



Apollo thermal camera installation information

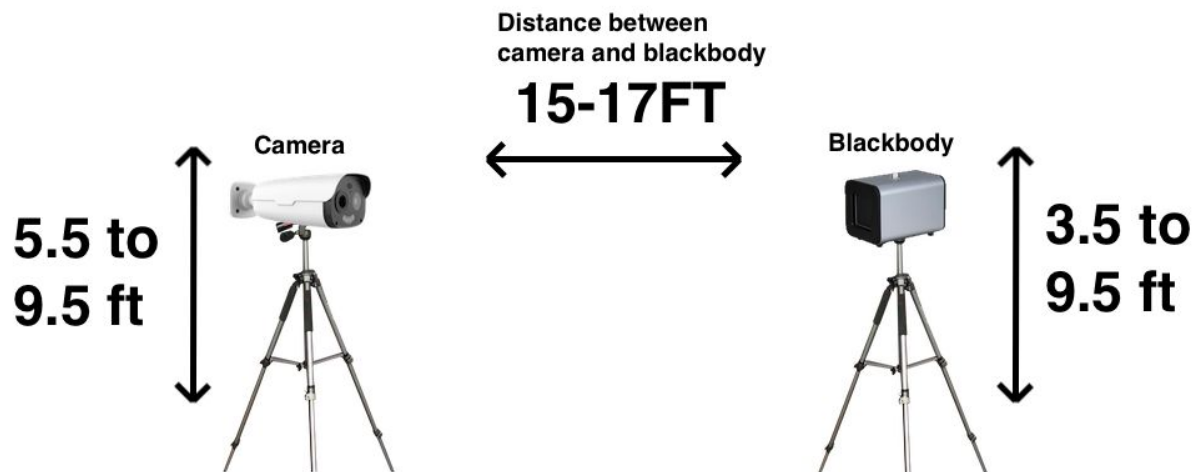
The Apollo is a precision device measuring very small variations in temperature change and requires specific environmental, screening, and calibration procedures in order to produce consistent and accurate results. Please read and follow these guidelines carefully. If there are any questions please reach out to the SCW team.

Environmental Guidelines

- The Apollo is an indoor only device, outdoor tent use is unlikely to maintain the space and consistent environment needed to produce accurate results.
- The ambient temperature must be stable, tracked using an ambient thermometer within 3 feet of the camera.
- The ambient temperature must be between 61°F-89°F ideal range is 68°F-75°F.
- Avoid any heating/air conditioning vents within 9 feet of the camera and testing area.
- Avoid any strong sunlight or exceptionally strong interior lighting within the camera image or shining on the people being tested.
- Avoid any high temperature or temperature altering objects in the testing area, such as heaters, fans/misters, high powered lights, or heat producing machinery.
- It is highly recommended the operator of the Apollo system be trained with the calibration process and usage checklist in order to achieve accurate usage.

Setup Guidelines

The Apollo camera and blackbody have specific installation requirements to produce consistent results.



- The Apollo camera height should be between 5.5 feet and 9.5 feet.
- The Blackbody height should be between 3.5 feet and 9.5 feet.
- The distance between the camera and blackbody should be 15-17 feet.
- The Apollo camera must be able to see the Blackbody in the thermal view.
- Users and integrators should carefully plan a queue system, refer to “Screening Scenario” for more information. Follow social distance and mask protocols.
- Avoid creating testing pathways where people walk “behind” the blackbody in the camera view. For example, if the blackbody is on the right side of the image, be sure to have people approach from the left. In some cases having someone walk near or in front of the blackbody can trigger a false positive as the heat of the blackbody will interfere with the person.

Calibration Process

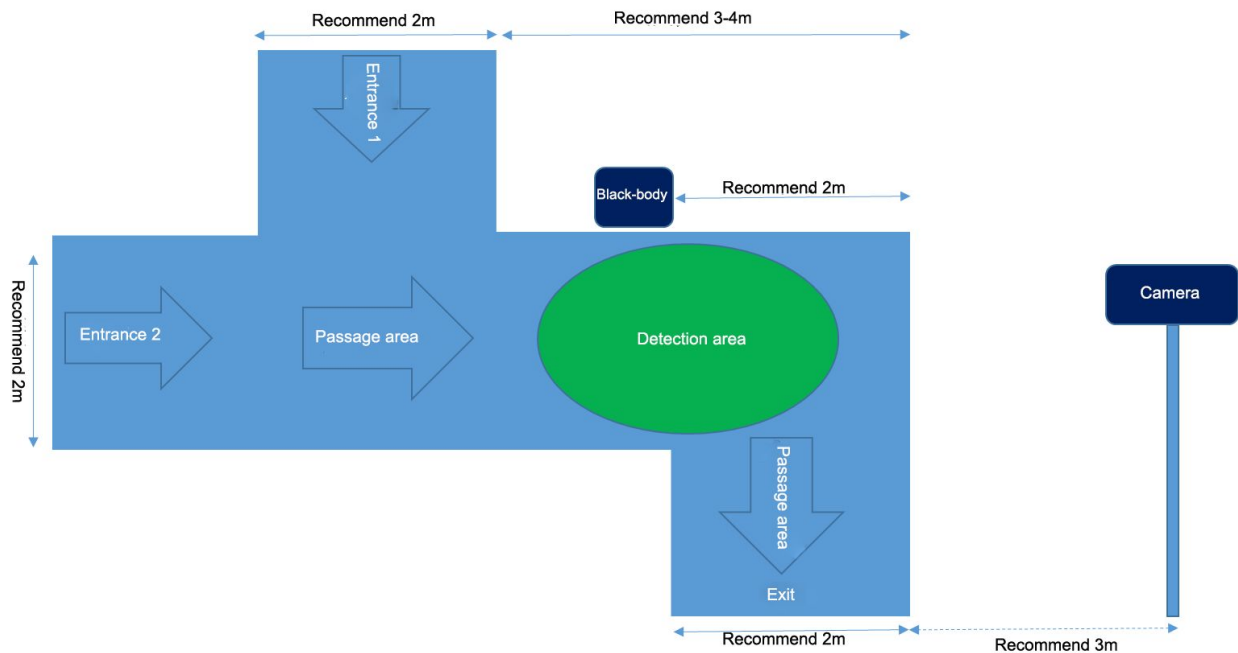
Calibration should occur once you have your system setup in its final location, be sure to have all the physical and digital settings configured before starting the calibration. The Apollo and blackbody should be powered and running for at least one hour before initial calibration.

- Have an ambient temperature thermometer within 3 feet of the camera. If this is your first calibration make sure the ambient thermometer sits for at least 24 hours to adapt to the temperature.
- Set the reported ambient temperature on the Apollo under “environment temperature” in the NVR
- Verify the blackbody is reporting 36 on the LCD and that the Blackbody temperature of the Apollo NVR is set to 36C/96.8F.
- Verify that the blackbody position is drawn accurately on the NVR.
- Have an FDA approved medical thermometer ready to calibrate, if using a touchless IR thermometer please note that most require calibration themselves backed against an internal (ear or mouth) thermometer.
- Have one person walk and stop in front of the Apollo, then note the temperature each time. Check the person’s temperature using the calibrated FDA approved thermometer right after getting The Apollo’s temperature reading. Be sure to carefully follow guidelines and steps for your thermometer.
- Write down both the Apollo’s and thermometers readings. Repeat this step 5 times and average the temperature for both readings.
- Be sure you are getting consistent temperature ranges. For example you should be consistently getting around the same temperature on the same person. If you are seeing large fluctuations (IE 97 one reading and 105 the next) check the troubleshooting guide.
- Go to the configuration and change the offset to the average temperature change between the medical thermometer and the Apollo. For example if The Apollo was reporting an average temperature of 99.2 for the test subject and the FDA approved thermometer was reporting 98.2 adjust the temperature difference to -1 degree.

Screening Scenario

When considering the Apollo, or any thermal camera for your facility it's important to consider the testing scenario and procedure. All thermal cameras should be considered front line screening devices - a medical grade thermometer should be used in the event of a high temperature reading.

Screening procedures should be considered with each facility's individual requirements and traffic flows in mind. For example, a facility with constant traffic may have a different screen scenarios than one with normally low traffic flow but also has large, set shift changes.



Screening scenario example

- People should be acclimated to the indoor temperatures for 2-5+ minutes prior to testing. People doing strenuous exercise (IE biking to work) should wait longer. This helps prevent false readings due to people being out in the heat or cold.
- It's recommended to set up a roped area so that people know how to flow through the testing scenario. The width of the testing area should be about 2m or 6.5FT.
- To manage social distancing in lines/queues, consider putting spots on the ground where people should stand, giving the recommended 6 feet of distance between each spot.

- The Apollo uses the forehead for temperature testing. The forehead should be clean and dry - users must remove hats, headbands, sunglasses, and pull hair away from the forehead during testing. Masks may be worn during testing.
- Consider having signs that indicate how to proceed around the queue area - including info on what to remove (such as hats as indicated above)
- Temperatures should be read while people are 10-20 feet away from the camera.
- People should be walking directly into the camera view, turning away after testing as indicated in the image above. People should face the camera directly, avoiding people looking down or side glances. People should be walking at a pace of no more than 2 steps per second.
- Your operator should be trained to alert anyone not following these procedures as they approach.
- The Apollo can read multiple people at a time, however the FDA guidelines recommend that all thermal camera systems should only test one person at a time.

Usage Checklist

Follow this checklist *at least* daily upon arrival and prior to the first testing. If the system is used intermittently for staff changes, check each staffing change. If the system is used constantly throughout the day SCW recommends verifying every 4 or 8 hours depending on traffic level.

- Be sure the system is up and running at least 1 hour prior to people coming in to acclimate to the location. SCW does not recommend turning the system off overnight.
- Check your ambient thermometer and verify the environmental temperature setting on the Apollo matches, adjust if needed. If the temperature needs to be adjusted re-calibrate.
- Verify that the camera was not physically moved and that the Blackbody location in settings is drawn correctly. Even a slight adjustment or simply someone “bumping” the camera will affect accuracy. If it was moved and needs to be redrawn, you should recalibrate the Apollo.
- Verify that the Blackbody LCD is reporting 36 for both settings.

- Do a test run and verify temperatures with your screening FDA approved thermometer. If the temperatures are off - use the adjustment to re-calibrate for the day if necessary.
- While testing it's most critical to obtain consistency with temperatures to gauge vs your FDA approved internal thermometer as noted in the calibration instructions.