Installation and Configuration Guide for iDS 7series Hard Hat Detection

Contents

Chapter1. Installation specification

1.1 Installation

Hard Hat Detection supports scenes such as oil field, construction site, entrance and exit, chemical industry, substation, etc. The detection effect is related to the background complexity, which will lead to poor effect. The standard scene should NOT conclude:

1) Image blur caused by overexposure, dark, distortion, color difference, etc.
2) Incomplete target caused by occlusion or Black&White Picture.

Example of standard scenario:

Oilfield

Construction site

Entrance&Exit

Chemical plant

Power transformer substation

Example of unsuitable scenario:

Too dark **Overexposure**

Image distortion

Serious color deviation

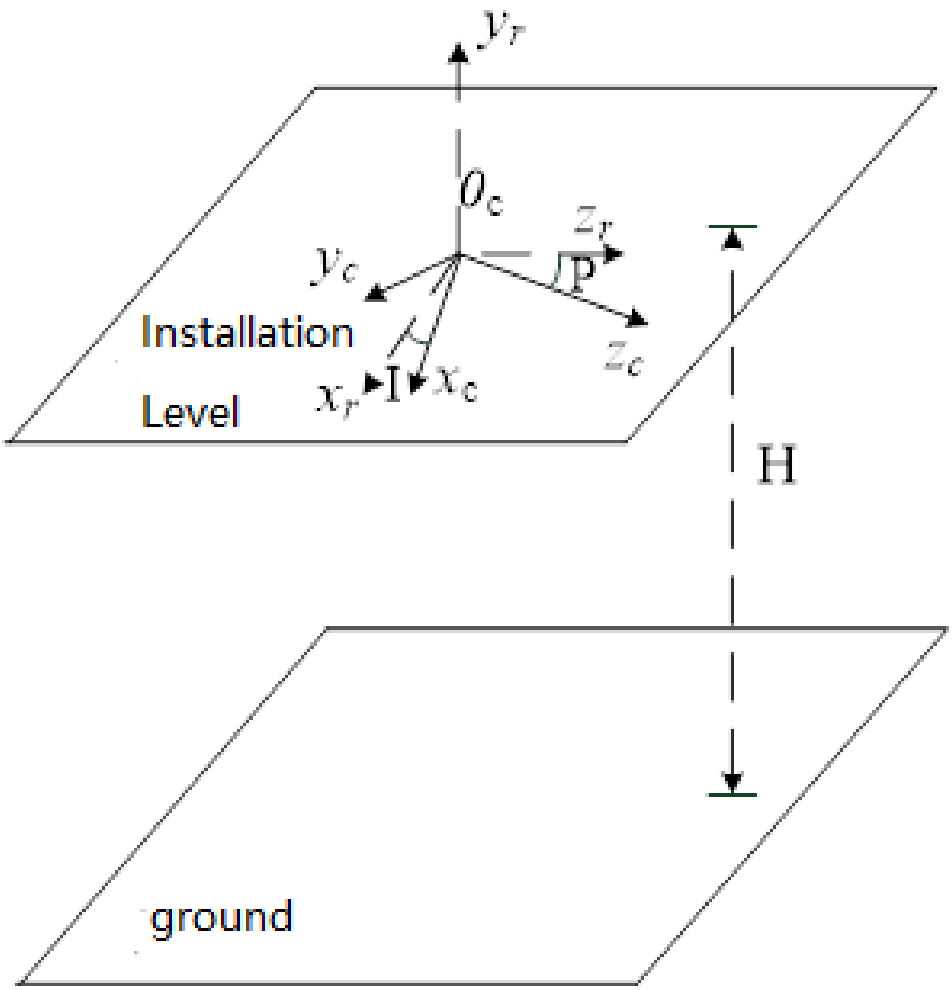
Occlusion or incomplete target

Black & White Image

1.2 The Installation Requirement of Camera

1) The Installation Angle

- Pitch angle P: The elevation angle of camera erection is **20 ~ 45 degrees**;
- Inclination angle I: If the inclination angle is within **±10 degrees**, the target in the picture needs to keep upright;



Height H、Pitch angle P and Inclination angle I

2) The Installation Height

- Height H: The camera height is 2.5m-3.5m;

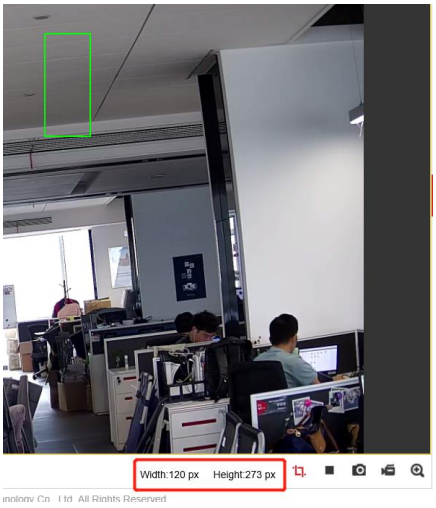
3) Light Condition

- The scene with good lighting conditions shall be selected. If the ambient light is insufficient, full lighting or large-scale supplementary lighting shall be carried out;
- Avoid backlight monitoring to prevent poor image quality caused by backlight . It will affect the detection effect;

4) Target Size

- The height (head to foot) of the target upright in the image picture shall not be less than 1 / 4 of the whole picture height, and not higher than 3 / 4 of the whole picture; taking the 1920 * 1080 resolution of the camera as an example, the target height shall not be less than 270 pixels and not higher than 810 pixels.

Ideal target height Too small target

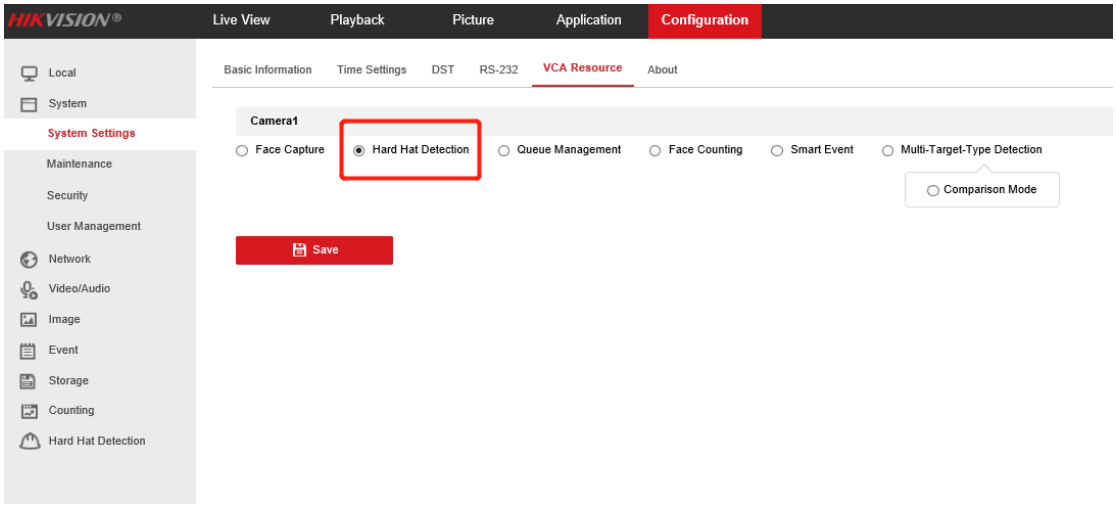


Web Component – pixel measurement tool

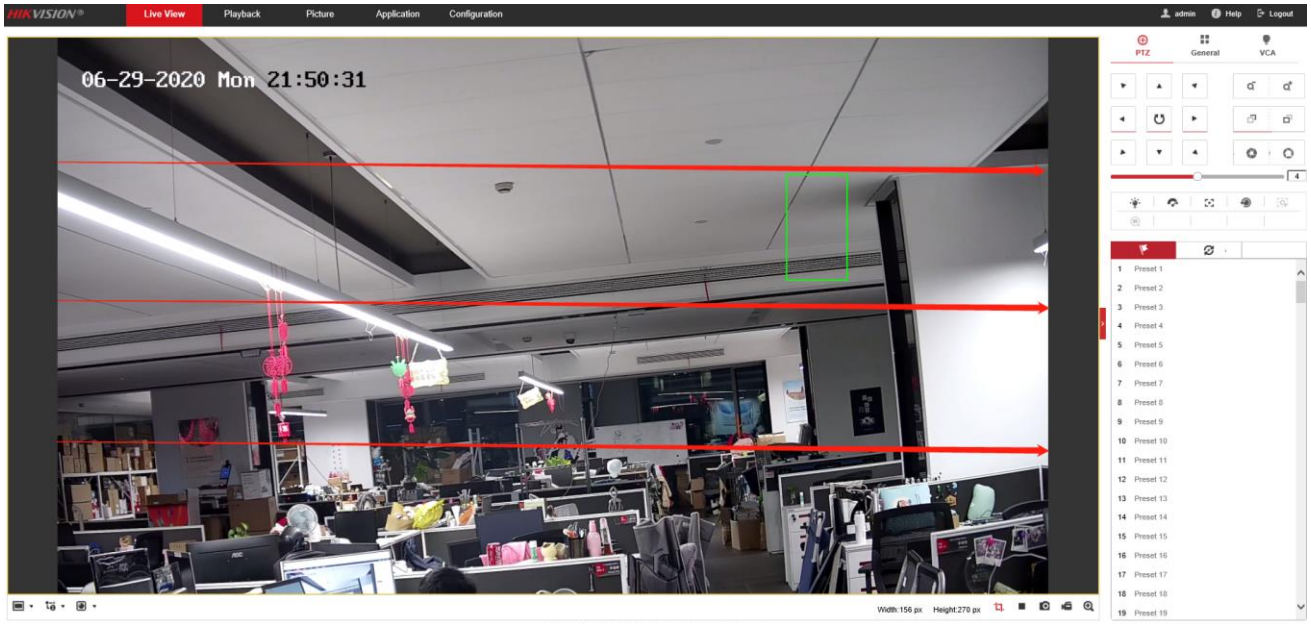
Chapter2 Camera Configuration

2.1 Configure the parameter via IE browser

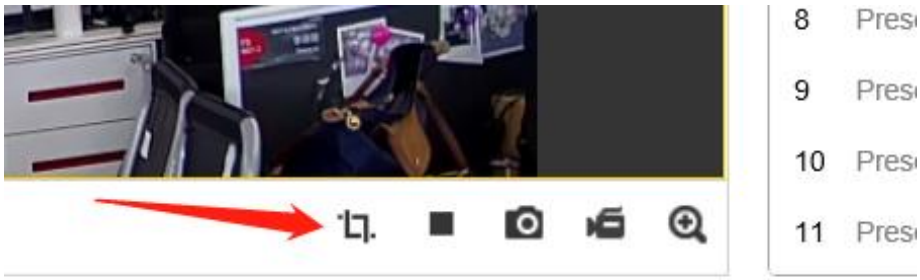
Step 1: Go to [configuration]-[system]-[system settings]-[Hard Hat Detection]



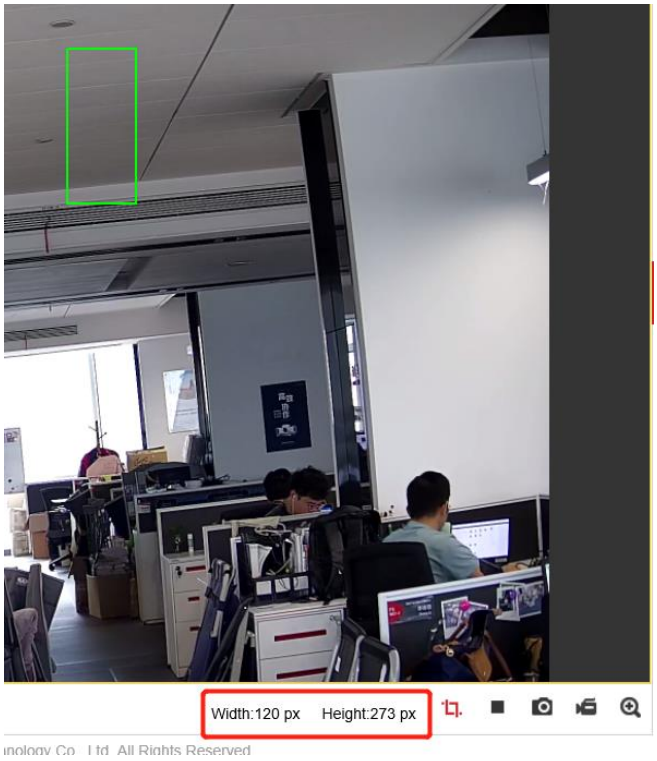
- The camera supports electric lens and remote focusing
- The PTZ control interface is called in the preview interface, and the scene size is adjusted by zoom + and zoom - to ensure that the pixels of the target size height (from head to toe) in the video picture meet the requirements of algorithm recognition. Take the camera 1920 x 1080 resolution as an example, the target height is not less than 270 pixels and not higher than 810 pixels



- The pixel value of target height can be measured through the pixel calculator in the web interface



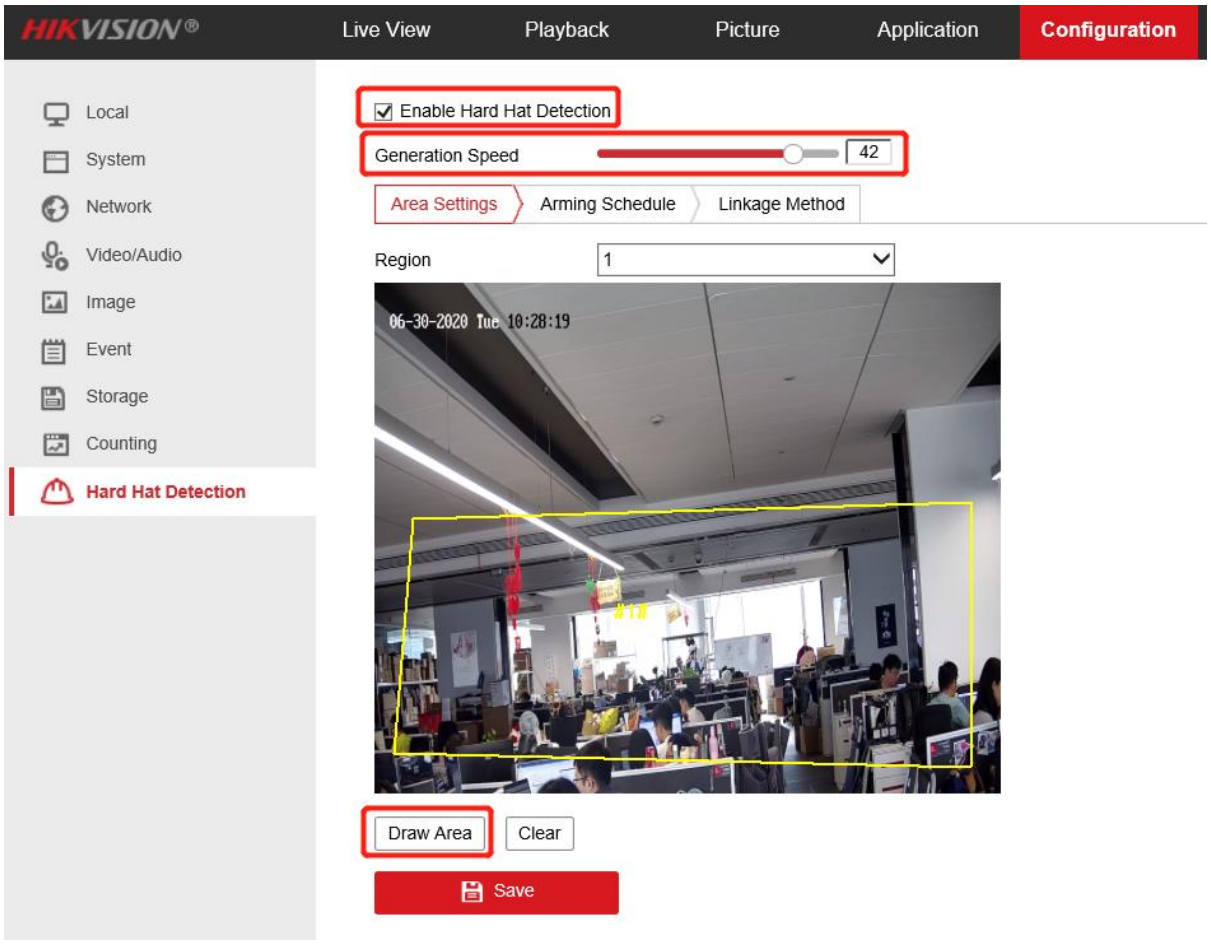
pixel calculator in the web interface



Step 2: There are 5 main configuration of Hard Hat Detection:

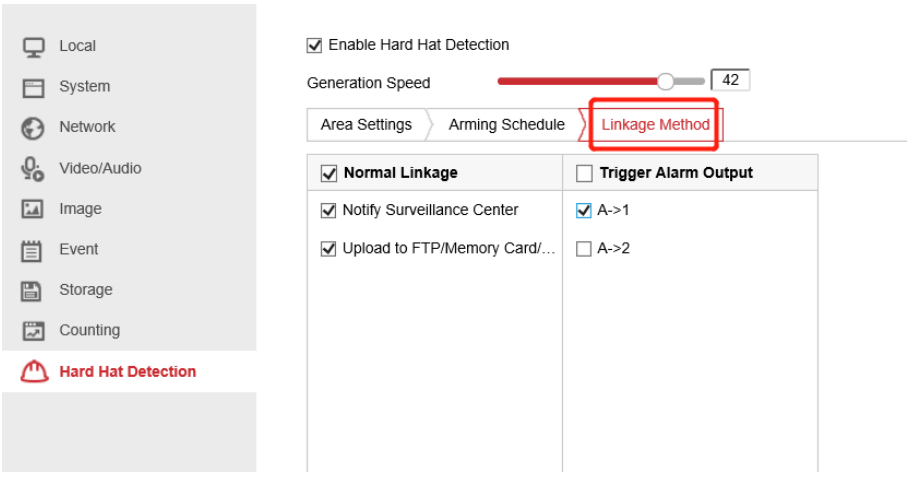
Function enabled → Set target generation speed → Draw area → Set guarding schedule → Alarm linkage output

- [Hard Hat Detection] - [Enable Hard Hat Detection]. Enable it and save.
- The smaller the Generation Speed, the slower the alarm will be, and the higher the value, the faster the alarm will be generated. It is suggested that 42 is the best.

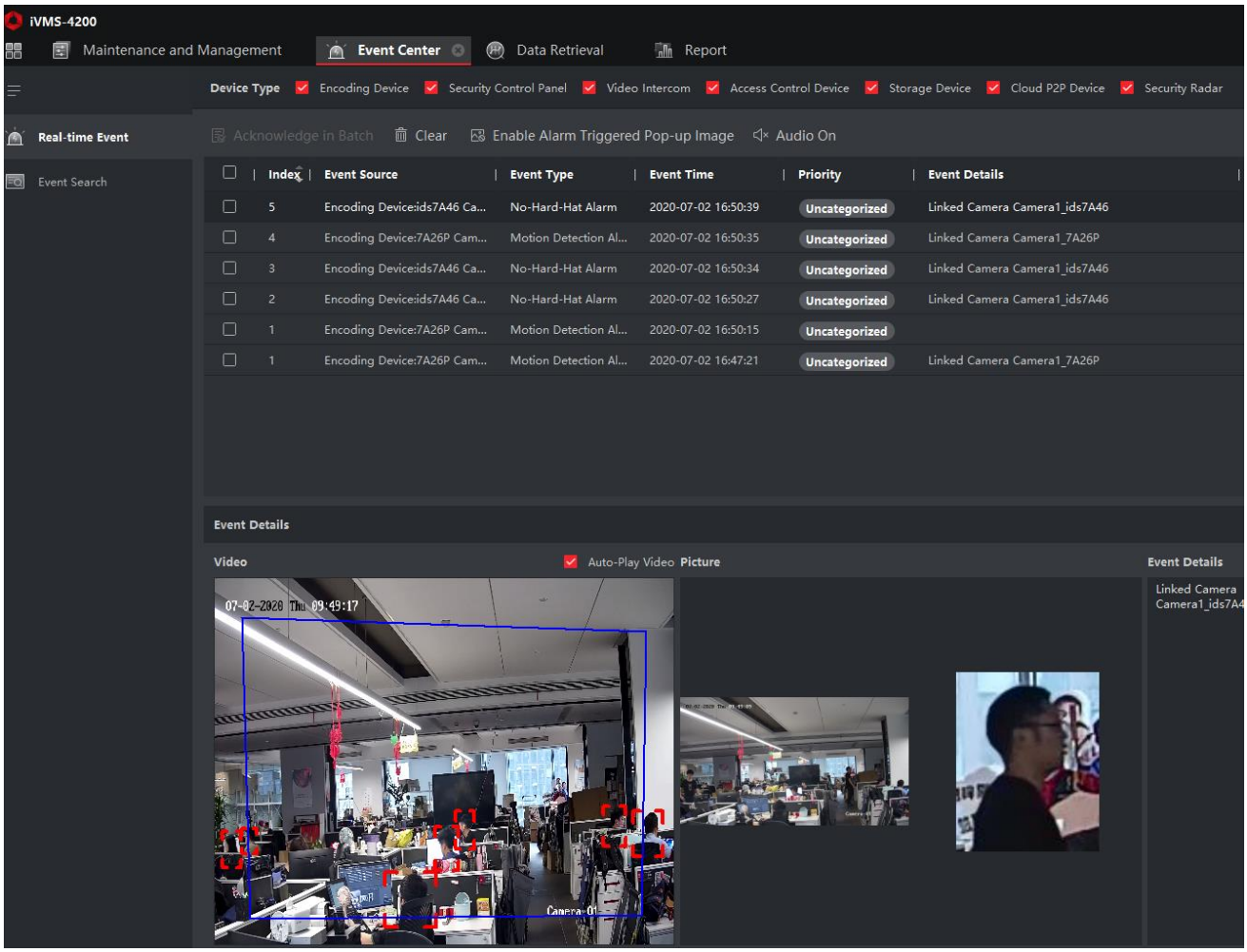


➢ The guarding schedule can be set according to the actual needs of the site

➢ Check Upload Center and IO alarm output A->1 or A->2 in linkage mode, accord to actual wiring.



2.2 The Alarm effect on the iVMS-4200



Event Center – Event Type – No Hard Hat Alarm