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AI Temperature Screening Configuration Guide

1. Introduction

With the combination of DeepinMind NVR and thermal camera, it can realize face recognition, abnormal temperature detection and mask detection. The DeepinMind NVR and thermal cameras must be upgraded to the special version, and need be restored after upgrading.

Product Showcase:

Product	Product Model	Note
Thermal camera	DS-2TD2617B-3/6PA	Please updated to the special firmware version
	DS-2TD2636B-15/P	
	DS-2TD2636B-13/P	
	DS-2TD2637B-10/P	
	DS-2TD1217B-3/6PA	
DeepinMind NVR	iDS-9616(/32/64)NXI-I8/X(B)(T)	
	iDS-7716(/32)NXI-I4/X(B)(T)	
	iDS-6708-I/8F(B)(T)	

Firmware download:

For DeepinMind NVR:

<ftp://hikftp.hikvision.com:400/01 All Materials of Temperature Screening Solution/02 DeepinMind NVR/05 Firmware/DeepinMind NVR/>

For Thermal Camera:

<ftp://hikftp.hikvision.com:400/01 All Materials of Temperature Screening Solution/02 DeepinMind NVR/05 Firmware/Thermal Camera/>

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2. Solution



Configure face capture on thermal camera, add the camera to DeepinMind NVR and configure face comparison on NVR , can realize face recognition, abnormal temperature linkage, no mask alarm linkage.

3. Configuration Steps

3.1 Face capture configuration

Step 1: log in the website of thermal camera, upgrade to firmware supported face capture and restore or default the device.

Step 2: Go to Video/Audio page, set display VCA info by video.

The screenshot shows the HIKVISION Configuration page, specifically the Video/Audio tab. The left sidebar contains navigation options: Local, System, Network, Video/Audio (selected), Image, Event, Storage, and Body Thermometry. The main content area shows the following settings:

- Channel No.: Camera 01
- Stream Type: Main Stream(Normal)
- Video Type: Video Stream
- Resolution: 2688*1520
- Bitrate Type: Variable
- Video Quality: Medium
- Frame Rate: 25 fps
- Max. Bitrate: 6144 Kbps
- Video Encoding: H.264
- Profile: High Profile
- I Frame Interval: 50
- SVC: OFF
- Smoothing: 50 (Clear->Smooth)
- Display VCA Info By: Video (highlighted with a red arrow and the text "Choose video")

At the bottom of the configuration area, there are two buttons: "Copy to..." and "Save".

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Step 3: Body Thermometry setting

The screenshot shows the 'Configuration' tab with 'Basic Settings' selected. The 'Body Thermometry Configuration' section includes the following settings:

- Channel No.: Camera 01
- Enable Temperature Measurement
- Enable Color-Temperature
- Display Temperature Info. on Stream
- Add Original Data on Capture
- Add Original Data on Stream
- Data Refresh Interval: 3 s
- Unit: Degree Celsius(°C)
- Temperature Range: 30.0~45.0
- Version: V2.0.7build20200210

The 'Target Thermometry Parameters' section includes:

- Emissivity: 0.98
- Distance: 4 m

Red annotations with arrows point to the 'Enable Temperature Measurement' and 'Display Temperature Info. on Stream' checkboxes, stating 'tick to enable'. Another arrow points to the 'Emissivity' field, stating 'emissivity: 0.98'. A third arrow points to the 'Distance' field, stating 'the monitor distance'. A 'Save' button is visible at the bottom.

The screenshot shows the 'Configuration' tab with 'Body Thermometry Configuration' selected. The 'Face Detection Parameters' section includes the following settings:

- Channel No.: Camera 01
- Enable Face Detection
- Display Temperature
- Upload Captured Face Image
- Display Face Temperature Position
- Configuration: Targeting

The 'Face Detection Parameters' section includes:


- Min. Pupil Distance: 67
- Max. Pupil Distance: 237
- Generation Speed: 5
- Sensitivity: 5
- Alarm When Temperatur.: 37.5 °C
- Pre-Alarm Temperature: 37 °C

Red annotations with arrows point to the 'Enable Face Detection' checkbox, stating 'Enable face detection and Upload face image. If need, enable display temperature and face temperature position.'. Another arrow points to the 'Min. Pupil Distance' and 'Max. Pupil Distance' fields, stating 'Configure the min pupil and area'. A 'Save' button is visible at the bottom.

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Basic Settings **Body Thermometry Configuration** Linkage Method

Channel No.



Black Body Parameters

- Enable Blackbody Correction
- Distance: m
- Temperature: °C
- Emissivity:

Body Temperature Compensation

- Enable
- Compensation Type:
- Compensation Value: °C
- Manual Calibration: °C
- Environmental Temperature: °C

HIKVISION Live View Playback Picture **Configuration**

Overlay & Capture Shield Region Advanced Configuration

Display Target Info. on Alarm Picture

Snapshot Settings

Target Picture Settings

Custom Head Shot Half-Body Shot Full-Body Shot

Target Picture Size

Width: Facial Width ×

Head Height: Facial Height ×

Body Height: Facial Height ×

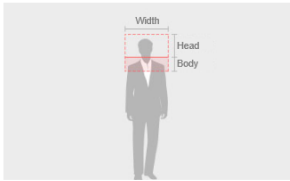
Fixed Value pixel

Background Picture Set...

Picture Quality:

Picture Resolution:

Background Upload → tick background upload



Step 4: Complete the camera configuration, add camera to NVR.

3.2 Face comparison configuration

3.2.1 Add face picture library

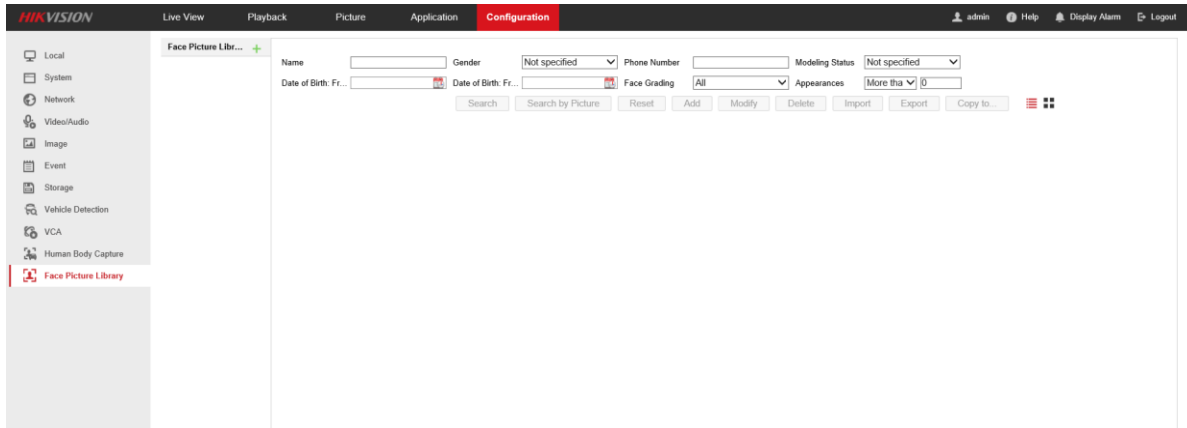
Go to NVR's Website, create database and add face pictures in the database(The database also can be created via GUI or iVMS). Here are the requirements for face picture in database:

40 <Min. Pupil Distance <300 (recommend 60) pixels.

20KB <Photo Size<4MB

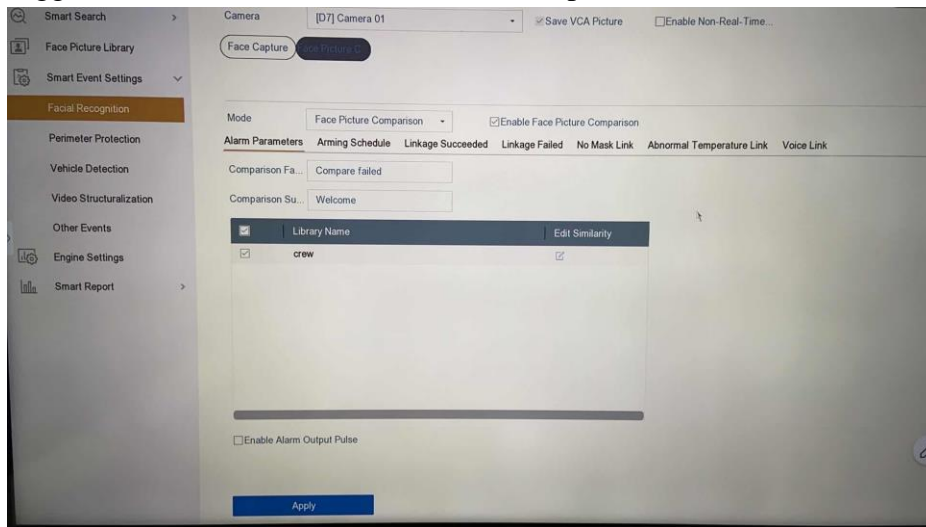
Format: JPG, JPEG

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3.2.2 Configure face comparison

Step 1: Go to NVR's local GUI, Smart analysis—Smart event settings —Face recognition, tick 'Enable Face Picture Comparison' and select library that you want to compare with. Similarity is suggested to be set as 70 for mask face comparison. Do not tick enable non-real-time comparison.





Step2: Tick notify surveillance center in both linkage succeeded and linkage failed. Configure other linkage based on actual situation.

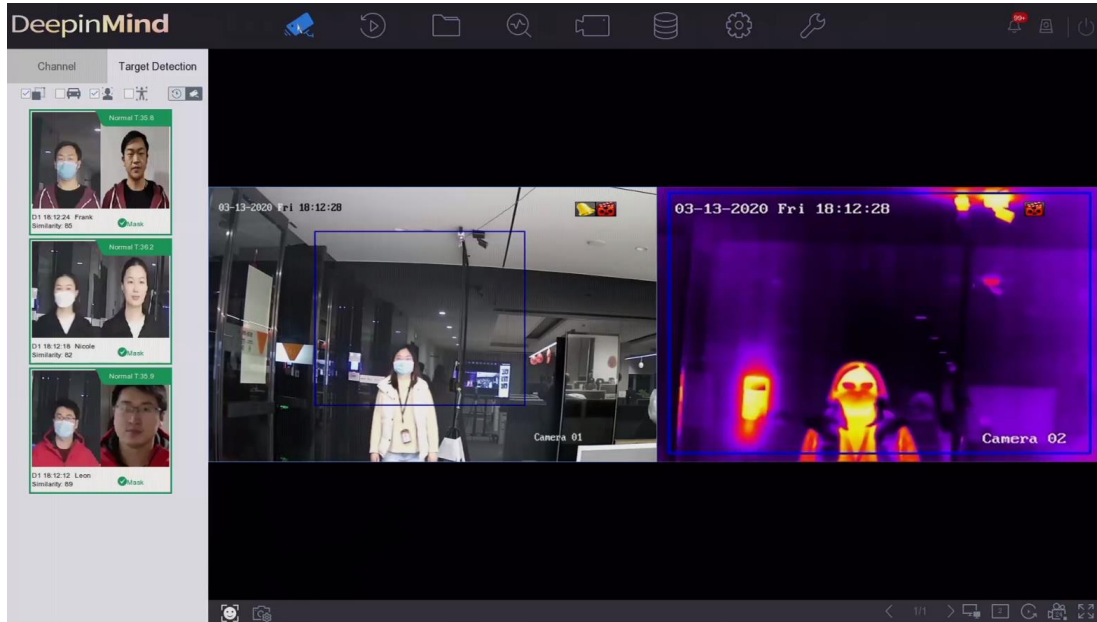
4. Application & Data retrieval

4.1 GUI application


4.1.1 Target detection

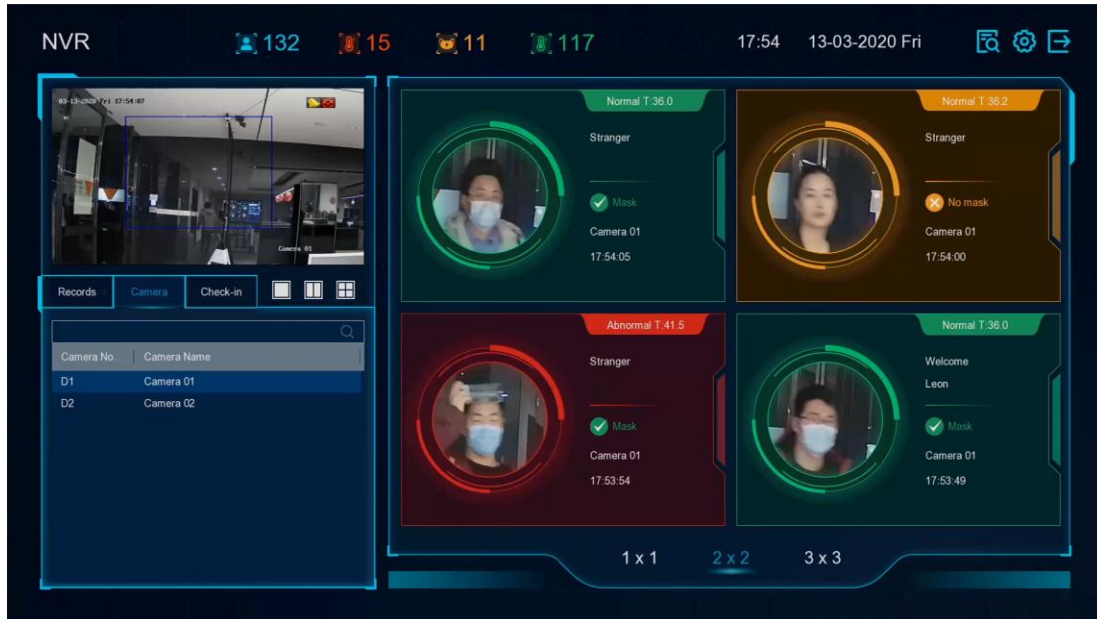
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Connect the display screen to device, go to GUI interface. Tick Live view-Target Detection. Tick  , if there are face capture alarm and face comparison alarm, these alarm will be showed in the left side.



4.1.2 Fever screening

Click  button on left bottom of live view, go to fever screening interface. Show abnormal temperature target by red, no mask target by yellow, normal target by green.

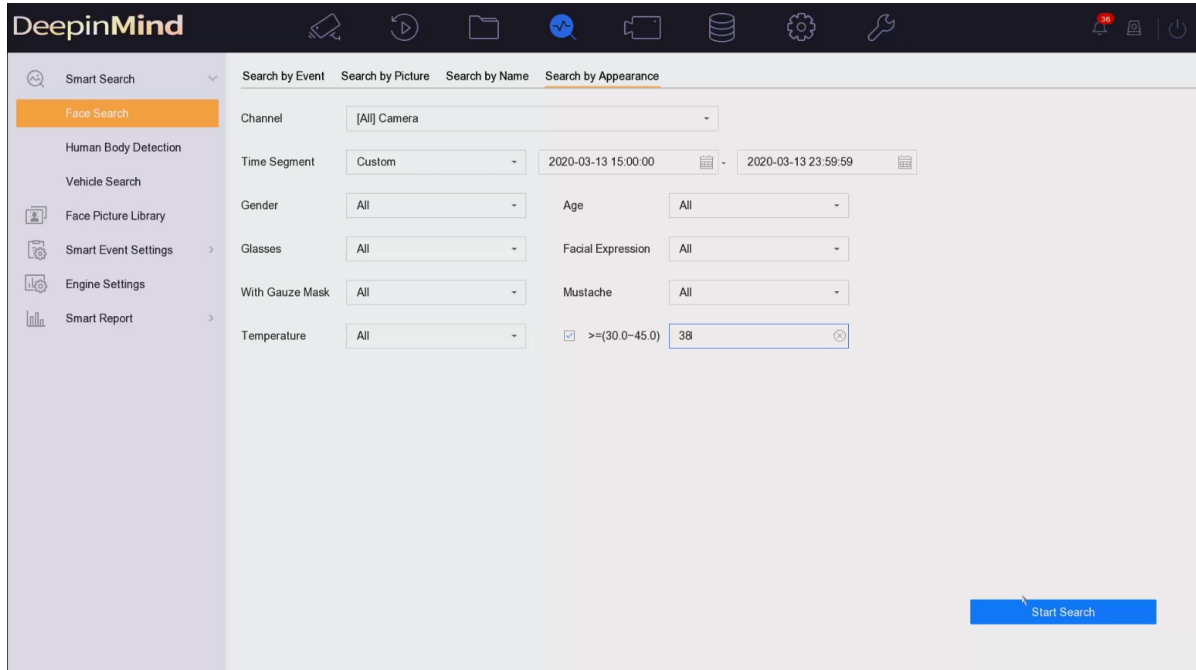


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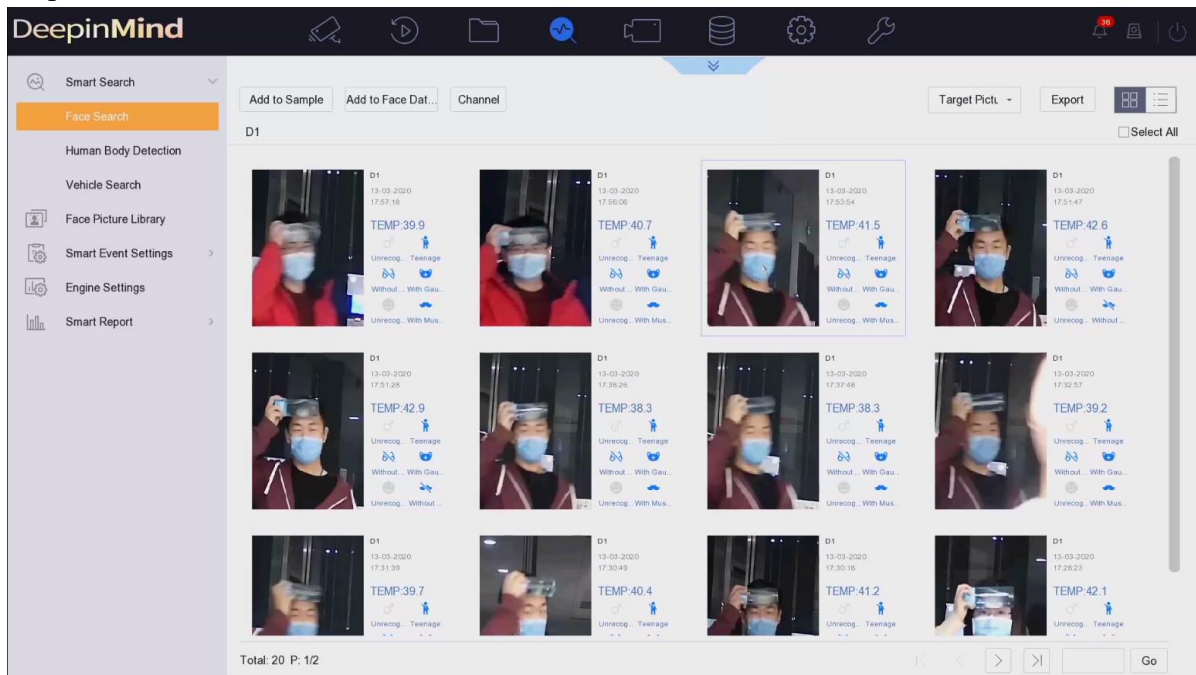
4.2 Data Retrieval

4.2.1 Search by abnormal temperature

Step1: Go to smart analysis-Smart search-Face search, enter the temperature range, and start search.

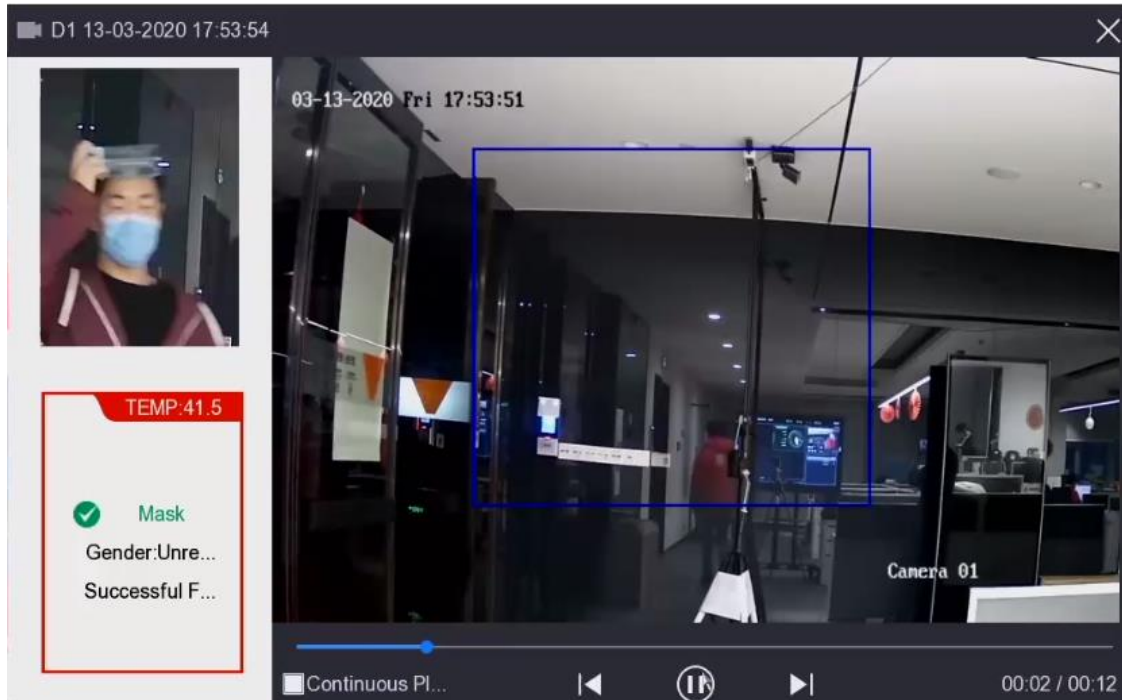


Step 2: The result will showed like below.



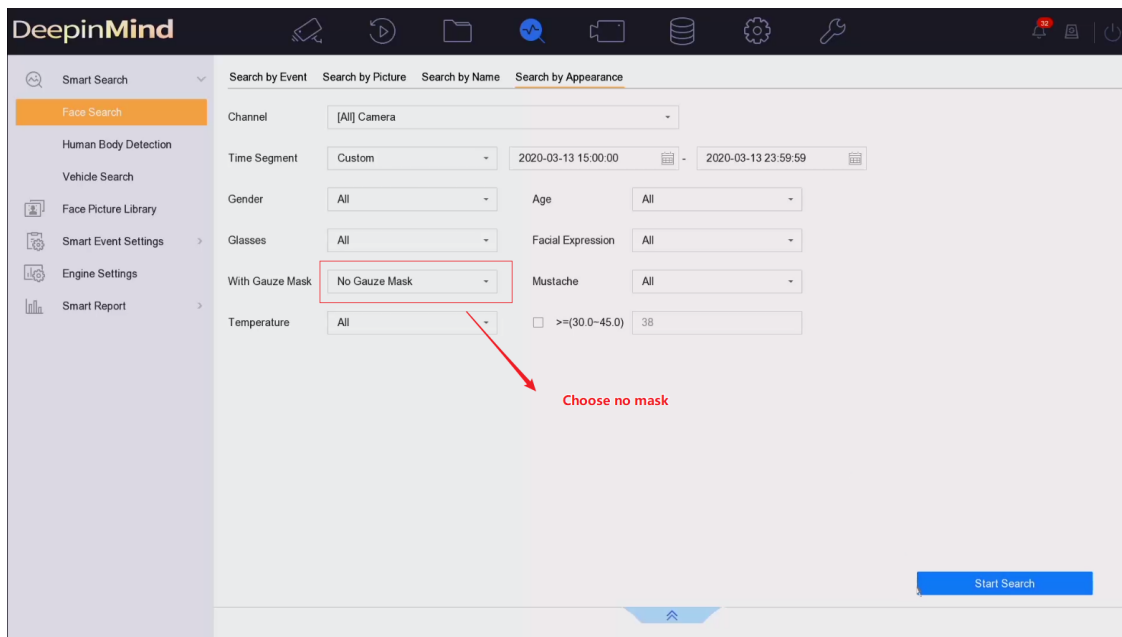
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Step 3: Double click to show the detail and related record video.



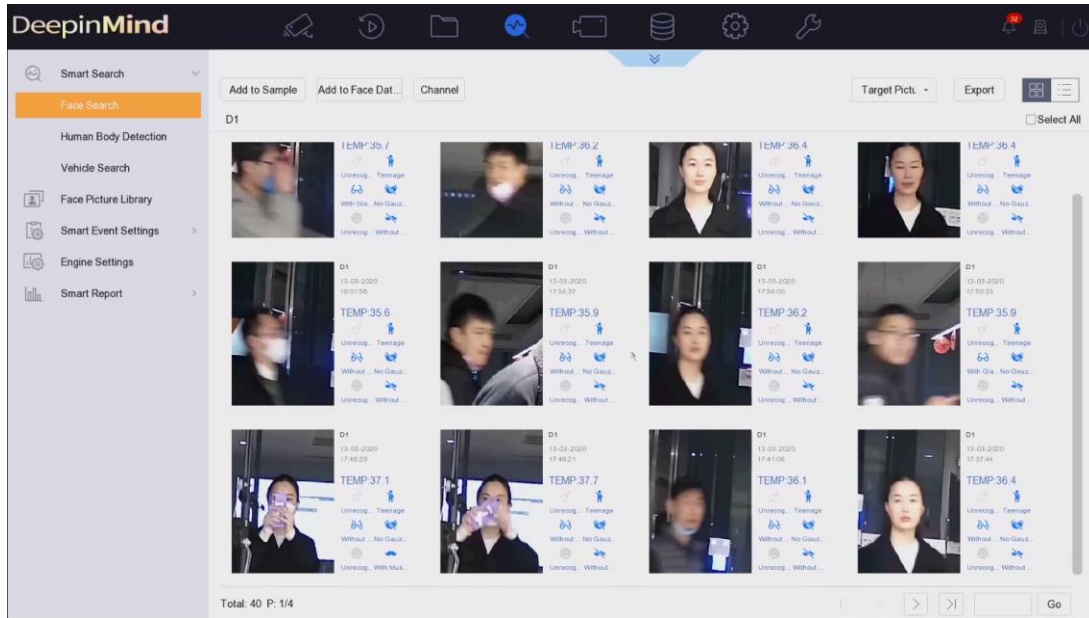
4.2.2 Search by mask status

Step1: Go to smart analysis-Smart search-Face search, choose no mask and start search.

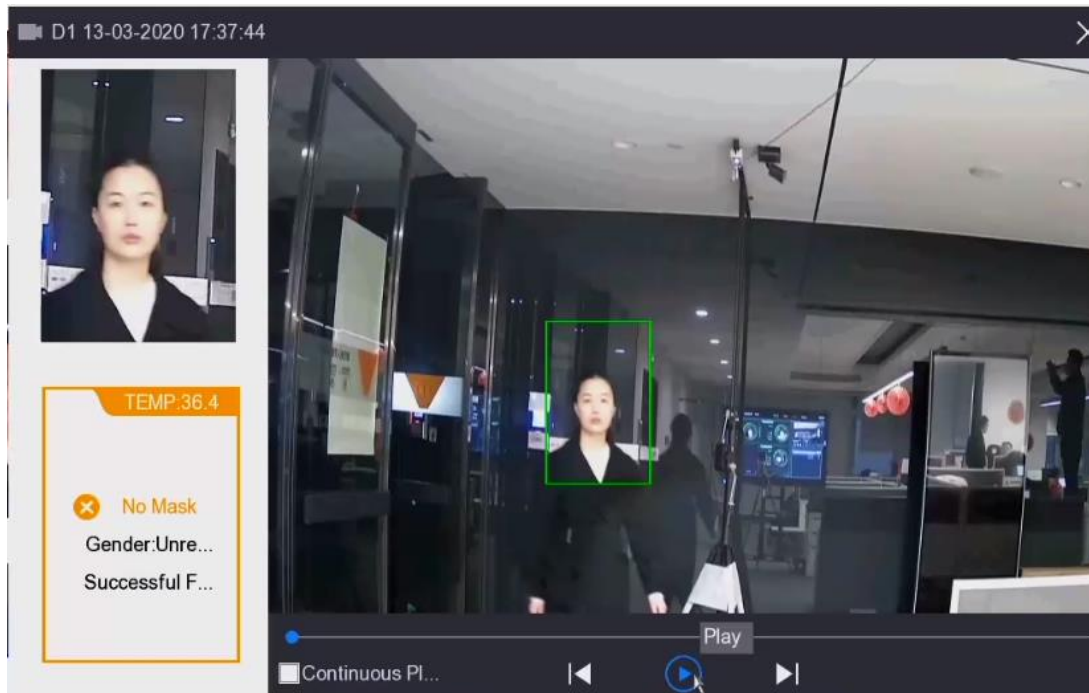


Step 2: The result will showed like below.

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Step 3: Double click to show the detail and related record video.





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