



A M C R E S T

Thermal Body Temperature Monitoring System
Installation Guide

**Version 1.0.0
April 7th, 2020**

Welcome

Thank you for purchasing an Amcrest Thermal Body Temperature Monitoring System.

This system helps to provide a non-contact means of applying fast and effective temperature readings which help to lower the risk of illness or disease. It is recommended for areas such as, schools, factories, hospitals, subway stations, or other populated public areas.

Before installation and operation, please read the below safeguards and warnings carefully.

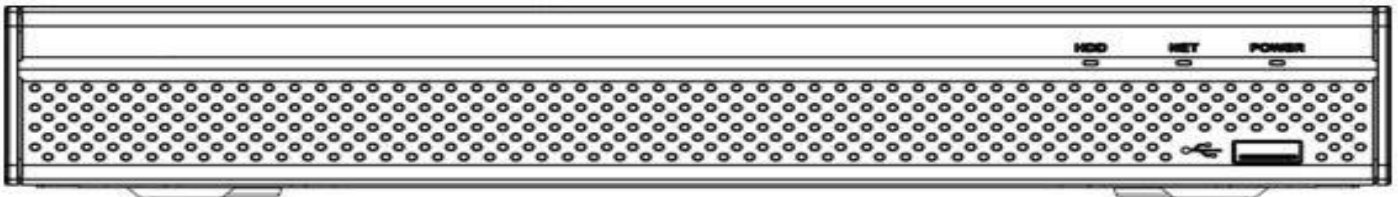
Important Safeguards and Warnings


- All installations and operations of the device should conform to your local electrical safety codes.
- We assume no liability or responsibility for any fires or electrical shocks caused by improper handling, modification, or attempted repairs.
- Do not install the system in areas of high heat such as, direct sunlight, heaters, hot water points, microwave ovens, high powered lamps, radiators, etc.
- Do not submerge the device in water or install in areas with high levels of moisture or humidity.
- Handle with care, avoid from dropping or placing the device in unsecure areas.
- The NVR does not have rack mount compatibility and should be used on flat surfaces only.

What's Included?

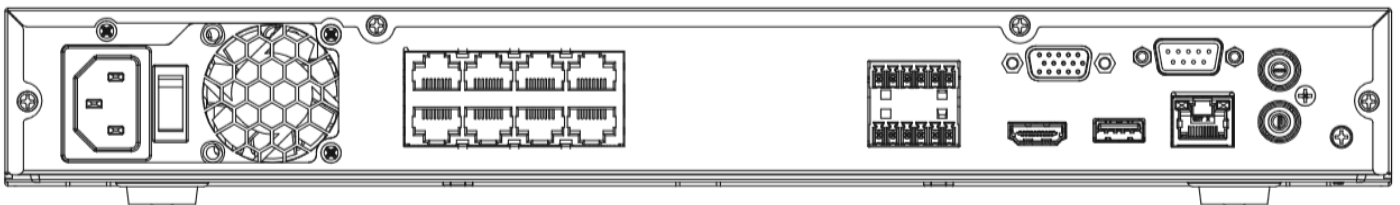
- An Amcrest AI NVR
- A Thermal Camera
- Blackbody (Calibration Device)
- 2 Tripods






NVR Front Panel



HDD	Hard Drive Detection	Displays when HDD is detected.
NET	Network Detection	Displays when network is detected.
Power	Power Indicator	Indicates the device is on.
	USB 2.0	USB 2.0 port, mouse, USB flash drive.

NVR Rear Panel



	USB 2.0 port	USB 2.0 port. Connect a mouse, USB storage device, etc.
	Network port	10M/100Mbps self-adaptive Ethernet port.
HDMI	HDMI Output	High definition audio and video signal output port.
VGA	VGA video output port	VGA video output port. Outputs analog video signal. This connects to the monitor to view analog video.
	GND	Ground end
	Power Port	DC12V, DC48V Depending on model.
	Power Switch	Turns the NVR on or off.
MIC IN	Audio input port	Bidirectional talk input port. This is used to receive the analog audio signal from the device such as a microphone.
MIC Out	Audio output port	Audio output port. This is used to output the analog audio signal to devices such as an external RCA speaker. Bidirectional talk output. Audio output on 1-window video monitoring. Audio output on 1-window video playback.
PoE Ports	PoE ports	Built-in switch on certain compatible devices. For PoE series products, you can use this port to provide power to a PoE camera.

NVR Setup

The NVR included with the system comes preinstalled with a 4TB (Terabyte) hard drive, however, an additional hard drive can be installed if needed.

Installing an Additional Hard Drive

A hard drive must be installed in the NVR to record or save *any* footage. The NVR can support a total of **10TB (Terabytes)**. If installing an additional hard drive, the following is needed:

- A medium sized (regular) Phillips-head screwdriver
- An additional hard drive
- Four hard drive fastening screws

Note: Before installing the hard drive, make sure the NVR is powered off with the power cable disconnected.



1. Loosen the screws of the upper cover and side panel.

2. Attach four screws in the HDD (Turn just three times).

3. Place the HDD in accordance with the four holes in the bottom.



4. Turn the device upside down and then turn the screws in firmly.



5. Attach the HDD firmly.



6. Connect the HDD cable and power cable.



7. Put the cover in accordance with the clip and then place the upper cover back on.



8. Secure the screws in the rear panel and the side panel.

NVR Installation

Place the NVR on a flat surface and connect an Ethernet cable from the Ethernet port on the back of the NVR to your local network. A HDMI or VGA monitor can be used to view the device, however, if you are accessing the system via a computer using a web browser a monitor is not needed. If using a monitor, plug the VGA cable or HDMI cable into their respective ports on the back of the NVR and power the device.

Insert the included power cable into the power port on the back of the NVR and plug the cord into a power strip, surge protector, or wall outlet. Ensure the power switch is flipped to the on position and allow the NVR to boot. Insert a USB mouse to a USB port on the front or back of the NVR to navigate the interface.

Note: The NVR does not include rack mount holes and must be placed on a flat surface while in use. Do not place the NVR in areas that can block any vents or fans on the device. Do not place objects on top of the NVR as it may cause damage to the unit.

Thermal Camera and Blackbody Installation

Included with your system is a thermal camera as well as a blackbody and 2 tripods. The thermal camera works in conjunction with the blackbody and NVR to provide accurate temperature readings.

Installation Precautions

- Do not install the thermal camera or blackbody in areas of high temperature such as direct sunlight, near a heater, hot water point, microwave oven, high powered lamps, radiators, etc. Any excessive heat source could cause damage to the devices.
- Choose an installation area relatively isolated from outside environmental factors such as, high wind, strong electromagnetic interference, or vibration.

Installation Areas to Avoid



What is a Blackbody?

The blackbody is a separate piece of equipment included with your device that is used as a temperature referencing source for the system. This is generally used for temperature correction and calibration for thermal imaging acquisition.

This blackbody must be powered on and installed in sight of the thermal camera to function. The blackbody is set to default at 95°F (35°C) to meet the thermal accuracy requirements of $\pm 32.54^\circ\text{F}$ (0.3°C).

Precautions

- Before use, the blackbody must be powered on and preheat for **30 minutes** or until its temperature reaches 95°F (35°C). This will be displayed on its screen.
- Do not touch the film on the front portion of the blackbody. This is a highly sensitive device; any impedance could cause damage to the unit or damage to the camera.
- Keep the device clean as any dirt or obstruction can lead to inaccurate measurements. To clean the device, use a neutral detergent to clean the body of the device. To clean the radiation surface, it is recommended to use a soft brush or cloth to clean the surface.
- To prevent overheating, keep objects at least 10cm (0.32 inches) away while in use.
- To ensure overall temperature measurement accuracy, it is recommended to calibrate the device at least once per year.

Physical Installation

Use the included tripods to install the camera and blackbody.

Installing the Camera

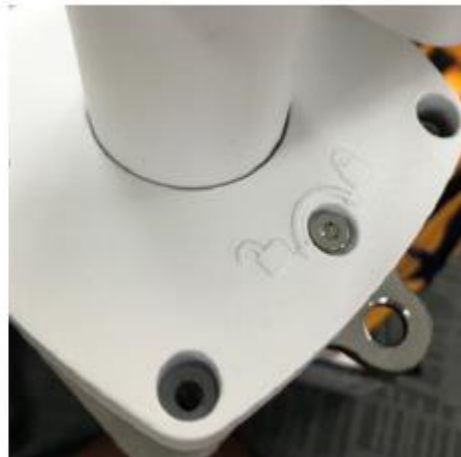
To begin installation, locate the camera, tripod, and included mounting adapter.



To install the camera, align the installation holes of the camera with the installation holes on the mounting plate. Insert the included screws into the camera and mounting plate to secure the camera.



Place the mounting plate on the installation screw of the tripod. Adjust the angle of the camera by loosening the unlock/lock screw. Once the angle of the camera is set, tighten the unlock/lock screw to secure the camera.



Once the camera is installed, raise the tripod at least 6.5ft (2m). Run an Ethernet cable from a PoE port on the back of the NVR to the Ethernet port on the dongle wire of the camera. The camera can also be powered using a PoE switch or injector (sold separately). Please make sure the camera and the NVR are on the same network during setup.

Note: Be sure not to run the cable in areas of high traffic or where they can be trampled on or damaged.

Installing the Blackbody

The blackbody should be within visible distance of the camera lens while in use. To begin installation, locate the blackbody, tripod, and included mounting adapter.



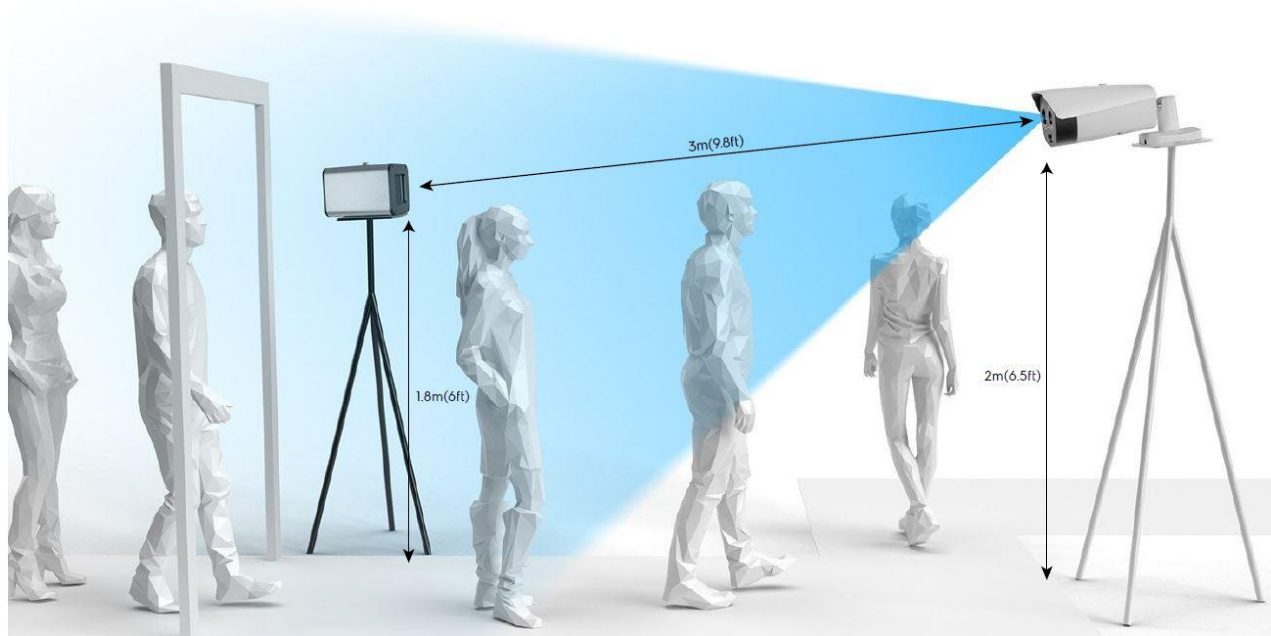
To begin installing the blackbody, secure the mounting plate onto the tripod. Next, attach blackbody to the mounting plate aligning the installation hole of the mounting plate to the mounting hole located on the bottom of the blackbody. Secure the blackbody to the mounting plate by using the included mounting screw. Do not overtighten the screw as it could damage the unit.



Note: Once the blackbody is installed, raise the tripod to 6ft (1.8m) and in sight of the camera's lens. Plug the blackbody into a power source such as a surge protector or wall outlet and allow the device to preheat for 30 minutes before use. Be sure not to run the cable in areas of high traffic or where they can be trampled on or damaged.

The system is for indoor use only. Do not place the system against any doorways or in environments with obvious air convection, strong light radiation, strong electromagnetic interference, or vibration. For more information please refer to the chart below.

Focal Length	Distance between blackbody and camera	Distance between human forehead and camera	Width for best distance of temperature measurement.
13mm	3m (9.8ft)	3m(9.8ft)	1.5m (5ft)



FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2. The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes, or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

3. (b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no

guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.

4. RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Appendix A Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Sheet Metal (Case)	○	○	○	○	○	○
Plastic Parts (Panel)	○	○	○	○	○	○
Circuit Board	○	○	○	○	○	○
Fastener	○	○	○	○	○	○
Cables/AC Adapter	○	○	○	○	○	○
Packing Material	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

Note

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.