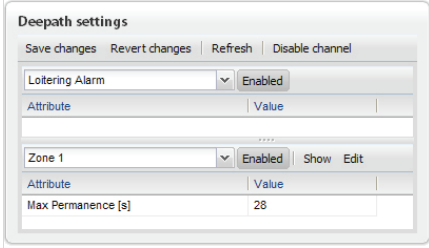



## Flow alarm

1.7	<p>Click on the <input type="button" value="v"/> button, select <b>Flow alarm</b> and click on the <b>Enabled</b> button; the <b>Flow alarm</b> algorithm counts the number of people/objects moving between specified zones.</p> <p><b>INOTE:</b> Requires to set a zone (Section 1.3).</p>		
	 <p>The screenshot shows the 'Deepath settings' window. At the top, there are buttons for 'Save changes', 'Revert changes', 'Refresh', and 'Disable channel'. Below these, there is a dropdown menu set to 'Flow Alarm' and an 'Enabled' button. Underneath is a table with 'Attribute' and 'Value' columns. At the bottom, there is a 'Zone 1' dropdown menu, an 'Enabled' button, and 'Show' and 'Edit' buttons. Below this is another table with 'Attribute' and 'Value' columns, containing 'Flow Threshold' (0), 'Time Period [s]' (0), and 'Source' (0).</p>	<p><b>Flow alarm:</b> Select the <b>Flow alarm</b> (click on the <input type="button" value="v"/> button, select the option and click on the <b>Enabled</b> button) option to count the number of people/objects moving between two specified zones (source and destination).</p> <p><b>Zone:</b> Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.</p> <p><b>Flow threshold:</b> Select the <b>Flow threshold</b> option to set the minimum number of objects required to trigger the alarm in a specified <b>TIME PERIOD</b>.</p> <p><b>Time period (s):</b> Select the <b>Time period (s)</b> option to set the minimum permanency time interval (in seconds) of people/objects on the scene before alerting the system.</p> <p><b>Source (zone):</b> Select the <b>Source</b> option to label the selected zone as the <b>Source</b>; the algorithm automatically labels the second zone as <b>Destination</b>.</p>	





## Global motion alarm

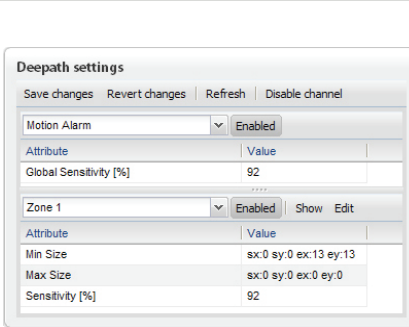
1.8	<p>Click on the  button, select <b>Global motion alarm</b> and click on the <b>Enabled</b> button; the <b>Global motion alarm</b> algorithm detects changes in the camera point of view.</p> <p><b>INOTE:</b> Does not require to set a zone.</p> <div data-bbox="277 306 699 470"><p>The screenshot shows a 'Deepath settings' window with a title bar containing 'Save changes', 'Revert changes', 'Refresh', and 'Disable channel'. Below the title bar is a dropdown menu with 'Global Motion Alarm' selected and a 'Value' button to its right. Below the dropdown is a table with two columns: 'Attribute' and 'Value'. The 'Attribute' column contains 'Global Motion Alarm' and the 'Value' column contains 'Enabled'.</p></div> <p><b>Global motion alarm:</b></p> <p>Select the <b>Global motion alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect changes in the camera point of view. This option does NOT need to set a zone.</p>
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## Loitering alarm





1.9	<p>Click on the  button, select <b>Loitering alarm</b> and click on the <b>Enabled</b> button; the <b>Loitering alarm</b> algorithm detects people/objects moving in a specified zone for a custom time interval.</p> <p><b>NOTE:</b> Requires to set a zone (see section 6.3).</p>							
		<table border="1"> <tr> <td data-bbox="708 306 954 415"><b>Loitering alarm:</b></td> <td data-bbox="954 306 1461 415">Select the <b>Loitering alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects moving in a specified zone for a custom time interval.</td> </tr> <tr> <td data-bbox="708 415 954 447"><b>Zone:</b></td> <td data-bbox="954 415 1461 447">Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.</td> </tr> <tr> <td data-bbox="708 447 954 552"><b>Max permanence [s]:</b></td> <td data-bbox="954 447 1461 552">Select the <b>Max permanence [s]</b> option to set the maximum time interval (in seconds) to detect a moving person/object in a specified zone before the algorithm activates an alarm.</td> </tr> </table>	<b>Loitering alarm:</b>	Select the <b>Loitering alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects moving in a specified zone for a custom time interval.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.	<b>Max permanence [s]:</b>	Select the <b>Max permanence [s]</b> option to set the maximum time interval (in seconds) to detect a moving person/object in a specified zone before the algorithm activates an alarm.
<b>Loitering alarm:</b>	Select the <b>Loitering alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects moving in a specified zone for a custom time interval.							
<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.							
<b>Max permanence [s]:</b>	Select the <b>Max permanence [s]</b> option to set the maximum time interval (in seconds) to detect a moving person/object in a specified zone before the algorithm activates an alarm.							

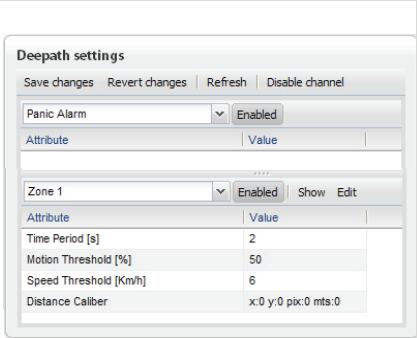
## Motion alarm

1.10	<p>Click on the  button, select <b>Motion alarm</b> and click on the <b>Enabled</b> button; the <b>Motion alarm</b> algorithm detects moving objects and classifies them for direction, size, and speed.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>	<table border="1"> <tr> <td data-bbox="703 306 948 436"><b>Motion alarm:</b></td> <td data-bbox="948 306 1461 436">Select the <b>Motion alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect moving objects and classify them for direction, size and speed. This option may also be used by VideoSphere NVR/VMS devices to choose if the scene must be recorded.</td> </tr> <tr> <td data-bbox="703 436 948 510"><b>Global Sensitivity (%):</b></td> <td data-bbox="948 436 1461 510">Select the <b>Global Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for the whole scene.</td> </tr> <tr> <td data-bbox="703 510 948 541"><b>Zone:</b></td> <td data-bbox="948 510 1461 541">Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.</td> </tr> <tr> <td data-bbox="703 541 948 583"><b>Max size:</b></td> <td data-bbox="948 541 1461 583">Select the <b>Max size</b> option to set maximum dimensions of the people/objects to detect.</td> </tr> <tr> <td data-bbox="703 583 948 636"><b>Min size:</b></td> <td data-bbox="948 583 1461 636">Select the <b>Min size</b> option to set minimum dimensions of the people/objects to detect.</td> </tr> <tr> <td data-bbox="703 636 948 693"><b>Sensitivity (%):</b></td> <td data-bbox="948 636 1461 693">Select the <b>Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for a specified zone.</td> </tr> </table>	<b>Motion alarm:</b>	Select the <b>Motion alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect moving objects and classify them for direction, size and speed. This option may also be used by VideoSphere NVR/VMS devices to choose if the scene must be recorded.	<b>Global Sensitivity (%):</b>	Select the <b>Global Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for the whole scene.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.	<b>Max size:</b>	Select the <b>Max size</b> option to set maximum dimensions of the people/objects to detect.	<b>Min size:</b>	Select the <b>Min size</b> option to set minimum dimensions of the people/objects to detect.	<b>Sensitivity (%):</b>	Select the <b>Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for a specified zone.
<b>Motion alarm:</b>	Select the <b>Motion alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect moving objects and classify them for direction, size and speed. This option may also be used by VideoSphere NVR/VMS devices to choose if the scene must be recorded.													
<b>Global Sensitivity (%):</b>	Select the <b>Global Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for the whole scene.													
<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.													
<b>Max size:</b>	Select the <b>Max size</b> option to set maximum dimensions of the people/objects to detect.													
<b>Min size:</b>	Select the <b>Min size</b> option to set minimum dimensions of the people/objects to detect.													
<b>Sensitivity (%):</b>	Select the <b>Sensitivity (%)</b> option to set the motion detection sensitivity (in percentage points) for a specified zone.													







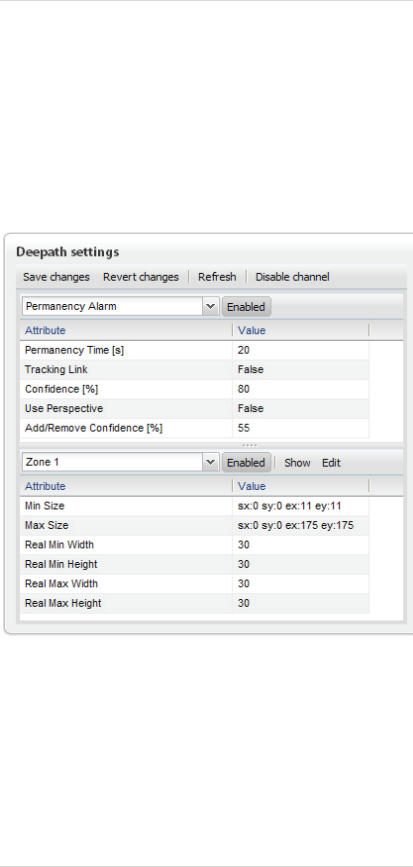
## Panic alarm

1.11	<p>Click on the  button, select <b>Panic alarm</b> and click on the <b>Enabled</b> button; the <b>Panic alarm</b> algorithm detects panic situations where many objects are suddenly moving in different directions.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>	<table border="1"> <tr> <td data-bbox="709 306 948 415"><b>Panic alarm:</b></td> <td data-bbox="948 306 1461 415">Select the <b>Panic alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect panic situations where many objects are moving in different directions at the same time.</td> </tr> <tr> <td data-bbox="709 415 948 443"><b>Zone:</b></td> <td data-bbox="948 415 1461 443">Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.</td> </tr> <tr> <td data-bbox="709 443 948 489"><b>Time period (s):</b></td> <td data-bbox="948 443 1461 489">Select the <b>Time period (s)</b> option to define the minimum time interval (in seconds) before activating the alarm.</td> </tr> <tr> <td data-bbox="709 489 948 560"><b>Motion threshold (%):</b></td> <td data-bbox="948 489 1461 560">Select the <b>Motion threshold (%)</b> option to define the minimum movement percentage on the specified zone before activating the alarm.</td> </tr> <tr> <td data-bbox="709 560 948 632"><b>Speed threshold (Km/h):</b></td> <td data-bbox="948 560 1461 632">Select the <b>Speed threshold (Km/h)</b> option to define the people's minimum speed (in Kilometers per hour) on the scene before activating the alarm.</td> </tr> <tr> <td data-bbox="709 632 948 686"><b>Distance caliber (m):</b></td> <td data-bbox="948 632 1461 686">Select the <b>Distance caliber (m)</b> option to set the average distance between the subjects on the scene.</td> </tr> </table>	<b>Panic alarm:</b>	Select the <b>Panic alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect panic situations where many objects are moving in different directions at the same time.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.	<b>Time period (s):</b>	Select the <b>Time period (s)</b> option to define the minimum time interval (in seconds) before activating the alarm.	<b>Motion threshold (%):</b>	Select the <b>Motion threshold (%)</b> option to define the minimum movement percentage on the specified zone before activating the alarm.	<b>Speed threshold (Km/h):</b>	Select the <b>Speed threshold (Km/h)</b> option to define the people's minimum speed (in Kilometers per hour) on the scene before activating the alarm.	<b>Distance caliber (m):</b>	Select the <b>Distance caliber (m)</b> option to set the average distance between the subjects on the scene.
<b>Panic alarm:</b>	Select the <b>Panic alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect panic situations where many objects are moving in different directions at the same time.													
<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.													
<b>Time period (s):</b>	Select the <b>Time period (s)</b> option to define the minimum time interval (in seconds) before activating the alarm.													
<b>Motion threshold (%):</b>	Select the <b>Motion threshold (%)</b> option to define the minimum movement percentage on the specified zone before activating the alarm.													
<b>Speed threshold (Km/h):</b>	Select the <b>Speed threshold (Km/h)</b> option to define the people's minimum speed (in Kilometers per hour) on the scene before activating the alarm.													
<b>Distance caliber (m):</b>	Select the <b>Distance caliber (m)</b> option to set the average distance between the subjects on the scene.													



## Permanency alarm

1.12	<p>Click on the  button, select <b>Permanency alarm</b> and click on the <b>Enabled</b> button; the <b>Permanency alarm</b> algorithm detects objects left unattended for a given time on the scene.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>	<table border="1"> <tr> <td data-bbox="699 306 951 411"><b>Permanency alarm:</b></td> <td data-bbox="951 306 1461 411">Select the <b>Permanency alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect objects left unattended for a given time on the scene.</td> </tr> <tr> <td data-bbox="699 411 951 485"><b>Permanency time (s):</b></td> <td data-bbox="951 411 1461 485">Select the <b>Permanency time (s)</b> option to set the minimum permanency time (in seconds) of the object needed to trigger the alarm.</td> </tr> <tr> <td data-bbox="699 485 951 600"><b>Tracking link:</b></td> <td data-bbox="951 485 1461 600">Select the <b>Tracking link</b> option to enable (<i>TRUE</i>) or disable (<i>FALSE</i>) the path visualization of the person leaving the detected object. Information about the tracking is also sent and recorded by connected VideoSphere NVR/VMS device.</td> </tr> <tr> <td data-bbox="699 600 951 674"><b>Confidence (%):</b></td> <td data-bbox="951 600 1461 674">Select the <b>Confidence (%)</b> option to set the algorithm reactivity to changes on the scene; this option is useful when an object partially occludes the background.</td> </tr> <tr> <td data-bbox="699 674 951 726"><b>Use perspective:</b></td> <td data-bbox="951 674 1461 726">Select the <b>Use perspective</b> option to enable (<i>TRUE</i>) or disable (<i>FALSE</i>) <i>PERSPECTIVE</i> while analyzing the scene.</td> </tr> <tr> <td data-bbox="699 726 951 779"><b>Add/remove confidence (%):</b></td> <td data-bbox="951 726 1461 779">Select the <b>Add/remove confidence (%)</b> option to add/remove from the elaboration false detections.</td> </tr> <tr> <td data-bbox="699 779 951 810"><b>Zone:</b></td> <td data-bbox="951 779 1461 810">Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.</td> </tr> <tr> <td data-bbox="699 810 951 842"><b>Min size:</b></td> <td data-bbox="951 810 1461 842">Select the <b>Min size</b> option to set the minimum object size.</td> </tr> <tr> <td data-bbox="699 842 951 873"><b>Max size:</b></td> <td data-bbox="951 842 1461 873">Select the <b>Max size</b> option to set the maximum object size.</td> </tr> <tr> <td data-bbox="699 873 951 947"><b>Real min width:</b></td> <td data-bbox="951 873 1461 947">Select the <b>Real min width</b> option to define the minimum width for the dimensions selected in the <b>Min size</b> option. It is possible to use centimeters or inches.</td> </tr> <tr> <td data-bbox="699 947 951 1020"><b>Real min height:</b></td> <td data-bbox="951 947 1461 1020">Select the <b>Real min height</b> option to define the minimum height for the dimensions selected in the <b>Min size</b> option. It is possible to use centimeters or inches.</td> </tr> <tr> <td data-bbox="699 1020 951 1094"><b>Real max width:</b></td> <td data-bbox="951 1020 1461 1094">Select the <b>Real max width</b> option to define the maximum width for the dimensions selected in the <b>Max size</b> option. It is possible to use centimeters or inches.</td> </tr> <tr> <td data-bbox="699 1094 951 1167"><b>Real max height:</b></td> <td data-bbox="951 1094 1461 1167">Select the <b>Real max height</b> option to define the minimum height for the dimensions selected in the <b>Max size</b> option. It is possible to use centimeters or inches.</td> </tr> </table>	<b>Permanency alarm:</b>	Select the <b>Permanency alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect objects left unattended for a given time on the scene.	<b>Permanency time (s):</b>	Select the <b>Permanency time (s)</b> option to set the minimum permanency time (in seconds) of the object needed to trigger the alarm.	<b>Tracking link:</b>	Select the <b>Tracking link</b> option to enable ( <i>TRUE</i> ) or disable ( <i>FALSE</i> ) the path visualization of the person leaving the detected object. Information about the tracking is also sent and recorded by connected VideoSphere NVR/VMS device.	<b>Confidence (%):</b>	Select the <b>Confidence (%)</b> option to set the algorithm reactivity to changes on the scene; this option is useful when an object partially occludes the background.	<b>Use perspective:</b>	Select the <b>Use perspective</b> option to enable ( <i>TRUE</i> ) or disable ( <i>FALSE</i> ) <i>PERSPECTIVE</i> while analyzing the scene.	<b>Add/remove confidence (%):</b>	Select the <b>Add/remove confidence (%)</b> option to add/remove from the elaboration false detections.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.	<b>Min size:</b>	Select the <b>Min size</b> option to set the minimum object size.	<b>Max size:</b>	Select the <b>Max size</b> option to set the maximum object size.	<b>Real min width:</b>	Select the <b>Real min width</b> option to define the minimum width for the dimensions selected in the <b>Min size</b> option. It is possible to use centimeters or inches.	<b>Real min height:</b>	Select the <b>Real min height</b> option to define the minimum height for the dimensions selected in the <b>Min size</b> option. It is possible to use centimeters or inches.	<b>Real max width:</b>	Select the <b>Real max width</b> option to define the maximum width for the dimensions selected in the <b>Max size</b> option. It is possible to use centimeters or inches.	<b>Real max height:</b>	Select the <b>Real max height</b> option to define the minimum height for the dimensions selected in the <b>Max size</b> option. It is possible to use centimeters or inches.
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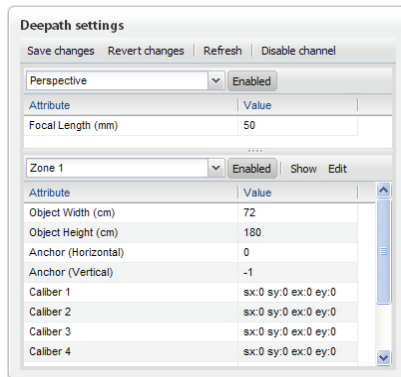


## Perspective

1.13

Click on the  button, select **Perspective** and click on the **Enabled** button; the **Perspective** option specifies the real perspective of the scene and, while it is not a required option for many of the alarms, it helps the algorithms to perform more precise behavioral analysis.

**INOTE:** Requires to set a zone (see section 1.3).


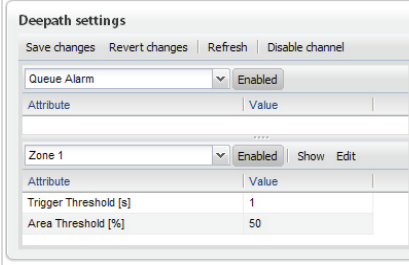



The screenshot shows the 'Deepath settings' window. At the top, there are buttons for 'Save changes', 'Revert changes', 'Refresh', and 'Disable channel'. Below this, the 'Perspective' dropdown is set to 'Perspective' and the 'Enabled' checkbox is checked. Under 'Attribute', 'Focal Length (mm)' is set to 50. A separator line is shown as '.....'. Below that, 'Zone 1' is selected, and the 'Enabled' checkbox is checked. A table lists various attributes and their values:

Attribute	Value
Object Width (cm)	72
Object Height (cm)	180
Anchor (Horizontal)	0
Anchor (Vertical)	-1
Caliber 1	sx:0 sy:0 ex:0 ey:0
Caliber 2	sx:0 sy:0 ex:0 ey:0
Caliber 3	sx:0 sy:0 ex:0 ey:0
Caliber 4	sx:0 sy:0 ex:0 ey:0


<b>Perspective:</b>	Select <b>Perspective</b> (click on the <input type="checkbox"/> button, select the option and click on the <b>Enabled</b> button) option to configure the perspective of the scene.
<b>Focal length (mm):</b>	Select the <b>Focal length (mm)</b> option (a parameter based on the lens type, on the perspective and on the actual zoom; the default value corresponds to the standard photography lens focal value) to evaluate the objects distance on the scene.
<b>Zone:</b>	Select a <b>Zone</b> to enable the <b>ATTRIBUTE</b> options.
<b>Object width (cm):</b>	Select the <b>Object width (cm)</b> option to set the width (in centimeters) of the object used as caliber. <b>INOTE:</b> The default size settings are meant to reproduce the proportion of a person (180x72 cm).
<b>Object height (cm):</b>	Select the <b>Object height (cm)</b> option to set the height (in centimeters) of the object used as caliber. <b>INOTE:</b> The default size settings are meant to reproduce the proportion of a person (180x72 cm).
<b>Anchor (horizontal):</b>	Select the <b>Anchor (horizontal)</b> option to specify the calibers anchor points in relation to the perspective plan. -1: set the detection point on the left part of the plan. 0: set the detection point in the middle part of the plan. +1: set the detection point on the right part of the plan. <b>INOTE:</b> Change the Anchor points from the "0" value only for particular calibers (i.e. objects attached to walls or ceiling).
<b>Anchor (vertical):</b>	Select <b>Anchor (vertical)</b> option to specify the calibers anchor points in relation to the perspective plan. -1: set the detection point on the low base of the plan. 0: set the detection point in the middle of the plan. +1: set the detection point on the high base of the plan. <b>INOTE:</b> Change the Anchor points from the "0" value only for particular calibers (i.e. objects attached to walls or ceiling).
<b>Caliber 1/8:</b>	Select the <b>Caliber 1/8</b> option to reproduce the size of people/objects on the scene in various positions. More Calibers of similar proportions mean a more correct perspective on the image. <b>INOTE:</b> At least 3 calibers <b>MUST</b> be defined (see section 1.3.2).

## Queue alarm

1.14	<p>Click on the  button, select <b>Queue alarm</b> and click on the <b>Enabled</b> button; the <b>Queue alarm</b> algorithm detects the growth of a temporary queue on the scene.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>		
		<p><b>Queue alarm:</b></p>	<p>Select the <b>Queue alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect the growth of a temporary queue on the scene.</p>
		<p><b>Zone:</b></p>	<p>Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.</p>
		<p><b>Trigger threshold (s):</b></p>	<p>Select the <b>Trigger threshold (s)</b> option to define the minimum time interval (in seconds) after the queue detection before the alarm activation.</p>
		<p><b>Area threshold (%):</b></p>	<p>Select the <b>Area threshold (%)</b> option to define the minimum area percentage that must be covered by people/objects to detect a queue on the scene.</p>

## Speed alarm


1.15

Click on the  button, select **Speed alarm** and click on the **Enabled** button; the **Speed alarm** algorithm measures the people/objects speed and activates an alarm in case of excessive speed.

**INOTE:** Requires to set a zone (see section 1.3).

Attribute	Value
Distance Caliber 1	x:0 y:0 pxc:0 mts:0
Distance Caliber 2	x:0 y:0 pxc:0 mts:0
Distance Caliber 3	x:0 y:0 pxc:0 mts:0
Speed Limit [Km/h]	50
Trigger Threshold [ms]	200
Use Perspective	True

**Speed alarm:**

Select the **Speed alarm** (click on the  button, select the option and click on the **Enabled** button) option to measure moving objects speed.

**Zone:**

Select a **Zone** to enable the **ATTRIBUTE** options.

**Distance caliber 1/3 (m):**

Select the **Distance caliber 1/3 (m)** option to define the scene dimensions.

**Speed limit (km/h):**

Select the **Speed limit (km/h)** option to define the maximum speed allowed (In Kilometers per hour) before activating the alarm.

**Trigger threshold (ms):**

Select the **Trigger threshold (ms)** option to set the minimum time (in milliseconds) of speed limit violation before triggering the alarm.

**Use perspective:**

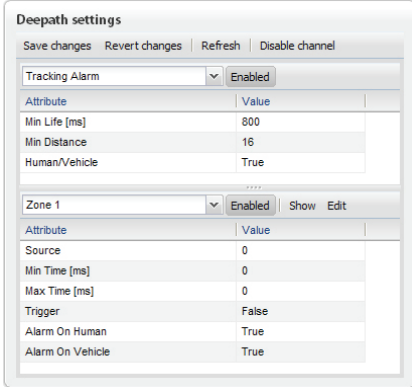

Select the **Use perspective** option to enable (*True*) / disable (*False*) the **PERSPECTIVE** option (see sections 1.3.2 and 1.13).

## Tracking alarm


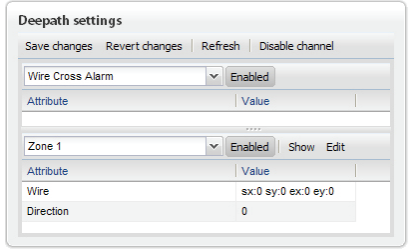



1.16

Click on the  button, select **Tracking alarm** and click on the **Enabled** button; the **Tracking alarm** algorithm tracks the people/objects movements.





**INOTE:** Requires to set a zone (see section 1.3).

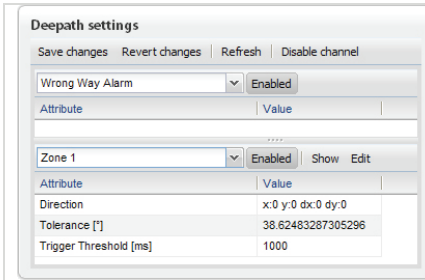
 <p>The screenshot shows the 'Deepath settings' window. It has two tabs: 'Tracking Alarm' and 'Zone 1'. The 'Tracking Alarm' tab is active, showing a dropdown menu set to 'Tracking Alarm' and an 'Enabled' button. Below are two tables. The first table has columns 'Attribute' and 'Value' with rows: 'Min Life [ms]' (800), 'Min Distance' (16), and 'Human/Vehicle' (True). The second table also has 'Attribute' and 'Value' columns with rows: 'Source' (0), 'Min Time [ms]' (0), 'Max Time [ms]' (0), 'Trigger' (False), 'Alarm On Human' (True), and 'Alarm On Vehicle' (True).</p>	<b>Tracking alarm:</b>	Select the <b>Tracking alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to track objects movements.
	<b>Min distance:</b>	Select the <b>Min distance</b> option to set the minimum length of a tracking path.
	<b>Min life (ms):</b>	Select the <b>Min life (ms)</b> option to set the minimum lifetime (in milliseconds) of a tracking path.
	<b>Human/vehicle:</b>	Select the <b>Human/vehicle</b> option to enable ( <i>True</i> ) /disable ( <i>False</i> ) the distinction between people and vehicles on the scene..
	<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.
	<b>Source:</b>	Select the <b>Source</b> option to label the selected zone as the <i>Source</i> ; the algorithm automatically labels the second zone as <i>Destination</i> .
	<b>Min time (ms):</b>	Select the <b>Min time (ms)</b> option to define the minimum path covering time (in milliseconds) that activates the tracking alarm. If a person/object covers the path in less time, the alarm does not trigger.
	<b>Max time (ms):</b>	Select the <b>Max time (ms)</b> option to define the maximum path covering time (in milliseconds) that activates the tracking alarm. If a person/object covers the path in more time, the alarm does not trigger.
	<b>Trigger:</b>	Select the <b>Trigger</b> option to activate ( <i>True</i> ) / deactivate ( <i>False</i> ) the alarm for every specified path in the area.
	<b>Alarm on human:</b>	Select the <b>Alarm on human</b> option to enable ( <i>True</i> ) / disable ( <i>False</i> ) an alarm if the tracked item is recognized as a human. <b>INOTE:</b> It is required to set the <b>Human/vehicle</b> option to <i>True</i> .
<b>Alarm on vehicle:</b>	Select the <b>Alarm on vehicle</b> option to enable ( <i>True</i> ) / disable ( <i>False</i> ) an alarm if the tracked item is recognized as a vehicle. <b>INOTE:</b> It is required to set the <b>Human/vehicle</b> option to <i>True</i> .	

## Wire cross alarm

1.17	<p>Click on the  button, select <b>Wire cross alarm</b> and click on the <b>Enabled</b> button; the <b>Wire cross alarm</b> algorithm detects people/objects crossing a virtual line.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>														
 <p>The screenshot shows the 'Deepath settings' window. At the top, there are buttons for 'Save changes', 'Revert changes', 'Refresh', and 'Disable channel'. Below that is a dropdown menu set to 'Wire Cross Alarm' and an 'Enabled' button. Underneath is a table with 'Attribute' and 'Value' columns. A section for 'Zone 1' is expanded, showing a dropdown for 'Zone 1', an 'Enabled' button, and 'Show' and 'Edit' buttons. Below this is another 'Attribute' and 'Value' table with the following entries:</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Attribute</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Wire</td> <td>xc:0 sy:0 ec:0 ey:0</td> </tr> <tr> <td>Direction</td> <td>0</td> </tr> </tbody> </table>	Attribute	Value	Wire	xc:0 sy:0 ec:0 ey:0	Direction	0	<table border="1" style="width: 100%;"> <tr> <td style="width: 20%;"><b>Wire cross alarm:</b></td> <td>Select the <b>Wire cross alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects crossing a virtual line.</td> </tr> <tr> <td><b>Zone:</b></td> <td>Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.</td> </tr> <tr> <td><b>Wire:</b></td> <td>Select the <b>Wire</b> option to set the virtual line on the scene. The top-left and bottom-right corners of the box represent the wire that items must cross to activate an alarm.</td> </tr> <tr> <td><b>Direction:</b></td> <td>Select the <b>Direction</b> option to set the wire crossing direction that activates the alarm.</td> </tr> </table>	<b>Wire cross alarm:</b>	Select the <b>Wire cross alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects crossing a virtual line.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.	<b>Wire:</b>	Select the <b>Wire</b> option to set the virtual line on the scene. The top-left and bottom-right corners of the box represent the wire that items must cross to activate an alarm.	<b>Direction:</b>	Select the <b>Direction</b> option to set the wire crossing direction that activates the alarm.
Attribute	Value														
Wire	xc:0 sy:0 ec:0 ey:0														
Direction	0														
<b>Wire cross alarm:</b>	Select the <b>Wire cross alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect people/objects crossing a virtual line.														
<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.														
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<b>Direction:</b>	Select the <b>Direction</b> option to set the wire crossing direction that activates the alarm.														


## Wrong way alarm

1.18	<p>Click on the  button, select <b>Wrong way alarm</b> and click on the <b>Enabled</b> button; <b>Wrong way alarm</b> algorithm detects people/objects moving in the wrong direction.</p> <p><b>INOTE:</b> Requires to set a zone (see section 1.3).</p>	<table border="1"> <tr> <td data-bbox="709 306 951 390"><b>Wrong way alarm:</b></td> <td data-bbox="951 306 1461 390">Select the <b>Wrong way alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect if an object is moving in a wrong direction.</td> </tr> <tr> <td data-bbox="709 390 951 422"><b>Zone:</b></td> <td data-bbox="951 390 1461 422">Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.</td> </tr> <tr> <td data-bbox="709 422 951 464"><b>Direction:</b></td> <td data-bbox="951 422 1461 464">Select the <b>Direction</b> option to set the right and the wrong directions.</td> </tr> <tr> <td data-bbox="709 464 951 516"><b>Tolerance (°):</b></td> <td data-bbox="951 464 1461 516">Select the <b>Tolerance (°)</b> option to set the direction tolerance angle (in degrees) to avoid false alarms.</td> </tr> <tr> <td data-bbox="709 516 951 592"><b>Trigger threshold (ms):</b></td> <td data-bbox="951 516 1461 592">Select the <b>Trigger threshold (ms)</b> option to set the minimum lifetime (in milliseconds) of the item moving in the wrong direction before activating the alarm.</td> </tr> </table>	<b>Wrong way alarm:</b>	Select the <b>Wrong way alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect if an object is moving in a wrong direction.	<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.	<b>Direction:</b>	Select the <b>Direction</b> option to set the right and the wrong directions.	<b>Tolerance (°):</b>	Select the <b>Tolerance (°)</b> option to set the direction tolerance angle (in degrees) to avoid false alarms.	<b>Trigger threshold (ms):</b>	Select the <b>Trigger threshold (ms)</b> option to set the minimum lifetime (in milliseconds) of the item moving in the wrong direction before activating the alarm.
<b>Wrong way alarm:</b>	Select the <b>Wrong way alarm</b> (click on the  button, select the option and click on the <b>Enabled</b> button) option to detect if an object is moving in a wrong direction.											
<b>Zone:</b>	Select a <b>Zone</b> to enable the <i>ATTRIBUTE</i> options.											
<b>Direction:</b>	Select the <b>Direction</b> option to set the right and the wrong directions.											
<b>Tolerance (°):</b>	Select the <b>Tolerance (°)</b> option to set the direction tolerance angle (in degrees) to avoid false alarms.											
<b>Trigger threshold (ms):</b>	Select the <b>Trigger threshold (ms)</b> option to set the minimum lifetime (in milliseconds) of the item moving in the wrong direction before activating the alarm.											



**Deepath settings**

Save changes | Revert changes | Refresh | Disable channel

Wrong Way Alarm  Enabled

Attribute	Value
Direction	x:0 y:0 dx:0 dy:0
Tolerance [°]	38.62483287305296
Trigger Threshold [ms]	1000