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BH-SQT01

Thermal Imaging Observation Scope

User Manual

V1.0

<https://www.kokvp.com>

Made in China



RoHS



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1.Product Overview

The BH-SQT01 is a multi-functional thermal imaging observation scope integrating search, observation and target positioning. Equipped with a high-sensitivity uncooled vanadium oxide detector, it delivers crisp thermal images at night and under adverse weather conditions. The device supports reticle calibration. Adopting a lightweight and compact design, it is compatible with multiple interface mounts, and features photo-shooting and video recording functions. It is widely applied in outdoor exploration, field search and rescue, security patrol, nature observation and other scenarios.



Figure 1-1 BH-SQT01 Thermal Imaging Observation Scope

2. Performance Specifications

Table 1 Performance Specifications of BH-SQT01 Thermal Imaging Observation Scope

Model		BH-SQT01-209
Optical Performance	Resolution	256×192, 12μm
	Frame Rate	50Hz
	Objective Focal Length	9mmF1.0
	Field of View	19.4°×14.6°
	Recognition Range (Human)	250m
	Recognition Range (Car)	350m
	Digital Zoom	1×、2×
	Laser Red Dot	Optional
Focus Mode		Fixed-focus
Display Characteristics	Display Resolution	360×320
	Image Adjustment	Contrast, Brightness adjustable
	Image Palette	White Hot(W)/ Black Hot(B)/Red Hot(R)/Green Hot(G)/Pseudo Color(F)
Interface	External Power Supply	USB Type-C,5V
	Mechanical Interface	Picatinny rail and other adapters
Video Output		CVBS
Battery		≥2h with one 15270 battery

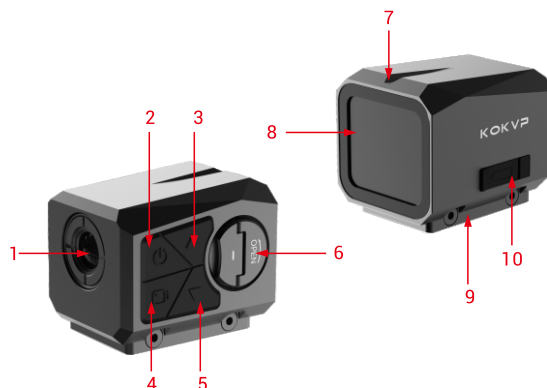
Physical Property	Weight	≤200g
	Size	≤52×41×44mm (Picatinny rail not included)
Environmental Parameter	Working Temperature	-20°C~+50°C
	Storage Temperature	-40°C~+70°C
	IP Level	IP66

3. System Functions

- ▶ Shutter correction
- ▶ Image palettes: White Hot(W)/Black Hot(B)/Red Hot(R)/Green Hot(G)/Pseudo Color(F)
- ▶ Digital zoom: 1×, 2×
- ▶ Photo capture and video recording
- ▶ Multilanguage support
- ▶ Realtime clock
- ▶ TypeC port for power supply and data transmission
- ▶ Reticle zeroing calibration
- ▶ Touchscreen control
- ▶ Video output

4.Product components

Figure 4-1 Main Components of BH-SQT01.



① Objective Lens	② Power Button	③ Up Button	④ Photo Button
⑤ Down Button	⑥ Battery Cover	⑦ Physical Reticle Reference	⑧ Touch Display Screen
⑨ Base Mount Interface	⑩ Type-C Port		

Figure 4-1 Main components of the BH-SQT01 product complete unit structure

5.Operation

Table 2 Button Functions:

No.	Button	Functions
1	Power Button	1.Press and hold for more than 3 s to power on; when powered on, press and hold for 3 s for countdown shutdown. 2. Short press: standby toggle on main interface; return to main interface / previous menu in menu pages. 3. Doubleclick: trigger shutter correction on main interface.
2	Photo Button	Main interface: shortpress for photo capture; longpress to start / stop video recording; doubleclick to enter menu.Menu interface: shortpress to confirm and enter submenu.
3.	Up Button	Main interface: shortpress to cycle image palettes; longpress to switch digital zoom.Menu interface: shortpress for menu leftscroll or parameter increment.
4	Down Button	Main interface: shortpress to cycle reticle types; longpress to cycle reticle colors.Menu interface: shortpress for menu rightscroll or parameter decrement.

Table 3 Touch-screen Operation Logic.

No.	Gesture	Functions
1	Swipe left / right	Cycle image palettes (W/B/R/G/F)
2	Swipe up	Switch reticle size / type
3.	Swipe down	Switch reticle color
4	Double-tap screen	Toggle digital zoom 1× / 2×
5	Long-press screen	Main interface: open menu.Menu interface: return to previous menu.



① Image palette icon	② Video-output icon	③ Digital zoom value	④ Real-time clock
⑤ Battery level	⑥ Recording indicator (REC)	⑦ Reticle overlay	

5.1 Quick Operations

- ▶Power-off state: Press and hold Power Button (2) for 3s to power on.
- ▶Powered-on state: Press and hold Power Button (2) for 3s to shut down; short-press to enter / exit standby mode; double-click for shutter correction.
- ▶Short-press Photo Button (4) to take photos; long-press to start/stop video recording; double-click to enter menu.
- ▶Short-press Up Button (3) to cycle image palettes; long-press to switch digital zoom.
- ▶Short-press Down Button (5) to cycle reticle types; long-press to cycle reticle colors.
- ▶Swipe left / right on screen: cycle image palettes.
- ▶Swipe up on screen: switch reticle type.
- ▶Swipe down on screen: switch reticle color.
- ▶Double-tap screen: toggle digital zoom.
- ▶Long-press screen: open main menu.

5.2 Menu Operations

- After entering main menu, swipe left/right or short-press Up / Down buttons to navigate functions. Tap screen or short-press Photo Button to enter sub-menu. Long-press screen or short-press Power Button to return to previous menu. Modified parameters are saved automatically.
- ▶Image Brightness
Enter sub-menu;5 adjustable levels. Adjust via on-screen plus/minus icons or Up/Down buttons.

►Image Contrast

Enter sub-menu;5 adjustable levels. Adjust via on-screen plus/minus icons or Up / Down buttons.

►Screen Brightness

Enter sub-menu;5 adjustable levels. Adjust via on-screen plus/minus icons or Up / Down buttons.

►Reticle Zeroing Calibration

Enter “Reticle Zeroing Calibration” sub-menu. Tap “Freeze Image” icon to freeze live view (Or briefly press the “Capture button” to turn image freeze on or off.). Adjust reticle offset by tapping directional arrows on screen; alternatively select horizontal / vertical adjustment with Photo Button, then fine-tune with Up / Down buttons.

►Video Output

Enter the "Video Output" submenu to enable or disable the video output function. When enabled, a "Video Output" icon will appear on the main menu title bar. Connect a dedicated external display via the USB interface to view real-time images. The video format is CVBS, and the image polarities supported are Black Hot (B) and White Hot (W) only.

Note: To access data on the memory card, the video output function must be turned off.

►Playback

Enter playback sub-menu to view stored photos and video files. Swipe left or right (or briefly press the Up/Down buttons) to browse files. Double-tap the screen (or briefly press the Capture button) to view photos and videos.

►Language

Enter sub-menu to select system language.

►Date & Time

Enter sub-menu to set system date and time. Enter the "Date & Time" submenu to configure the time settings. Swipe up/down (or briefly press the Up/Down buttons) to adjust the time. Swipe left/right (or briefly press the Capture button) to select the "Year-Month-Day Hour:Minute:Second – Date Format" parameters. Once the time is set, tap Confirm to exit. To cancel the settings and return to the previous menu, long-press the screen (or briefly press the Power button).

►Format

Enter format sub-menu to erase stored photos and videos. Proceed with caution.

►Default Settings

Navigate to the "Default Settings" submenu, where you can select whether to restore the device to its factory default settings.

►Version

View system firmware version details.

6.Preventive Maintenance

6.1 Battery Replacement

- ▶Power off the unit before replacing battery.
- ▶Battery-level indicator locates at bottom-right corner of display with 3 level segments.
- ▶When battery icon turns red, recharge or connect external power supply promptly.
- ▶Rotate battery-compartment cover counter-clockwise to open. Install battery with positive pole inward, strictly follow polarity marking inside compartment.

Note: Use only the dedicated charger supplied with unit. Do not use incompatible chargers. For USB-C charging: power off device for charging. External USB adapter must meet 5V/≥1A specification. Charging while powered-on yields low charging current and extended charging duration; charging with power-on is not recommended.

6.2 Cleaning and Maintenance

- ▶Do not apply corrosive or abrasive cleaning agents to housing or optical glass surfaces.
- ▶Wipe main housing with soft cloth dampened with alcohol.
- ▶For objective lens and viewing window: blow loose dust off first. Then gently wipe with lens pen or lint-free cotton swab moistened with denatured alcohol.

7.General Troubleshooting

If faults persist after troubleshooting, contact manufacturer or authorized dealer. Do not disassemble the unit by yourself.

Table 4 Troubleshooting Guide

Fault	Probable Cause	Remedy
Blurry image	Long time without shutter correction	Perform manual shutter correction.
Unresponsive touch screen	Water droplets or condensation on screen	Wipe screen clean with lens cloth or tissue.
Cannot power on	Battery reversed or depleted/Insufficient	Re-install battery or replace / recharge battery.
	External supply voltage	Verify external power-supply specifications.
No video output	Video-output function disabled/Mismatched external display or signal format	Enable video-output in menu.Use compatible external display unit matching CVBS signal.

8.Safety Instructions

- ▶Use qualified batteries. Do not discard spent batteries randomly or throw into fire.
- ▶Use only certified compatible chargers to avoid device damage.
- ▶Never observe the sun or high-energy laser sources through this scope.
- ▶Do not operate device in ambient temperature above 60 °C.
- ▶Do not throw device into fire.

9.Storage and Transportation

The instrument should be stored in an environment with a temperature range of -20°C to +55°C. The relative humidity must not exceed 85%. It is important to ensure that the storage conditions are good, with no harmful gases or impurities in the air that could potentially corrode the instrument. Avoid severe vibration and shock during transportation, and use the manufacturer's original packaging to ensure that the equipment is securely fixed in the package.

10.After-sales service

- 1.Main unit enjoys 12-month free warranty from purchase date.
- 2.Accessories carry 3-month free warranty from purchase date.
- 3.Repaired units retain remaining original warranty period within warranty coverage.
- 4.Customer bears inbound shipping cost for sending unit for repair; manufacturer covers outbound shipping cost for repaired unit returned to customer.
- 5.For out-of-warranty units, repair service is available with reasonable service and parts charges.
- 6.Damage caused by human error or improper operation is excluded from warranty coverage.
- 7.Unauthorized disassembly voids warranty.

Note: This manual is subject to revision without prior notice.