

ThermTec

IBEX

Thermal Imaging Scope IBEX SERIES User Manual



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V1.0

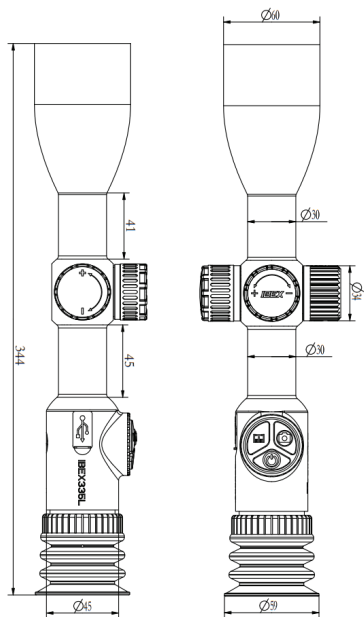


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About This Manual

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This Manual is applicable to Thermal Imaging Scope.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons.

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These clauses apply only to the products bearing the corresponding mark or information.



This product and, if applicable, the supplied accessories are marked with “CE” and comply therefore with the applicable harmonized European standards listed under the Radio Equipment Directive 2014/53/EU, the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



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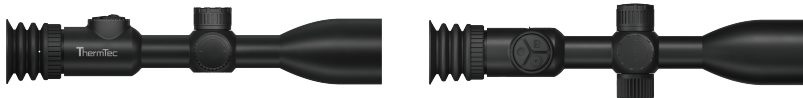
Directive 2006/66/EC and its amendment 2013/56/EU (Battery Directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

1 Introduction

1.1 Device Description

The IBEX Series Thermal Imaging Scope delivers exceptional performance: it has a high-sensitivity detector (less than 18mK, up to 384×288 resolution) for sharp imaging in tough conditions, a built-in LRF module for accurate ranging up to 1000m, and a 1600×1200 OLED display for long-distance views—even in harsh environments, low visibility, or total darkness. It lets users see through target-obscuring obstacles (e.g., light foliage) and calculate target distance precisely, connects seamlessly to a mobile app for live viewing and sharing, and with its user-friendly design (intuitive controls, simple interface), it's ideal for beginners too.

IBEX Series thermal imaging scope facilitates applications in a wide range of fields, including observation, night hunting, rescue operations, hiking, traveling, etc.



1.2 Features

18 mK Sharp Clarity

With NETD < 18 mK, a 50 Hz refresh rate, and 1600x1200 0.5" AMOLED display, IBEX captures subtle temperature differences, consistently delivering smooth and detailed imagery.

Integrated LRF Design

The LRF-integrated all-in-one streamlined design enhances visual appeal and structural strength while maintaining excellent optical performance, offering laser ranging capability up to 1000m.

Super Imaging Detail

Combining optical magnification with continuous digital zoom up to 14.8x, empowered by super-resolution algorithm, it delivers ultra-detailed images without any loss of quality.

Replaceable & Durable Batteries

Two replaceable 18650 batteries ensure durable operation, with each providing up to 6 hours of continuous use.

Central Turret Focus System

The unique central turret focus system makes it easier and more comfortable to focus compared to traditional focusing design.

Consistently Clear & Stable Image

ThermTec AI calibration reduces shutter frequency, minimizes image freezing and ensures stable and consistent images over changing environments.

Accurate Long-Range Shooting

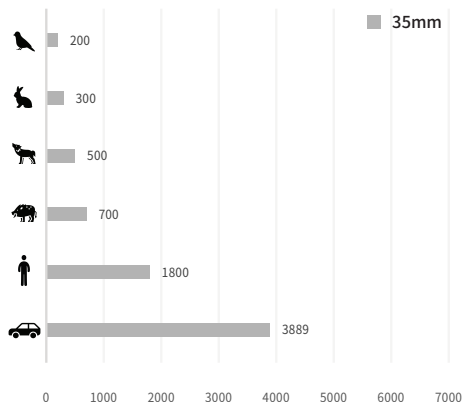
The ballistic calculator optimizes the aiming process of distant targets with automatic angle compensation analysis and custom impact reticles.

Intuitive Operation Design

The scratch-resistant aluminum alloy construction makes it lightweight and compact, weighing just 770g. Tactile buttons and an independent lens cover enhance operational comfort.

1.3 Detection Range

The illustration below shows the comparative range performance of the device with different lens configurations. The data is based on detecting a car of 4m, a man of 1.8m tall, a wild boar of 0.7m tall, a wolf of 0.5m tall, a rabbit of 0.3m tall and a bird of 0.2m tall.



1.4 Cautions



CAUTION



Avoid hard objects.



Do not aim the lens directly at the sun or high-temperature light sources.



Do not use the device in extremely cold or hot environment.



Charge the battery once every three months when it is not used for a long period of time.



Do not irradiate the laser indicator of the device to human eyes.



Never disassemble or modify the device on your own.

2 Packing List – IBEX



Scope (x1)



Service and support card (x1)



Charger (x1)



Lithium battery (x2)



USB cable (x1)



Lens cloth (x1)



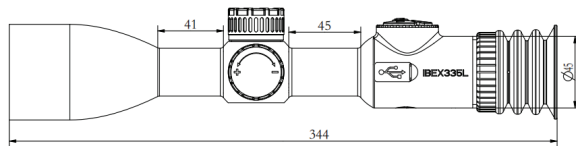
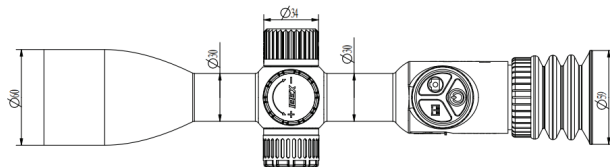
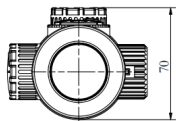
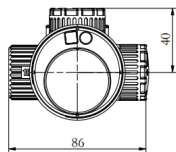
Specifications IBEX

Model IBEX335L	
Microbolometer	
Type	Uncooled
Resolution	384×288
Pixel pitch	12μm
NETD	<18mK
Spectral range	8-14μm
Frame rate	50Hz
Detection Range	1800m
Optics	
Objective lens	35mm
Field of view	7.5°×5.7°
m@100m	13.2×9.9
Magnification	3.7X
Digital zoom	1.0-4.0X
Eye relief	50mm
Exit pupil	6mm
Diopter	±5D
Aiming Reticle	
Reticle	7
Reticle color	6
Display	
Type	AMOLED
Resolution	1600×1200
Display size	0.5 inch
Color palette	6

Function	
Max. recoil power on rifled weapon	6000J
Mounting brackets on weapon	Standard 30mm rings
RAV	Yes
TASS	Yes
Audio Recording	Yes
Manual zeroing	Yes
Zeroing profiles	6
Freeze Zeroing	Yes
Picture-in-picture	Yes
LRF	1000m
Ballistic Calculator	Yes
Image calibration	Manual/Auto
Video Recorder	
Photo/video playback	Yes
Inbuilt memory	64GB
Interface	
Type C	Data transfer, Battery charge
Hotspot	Yes
Battery	
Battery type	Replaceable, 1*18650
Battery life	6h
Environment	
Operating temperature	-20- +50°C
IP rating	IP67
Weight, g	770±5(w/o Battery)
Size, mm	344(L)×86(W)×70(H)
Accessories	
External cable	USB data cable
Other accessory	eyeshade and etc.






4 Appearance


4.1 Dimensions



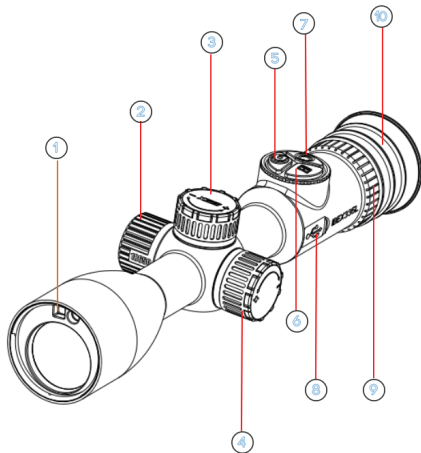
IBEX 335L reference only

4.2 Buttons and Operations

Before the entry of main menu					
Icon	Annotation	Rotation	Short Press	Long Press	Double Press
	Power button	/	Standby Mode	ON/OFF	Image calibration
	Laser Rangefinder	/	LRF Turn On/OFF	Outline mode	Color Palettes Shift
	Capture/Record	/	Take photos	Record	PIP on/off
	Rotating knob A	Digital zoom/ Contrast/Brightness	Shortcut menu	Entry/Exit shortcut or main menu	/
	Rotating knob B	Focus	/	/	/

After the Entry of Main Menu					
	Rotating Knob A	Rotation	Short Press	Long Press	Double Press
		Selection switching	OK	Exit	/

4.2 Buttons and Operations

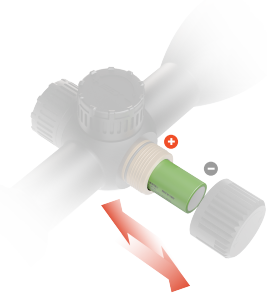


NO.	Comments
1	Laser rangefinder module
2	Battery slot with 18650
3	Focusing knob
4	Digital zoom knob
5	Photo/Record button
6	Laser rangefinder turn On/Off button
7	Power On/Off button
8	USB interface
9	Diopter adjustment
10	Rubber eyeshade

5 Operation Guide

5.1 Battery Installation

IBEX Series with one battery can be installed in the lateral battery holder, and there is negative polarity of battery that must be towards outside. Please refer to the following figure for the installation of the replaceable battery.



Note:

IBEX can be charged by the Type-c immediately.

5.2 Power-on the Device



Power button

Users could long press the power button to power on/off the device.

In addition, it is available to short press the power button to enter device' s standby mode to keep the screen locked.

5.3 Main Menu

Long press the digital zoom knob to enter the main menu. After the entry of Main Menu, short press the button for the operation of “confirmation”, and long press the button for the operation of “Exit”. Rotating the knob is to move the cursor.



5.4 Lens Adjustment

5.4.1 Diopter Adjustment

Slowly rotate the diopter adjustment ring to adjust the position of diopter level to optimize the image sharpness on the OLED display.



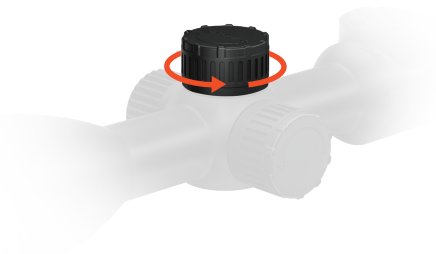
Main Menu



5.4.2 Objective Lens Focusing

Objective lens rotating knob is on the top of the middle, please manually adjust the focusing knob when necessary.

Aim at the target and rotate focusing knob until the image of object is clear.



Both clockwise and anticlockwise rotation of the focusing knob are allowed.



Before



After(reference only)

5.4.3 Digital Zoom

On the main interface, rotating the digital zoom knob anticlockwise can increase magnification up to 4.0 \times , and vise versa.



5.4.4 Image mode

Here includes two kinds of image modes which are respectively Forest and Rainy could be selected by user.



5.5 Shortcut Menu

5.5.1 Taking photos/videos



Take photos - short press the Capture/Record button; Take videos - long press the Capture/Record button.

5.5.2 Laser Ranging



Laser Rangefinder - short press the Laser Range- finder button to turn on/off the laser rangefinder.

5.5.3 Pseudo Color Switch



Pseudo color switch-double press the Laser rangefinder button to switch the pseudo colors.

5.5.5 Standby Mode



Standby Mode - short press the Power button

5.5.4 Target Outline Mode



Target Outline Mode - long press the Rangefinder button to turn on/off the Outline Mode of the target.

5.5.6 Contrast and Brightness Adjustment (shortcut menu)

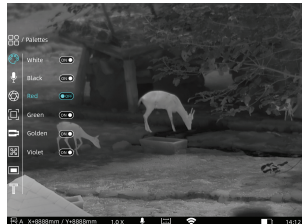




1. Short press the middle of digital zoom knob to enter the Contrast or Brightness adjustment interface in the observing mode.
2. Rotate the knob to adjust value of contrast or brightness level.
3. Long press the knob to exit the shortcut menu.

5.6 Entry of the Main Menu

Long press the digital zoom knob to enter the main menu. After the entry of Main Menu, short press the knob for the operation of “Confirmation”, and long press the knob for the operation of “Exit”. Rotating the knob is the operation of moving the cursor.



Color Plate

Noted: Above picture is just for reference, please find it based on practice.

Color Palettes



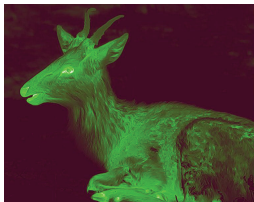
White



Black



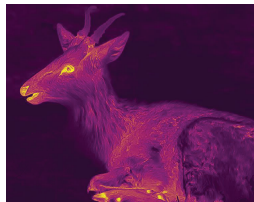
Red



Green







Golden







Violet

5.7 Image Settings





There are four sub-menus for image settings, which are "Brightness" "Contrast" "Sharpness" and "Denoise". Short press the digital zoom knob these sub-menus under the image menu, then rotate the knob to adjust related image parameter.




Image Setting Sub-menus		
Brightness 	1-10	Adjust the image brightness to make the image brighter. The recommended value is 5. 
Contrast 	1-10	Adjust the image contrast to make the object more prominent in the image. The recommended value is 5. 









Sharpness 	1-10	Adjust the image sharpness to make edges of the image sharper. The recommended value is 5. 
Denoise 	1-10	Adjust the image noise to make the image cleaner. The recommended value is 5. 







5.8 Settings







Short press the digital zoom knob to enter the sub-menu of Settings, and rotate the digital zoom knob to adjust the parameters accordingly.

Sub-menus of Settings		
Zeroing profiles 	A-F	<p>There are six zeroing profiles from “A-F” in the file folder, which contain the distance, type of bullet, and the coordinates of the crosshairs after zeroing.</p> 
PIP 		<p>The image is enlarged by 2x as centered by the crosshairs. Picture-in-picture occupies 10% of the entire image.</p> 

Files 	RAV-recording	<p>Open the sub-menu of Video, and rotary the knob to select the RAV recording.</p> 
	Picture	<p>Open the sub-menu of Picture, and rotate the knob to select the images.</p> 

<p>Files</p> 	<p>Record</p>	<p>Open the sub-menu of Video, and rotate the knob to select the videos.</p> 
<p>Setting</p> 	<p>Audio</p>	<p>Turn on/off audio function to record the related voice in the video before user takes the recording.</p> 
<p>Setting</p> 	<p>Correction</p>	<p>The image correction mode could be set to Auto or Manual.</p> 
<p>Setting</p> 	<p>Tracking</p>	<p>Turn on heat tracking function to mark the hottest target on the screen in real time.</p> 

Setting 	RAV	<p>After turning on the RAV, the scope will record videos before, during and after your shot. The threshold can be modified manually for different weapons and ammunitions.</p> 
Blind Pixel	Blind Pixel	<p>User can operate blind spot replaced function when pups up blindness.</p> 
Setting 	OLED (brightness)	<p>The bright level of OLED can be adjusted on this sub-menu.</p> 
OLED (color)	OLED (color)	<p>The background color of the OLED can be selected on this sub-menu.</p> 

Setting 	OLED (mode)	<p>Day and Night mode switching to adapt to different brightness scenarios.</p> 
	Logo	<p>Show or hide the Logo in the captured images or videos.</p> 
Setting 	Smooth	<p>Smooth: The speed of zooming more seamless. Rapid: Integer zooming, suitable for fast moving target tracking.</p> 
	TASS	<p>On: The current digital zooming can get back to minimum zooming magnification automatically after the shooting, exactly TASS depends on activate rav function as the priority. TASS means that user can be always more rapid locking the target instead of traditional knob via the manual.</p> 

Setting



Anti-Burn

Turn on the Anti-Burn to prevent lens from being burned by sunlight.









Setting









Screen

Switch between Square and Circular screen.



System 	Shut-down	<p>Turn on the Auto Shutdown if needed to avoid prolonged standby of device. Three options: 30 mins, 60 mins, 90mins, or even OFF state.</p> 
	m-yd	<p>Change the distance measurement unit between yard and meter as you want.</p> 
System 	Time	<p>Adjust the local date manually.</p> 
	Date	<p>Adjust the local date manually.</p> 

System 	Language	<p>Choose the corresponding language as you want.</p> 
	Version	<p>View the SN number and firmware version of the device.</p> 
System 	Reset	<p>After resetting, the configuration parameters are restored to the factory state.</p> 
	Update	<p>The system of the device can be updated and upgraded.</p> 

5.9 Zeroing

Enter the Main Menu, rotate the digital zoom knob to move cursor to “↖” and short press the knob to enter the sub-menu of Zeroing.

① Rotation and short pressing knob for selecting Zeroing menu.

② Short press the knob one more time. Rotate and short press the knob to select and confirm the zeroing distance (e.g. 25m or 35m).

③ After that, move the cursor and short press the knob to enter the Gun Type screen.

Short press the knob to add the Gun Type (customizable; press “Enter” on keyboard to add the Gun Type). Long press the rotary knob to return to the previous screen.



5.9 ①



5.9 ②



5.9 ③

Notes:

It is recommended to do Zeroing at a temperature that close to the scope's operating temperature.

5.9.1 Manual Zeroing

① Rotate the digital zoom knob anticlockwise, and move the cursor to finding manual zeroing menu.

② Short press the digital zoom knob to enter the Manual Zeroing screen, confirm the zeroing distance, and short press “OK” to enter the next step.

③ After your first shooting is completed, align the reticle with point of aiming, and rotate the knob to turn on the Freeze function. ✳ After that, A screenshot will be taken. (The Freeze function allows you to freely scope without losing reticle placement on the point move or manipulate the of aim during adjustments.)

④ Rotate the digital zoom knob to change the magnification if necessary, which helps to improve the accuracy of zeroing.

⑤ Adjust the coordinates (X, Y) of the reticle by rotating the digital zoom knob, and move the reticle from the original position to the bullet hole position manually. After pressing the Save button, the values of X and Y will change according to the magnification.

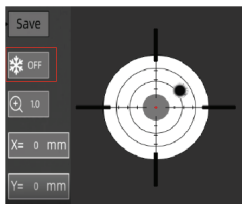
e.g. X: -20mm, Y: -20mm (1x); X: -10mm, Y: -10mm (2x); X: -4mm, Y: -4mm (5x).



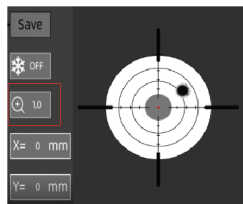
5.9.1 ①



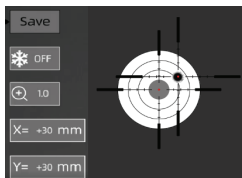
5.9.1 ②



5.9.1 ③



5.9.1 ④



5.9.1 ⑤



5.9.1 ⑥

Notice: About the steps of zeroing with number ③④⑤ for reference only.

Notes:

1.The changes will always be saved based on your last calibration, e.g. the first saved coordinate is (-20mm, 35mm) in Profile A and you may want a tiny change like (-5mm,5mm), so the device finally displays (-25mm, 40mm). If you put the same weapon name and the same distance, it takes data from the previous profile.

2.Please get back to the main menu to choose other profiles if you would like to save new data for another gun. It is suggested to save the subsequent changes where you first time saved for the same gun. It is not recommended to save a change in Profile A firstly then another change saved in Profile B or C.

5.9.2 Ballistic Calculator

- ① Rotate the digital zoom knob to move the cursor to the menu of ballistic calculator, then short press the knob to the third-level menu.
- ② Rotate the digital zoom knob again to move the cursor to Setting, and short press the digital zoom knob. There you can configure the parameters as your need, including Scope Ht, Wind Velocity, Bullet Wt, Muzzle Velocity, BC, Wind Direction, Temperature, and Pressure.
- ③ When any parameter is selected for modification, the cursor would automatically move to the keyboard section at the right side of the screen.
- ④ Click Enter and the cursor will return to left side of the screen.
- ⑤ Move the cursor and click the Back section to return to the previous screen.



5.9.2 ①



5.9.2 ②

Auxiliary line of trajectory









- Users first need to move the cursor to “ON” to turn on the ballistic calculator function.
- After activation, here are totally icon will appear in the center of the screen. When the icon doesn't match the coordinates after zeroing, users should aim it at the certain target, then fill in the actual parameters into the “Setting” interface.







Attention:

- 1.The indicating cursor types of ballistic calculator have four different styles, user can get it in the BC symbol menu.
- 2.Ballistic calculator function needs to be carried out after zeroing, otherwise there is no practical significance.
- 3.When ballistic calculator is turned on, the device will automatically switch to single ranging mode.

5.10 Reticles

<p>Type</p> 	<p>1-8</p>	<p>Rotate the digital zoom knob to select the type of reticles. There are 8 types of reticles set for selection.</p> 
<p>Color</p> 	<p>5 Colors</p>	<p>Rotate the knob to select the color of reticles. There are 5 options: Black, White, Red, Green, and Blue.</p> 
<p>Brightness</p> 	<p>3</p>	<p>Rotate the knob to select the brightness of reticles. There are 3 degrees of brightness set for selection.</p> 
<p>Dot</p> 	<p>5 Colors</p>	<p>Rotate the knob to adjust the color of the Dot. There are 3 options: White, Black, Red, Blue, and Green.</p> 

<p>Location</p> <p>③</p>	<p>Move/Center</p>	<p>Rotate the knob to select the location of reticles. There are 2 options: “Move” and “Center”.</p> <p>Move: Under 1x magnification, the location of the reticle keeps the same as the zeroing coordinates. The reticle will return to the center of the screen when image is zooming in.</p> <p>Center: When zeroing is finished, the screen will be slightly enlarged based on the zeroing coordinates. The reticle will return to the center of the screen. When zooming in or out, the reticle will always enlarge at the center of the screen.</p> 
<p>Mode</p> <p>⌵</p>	<p>FFP/SFP</p>	<p>FFP: The reticle changes as zooming in; SFP: The reticle doesn't change as the zooming in.</p> 

<p>Reversal</p> 	<p>ON/OFF</p>	<p>Reticle polarity reverse helps find and lock small target. (Only for Black & White Reverse)</p>  <p>Notice: Totally three icons (crosshairs under the black & white, laser icon, ballistic calculation icon) can be automatical switching the color while enabling Reversal function.</p>
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5.11 Blind Pixel

There are three options (cancel, save and replace).
 Replace: the blind pixel on the screen can be replaced. When finished, long press the middle of the rotary knob to exit, figure shown as below.



6 Network Connection

6.1 App Download

Users could download our mobile APP named "ThermTEC Outdoor" in Apple Store and Google Play, or through the QR code shown on the packing box or user manual.



6.2 Connect via Hotspot

- ① Turn on the device's Hotspot.



- ② Connect your mobile phone to device's Hotspot via WLAN. To input default password of device (1 to 8).
 - ③ After successful connection, you can control devices via APP.
- Notice: All devices are same password (1 to 8) when out of factory, which means, user can't set password type by manual operation.

7 Firmware Upgrade

7.1 Upgrade via PC

- ① Users could download corresponding upgrading package from our website. After that, connect your device to PC via Type-C cable, and copy the firmware to device's file folder.



7.1 ①

② Enter the Settings menu, and select Update, then there will be a pop-up window prompting “Program Updating”.

③ When the update is completed, the device will automatically restart.



7.1 ②



7.1 ③

7.2 Upgrade via Mobile Application

IBEX series thermal imaging sight could be interconnected with “interconnected with “ThermTec Outdoor” APP, which allows users to transfer files from device to smartphone or tablet via Hotspot, easily achieving remote control.

Users could refer to the following steps to realize device firmware upgrade via our mobile APP:

- ① Open the ThermTec Outdoor APP.
- ② Turn on the Hotspot of the device, and connect your mobile phone to device’ Hotspot.
- ③ Select Update on the menu options.
- ④ It will take a continuous period of time for downloading and upgrading if a new version of firmware is detected, so please be patient.
- ⑤ Once the upgrade is complete, the device will reboot automatically.



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Web: www.thermeyerotec.com



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