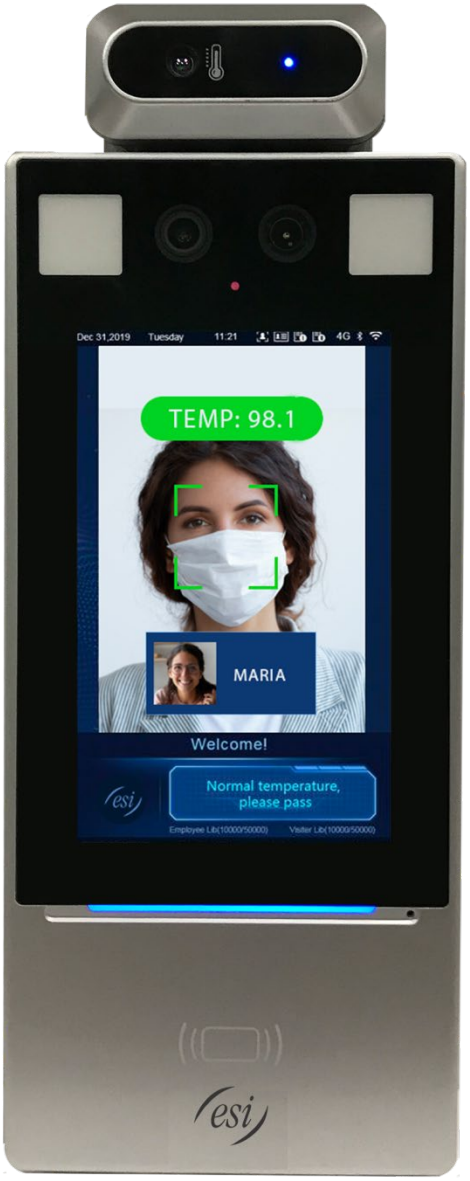
5D Access Thermal Reader

Installation Guide

This Guide outlines the installation and start up of the 5D Access Thermal Reader.



Contents

Packing List 3

Tools 3

Product Overview 3

Environmental Conditions 3

Appearance and Size 4

Bracket Introduction 5

Structure Description 6

Device Installation 6

Cable layout and environment 6

Wiring description 7

Installation Steps 8

Wall mount 8

Standing pole mount 10

Device Startup 11

Device configuration 11

Local configuration 11

Configuration on the Web interface 12

Personnel Management 13

Precautions 14

Face Recognition Precautions 14

Face Photo Collection Requirements 14

Face Match Position 14

Face Match Posture 15

Assembly Pictures for more clarification 16

FAQs 22

Packing List

Name	Qty	Unit
Digital Thermal detection module	1	PCS
Screw kit There are two types: Screw kit 1: two M4x16 pan head screws, two M4 nuts, and two M3x6 pan head screws; screw kit 2: two M3x6 pan head screws	2	Set
Special statement stickers	4	PCS
5D Access Thermal Reader	1	PCS
Screw component	1	Set
Brackets (one Thermal Detection Module bracket and one 5D Access Thermal Reader bracket)	2	PCS
T10 box-end wrench with hole-L shape	1	PCS
Installation sticker	1	PCS
20-pin cable	1	PCS
2-pin power cable	1	PCS
Quick Reference Guide	1	PCS
12 volt power supply and barrel jack	1	PCS

Tools

Antistatic wrist strap
Marker
Drill
M8/M6 open-end wrench
Phillips screwdriver
Slotted screwdriver
Tape Measure
5D Access thermal Reader Installation Manual 0455-0267.

Product Overview

The 5D Access Thermal Reader is a non-contact device for human body temperature measurement. It has a simple and elegant appearance offers high precision, low error face recognition and temperature measurement. It can allow or deny door access by facial recognition and face temperature. It is capable of generating an alarm when a person is not recognized or has an abnormal temperature.

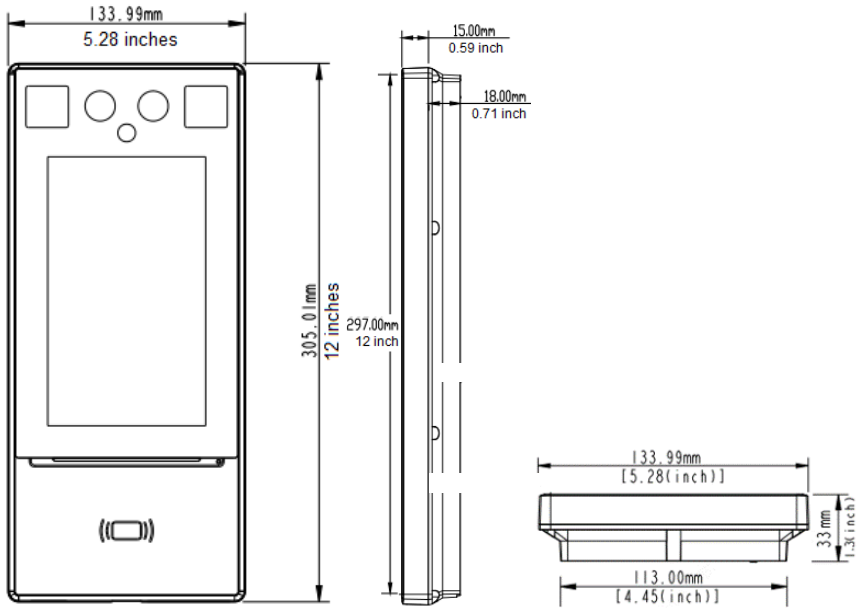
Also reference document 0455-0270 (User Guide) and 0455-0271 (Administration Guide)

Environmental Conditions

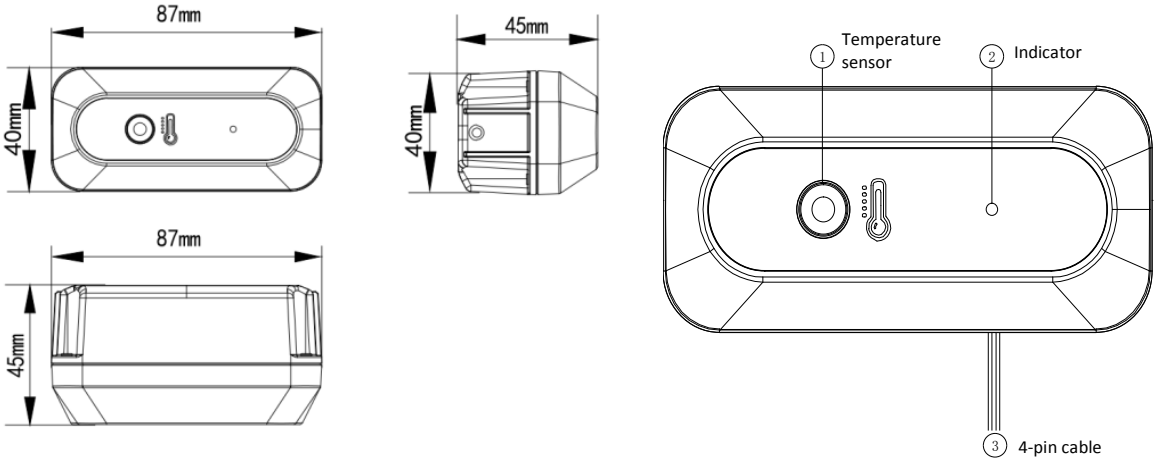
- Indoor use
- Altitude: < 6,500 ft (2,000M)
- Environmental temperature: + 60 F ~ + 86 F (16 C ~ 30 C)
- Relative humidity: < 95% RH
- Mains supply voltage fluctuations: ±10%
- Overvoltage category (except cord/plug-connected equipment): Ⅱ
- Pollution degree of the intended environment: The operational environment should be clean and dust free (Pollution degree 2). If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be compromised.

Appearance and Size

Approximate dimensions of 5D Access Thermal Reader: 134mm (5.28 inches) wide. 305mm (12 inches) tall. 33mm (1.3 inches) deep.

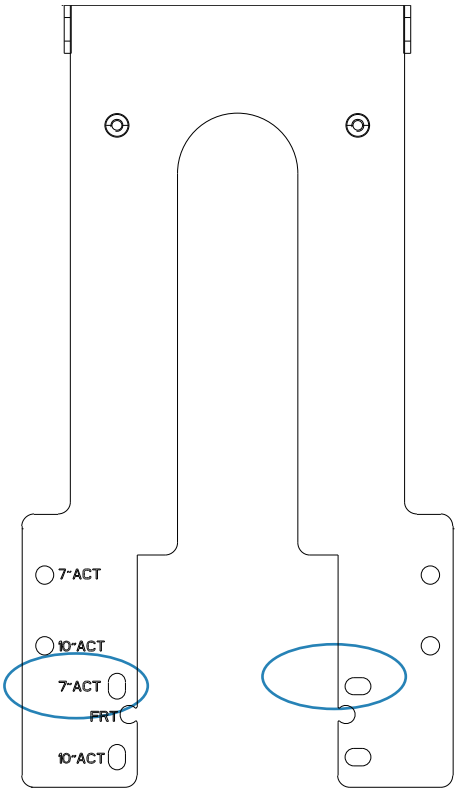


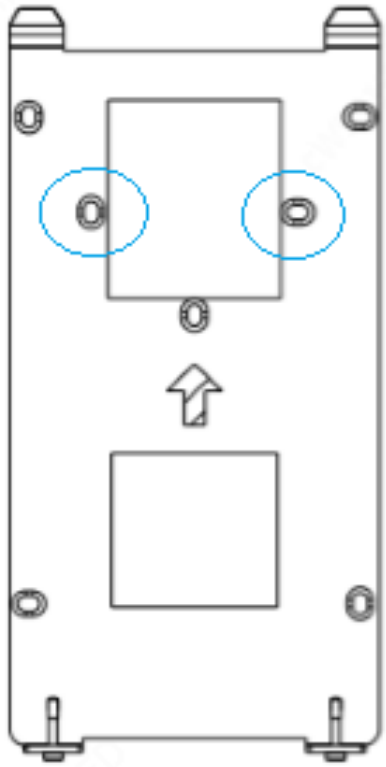
Approximate dimensions of Thermal Detection Module: 87mm (3.4 inches) wide. 40mm (1.6 inches) tall. 45mm (1.8 inches) deep

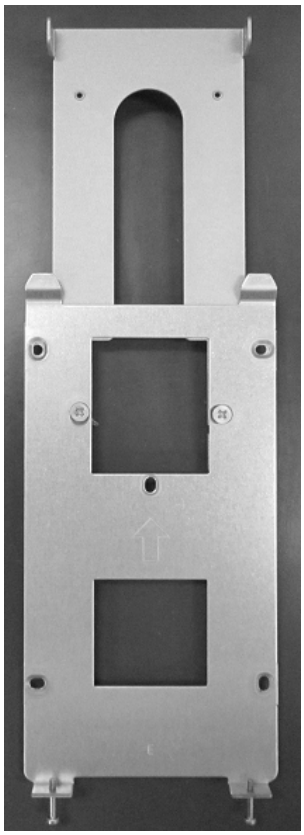


Bracket Introduction

The bracket for mounting the Thermal Detection Module to the 5D Access Thermal Reader is delivered with four M4x11 screws and two M4 wing nuts.
Use the 7-ACT holes circled in blue for assembling the thermal dection module bracket (left image) to the 5D Access Thermal Reader bracket (middle image).
The final assembled bracket will look like the image on the far right. See diagram below.

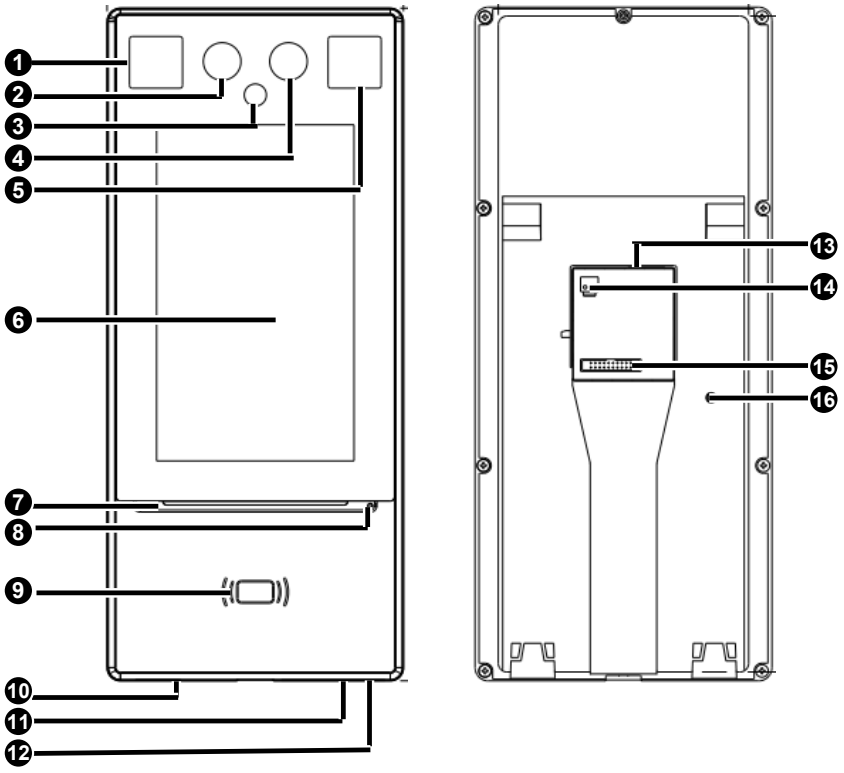






Structure Description

The figure below shows the structure of the device. The actual device shall prevail.



1.Light supplement lamp 1	2.Infrared camera
3.Infrared light supplement lamp	4.Visible light camera
5.Light supplement lamp 2	6.Display screen
7.Pass-through indicator	8.Microphone
9.Card reading area	10.Loudspeaker
11.Reset button	12.USB2.0
13.Network interface	14.Power input (DC 12V)
15.20-pin interface	16.Tamper proof button

Device Installation

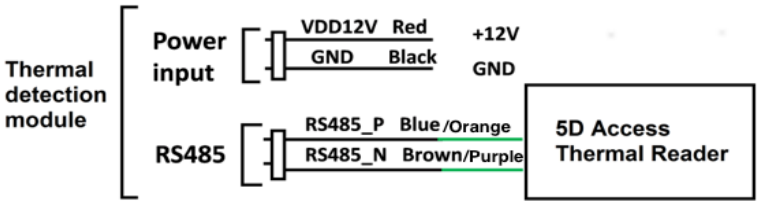
Cable layout and environment

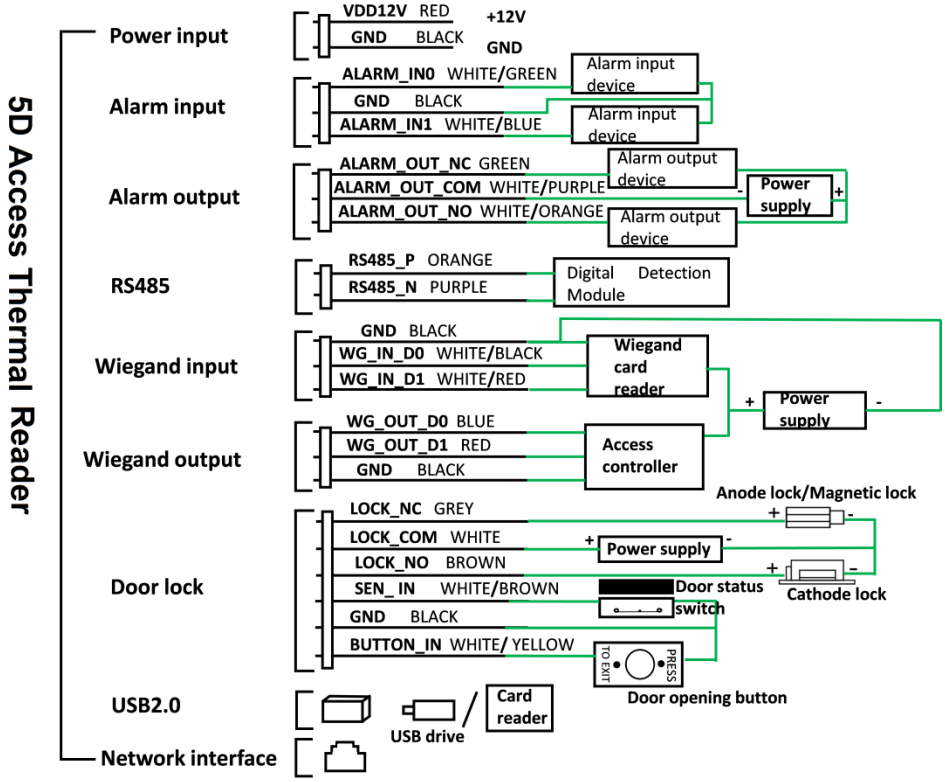
Before installing the 5D Access Thermal Reader, plan the layout of all cables and the location. The location should clean, dry and away from direct sunlight. For the power cable diameter selection, see the table below.

The device is powered by DC 12V/2A and the lower limit of the operating voltage is DC 9V (12V–25%).				
Wire Diameter (mm)	0.8mm (20 AWG)	1mm (18 AWG)	1.25mm (16 AWG)	1.63mm (14 AWG)
Transmission Distance (m)	18	37	58	99

Wiring description

The figure below shows the wiring between the digital thermal detection module.





Per the wiring diagrams, make the following connections between the 5D Access Thermal Reader, Thermal Detection Module and the Barrel Adapter. Be sure to also reference Installatoin Guide 0455-0267 for more information.

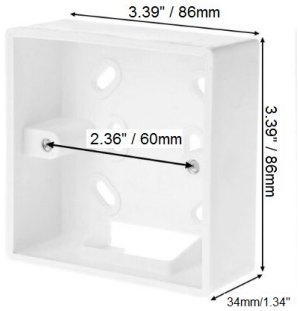
- Connect the black wire of the Thermal Detection Module and the black wire of the 5D Access Thermal Reader to the black wire of the Barrel Adapter.
- Connect the red wire of the Thermal Detection Module and the red wire of the 5D Access Thermal Reader to the red wire of the Barrel Adapter.
- Connect the BLUE wire of the thermal detection module to the ORANGE wire of the 5D Access Thermal Reader wiring harness.
- Connect the BROWN wire of the Thermal Detection Module to the PURPLE wire of the 5D Access Thermal wiring harness.
- When all wire connections are made, plug Barrel Adapter into power supply and connect the provided power cable and data cable to the appropriate connectors on the 5D Access Thermal Reader. Note that there is a convenient wiring chart on the back of the 5D Access Thermal Reader.

Installation Steps

Wall mount

1. Determine the position of the wall-mounted 3.39x3.39 inch (86x86mm) junction box.

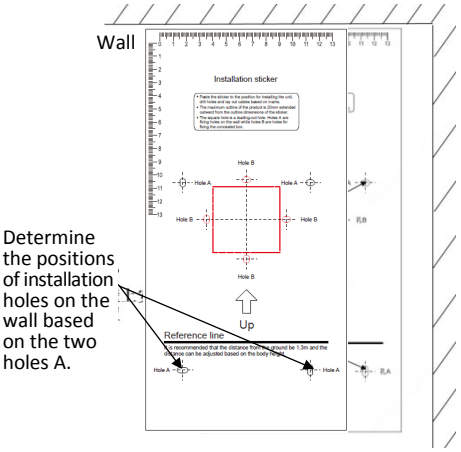
This installation embeds a junction box in the wall in advance or makes a hole on the wall to embed the box.



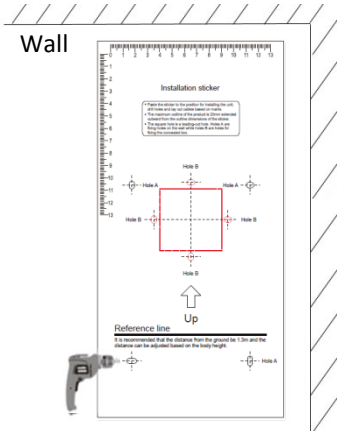
NOTE!

There are two installation holes on the junction box. They can be parallel to the ground or vertical to the ground. They need to map to intermediate holes on the bracket during actual installation.

2. Align the installation sticker with the junction box and align the two holes “B” on the sticker with the two installation holes on the junction box. Determine the positions of installation holes on the wall based on the two holes “A” on the sticker.



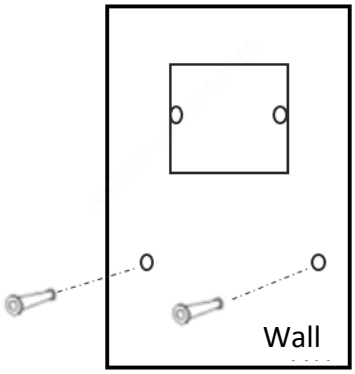
3. Drill two ¼ inch holes (shown as “A” on the sticker) deep enough to drill through the drywall.



Note:

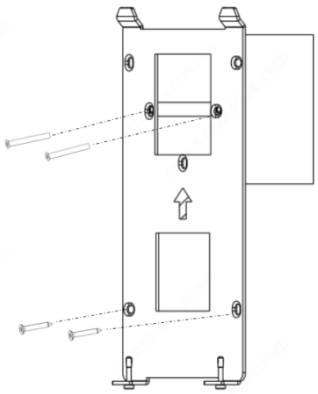
Avoid embedded wires in the wall during drilling!

4. Embed drywall anchors inside the two installation holes on the wall.

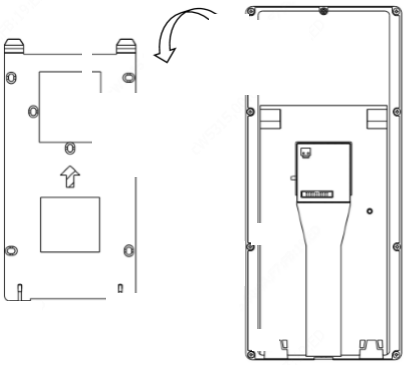


5. Bracket.

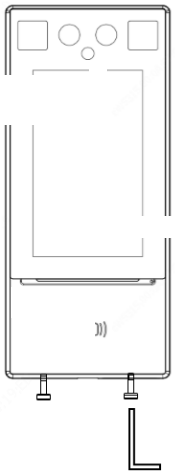
   Align holes on the bracket with installation holes on the wall and junction box and use the Phillips screwdriver to tighten the screws clockwise to fasten the bracket to the wall.



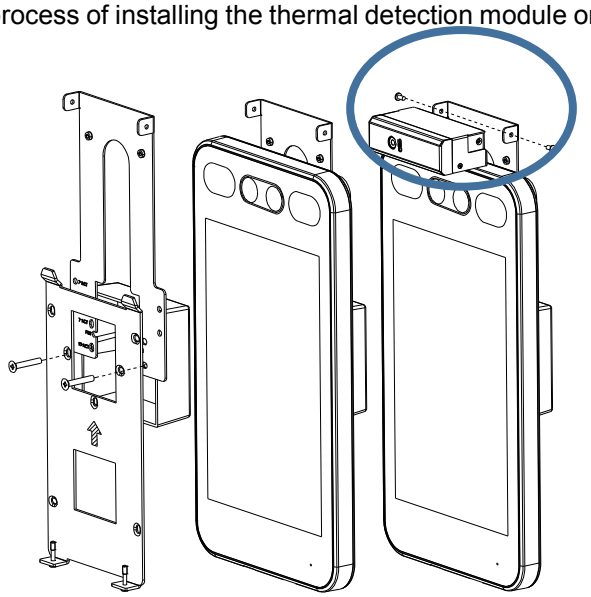
6. Fasten the access control terminal to the bracket hook.



7. At the bottom of the device (dotted box as shown in the figure below), use the L-shape wrench to tighten the two fastening screws clockwise.

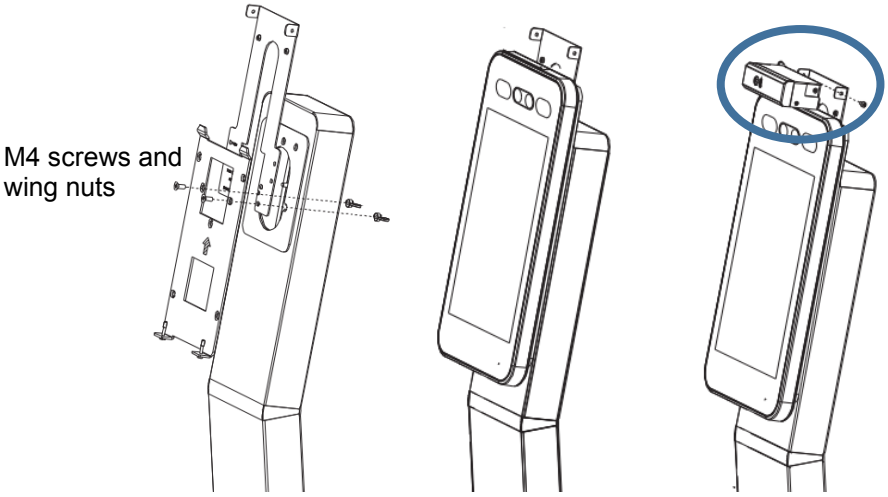


The figure below shows the process of installing the thermal detection module onto the 5D Access Thermal Reader.



Standing pole mount

The figure below shows the process of installing the thermal detection module on a standing pole when the module is to be used in combination with a 5D Access Thermal Reader.



Device Startup

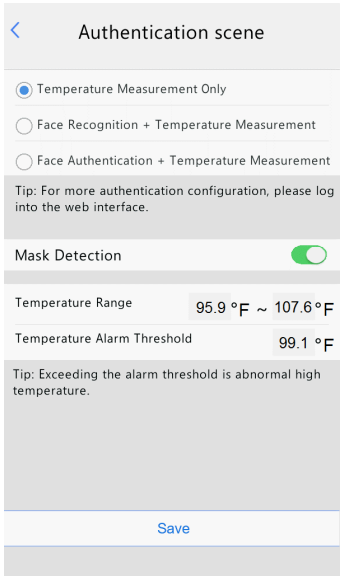
After the device is installed correctly and all wiring connections have been made, plug power supply into wall outlet to start the device. The display will light up, and the live view will be displayed on the screen, indicating that the device started successfully. You can now log into the Web page of the 5D Access Face Thermal Reader and configure it. Reference 0455-0270 User Guide and 0455-0271 Administration Guide.

Device configuration

Local configuration

At the 5D Access Thermal Reader screen, tap and hold the GUI for more than 3 seconds until it prompts for an activation password. Enter the correct activation password to go to the **Activation Config** interface.

After Activation Config is complete, you can enable the temperature measurement function on the **Authentication Scene** interface of the 5D Access Thermal Reader as shown below.

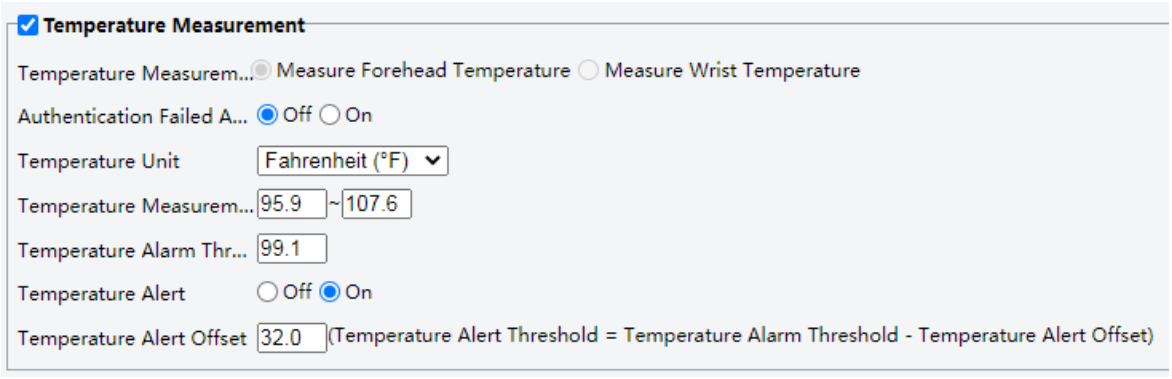


Configuration on the Web interface

You can log in to the Web page of the 5D Access Thermal Reader to manage and maintain the device. For detailed operations, see the *5D Access Thermal Reader User Manual and 5D Access Thermal Reader Administration Manual*.

- On a client PC, open the Internet Explorer (IE9 or later), enter the IP address of the device 192.168.1.13 into the address bar, and press **Enter**.
- In the login dialog box, enter the username (**admin** by default) and password (**123456** by default), and click **Login** to access the Web page.

To enable the temperature measurement function and configure the temperature Measurement range, go to **Setup** > **Intelligent** > **Advanced Setting**.



NOTE!

- DHCP is enabled by default. If a DHCP server is used in the network environment, an IP address may be dynamically assigned to the device. Log in with the actual IP address.
- At initial login, the system will prompt you to install a plugin. Close all browsers when installing the plugin. Follow instructions on the page to complete the plugin installation, and then restart the Internet Explorer to log in to the system.
- The default password of this product is used only for initial login. You are required to change the default password after initial login to ensure security. Set a strong password of at least nine characters including all three elements: digits, letters and special characters.

If the password has been changed, use the new password to log in to the Web interface.

Personnel Management

The 5D Access Thermal Reader supports personnel management on the Web interface and GUI interface.

- Personnel management using the Web interface

On the Web interface, you can add persons (one by one or in batches), modify person information, or delete persons (one by one or together). The detailed operations are described as follows:

  - Log in to the Web interface.
  - Choose **Setup** > **Intelligent** > **Face Library** to go to the **Face Library** interface, on which you can manage personnel information. For detailed operations, see the *5D Access Thermal Reader User Manual*.

- Personnel management using the GUI
  - Tap and hold the main interface of the 5D Access Thermal Reader (for more than 3s).
  - On the displayed password input interface, enter the correct activation password to go to the **Activation Config** interface.
  - On the **Activation Config** interface, click **User Management**. On the displayed **User Management** interface, input personnel information. For detailed operations, see the *5D Access Thermal Reader User Manual*.

Precautions

Face Recognition Precautions

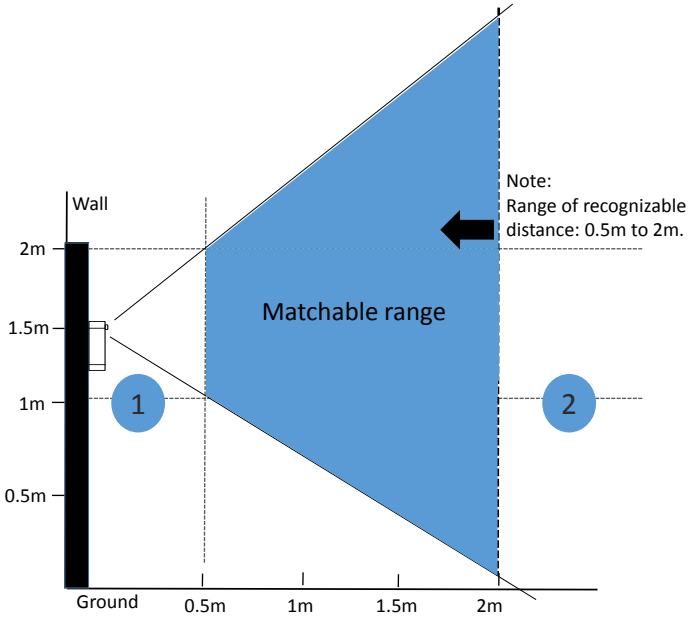
Face Photo Collection Requirements

- General requirement: bareheaded full face photo, with the front side facing the camera.
- Range requirement: The photo should show the outline of a person's both ears and cover the range from the top of the head (including all hair) to the bottom of the neck.
- Color requirement: true color photo.
- Makeup requirement: There should be no cosmetic color that affects the true appearance during collection, such as eyebrow makeup and eyelash makeup.
- Background requirement: The white, blue, or other pure color background is acceptable.
- Light requirement: Light with appropriate brightness is required during collection. Too dark photos, too bright photos, and light- and dark-colored face photos should be avoided.

Face Match Position

The figure below shows the correct face match position in meters (1 meter ~ 39 inches).

Figure 1-1 Face Match Position



The face match position should be within the recognizable range shown in the figure. If face match fails in area 1 shown in the figure, move backward. If face match fails in area 2 shown in the figure, move forward.

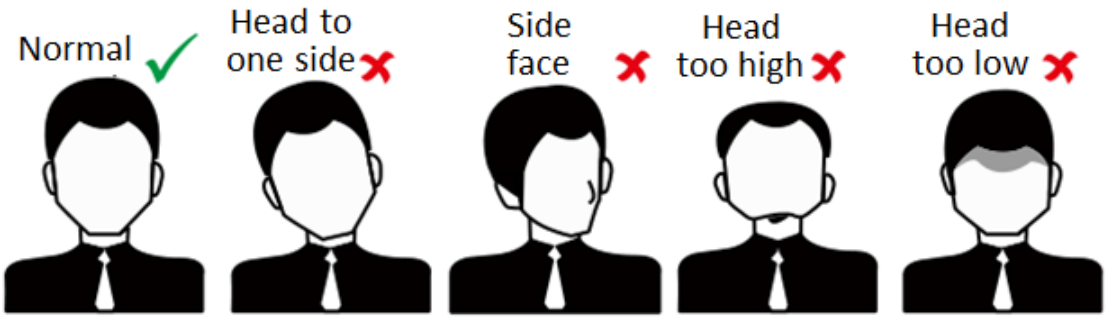
Face Match Posture

- **Facial Expression**

  To ensure the accuracy of face match, keep natural expression during the match (as shown in the figure below).

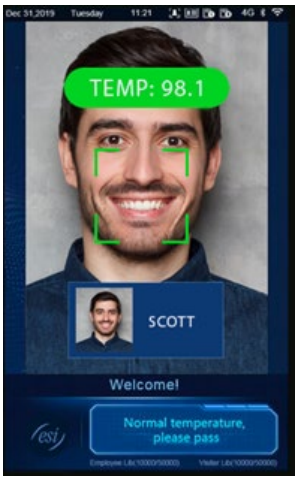
- **Facial Posture**

  To ensure the accuracy of face match, keep the face facing the recognition window during the match. Avoid the head to one side, side face, head too high, head too low, and other incorrect postures.

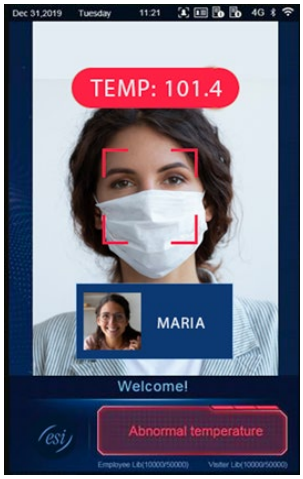


Device operations

When the temperature needs to be measured, a person needs to get close to occupy the human shape on the screen and aim the forehead center at the red circle.



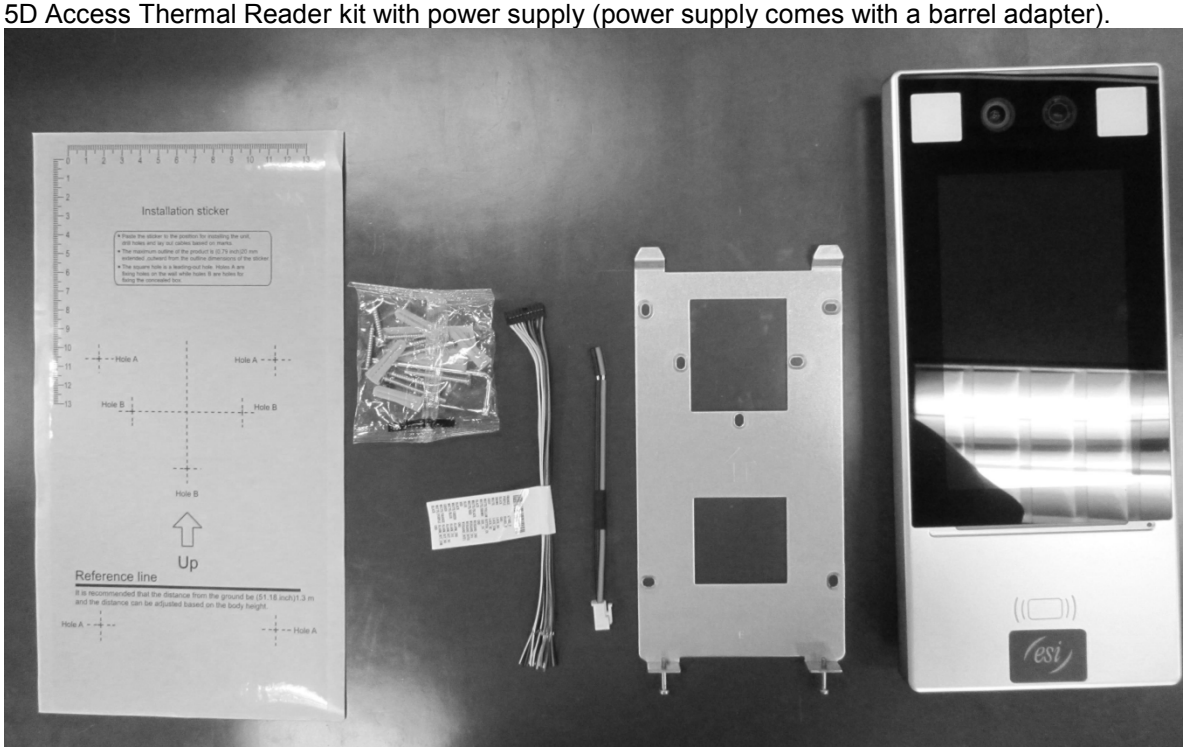
Normal temperature



Abnormal temperature

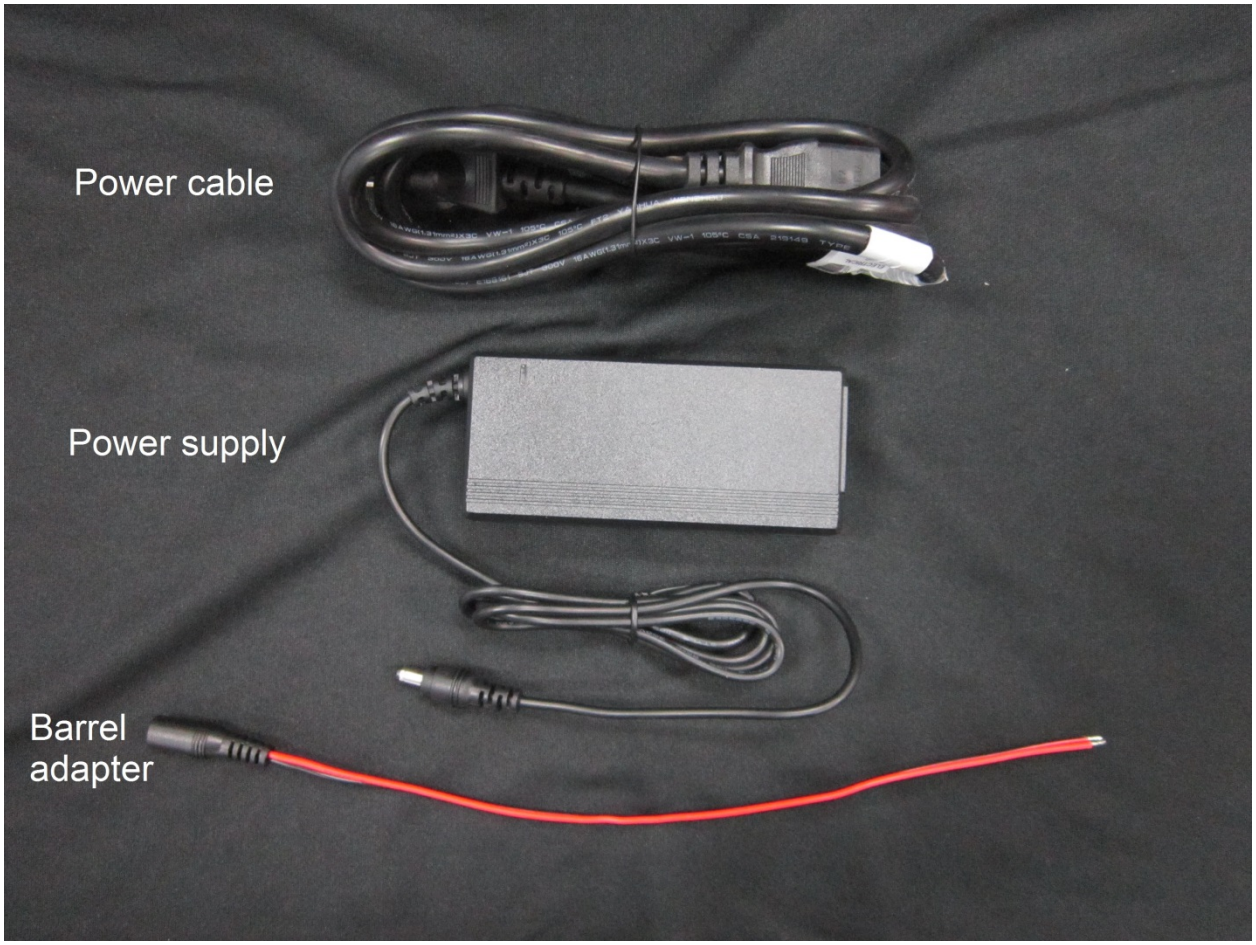
Assembly Pictures for more clarification

5D Access Thermal Reader kit with power supply (power supply comes with a barrel adapter).

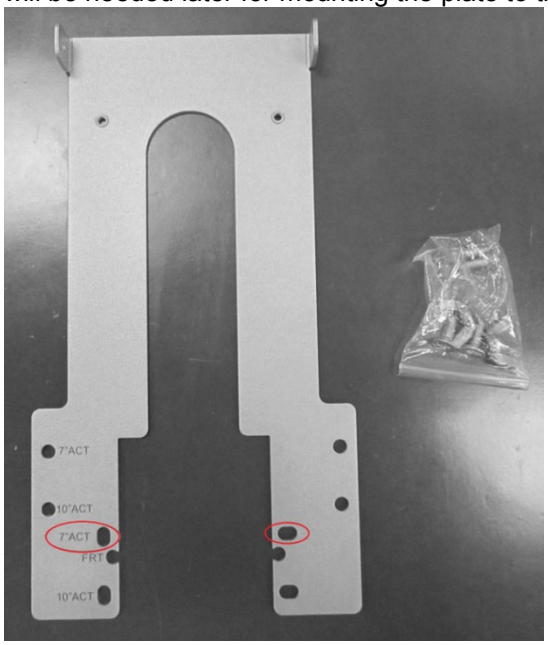


Digital Temperature Detection Module and mounting screws.

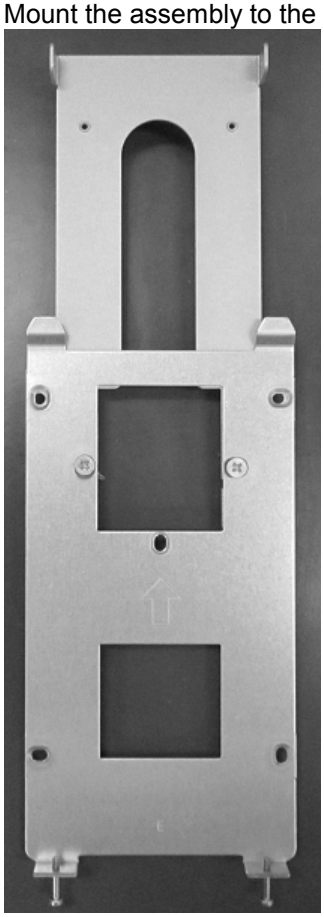
Power cable, power supply and and barrel adapter cable.
The barrel adapter cable will be spliced onto the Thermal Detection Module and the two pin power cable that came with the 5D Access Thermal Reader.



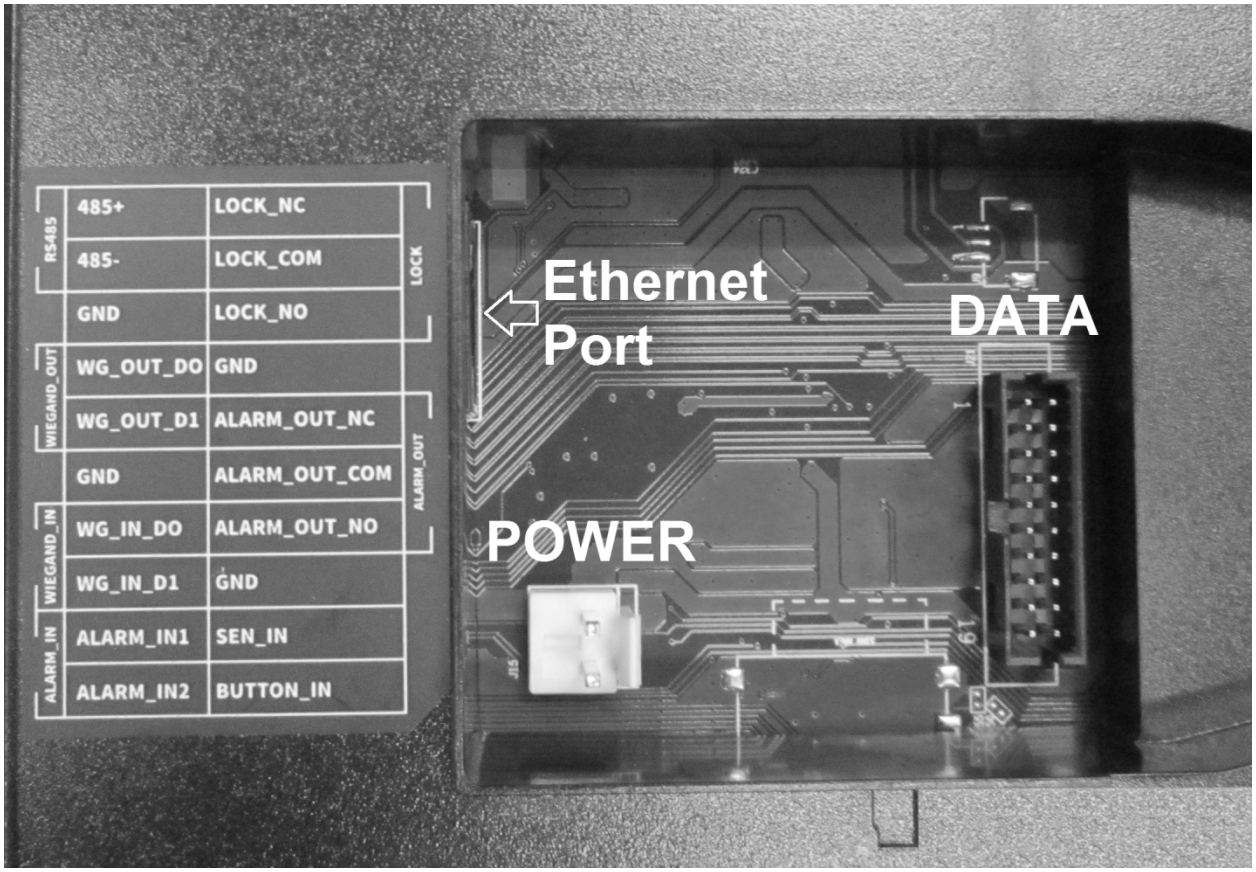
Digital Temperature Detection Module mounting plate. Take note of the holes highlighted below. They will be needed later for mounting the plate to the 5D Access Thermal Reader mounting plate.



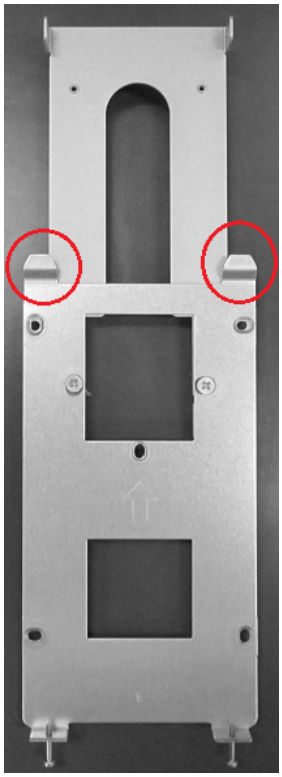
Assemble the Digital Temperature Detection Module mounting plate onto 5D Access Thermal Reader mounting plate and mount the assembly onto a wall or stand. The assembly will look as shown below. Mount the assembly to the mounting location.



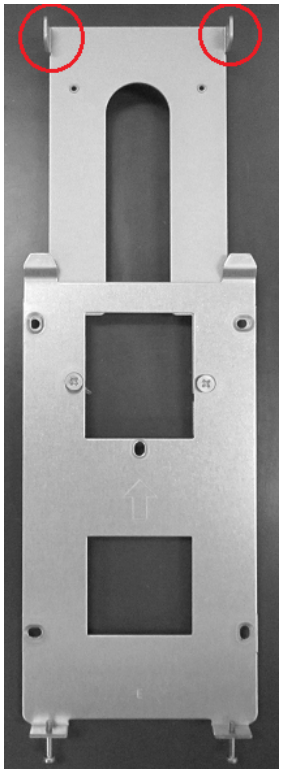
Per the wiring diagram on page 5, make the following connections between the 5D Access Thermal Reader and the Thermal Detection Module and the Barrel Adapter:
Connect the black wire of the Thermal Detection Module and the black wire of the 5D Access Thermal Reader to the black wire of the Barrel Adapter.
Connect the red wire of the Thermal Detection Module and the red wire of the 5D Access Thermal Reader to the red wire of the Barrel Adapter.
Connect the BLUE wire of the thermal detection module to the ORANGE wire of the 5D Access Thermal Reader wiring harness.
Connect the BROWN wire of the Thermal Detection Module to the PURPLE wire of the 5D Access Thermal wiring harness.
When all wire connections are made, plug Barrel Adapter into power supply and connect the provided power cable and data cable to the appropriate connectors on the 5D Access Thermal Reader. Note that there is a convenient wiring chart on the back of the 5D Access Thermal Reader.



Slide 5D Access Thermal Reader onto mounting plate assembly making sure that the slots on the back of the 5D Access Thermal Reader engage the tabs shown below.



Mount Digital thermal Detection Module onto the mounting plate assembly using the tabs shown below.



Install two screws that came with the Digital Thermal Detection Module as shown below.

Use the torx security tool provided with the 5D Access Thermal Reader kit to tighten the screws at the bottom of the 5D Access Thermal Reader shown below.

FAQs

Failure/ Symptom	Solution
What should I do if the temperature measurements cannot be taken?	8. Check whether the measurement distance is proper. The recommended measurement distance is 1.5’ – 3’. 9. Check whether the users get close enough to occupy the human shape on the screen and aim the forehead center at the red circle. 10. Check whether the forehead is covered by fringes, hats, sunglasses, or other objects when the forehead temperature needs to be taken. If so, remove such objects and wait approximately 30 seconds to 1 minute before the temperature can be accurately measured. 11. Check whether the body surface temperature is too low. If a person comes from an outdoor low-temperature environment to the measurement area, the person needs to stay in this area for approximately 5 minutes before the temperature can be accurately measured.
What should I do if the temperature measured by the device is inaccurate?	1. The device requires preheating after initial power up. It enters the optimal temperature measurement state 15 minutes later. 2. Check whether the user is too close to occupy the human shape on the screen and aim the forehead center at the red circle. 3. Check whether the forehead is covered by fringes, hats, sunglasses, or other objects when the forehead temperature needs to be taken. If so, remove such objects and wait approximately 30 seconds to 1 minute before the temperature can be accurately measured. 4. Check whether the device is used in an environment with low temperature, high temperature, or strong wind. If yes, deploy the device in an indoor windless environment with the temperature of 60°F to 86°F.
What should I do when a high temperature alarm is falsely? reported during measurement?	1. Check whether a person has extenuating circumstances that may affect the body temperature, for example, getting out of a hot car, doing strenuous exercise, or carrying hot drinks and hot food. If yes, the person needs to stay in the measurement area calmly and have the temperature taken approximately 5 minutes later. 2. Check whether the device is used in an overheated environment. If yes, deploy the device in an indoor windless environment with the temperature of 60°F to 86°F. (16 C ~ 30 C) 3. Use a medical-grade temperature measurement device for a recheck.

Copyright Statement

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The product described in this manual may contain proprietary software owned by ESI and its possible licensors. Unless permitted, no one is allowed to copy, distribute, modify, abstract, decompile, disassemble, decrypt, reverse engineer, rent, transfer, or sublicense the software in any form by any means.

Privacy Rule for HIPPA

The Standards for Privacy of Individually Identifiable Health Information (“Privacy Rule”) establishes, for the first time, a set of national standards for the protection of certain health information. The U.S. Department of Health and Human Services (“HHS”) issued the Privacy Rule to implement the requirement of the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”).1 The Privacy Rule standards address the use and disclosure of individuals’ health information—called “protected health information” by organizations subject to the Privacy Rule — called “covered entities,” as well as standards for individuals' privacy rights to understand and control how their health information is used. Within HHS, the Office for Civil Rights (“OCR”) has responsibility for implementing and enforcing the Privacy Rule with respect to voluntary compliance activities and civil money penalties.

A major goal of the Privacy Rule is to assure that individuals’ health information is properly protected while allowing the flow of health information needed to provide and promote high quality health care and to protect the public's health and wellbeing. The Rule strikes a balance that permits important uses of information, while protecting the privacy of people who seek care and healing. Given that the health care marketplace is diverse, the Rule is designed to be flexible and comprehensive to cover the variety of uses and disclosures that need to be addressed.

This is a summary of key elements of the Privacy Rule and not a complete or comprehensive guide to compliance. Entities regulated by the Rule are obligated to comply with all of its applicable requirements and should not rely on this summary as a source of legal information or advice. To make it easier for entities to review the complete requirements of the Rule, provisions of the Rule referenced in this summary are cited in the end notes. Visit our Privacy Rule section to view the entire Rule, and for other additional helpful information about how the Rule applies. In the event of a conflict between this summary and the Rule, the Rule governs.

HHS.gov/HIPPA

Privacy Protection Reminder

Our company complies with appropriate privacy protection laws and is committed to protecting user privacy. Please be aware, using the product described in this manual may involve the collection of personal information such as faces, emails and phone numbers and tine inadvertent collection of back ground images such as license plate numbers or other back ground information. Please abide by your local laws and regulations while using the product.

About This Manual

- The photos, illustrations, descriptions, etc, in this manual may be different from the actual appearances, functions, features, etc, of the product.
- This manual is intended for multiple software versions, and the illustrations and descriptions in this manual may be different from the actual GUI and functions of the software.
- Despite our best efforts, technical or typographical errors may exist in this manual. Our company cannot be held responsible for any such errors and reserves the right to change the manual without prior notice.
- Users are fully responsible for the damages and losses that arise due to improper operation.
- Our company reserves the right to change any information in this manual without any prior notice or indication. Due to such reasons as product version upgrade or regulatory requirement of relevant regions, this manual will be periodically updated.

Disclaimer of Liability

- To the extent allowed by applicable law, in no event will ESI be liable for any special, incidental, indirect, consequential damages, nor for any loss of profits, data, and documents.
- The product described in this manual is provided on an "as is" basis. Unless required by applicable law, this manual is only for informational purpose, and all statements, information, and recommendations in this manual are presented without warranty of any kind, expressed or implied, including, but not limited to, merchantability, satisfaction with quality, fitness for a particular purpose, and non-infringement.

- Users must assume total responsibility and all risks for connecting the product to the Internet, including, but not limited to, network attack, hacking, and virus. We strongly recommend that users take all necessary measures to enhance the protection of network, device, data and personal information. Our company disclaims any liability related thereto.
- To the extent not prohibited by applicable law, in no event will ESI and its employees, licensors, subsidiary, affiliates be liable for results arising out of using or inability to use the product or service, including, not limited to, loss of profits and any other commercial damages or losses, loss of data, procurement of substitute goods or services; property damage, personal injury, business interruption, loss of business information, or any special, direct, indirect, incidental, consequential, pecuniary, coverage, exemplary, subsidiary losses, however caused and on any theory of liability, whether in contract, strict liability or tort (including negligence or otherwise) in any way out of the use of the product, even if ESI has been advised of the possibility of such damages (other than as may be required by applicable law in cases involving personal injury, incidental or subsidiary damage).
- To the extent allowed by applicable law, in no event shall our total liability to you for all damages for the product described in this manual (other than as may be required by applicable law in cases involving personal injury) exceed the amount of money that you have paid for the product.

Network Security

Please take all necessary measures to enhance network security for your device.

The following are necessary measures for the network security of your device:

- **Change default password and set a strong password**: You are strongly recommended to change the default password after your first login and set a strong password of at least nine characters including all three elements: digits, letters and special characters.
- **Keep firmware up to date**: It is recommended that your device is always upgraded to the latest version for the latest functions and better security. Contact your local dealer for the latest firmware.

The following are recommendations for enhancing network security of your device:

- **Change password regularly**: Change your device password on a regular basis and keep the password safe. Make sure only the authorized user can log in to the device.
- **Enable HTTPS/SSL**: Use SSL certificate to encrypt HTTP communications and ensure data security.
- **Enable IP address filtering**: Allow access only from the specified IP addresses.
- **Minimum port mapping**: Configure your router or firewall to open a minimum set of ports to the WAN and keep only the necessary port mappings. Never set the device as the DMZ host or configure a full cone NAT.
- **Disable the automatic login and save password features**: If multiple users have access to your computer, it is recommended that you disable these features to prevent unauthorized access.
- **Choose username and password discretely**: Avoid using the username and password of your social media, bank, email account, etc, as the username and password of your device, in case your social media, bank and email account information is leaked.
- **Restrict user permissions**: If more than one user needs access to your system, make sure each user is granted only the necessary permissions.
- **Disable UPnP**: When UPnP is enabled, the router will automatically map internal ports, and the system will automatically forward port data, which results in the risks of data leakage. Therefore, it is recommended to disable UPnP if HTTP and TCP port mapping have been enabled manually on your router.
- **SNMP**: Disable SNMP if you do not use it. If you do use it, then SNMPv3 is recommended.
- **Multicast**: Multicast is intended to transmit video to multiple devices. If you do not use this function, it is recommended you disable multicast on your network.
- **Check logs**: Check your device logs regularly to detect unauthorized access or abnormal operations.
- **Physical protection**: Keep the device in a locked room or cabinet to prevent unauthorized physical access.
- **Isolate video surveillance network**: Isolating your video surveillance network with other service networks helps prevent unauthorized access to devices in your security system from other service networks.

Safety Warnings

The device must be installed, serviced and maintained by a trained professional with necessary safety knowledge and skills. Before you start using the device, please read through this guide carefully and make sure all applicable requirements are met to avoid danger and loss of property.

Storage, Transportation, and Use

- Store or use the device in a proper environment that meets environmental requirements, including and not limited to, temperature, humidity, dust, corrosive gases, electromagnetic radiation, etc.
- Make sure the device is securely installed or placed on a flat surface to prevent falling.
- Unless otherwise specified, do not stack devices.
- Ensure good ventilation in the operating environment. Do not cover the vents on the device. Allow adequate space for ventilation.
- Protect the device from liquid of any kind.
- Make sure the power supply provides a stable voltage that meets the power requirements of the device. Make sure the power supply's output power exceeds the total maximum power of all the connected devices.
- Verify that the device is properly installed before connecting it to power.
- Do not remove the seal from the device body without consulting our company first. Do not attempt to service the product yourself. Contact a trained professional for maintenance.
- Always disconnect the device from power before attempting to move the device.
- Take proper waterproof measures in accordance with requirements before using the device outdoors.

Power Requirements

- Installation and use of the device must be in strict accordance with your local electrical safety regulations.
- Use only the supplied cord set (power cord) in accordance with the specified ratings.
- Use a main socket outlet with a protective grounding connection.
- Ground your device properly if the device is intended to be grounded.

Regulatory Compliance

FCC Statements

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.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

LVD/EMC Directive

CE This product complies with the European Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

WEEE Directive–2012/19/EU

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Battery Directive-2013/56/EC

Battery in the product complies with the European Battery Directive 2013/56/EC. For proper recycling, return the battery to your supplier or to a designated collection point.