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DC-TH201x Installation Guide

Thermal Cameras

DC-TH Series

DC-TH2011

DC-TH2011W / TH2012W

DC-TH2011WR / TH2012WR

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1. Installation Method

1.1 Notes on Installation

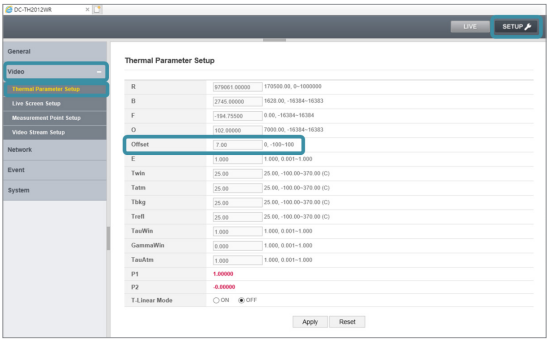
- This camera is designed for indoor use only and should be installed where constant temperature can be maintained. Outdoor usage is strongly not recommended.
  - Do not point the camera towards the entrance or the outside of the building.
  - Deploy the solution indoors only in an environment with a constant temperature and no wind.
  - It is recommended to set up a queuing area to manage the flow of people.
- Thermal sensor should measure human skin temperature. Therefore, for accurate scanning, individuals must face the camera directly straight without wearing any hats, hoods, glasses, etc. those might cover the facial skin.
- IPInstaller.exe is necessary for modifying the camera settings. This .exe file can be downloaded from below link. (ID: admin / PW: Thermal#)
  IPInstaller.exe
- Thermal sensor detects and alerts all the temperature that is higher than pre set-up 'Event Max Temperature'. In thermal image, there must not be any electronic equipment or devices possessing heat. (e.g. smart phones, light, lamp, etc.)
- Scanned temperature varies with distance from the camera. Below chart is our examination in office. As shown from the chart, at least 0.5℃ is decreased by a meter by meter. To minimize the temperature difference, it is strong and highly recommended to install the camera and measure the temperature within less than 2 meters from the moving subject.

Dis.(m)	Skin Temperature test (℃)					Remark
	1st	2nd	3rd	4th	5th	
1	36.61	37.03	38.70	38.80	37.8	-The measured temperature is not fixed and varies by up to ± 0 to 1°C for each distance. - As the distance increases from the cam, the temperature is generally lower. - DC-TH2011 model
2	35.45	36.26	37.70	38.10	36.8	
3	34.99	35.58	37.30	37.50	36.50	
4	35.06	35.13	36.60	36.50	35.50	

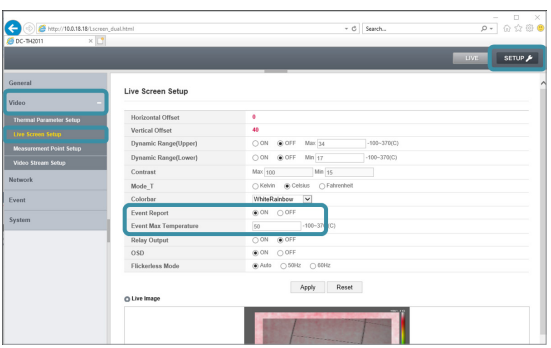
※The skin temperature varies according to environment and person. So calibration is required based on each user. When installing, the user must run several tests and gain data like the above chart and then determine proper 'Event Max Temperature'. For example, referring to above chart data, it would be proper to set 'Event Max Temperature' 38℃ . If so, the event alarm will mostly be active around one meter or closer. After alarm, a user must measure the temperature once more by a thermometer for accuracy.

1.2 Required Settings of Camera

Before registering the camera to NVR or VMS, all the required settings should be modified by using IPInstaller.exe. Settings that must be modified are as below.
- IP address (the default IP address is 192.168.0.100)
- ID / PW : admin / Thermal#
- Setting the proper temperature seen in the image
  The temperature can be calibrated in SETUP – Video - Thermal Parameter Setup - Offset.



- Setting threshold temperature
  The threshold temperature can be set in SET Temperature'.UP - Video - Live Screen Setup.
  Tick 'ON' of the 'Event Report' and setup 'Event Max



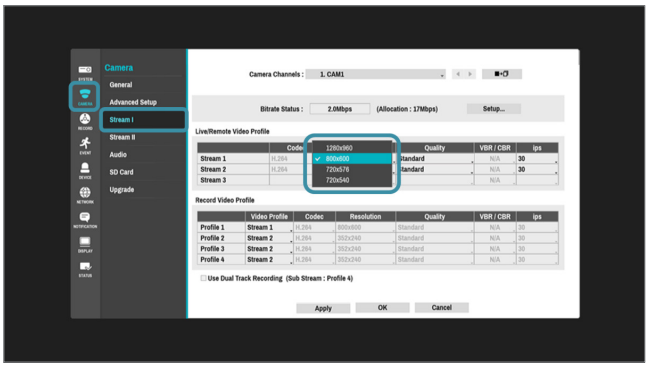
1.3 How to Register to NVR or VMS

1.3.1 Connect with NVR

DC-TH201x can be used by connecting with NVR. The compatible NVR versions are as below.
- DR-63xx v7.0.2 or higher
- DR-23xx, 24xx v7.0.2 or higher

※ Refer to **[QG_DC-TH Series]** for registration and alert configuration

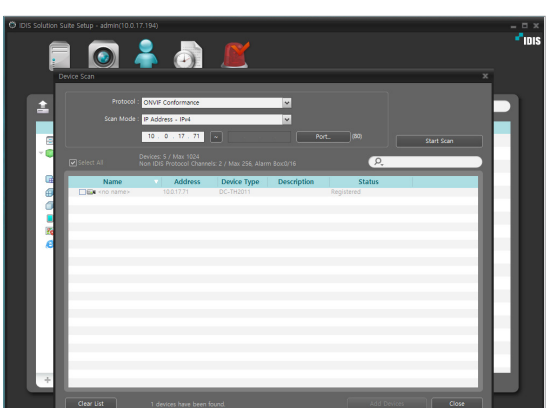
※The network IP address (subnet) of WAN / V-IN must be set differently. Refer to 3.2 When using standalone NVR.
※The streaming resolution has to be changed in NVR side. Refer to 3. Notes on Use.



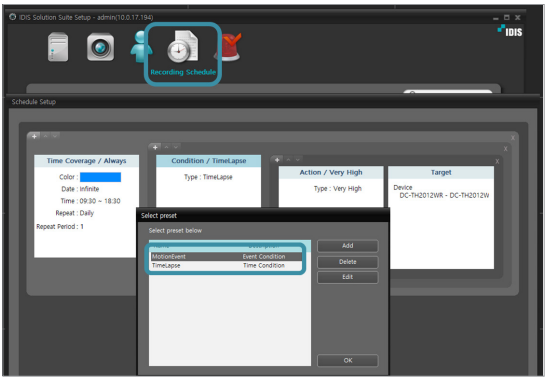
1.3.2 Connect with VMS on PC (IDIS Center & ISS Client)

DC-TH201x can be used by connecting with VMS. In this case, there are two ways to connect to VMS. First is registering NVR which has already registered DC-TH201x. Second is registering the DC-TH201x directly to VMS.

※ When registering DC-TH201x to VMS, the protocol must be ONVIF Conformance as screenshot below



※ Recording schedule can be set either MotionEvent or TimeLapse.



1.4 Installation Method

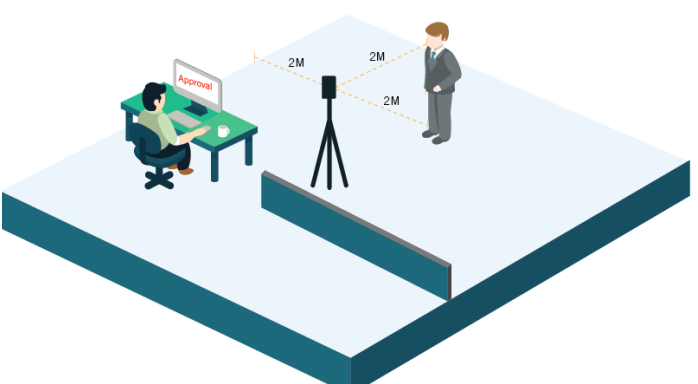
It is highly and particularly recommended that the camera only be used for detecting fixed subjects to guarantee accurate temperature.

Please install and apply the camera as instructed below.

1) Place the camera indoor where constant temperature can be maintained.
2) Set the guideline to guide the subject to target position; for example, markings like shoe shape or cross. This target position would be a few meters straight from the camera depending on the installed location.
3) Maintain the position and look straight to the camera for a few seconds.

4-1) If alarm triggers, measure the person's body temperature with a thermometer.

4-2) If not, you may allow the entrance.



2. Alarm Function

2.1 The Camera Alert Function

2.1.1 Alert on Thermal Image

As mentioned in '**How to register to NVR or NMS'**, the camera can be connected with NVR or VMS. Either device, the alert image is the same.
When temperature higher than pre set-up 'Event Max Temperature' is detected, the image is highlighted in a red box and the temperature point is marked with a red cross as below picture.

2.1.2 Alert Using Relay Output

DC-TH201x has Relay Output cable so using siren or flash light by connecting camera alarm-out is possible. In camera menu – Live Screen Setup, check Relay Output 'ON'. When temperature is detected, event trigger will be generated through Relay Output cable.
(Tick sound can be heard from the camera.)

2.2 When Using Standalone NVR

When using standalone NVR with DC-TH201x, alarm is generated from DC-TH201x to NVR as motion event. Refer to **[QG_DC-TH Series]** for detailed settings.

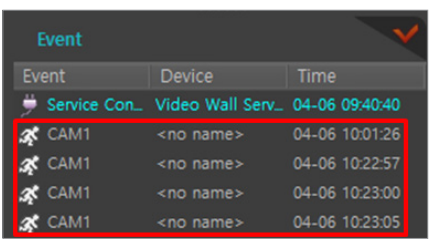
※ To receive motion event and generate beep sound, the network IP address (subnet) of V-IN and WAN must be set differently.
e.g. V-IN network - NVR 192.168.0.200
- CAM 192.168.0.100
WAN network - 10.0.18.80

2.3 When using VMS on PC

As mentioned in **'1.3.2 Connect with VMS on PC (IDIS Center & ISS Client)'**, there are two ways to connect DC-TH201x to VMS.

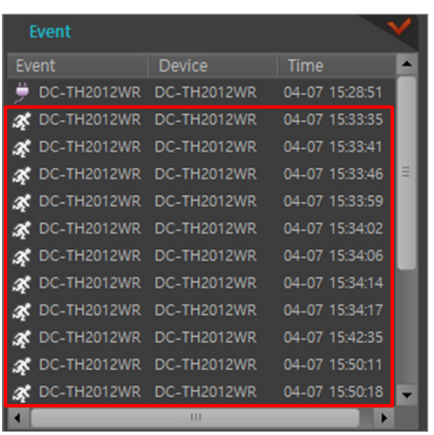
2.3.1 Connecting to VMS through NVR

When connected to PC through NVR and the motion alarm is generated triggering the 'Event Max Temperature', Event is sent properly to VMS.



2.3.2 Connecting to VMS Directly

When connected to VMS directly, the Event comes in as motion alarm as the below screenshot.



※ Note: When the resolution of the camera changes it takes about a minute for ISS to receive the event from the camera.

3. Hardware Factory Reset

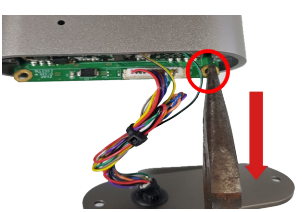
※ Wear an anti-static bracelet and insulating gloves before resetting the device.
※ When resetting the camera, keep the power on.
※ For W/WR model, factory reset function is applied from F/W version 'HiDual_V5.0.1.200603-060309'

3.1 DC-TH2011

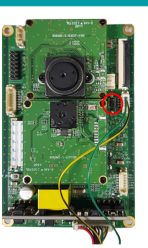
1. Loosen the M3x08 screws at the bottom of DC-TH2011.

2. Remove the thermal pad attached to the 12P cable housing.

3. Using a plier, grasp the ground hole of the M/B and pull down.



4. Press the hard reset button located on the M/B for 7-8 seconds. The reset takes about a minute to be completed.

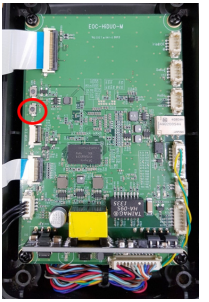


5. Assemble the camera in reverse order.
   - Be aware of the M/B slide
   - Pay attention to the position of the thermal pad and reattach it (12P cable housing)

3.2 DC-TH2011W/2W

1. Loosen the bolts on the back of DC-TH2011W/12W using a hexagon wrench	2. Press M/B Factory reset button for 5 seconds
	

3.3 DC-TH2011WR/2WR

1. Loosen the screws on the back of DC-TH2011WR/12WR.	2. Press M/B Factory reset button for 5 seconds
	

4. Notes on Use

1.1 Notes on installation

- When the camera is registered to NVR for the first time, the default resolution is set as the highest - the visual mode resolution. Therefore, the resolution must be adjusted to thermal image viewable resolution referred in below table.

Model	Thermal Camera Mode	Visual Mode (Not Thermal Mode)
DC-TH2011	800 x 600, 720 x 540	1280 x 960
DC-TH2012	1920 x 1080, 1280 x 720, 1024 x 768, 640 x 480	2592 x 1944, 2048 x 1536, 1600 x 1200

※ If the resolution is changed from the camera side, the changed resolution is applied in NVR's Live image. The changed resolution can be checked by right clicking > Information on the Live image. However, the NVR's CAMERA > Stream I > Stream1 resolution does not match automatically. In this case, there is no problem in use, but if you want to match the resolution, you can do it manually by changing the resolution in NVR side.'

- Do not change any options other than instructed. When modifying camera settings using IPInstaller. exe - Device web, only setups regarding Video (Thermal Parameter Setup - Offset, Live Screen Setup, Video Stream Setup) and Network should be modified. Changing other setup might cause an error.
- When registering the camera to NVR or ISS by Onvif conformance Protocol, the Auto Scan(LAN) Mode is not supported. Refer to **[QG_DC-TH Series]** for registration.

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