I N F I R A Y   O U T D O O R

BOLT TL35 V2

Bolt Action Optimized Thermal Rifle Scope

InfiRay Outdoor

FCC ID: 2AY3N-2D00

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:** Changes or modifications not expressly approved by IRayUSA could void the user's authority to operate the equipment.

EMC: Class A

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 his own expense.

This device complies with RF exposure requirements for general population exposure conditions. SAR test distance is 0cm.

WARNING: CHOKING HAZARD
Children under 3 years old can choke or suffocate on small parts in this product. This product is not a toy; keep out of reach of children.

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1. OVERVIEW

The InfiRay Outdoor BOLT TL35 V2 was designed for optimal use on any platform that demands flexible mounting options and increased eye relief. In addition to the features found on the original TL35, the TL35 V2 adds several highly requested features including an AMOLED display, audio recording, and laser rangefinder connectivity via Bluetooth. The T-6061 aluminum housing allows mounting with standard 30 mm rings like a traditional day scope. A 50hz 12 μm detector, HD display, and manual focus lens all team up to create an image that's anything but traditional. The TL35 V2 features a dual battery design for 10+ hours of run-time and 32 GB of internal memory to keep your optic going all night.

2. FEATURES

- 12μm high-performance thermal detector
- High-resolution AMOLED display
- Aluminum alloy housing
- Maximum detection range: 1750 yards
- High frame frequency: 50hz
- Multiple zero profiles and ranges
- Stepped digital zoom from 1.0× to 4.0×
- Stadiametric rangefinder
- Dual power supply for extended operation
- Traditional 30 mm diameter housing design
- Compatible with ILR-1200-1 Bluetooth Laser Rangefinder Module (optional/not included)
- Built-in 32 GB storage to support image capture and video recording
- Built-in Wi-Fi module
- Mobile device App compatible
- Built-in digital compass and motion sensor
- Multiple reticle types and color options
- Ultra-Clear mode for advanced image detail
- Picture in Picture (PIP)
- User-friendly interface
- Pixel calibration functions
- Extended eye relief

3. TECH SPECS

BOLT	TL35 V2
SENSOR	
Resolution	384×288
Pixel Size	12 μm
Frame Rate	50hz
Image Processing	MATRIX III
Core	InfiRay Micro II 384
OPTICS	
Objective Lens	35 mm f/1.1
Magnification	3×
Digital Zoom	4×, Stepped
Field of View	7.5° × 5.7°
Detection Range	1750 Yards
Display Type	AMOLED
Display Resolution	1024×768
Color Palettes	White Hot, Black Hot, Red Hot, Color, Highlight
Reticle Types	6 (1 Dynamic, 5 Static)
Reticle Colors	Black, White, Red, Green
Mounting System	30 mm Rings
P.I.P.	Yes
Rangefinder	Stadiametric, Bluetooth ILR-1200-1 LRF (Optional/Not Included)
Eye Relief	70 mm
Diopter Range	-4 to +4
ELECTRONICS	
Onboard Recording	Video and Image
Onboard Storage	32 GB
Wireless Connectivity	Video and Image via App, LRF via Bluetooth
Data/Power Connector	USB-C
Power Supply	USB-C External, Built-in Battery Pack (8+ Hours), 18500 Battery (2+ Hours), 18650 Battery (3.5+ Hours)
Start Up Time	<10 Seconds, Instant from Standby
PHYSICAL	
Size	15.74" × 3.34" × 2.55"
Weight	32.87 Oz
ENVIRONMENTAL/WARRANTY	
Warranty	5 Years
Housing Material	T-6061 Aluminum
Ingress Protection	IP67
Operation Temperature	-4°F~122°F
Max. Recoil	1000 g/s^2 (300 Win./7mm Mag)

4. ACCESSORIES

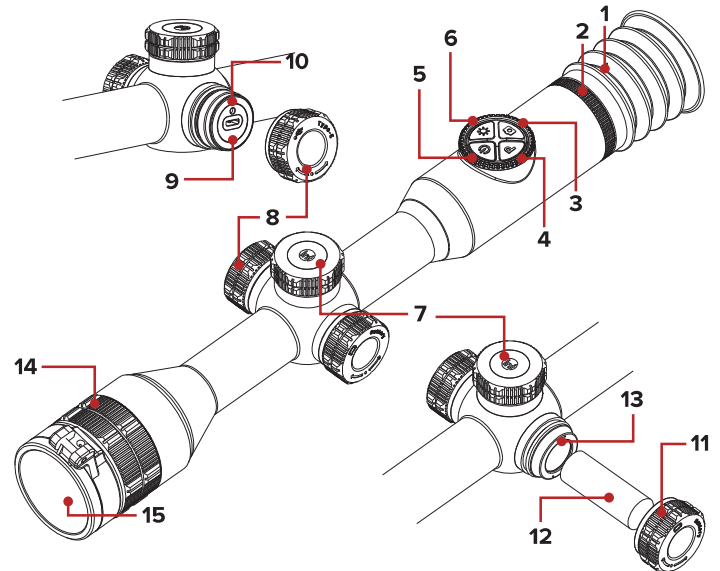The BOLT TL35 V2 rifle scope ships with everything you need to get out and hunt.

PART NO.	DESCRIPTION
IRAY-AC08	USB-C to Analog RCA/USB Cable 36"
IRAY-AC12	Objective Lens Cap for 35mm BOLT TL35 V2
IRAY-AC18	BOLT Standard Scope Mount Rings
IRAY-AC15	Standard Rubber Eyeguard for BOLT
——	USB Power Adapter
——	Soft Case
——	Lens Cloth
——	User Manual

*For use with 18650 auxiliary battery (optional/not included).

Optional accessories, such as the IRAY-AC96 ILR-1200-1 Bluetooth Laser Rangefinder Module, IRAY-AC30 18500 Battery for BOLT, and IRAY-AC37 18650 Battery Extender, as well as various replacement accessories, including cables and factory mounts are available for purchase. Contact 800-769-7125 or irayusa.com/support.

5. COMPONENTS AND CONTROLS

1	Eyeguard
2	Eyepiece Diopter Adjustment Ring
3	Photo Button
4	Palette Button
5	Power Button
6	Brightness Button
7	Tactile Control Turret
8	USB-C Port Cover
9	USB-C Port
10	LED Status Indicator
11	Auxiliary Battery Cover
12	18500/18650 Auxiliary Battery (optional/not included)
13	Auxiliary Battery Compartment
14	Objective Lens Focus Ring
15	Objective Lens Cap

6. DESCRIPTION OF CONTROL BUTTONS AND SHORTCUTS

Power Button

Current Screen / Menu or Device Status	Short Press	Long Press
Device off	—	Power on the device
Home screen	Perform a non-uniformity correction NUC	Power off the device OR enter standby mode
In standby mode	Wake device from standby mode	——
Main menu	Return to previous without saving changes (except on/off toggles)	——
Defective pixel correction interface	Add or remove defective pixel from the "to be corrected" list	——
Reticle zeroing interface	Exit interface and return the reticle to the last saved zero position	——

Palette Button

Current Screen / Menu	Short Press	Long Press
Home screen	Switch the color palette	Turn PIP window on / off

Brightness Button

Current Screen / Menu	Short Press	Long Press
Home screen	Adjust the screen brightness	Enter / exit the stadiametric rangefinder

Photo Button

Current Screen / Menu	Short Press	Long Press
Home screen	Take a photo	Start / stop recording video

Photo + Palette Button

Current Screen / Menu	Short Press	Long Press
Reticle zero interface	—	Freeze image to keep reticle centered on aiming point; press again to clear frozen image

Photo + Brightness Button

Current Screen / Menu	Short Press	Long Press
Home screen	—	Activate / deactivate the reticle (for at least 15 seconds)
Reticle zeroing interface	—	Return reticle to the center

Control Turret

Current Screen / Menu	Short Press	Long Press	Rotate
Home screen	Enter quick menu	Enter main menu	Adjust digital zoom level
Quick menu	Adjust parameters for a menu item	Return to home screen	Switch menu options; move menu cursor; move reticle position
Main menu	Confirm changes; open the submenu	Return to home screen	
Reticle zero interface	Switch between X and Y	Save changes and exit to home screen	Clockwise: Move left / down
Defective pixel correction interface	Switch between X and Y	Save changes and exit to home screen	Counterclockwise: Move right / up

NOTE: Consult the manual that comes with your ILR-2000-1 Laser Rangefinder Module (optional/not included) for rangefinder shortcuts.

7. QUICK START GUIDE

Step 1: Preparing to Use the BOLT TL35 V2

1. Compare the box contents to the accessories list and examine each for any shipping damage. See **Accessories** on page 4.

2. Check the lens to ensure there are no smudges or dirt present. Clean with the included lens cloth, if necessary.

3. Charge the built-in battery pack before using the BOLT TL35 V2 for the first time. See **Charging the Built-in Battery Pack** on page 10.

4. Install the eyeguard **(1)**.

5. Mount the BOLT TL35 V2 to the weapon using the included 30mm rings. See **Mounting the BOLT TL35 V2** on page 15.

Step 2: Turn On and Adjust the Focus

1. Open the objective lens cap **(15)**.

2. Long press the **Power** button for 3 seconds to power on the TL35 V2. The InfiRay Outdoor logo will appear.

3. Rotate the diopter adjustment ring **(2)** of the eyepiece until the interface icons are clearly visible.

4. Rotate the objective lens focus ring **(14)** to focus on the object being observed.

   WARNING: Do not point the objective lens toward intense energy sources, such as the sun. This may render the electronic components inoperative. The warranty does not cover damage caused by improper operation.

Step 3: Activate and Customize the Reticle

The reticle may be inactive when the TL35 V2 is powered on for the first time. To activate the reticle, press and hold the **Brightness** and **Photo** **Buttons** at the same time for at least 15 seconds.

From the home screen:

1. Short press the **Control Turret** to enter the quick menu (see **Using the Quick Menu** on page 8):

   a. Select the reticle type, from 1–6.

   b. Set the reticle color to white, black, red, or green.

Step 4: Adjust Image Settings

From the home screen:

1. Short press the **Palette** **Button** to set the color palette to white hot, black hot, red hot, color, or highlight.

2. Short press the **Brightness** **Button** to adjust the screen brightness, from 1–5. The screen brightness icon and selected brightness level appear at the bottom of the screen.

3. Short press the **Control Turret** to enter the quick menu to adjust the image sharpness, from 1–5. See **Using the Quick Menu** on page 8.

4. Rotate the **Control Turret** to zoom in and out on the observed object. See **Digital Zoom** on page 26.

5. Long press the **Palette** **Button** to turn on the PIP window. See **Picture in Picture (PIP)** on page 26.

6. Short press the **Power** **Button** to perform a manual non-uniformity correction, as needed. See **Non-Uniformity Correction (NUC)** on page 22.

7. Long press the **Control Turret** to enter the main menu to turn on Ultra-Clear mode to enhance the image contrast in inclement weather. See **Ultra-Clear Mode** on page 27.

Step 5: Adjust Rifle Scope Settings

1. From the home screen, long press the **Control Turret** to enter the main menu to:

   a. Change the non-uniformity correction (NUC) mode to automatic, manual, or background. See **Main Menu > Calibration** on page 30.

   b. Turn on the digital compass. See **Main Menu > Compass** on page 30.

   c. Turn on the motion sensor. See **Main Menu > Motion Sensor** on page 31.

   d. Set the zeroing profile to A, B, or C. See **Main Menu > Rifle Selection** on page 32.

   e. Calibrate the digital compass. See **Main Menu > Compass Calibration** on page 38.

   f. Set the date and time. See **Settings Menu > Date** and **Settings Menu > Time** on page 39.

   g. Set the units of measurement to meters or yards. See **Settings Menu > Units of Measure** on page 40.

Step 6: Zero the TL35 V2

1. Zero the rifle scope following the instructions in **Zeroing the BOLT TL35 V2** on page 21.

   a. Select, or customize, a preset zero distance that matches the target distance. See **Reset Zeroing Distance Menu > Zero Distance Submenu** on page 32.

   b. Zero the reticle. See **Reset Zeroing Distance Menu > Reticle Zeroing** on page 33 for detailed reticle zeroing menu instructions.
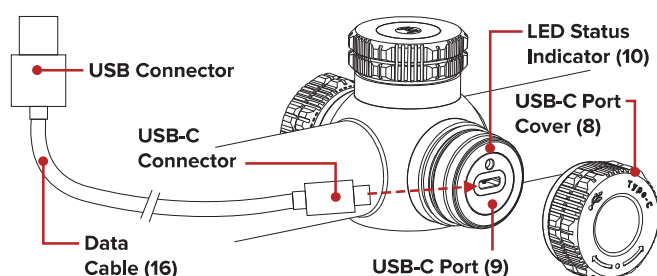
8. CHARGING THE BUILT-IN BATTERY PACK

The BOLT TL35 V2 has a dual power supply: a built-in rechargeable li-ion battery pack and an optional auxiliary battery (18500 or 18650 with adapter; batteries not included). The dual battery system supports a run-time of 8 hours out of the box and 10+ hours when using an auxiliary battery.

The built-in battery pack is not removable or replaceable. Please ensure the battery pack is fully charged before the first use.

To charge the battery pack:

1. Remove the USB-C port cover **(8)** by turning it counterclockwise.
2. Connect the smaller USB-C end of the data cable **(16)** to the USB-C port **(9)**.
3. Connect the standard USB end of the data cable to:
   a. Any standard USB 3.0 port on a laptop/computer; **OR**
   b. A 5V–2A USB power adapter and plug the power adapter into an electrical outlet.
4. While charging, the LED status indicator **(10)** above the USB-C port will turn red. When the indicator LED turns green, the battery is fully charged.

USB Connector
USB-C Connector
Data Cable (16)
LED Status Indicator (10)
USB-C Port Cover (8)
USB-C Port (9)

5. When fully charged, disconnect the data cable from the USB-C port and replace the USB-C port cover.
   a. Do not overcharge the battery.
   b. See **Battery Status Icons** on page 12 for additional battery information.

WARNING: Never charge the battery pack with a USB adapter that is greater than 5V–2A.

NOTES:
- You may charge and operate BOLT TL35 V2 at the same time.
- When the battery status icon in the status bar becomes the low battery icon, charge the battery right away to avoid over-discharge and a reduction in battery capacity or service life.

- While charging, the battery status icon will change to the charging icon.
- Only the built-in battery pack will be charged while connected via the USB-C port.
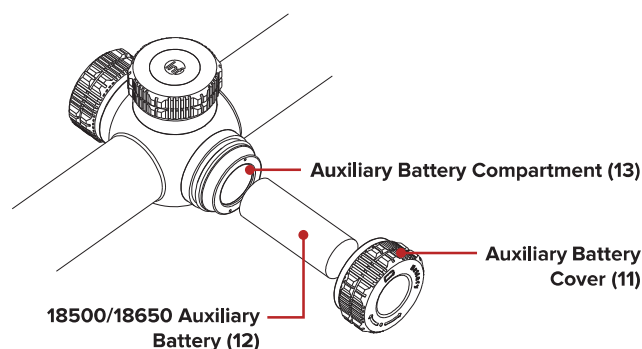
9. INSTALLING AN AUXILIARY BATTERY

The optional auxiliary battery compartment allows the run-time of the TL35 V2 to be expanded to 10+ hours. 18500, or 18650 with adapter, rechargeable li-ion batteries (optional/not included) are compatible with the TL35 V2.

Ensure the 18500/18650 auxiliary battery is fully charged before using with the TL35 V2 for the first time.

To install an auxiliary battery:

1. Remove the auxiliary battery cover **(11)** by turning it counterclockwise.
2. Insert a 18500 battery (or 18650 plus adapter) **(12)** into the auxiliary battery compartment **(13)** following the polarity markings inside the compartment. The positive **[+]** battery terminal faces in and the negative **[-]** terminal faces out.
3. Replace the battery cover **(11)**.

Auxiliary Battery Compartment (13)
Auxiliary Battery Cover (11)
18500/18650 Auxiliary Battery (12)

NOTE: If using a 18650 battery, you will need to replace the standard auxiliary battery cover **(11)** with the IRAY-AC37 BOLT 18650 Battery Extender.

10. REMOVING AN AUXILIARY BATTERY

To remove an auxiliary battery from the TL35 V2:

1. Remove the auxiliary battery cover **(11)** by turning it counterclockwise.
2. Pull the auxiliary battery out.

11. BATTERY STATUS ICONS

The battery status icon for the built-in battery pack appears on the right side of the status bar at the top of the screen. If an optional auxiliary battery is installed, a status icon for the auxiliary battery appears to the left of the icon for the built-in battery.

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The battery status icon for the active battery (the battery currently being used to power the TL35 V2) is displayed in color, while the inactive battery is displayed in gray.

Battery charge levels are indicated by the color and fill-level of the icon for the active battery and the fill-level of the gray icon for the inactive battery.

When charging the built-in battery via the USB-C port, the charging ⟦⟶⟧ icon appears in the status bar in place of the normal battery status icon. Charge the built-in battery pack when it reaches the red battery status color to avoid over-discharge and potential damage to the battery.

ICON	COLOR / STATUS	BATTERY STATUS
🔋	Green	More than 40%
🔋	Yellow	20% – 40%
🔋	Red	< 20%; charge the battery promptly
🔋	Charging Icon	The battery is charging (external power supply or computer is connected via the data cable)
🔋	Inactive Battery	Status of the inactive battery

12. SWITCHING THE BATTERY POWER SUPPLY

The BOLT TL35 V2 has a dual power supply system with a built-in li-ion battery pack and an auxiliary battery option. 18500, or 18650 with adapter, rechargeable li-ion batteries (optional/not included) are compatible with the TL35 V2.

Using with the Optional Auxiliary Battery

- When both the built-in battery pack and the auxiliary battery are fully charged, the TL35 V2 will select the auxiliary battery as its primary power source.
- If the power of the auxiliary battery is low, or the auxiliary battery is removed, the TL35 V2 will automatically switch to the built-in battery pack as its primary power supply. Operation will not be interrupted during this time.

- When the TL35 V2 is in use, you may insert (or replace) an auxiliary battery without powering off. Power will automatically switch to the built-in battery during replacement of the auxiliary battery.

Using with an External Power Source

When the data cable is used to connect the BOLT TL35 V2, via the USB-C port, to a computer or external power source (such as a standard electrical outlet or an external power supply), the rifle scope will switch to the external power source and begin charging the built-in battery pack. See **External Power Supply** on the next page for more information.

When charging the built-in battery via the USB-C port, the charging ⟦⟶⟧ icon appears in the status bar in place of the normal battery status icon. See **Battery Status Icons** on the previous page.

> **NOTE:** Only the built-in battery pack will be charged while connected via the USB-C port.

13. BATTERY SAFETY WARNINGS

WARNING: Only use the USB charging/data cable provided in the kit to charge the built-in battery pack.

> **WARNINGS:**
> - Do not use a power adapter or USB cable that has been modified or damaged.
> - Do not expose the battery pack to high temperatures or flames and do not immerse in water.
> - Do not leave the TL35 V2 unattended while charging the battery pack.
> - Do not leave the battery pack charging for long periods after full charge is reached. Charging time should not exceed 24 hours.
> - Keep the battery pack and rifle scope out of the reach of children and pets.
> - The built-in battery pack is equipped with short-circuit protection. However, any situation that may cause short-circuiting should be avoided.
> - Do not connect the battery pack to any external device with an electrical current that exceeds permitted levels.
> - Do not disassemble, modify, hit, or drop the battery pack.
> - Do not connect an external device with a current supply that exceeds 3.0 USB port.

To maintain optimal battery capacity and service life:

- Avoid storing a fully charged or discharged battery for long periods. Partially charging the battery is necessary if the battery will be stored for an extended period.

- Do not charge an extremely cold battery without bringing it into a warm environment. Let the battery warm up for 45 minutes before charging.

- Charge the battery at a temperature range from 32°F to 113°F; otherwise, the service life of the battery may be reduced.

- The recommended operating range is -4°F to 122°F. Avoid using the battery pack above the maximum or below the minimum recommended temperature range as this may decrease the battery pack capacity or service life.

14. EXTERNAL POWER SUPPLY

The BOLT TL35 V2 supports the use of an external power supply, such as a 5V mobile power bank. The external power supply may be used with or without the optional auxiliary battery installed.

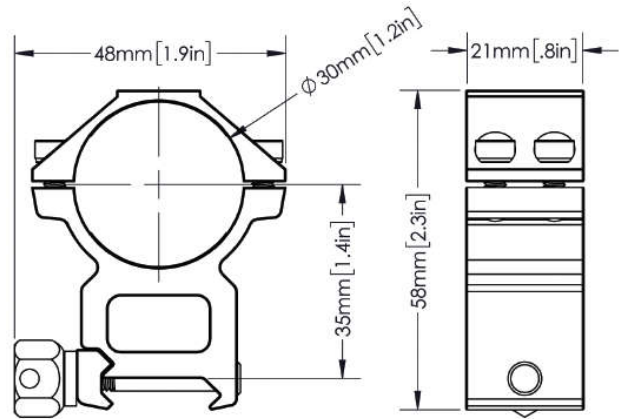To connect the BOLT TL35 V2 to an external power supply:

1. Remove the USB-C port cover **(8)** by turning it counterclockwise.

2. Connect the smaller USB-C end of the data cable to the USB-C port **(9)**.

3. Connect the standard USB end of the data cable to the external power supply. The TL35 V2 will automatically switch to using the external power supply for power and it will begin charging the internal battery pack.

    a. While charging, the charging ⌁ icon will appear instead of the built-in battery's standard icon in the status bar.

    b. The color and fill-level of the built-in battery icon will change to reflect the current battery charge. See **Battery Status Icons** on page 12.

4. When the external power supply is disconnected, the TL35 V2 will switch to the auxiliary battery without turning off.

5. If no auxiliary battery is installed or the auxiliary battery level is low, the TL35 V2 will switch to the built-in battery pack, instead of shutting down.

  NOTE: Do not connect the TL35 V2 to an external device with a power supply that exceeds the 3.0 USB cable.

15. MOUNTING THE BOLT TL35 V2

To ensure accurate results, please first properly mount the BOLT TL35 V2 on your rifle.

The TL35 V2 rifle scope is mounted using traditional 30 mm ring mounts, such as the ring mounts included in the package. Follow the ring manufacturer's installation instructions and torque the ring caps to 20 in/lbs. A torque driver is required to control the torque.

MOUNTING NOTES:

- When mounting the TL35 V2 on a rifle, adjust its position so that proper eye relief (70 mm) is achieved. Failure to comply with this recommendation may result in injury to the shooter by the eyepiece when shooting.

- It is recommended to install the rifle scope as low as possible for a proper cheek weld; however, make sure to avoid contact with the barrel or receiver.

- After mounting, but before hunting with the TL35 V2, zero the rifle scope. See **Zeroing the BOLT TL35 V2** on page 21 for instructions.

16. OPERATING INSTRUCTIONS

> **WARNING!**
> Don't point the objective lens towards any intense energy sources, such as laser radiation or the sun. This may render the electronic components inoperative. The warranty does not cover damage caused by improper operation.

Shortcut Buttons

The BOLT TL35 V2 is operated via four control buttons and a large metal tactile control turret. The large, easy-to-find control turret provides audible and tactile feedback when twisted or pressed.

The control buttons can be used to perform shortcut operations from the home screen, as well as in the menu and full-screen interfaces. See **Description of Control Buttons and Shortcuts** on page 6 for shortcut button details.
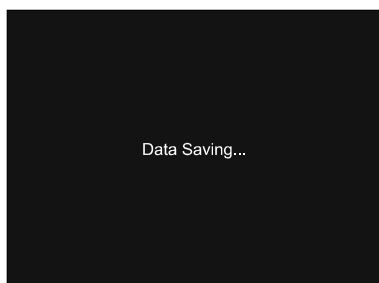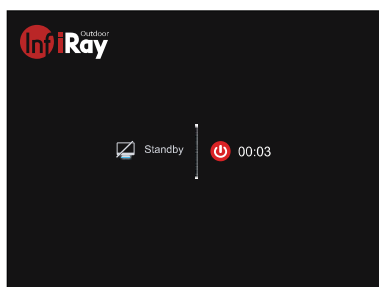
Power On / Starting

1. Open the objective lens cap **(15)**.

2. Long press the **Power** ◉ **button** for 3 seconds to turn on the rifle scope. The InfiRay Outdoor logo will appear.

To determine the current battery charge, check the battery status icon on the right side of the status bar. See **Battery Status Icons** on page 12.

Powering Off / Stopping

To power off the TL35 V2:

1. Long press the **Power** ◉ **button**. The standby screen will open, showing a 3-second countdown.

2. Continue holding the **Power** ◉ **button** until the 3-second countdown completes.

3. "Data saving..." appears onscreen and the TL35 V2 will shut down automatically after saving.

   NOTE: Releasing the **Power** ◉ **Button** at any time during this shutdown cycle will stop the shutdown process and the rifle scope will enter standby mode. Short press the Power button to exit standby mode.

   WARNING: If using an external power supply, do not disconnect the power supply when saving data, otherwise the data may not be saved.

STANDBY MODE

Standby mode may be activated to conserve battery life. When in standby mode, short press the **Power** ◉ **Button** to exit standby and return to the home screen.

Set the TL35 V2 to Automatically Enter Standby Mode

In the main menu, the TL35 V2 may be set to automatically enter standby mode after a specified length of inactivity (2, 4, or 6 minutes).

1. In the main menu, select the desired standby time, 2, 4, or 6 minutes. See **Main Menu** > **Standby Settings** on page 35 for instructions.

2. The standby icon ◺ and status (2min, 4min, 6min, or off) appear on the right side of the status bar.

3. Once set, the TL35 V2 will automatically enter standby mode, after the set length of inactivity, to conserve battery.

   NOTES:

   - When **2min**, **4min**, or **6min** is selected:

     - The TL35 V2 will enter standby mode automatically when it is tilted up or down at an angle of more than 70° or left or right at an angle of more than 30°.

     - The TL35 V2 will not enter standby mode while it is in a level firing position.

   - When **off** is selected, standby mode is turned off and the rifle scope will operate until the battery runs out.

Manually Enter Standby Mode

The user may enter standby mode manually at any time.

1. From the home screen, long press the **Power** ◉ **Button** to enter the standby screen.

2. Release the **Power** ◉ **Button** before the 3-second countdown finishes to enter standby.

Adjusting the Focus

ADJUSTING THE DIOPTER/EYEPIECE

1. Rotate the eyepiece diopter adjustment ring **(2)** at the rear of the rifle scope right or left until the user interface onscreen is clear.

2. Look closely to ensure all screen icons, the status bar, and the reticle appear sharp and in focus. No additional diopter adjustments are required unless the user wishes to make changes.

   NOTES:

   - After the initial adjustment, there is no need to rotate the eyepiece adjustment ring **(2)** for long distances or other conditions.

   - If necessary during standard use, the objective lens focus ring **(14)** may be rotated to adjust fine focus on the target object being observed. See **Focusing the Objective Lens** on the next page.

FOCUSING THE OBJECTIVE LENS

To adjust the focus on the target object:

1. Rotate the objective lens focus ring **(14)** left or right to adjust fine focus on the target object being observed.

   NOTE: Re-adjusting the focus will be necessary if the distance to the target changes.

Activate / Deactivate the Reticle

The reticle may be inactive when the TL35 V2 is powered on for the first time. To activate the reticle, or to deactivate it at a later time:

1. From the home screen, press and hold the **Brightness** ✳ and **Photo** ⬡ **Buttons** at the same time for at least 15 seconds.

Status Bar Overview

The status bar at the top of the screen shows information on the operating status of the BOLT TL35 V2.

1 **Color Palette:** Shows the set color palette, white hot ✳, black hot ☾, red hot 🔥, color ⬤, and highlight ▦. White hot is the default.

2 **Zeroing Profile & Distance:** Shows the selected zero profile (A, B, or C) and the zero distance. A100m is the default.

3 **Ultra-Clear Mode:** Shows the Ultra-Clear status, on ⬤ or off ⬤. Ultra-Clear mode is off by default.

4 **Total Magnification:** Shows the real-time amplification, 3.0–12.0×.

5 **Non-Uniformity Correction (NUC) Mode:** Shows the non-uniformity correction (NUC) ⬤ icon and selected mode, automatic **(A)**, manual **(M)**, and background **(B)**. Automatic is selected by default. A countdown timer will appear instead of the NUC mode when 5 seconds remain until an automatic NUC.

6 **Compass:** Shows the digital compass when turned on.

7 **Standby:** Shows standby icon ◰ and status (2min, 4min, 6min, or off). Standby is off by default.

8 **Bluetooth:** Shows the Bluetooth status: ✳ (off), ✳▮ (on and successfully connected to the ILR-1200-1 Bluetooth Laser Rangefinder; optional/not included), or ✳ (on but not connected to the laser rangefinder). Bluetooth is off by default. The vertical battery icon ▮ indicates the current battery level of the laser rangefinder module.

9 **Wi-Fi:** Shows the Wi-Fi status, on 📶 or off 📶. Wi-Fi is off by default.

10 **Time:** Shows the current time in 24-hour format.

11 **Auxiliary Battery Status Indicator:** Shows the battery status of the rechargeable auxiliary battery. When the TL35 V2 is receiving power from the auxiliary battery, the battery indicator is in color; when inactive, the battery indicator is gray.

12 **Built-in Battery Status Indicator:** Shows the battery status of the built-in battery pack. When the TL35 V2 is receiving power from the battery pack, the battery indicator is in color; when inactive, the battery indicator is gray.

Using the Quick Menu

In the quick menu, the reticle type and color, image sharpness, and zero distance may quickly be adjusted.
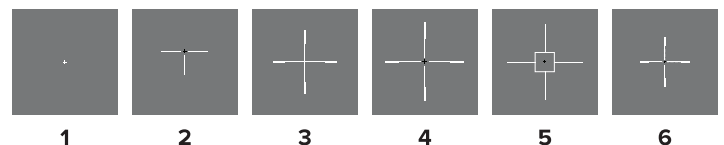

1. From the home screen, short press the **Control Turret** to enter the quick menu.

2. Rotate the **Control Turret** to switch between quick menu items, described below. The selected menu item is back-highlighted in blue.

   a. ⊣≡ **(Reticle Type):** Short press the **Control Turret** to change reticle type, from 1–6. The default is reticle type 1. The reticle changes as the cursor moves through the reticle types. See **Reticle Types** below.

   b. ⊣⋮ **(Reticle Color):** Short press the **Control Turret** to set the reticle color to white, black, red, or green. The default color is black. The reticle changes as the cursor moves through the color options.

   c. ▲ **(Image Sharpness):** Short press the **Control Turret** to change the image sharpness level, from 1–5. The default level is 3.

   d. ⊕ **(Zeroing Distance):** Short press the **Control Turret** to change the selected zeroing distance within the currently selected zeroing profile. Only the zero distances in the selected profile will be available for selection. The selected zero profile and distance appear in the status bar.

3. Long press the **Control Turret** to save changes and exit the menu.
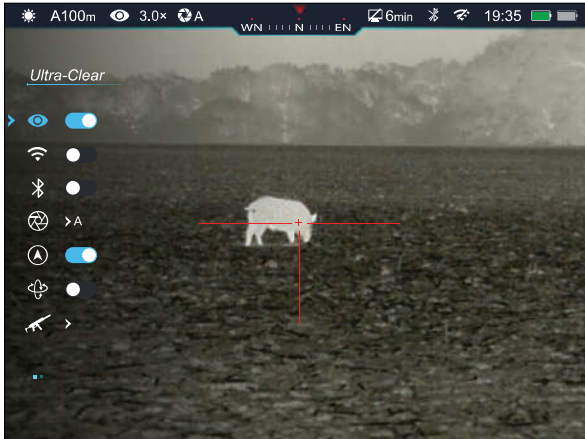
   NOTE: After 5 seconds of inactivity, the quick menu will close automatically, saving any changes made.

Reticle Types

| 1 | 2 | 3 | 4 | 5 | 6 |

Navigating the Main Menu

From the home screen, long press the **Control Turret** to enter the main menu.


In all menu interfaces:

- Menu icons and text turn blue to mark the current selection and location of the cursor in the main menu.
- Use the **Control Turret** to navigate the menu:
    - **Rotate** to move up and down through the menu to switch between the menu options.
    - **Short press** to change the current parameters for the selected menu option, enter the submenu, or confirm submenu changes.
    - **Long press** to save any changes and exit to the home screen.
- Short press the **Power** ⊕ **Button** to return to the previous menu without saving.
- After 15 seconds of inactivity, the menu will automatically close and the interface will return to the home screen. Changes are not saved automatically (except changes to toggle on / off menu items, such as Ultra-clear and Wi-Fi).
- Upon exiting from the main menu the cursor location is stored for a single working session (until the TL35 V2 is turned off). After restarting the TL35 V2 and entering the menu, the cursor position will once again be at the first menu item.

17. ZEROING THE BOLT TL35 V2

The BOLT TL35 V2 features a "freeze" zeroing method. To zero the TL35 V2:

1. Set a suitable target at the desired zero distance.
2. Confirm that the rifle is empty, safe, and pointed in a safe direction, with no ammunition near the weapon.
3. Adjust the image and device settings following the steps in the Quick Start Guide on page 8, if you have not done so already.
4. Select the zeroing profile, A, B, or C. See **Main Menu** > **Rifle Selection** on page 31.
5. Based on the distance to the target you wish to zero, select a preset zero distance, OR customize one of the preset zero distances to match. The TL35 V2 supports custom zeroing distances of 1 to 999 meters or 1 to 999 yards. See **Reset Zeroing Distance Menu** > **Zero Distance Submenu** on page 32.
6. Ensure a stable platform and natural shooting position is achieved behind the rifle.
7. Load ammunition, aim, and take one good shot at the target.
8. Make your rifle safe and observe the location of impact on the target.
9. If the point of impact does not match the point of aim (the center of the reticle), adjust the X/Y position of the reticle. **Reset Zeroing Distance Menu** > **Reticle Zeroing** on page 33.
10. In the submenu for the selected zero distance, center the reticle on the aiming point and long press the **Photo** 👁 and **Palette** ⓟ **Buttons** at the same time to freeze the image. The image freeze ❄ icon will appear below the X/Y coordinates.
11. Select the axis (X or Y) along which to move the reticle by short pressing the **Control Turret** to toggle between X and Y.
12. Adjust the X/Y position of the reticle until the reticle matches the point of impact.
    a. Rotate the **Control Turret** counterclockwise to move in the positive direction: X= Right and Y= Up.
    b. Rotate the **Control Turret** clockwise to move in the negative direction: X= Left and Y= Down.
    c. Upon moving the reticle, a white dot appears onscreen, representing the original position of the reticle.
13. Long press the **Control Turret** to save the reticle position.
14. Take a confirmation shot—the point of impact should now match the point of aim. If not, adjust the X/Y position of the reticle again.

For detailed Zeroing instructions, please see **Reset Zeroing Distance Menu** > **Reticle Zeroing** on page 33.

18. NON-UNIFORMITY CORRECTION

A non-uniformity correction (NUC) allows a thermal imager's sensors to correct its pixels and eliminate any image defects caused by pixel drift. A NUC will be performed automatically each time the BOLT TL35 V2 is powered on.

The TL35 V2 has three NUC modes, automatic **(A)**, manual **(M)**, and background **(B)**. The selected NUC mode (**A**, **M**, or **B**) appears on the left side of the status bar. For instructions on setting the NUC mode in the main menu, see **Main Menu > Calibration** on page 30.

Automatic Mode

In automatic mode **(A)**, the TL35 V2 will perform a NUC automatically according to the internal software algorithm. There is no need to close the objective lens cap **(15)** as the TL35 V2's internal shutter covers the sensor.

A countdown timer will appear in the status bar instead of the calibration mode when 5 seconds remain until an automatic NUC is performed. The timer will appear only after the microbolometer temperature has stabilized—after approximately 10 minutes of continuous operation of the TL35 V2.

> **NOTE:** A manual NUC (see below) may be performed at any time while in Automatic **(A)** mode.

Manual Mode

In manual mode **(M)**, the user independently determines the need to perform a NUC based on the quality of the observed image. It is not necessary to close the objective lens cap **(15)** during a manual NUC, as the internal shutter covers the sensor.

To perform a manual NUC while in manual mode (or automatic mode):

1. From the home screen, short press the **Power** ⊕ **Button**.
2. A manual NUC is performed instantly.

Background Mode

In background mode **(B)**, the user independently determines the need to perform a background NUC based on the quality of the observed image. A background NUC uses less power than an automatic or manual NUC because it does not use the imager shutter to cover the sensor; instead, the user must close the lens cap **(15)**.

To perform a background NUC while in background mode:

1. Close the objective lens cap **(15)**.
2. From the home screen, short press the **Power** ⊕ **Button**.
3. A prompt to close the lens cap appears onscreen. The background NUC starts after about 4 seconds.

> **NOTE:** If the lens is not properly covered, a temporary "image burn" will remain in the image until the next non-uniformity correction. This "image burn" is temporary and is not a defect or sign of permanent damage.

19. PHOTOGRAPHY AND VIDEO RECORDING

The BOLT TL35 V2 is equipped with video recording and image capture. All videos and photos are automatically saved to the TL35 V2's built-in 32 GB memory storage.

> **NOTE:** Photo and video files are named with the time and date; therefore, it is recommended to set the date and time before using the photo and video functions. See **Settings Menu > Date** and **Settings Menu > Time** on page 39. Alternatively, the date and time may be synchronized with one button in the InfiRay Outdoor App.

Photography 📷

To take a photo:

1. From the home screen, short press the **Photo** 📷 **Button**.
2. The image will freeze for 0.5 seconds and the camera 📷 icon will appear in the upper-left corner of the screen.

> **NOTE:** A red warning icon ⚠ appears next to the camera icon in the upper-left corner of the screen when insufficient memory storage is available. Transfer video and image files to other storage media to free up space on the memory card.

Video Recording 🎥

To record video:

1. From the home screen, long press the **Photo** 📷 **Button** to start a video recording.
2. When the video recording starts, the video recording timer, in HH:MM:SS (hour: minute: second) format, appears in the upper-right corner of the screen.

3. During video recording, short press the **Photo** 👁 **Button** to take a photo.

4. Long press the **Photo** 👁 **Button** to stop and save the video recording.

Video and Photography Tips

- You may enter and navigate the menu as normal during video recording. Only the reticle appears in recorded photos and video; the user interface (status bar and menu) is not captured.

- Recorded photos are saved to the internal memory card in .jpg format, videos are saved in .mp4 format.

  - Photos are saved in IMG_HHMMSS_XXX.jpg format.
  - Videos are saved in VID_HHMMSS.mp4 format.
  - HHMMSS is hour/minute/second.
  - XXX is a 3-digit counter number.

- The counter used for multimedia file names cannot be reset.

- If a file is deleted from the internal memory, its counter number is not taken by another file.

  CAUTION:

- The maximum duration of a recorded video file is 5 minutes. After this time, video recording will begin a new file automatically.

- The number of recorded files is limited only by the capacity of the internal memory.

- Check the available space on the internal storage card regularly and transfer video footage and images to other storage media to free up space on the memory card.

20. ACCESSING INTERNAL MEMORY

When the BOLT TL35 V2 is turned on and connected to a computer via the included data cable, it is recognized by the computer as a flash memory (USB) drive. This allows the user to access the saved multimedia files and copy or delete any desired files.

To access the internal memory:

1. Turn on the TL35 V2.

2. Connect the smaller USB-C end of the data cable to the USB-C port **(9)** on the TL35 V2.

3. Connect the larger USB end of the data cable to your computer.

4. Double-click **My Computer** on your computer desktop.

5. Double-click to open the device named **InfiRay**.

6. Double-click to open the device named **Internal Storage** to access the built-in memory.

   a. The device shows the available space (in GB) remaining of the total memory storage.

b. Recorded photos and videos are separated by date into folders.

c. Folders are named by date, in YYYYMMDD (year/month/day) format.

7. Select the desired files or folders to copy or delete.

21. USING THE INFIRAY OUTDOOR APP

The BOLT TL35 V2 can be operated using the InfiRay Outdoor App when the rifle scope is connected to a smartphone or tablet via Wi-Fi.

1. Download and install the App to your smartphone or tablet:

   a. Scan one of the QR codes above to download the InfiRay Outdoor App from the App Store or Google Play; **OR**

   b. Download the App for free via any app store.

2. Connect the TL35 V2 to Wi-Fi:

   a. In the main menu, turn on Wi-Fi. See **Main Menu > Wi-Fi** on page 29 for detailed instructions.

   b. Open the App and press the **ViewFinder** 📷 **icon** on the home screen.

   c. Click the **Connect Device WiFi button**.

   d. On the mobile device, go to **Settings > Wi-Fi**.

   e. Select the TL35 V2 from the list of Wi-Fi networks. It will appear in the list as "Infiray-TUBE-XXXXXX", where XXXXXX is the six-digit device serial number.

   f. Enter the Wi-Fi password and tap the **Join button**. The default password is 12345678.

3. Operate the TL35 V2 via the App:

   a. Take real-time photos and videos, with or without audio.

   b. View, share, download, and delete photos and videos taken via the App, which are saved to the mobile device.

   c. Change the Wi-Fi password and SSID.

   d. Synchronize the date and time from the mobile device to the TL35 V2.

   e. Update the TL35 V2 firmware.

NOTE: When a factory reset is performed, the Wi-Fi password and SSID are reset to the defaults, 12345678 and Infiray-TUBE-XXXXXX. See **Settings Menu > Factory Reset** on page 41.