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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	
	DS-2TD2636B-15/P	
	DS-2TD2636B-13/P	
	DS-2TD2637B-10/P	Please updated to the special firmware
	DS-2TD1217B-3/6PA	version
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)	1

Firmware download:

For DeepinMind NVR:

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

For Thermal Camera:

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

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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.

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vork	Stream Type		Main Stream(Norr	mal) 🗸]	
eo/Audio	Video Type		Video Stream	~]	
ge	Resolution		2688*1520	~]	
nt	Bitrate Type		Variable	~]	
age	Video Quality		Medium	~]	
y Thermometry	Frame Rate		25	~	fps	
	Max. Bitrate		6144		Kbps	
	Video Encod	ng	H.264	~		
	Profile		High Profile	~]	
	I Frame Inter	val	50]	
	SVC		OFF	~]	
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	Display VCA	Info By	Video			
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		Copy to	E	Save		
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	SION	SION Live View I Video Audi em Channel No. Stream Type o/Audio Stream Type Video Type re Bitrate Type Bitrate Type rd Video Quality Frame Rate rdoe Encode Profile I Frame Inter SVC Smoothing Display VCA	SION Live View Playbout Video Audio ROI Channel No. Stream Type Video Type Resolution Bitrate Type Video Quality Frame Rate Video Encoding Profile I Frame Interval SVC Smoothing Display VCA Info By III Copy to	SION Live View Playback Picture I Video Audio ROI metadata Settings channel No. Camera 01 Stream Type Main Stream(Non o/Audio Video Type Video Stream re Bitrate Type Variable tit Video Quality Medium age Frame Rate 25 r Thermometry Max. Bitrate 6144 Video Encoding H.264 Profile High Profile I Frame Interval 50 SVC OFF Smoothing Player Display VCA Info By Video	SION Live View Playback Picture Contraction Image Video Audio ROI metadata Settings o/Audio Channel No. Camera 01 Image o/Audio Stream Type Main Stream(Normal) Image rt Video Type Video Stream Image rt Video Quality Medium Image rThermometry Frame Rate 25 Image rThermometry Frame Rate 6144 Image Video Encoding H264 Image Profile High Profile Image If rame Interval 50 Image Smoothing Display VCA Info By Player Display VcA. Info By Image	SION Live View Playback Picture Configuration I Video Audio ROI metadata Settings Image Channel No. Carmera 01 Image Video Stream Type Main Stream(Normal) Image If Bitrate Type Video Stream Image If Video Quality Medium Image If Thermometry Frame Rate 25 Image If Thermometry Frame Interval 50 Image If Thermometry Stream Interval 50 Image If Thermometry Image Frame Interval 50 If Thermometry Image Image Image If Thermometry Im

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

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Step 3: Body Thermometry setting

MINVISIO/V	Live View Playback	Picture	Configuration	
Local	Basic Settings Body Therm	metry Configuration Lin	kage Method	
System	Channel No.	amera 01	\checkmark	
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Video/Audio	Enable Color-Temperature	ti	ck to enable	
Image	☑ Display Temperature Info. c	n Stream		
Event	Add Original Data on Captu	re		
E Storage	Add Original Data on Stream	n		
Body Thermometry	Data Refresh Interval 3		Ƴ s	
Basic Settings	Unit	egree Celsius(°C)	\checkmark	
Face Capture	Temperature Range 3	0.0~45.0	\checkmark	
	Version V.	2.0.7build20200210		
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Basic	Settings Body Thermometry Configuration	Linkage Method		
System Ch	annel No. Camera 01	- ~		
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U. Video/Audio	Display Temperature	If need , enable d face temperature	lisplay temperatur position.	e and
🖬 Image	Upload Captured Face Image			
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Event Storage Body Thermometry Basic Settings Face Capture		Opera C Fi M M G S S A P	onfiguration [acc Detection Parameters lin. Pupil Distance [ax. Pupil Distance [eneration Speed enstitivity larm When Temperatur. [re-Alarm Temperature]	Targeting 57 237 5 5 37.5 °c 37 °c
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Product:	Thermal Cameras, L Basic Settings Body Thermometry Channel No. Camera 03–18–2020 Wed 20:53:	Configuration Linkage Method	ck Body Parameters Enable Blackbody Cor ance ssivity dy Temperature Comp Enable	3 40 0.97 bensation	m Ø °C Ø	Page:	4 of 10
	E Save	Cor Canera 02 Draw Area Clear All	npensation Type npensation Value nual Calibration ironmental Temperat ironmental Temperatu	Auto 0.8 0 . Auto re 19.5	✓ °c ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓		
	CVISION Live View P Overlay & Capture	Vayback Picture Configuration					
	System Display on Pictu	IT 0					
6	Network Display Targe	t Info. on Alarm Picture					
Q	Video/Audio Snapshot Settin	gs					
E .	Image Target Picture S	- iettings					
	Event Custom	○ Head Shot ○ Half-Body Shot ○ Full-Body Shot		Width			
<u>ل</u>	Body Thermometry	Visitity Encial Visitity v 3		Head			
0	Basic Settings	Head Height: Facial Height × 2		Douy			
	Face Capture □ Fixed V Background Pic Picture Our Picture Res ✓ Backgro	Body Height Facial Height × 1	ad	Diagram			

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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					_	
Local System Velvoolt Velvoolt Menood Menood Menood Velvoolt Velvoolt Velvoolt Velvoolt Velvoolt Velvoolt Velvoolt Velvoolt Menood Velvoolt Velvoolt Menood Velvoolt Menood Velvoolt Menood Velvoolt Menood Velvoolt Menood Velvoolt Menood Menod	Live View Plarback Picture Apple	Clone Configuration Gender Not specified Date of Beth: Fr. Face Grading All Search Search Search by Picture Reset Add	▲ ann	 Field Display Alam Entropy Entropy		

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.

Q	Smart Search	>	Camera	[D7] Camera 01	Save VCA Picture	Enable Non-Real-Time	
	Face Picture Library		Face Capture	ice Presence			
1	Smart Event Settings	~					
	Facial Recognition		Mode	Face Picture Comparison •	ble Face Picture Comparison		
	Perimeter Protection		Alarm Parameters	Arming Schedule Linkage Succeeded Lin	kage Failed No Mask Link	Abnormal Temperature Link	Voice Link
	Vehicle Detection		Comparison Fa	Compare failed			
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6	Engine Settings		C cre	w	Ľ		
lalla	Smart Report	,					
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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

4.1.1Target 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 states 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.

De	epin Mind					🗙 (<u>ب</u>	Ş	e	
\odot	Smart Search	\sim	Search by Event	Search by Picture	Search by Name	Search by Appearance					
			Channel	[All] Camera							
	Human Body Detection		Time Segment	Custom	-	2020-03-13 15:00:00	-	2020-03-13 23:59:59			
_	Vehicle Search		Gender	All		Age	All	•			
	Face Picture Library		Glasses	All		Facial Expression	All				
Ltop	Engine Settings		With Course Meet	All		Mustanka	A11				
lalla	Smart Report	>	with Gauze mask	All	•	mustache	All				
			Temperature	All	•	✓ >=(30.0~45.0)	38	\otimes			
										Start Search	

Step 2: The result will showed like below.

Deepin Mind		L 🍕	ζ		Ş	
	Add to Sample Add to Face Dat	Channel		*		Target Pictu - Export 88 :=
Human Body Detection Vehicle Search Image: Constraint of the search Image: Consthe search Image: Constraint of the se	01 15:03:2000 17:07:16 TEMP-30:90 01 01		D1 13-03-2020 17:55:00 TEMP-40.7 3 1Unecog. Teenage 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3		D1 13-03-2020 17:53:54 TEMP:41.5 AUNICOL. Tenage AN Without With Gau Ouncog With Mus	Pr Pr Pr Pr Pr Pr Pr Pr Pr Pr
	D1 13-63-3290 13-13-8 TEMP-142.9 € WindVite Gau UniversityVitersity		D1 13-01-2020 17:35:26 TEMP:38:3 Common Sector Unreco: Tenage Without - With Gau.		D1 13-03-2020 17:37-88 TEMP:38.3 UnrecogTeenspe & ** Without Win Gau UnrecogWith Mus	D1 13-03-300 17-28-37 TEMP-392 Urrecg. Tennes A Wind. With Sau. Urrecg. With Mas.
	от 13:09:2000 Таза 13:09 Темеза 12:09 12	-	D1 13-03-2020 17:30:49 TEMP:40.4 0* * Unracog.: Teenage		D1 13-03-2020 17:30:16 TEMP:41.2 © *	01 13-03-2020 12-20-23 TEMP-12-1 Universe 12-05-2020

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4.2.2 Search by mask status

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

De	epin Mind					😋 (÷	Ş	4 🖉 🖻 🖰
\odot	Smart Search	~	Search by Event	Search by Picture	Search by Name	Search by Appearance				
			Channel	[All] Camera			•			
	Human Body Detection		Time Segment	Custom	•	2020-03-13 15:00:00	-	2020-03-13 23:59:59	Ē	
<u>.</u>	Vehicle Search Face Picture Library		Gender	All	•	Age	All	•		
1	Smart Event Settings	>	Glasses	All	*	Facial Expression	All	•		
43	Engine Settings		With Gauze Mask	No Gauze Mask	•	Mustache	All	•		
lalla.	Smart Report	>	Temperature	All	\·	>=(30.0~45.0)	38			
						Choose no	mask			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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