Y050

Thermal Imaging Attachment

用户指南/User Guide　V1.0

Y050
Infrared　| 热成像观察镜
Thermal Sights

DISCLAIMER

This product is prohibited for illegal use, including illegal hunting,military,chemical,biological or nuclear weapons,illegal privacy photographing,and other violations of laws and regulations.It is prohibited to transport goods prohibited by the United Nations,the European Union or the OSCE.The products are only sold in the place where the company is registered and cannot be exported.

Purchase of this machine is equivalent to accepting the constraints of this statement,equivalent to agreeing to sign the relevant liability statement.In case of any violation,the company shall not be held responsible.

LONGOT TECHNIC

Package Contents

Y050 Thermal Imaging Attachment
Clip-on universal adapter*
IBP-6 longot battery pack * 2
Power adapter
Type C cable
Side-entry picatinny rail
Remote control base and bandage
Remote control cover
Heated target for zeroing (x10)
Lens cloth
Quick start guide

Description

Y050 are all-new generation front attachment designed as the infrared expansion device of the day light optics.

Different from the night vision device based on image enhancement, Y050 doesn't need external light source and isn't influenced by strong light exposure. It can be used in the night or bad weather conditions such as fog, rain, smog and can detect the objects through obstacles such as branch, tall grass, dense bushes and so on. Y050 has a wide range application including night hunting, observation and terrain orientation, search and rescue operations.

Using the Y050 Front Attachment includes several benefits over night hunting with traditional optics or even the night vision devices. Attaching the Y050 to a traditional scope delivers the same creature comforts of shooting with day optics you are accustomed to, including your existing reticle and eye relief. The Y050 Front Attachment even allows you to continue utilizing your riflescope's variable magnification

Specs	Y050
Detector Specifications	
Detector Type	VOX
Resolution, pixels	640×512
Pixel size, um	12
Optics Specifications	
Objective lens, mm	50mm/F1.0
Magnification, x	1x
Digital zoom, x	/
Min Focus Distance, M/Y	5m
Field of View (H × V), degree	8.8°*7.0°
Diopter, D	/
Recognize the distance, m (Target size: 1.7m×0.5m)	1229m
Electrical Characteristics	
Display Type	OLED
Resolution, pixels	1024 × 768
WiFi Frequency,GHz	2.4GHz
Video/Photo fomat	MP4/JPEG
Built-in memory，GB	32GB
Power Supply，V	3.7v

Specs	Y050
Battery type*QTY/Capacity, mA	18650*1/cr123*2concatenation
External power supply，V	5V2A
Others Characteristics	
Operating time (at t=22℃)，	≥5H
Storage temperature, ℃/℉	-30℃～+60℃
Body material	Aluminum alloy
Degree of protection, IP code (IEC60529)	IP67
Dimension（L*W*H）, mm/inch	154*86*76mm 6.06in*3.39in*2.99in
Weight(without battery), g/oz	518g/18.27oz

★ The actual operating time depends on the intensity of using Wi-Fi, video recorder, laser rangefinder.

Improvements may be made to the design and software of this product to enhance its useful features. Technical parameters of the device may be improved without prior notice of the customer.

Features

Built in LRF, 1200m

Ballistic calculation

Built-inQuick "monocular-attachment" conversion

Quick mounting and removal of attachment

12 μ m thermal imaging detector

1024×768 high resolution AMOLED display

No re-zeroing required and quick attached

Magnesium alloy housing

Familiar precision

Photographing / Video recording

Support APP connecting via Wi-Fi

Wireless remote control

Four image modes – White hot, Black hot, Red hot, Color

Three scene modes – Forest, Flatland, City

Monocular's digital zoom: ×1, ×2, ×4

Degree of protection IP67

Components and Controls

1. Eyepiece

2. Eyepiece bayonet-type ring

3. Down button

4. Menu (M) button

5. Camera button

6. Up button

7. Lens focus knob

8. Lens cover

9. Objective lens

10. Power button

11. Microphone

12. Type-C port

13. Bottom picatinny rail
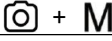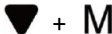
14. Universal clamp adapte

Guidelines For Operation

The Y050 has been designed for long-term use. To ensure sustainable performance, please adhere to the following:

· Before use make sure that you have mounted and adjusted the device according to the instructions of the section "Operation".

· Store with the lens cap on in the carrying case.

· Switch off the device after use.

· **Attempts to disassemble or repair the device will void the warranty!**

· The device is designed for use in various operating temperatures. However, if it has been brought indoors from cold temperatures,do not turn it on for 2 to 3 hours. This will prevent external optical surfaces from condensation.

· To ensure reliable performance, it is recommended to carry out regular technical inspections of the unit.

Description of Controls

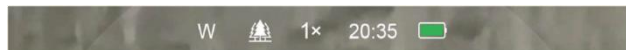| Button	Current Status	Short Press	Long Press
Power Button ⏻	Power off	/	Power on the device
	Home screen	Standby the device	Power off the device
	Standby	Wake up the device	
	Menu interface	Save and return to the upper interface	
Up button ▲	Home screen	Single range	Continuous range
	Menu interface	Scroll up options	/
	Zeroing / Pixels defect correction interface	Move one pixel to the Up every time	Move 10 pixels to the Up every time
Down button ▼	Home screen	Shutter correction	Background correction
	Menu interface	Scroll down options	/
	Zeroing / Pixels defect correction interface	Move one pixel to the Down every time	Move 10 pixels to the Down every time
	Range notification interface	Loop toggles animal types	Background correction
Camera button 📷	Home screen	Take a picture	Video recording
	Zeroing / Pixels defect correction interface	Move one pixel to the Left every time	Move 10 pixels to the Left every time
		/	/
Menu button M	Home screen	Enter shortcut menu interface	Enter Main Menu interface
	Menu interface	Adjust parameter	Save and exit to the home screen
	Zeroing / Pixel defect correction interface	Move one pixel to the Right every time	Move 10 pixels to the Right every time
Up + Down buttons ▲ + ▼	Zeroing interface	/	Save and set the coordinate of the zeroing position as (0,0)
	Pixels defect correction interface	/	Add / Delete defect pixels
Camera + Menu Buttons 📷 + M	Zeroing interface / Pixels defect correction interface	/	Save and exit to the home screen
Down + Menu buttons ▼ + M	Home screen	/	Switch between Attachment mode and Monocular mode

Installation

Y050 can be used as a monocular or front attachment for day light scope. Original design allows the monocular to be quickly converted into attachment and vice versa.

You can quickly switch the operation state of the Y050 between the monocular mode and the attachment mode with a long press of the Down (3) + Menu (4) buttons for 3s.

As a front attachment

Y050 as an attachment is designed to use a day light scope both in the nighttime and daytime in inclement weather (fog, smog, rain etc.).

When use as a front attachment, please ensure Y050 is in attachment mode, in which the status bar at the top of the screen shows G1/G2/G3/G4.

W   ⚞   1×   20:35   🔋

To mount it on a day device, please follow instructions as follows:

· Please make sure that the day device is zeroed before installation.

· Measure the outer diameter of the lens of your day scope.

· According to the outer diameter of the objective lens of your day device, choose a suitable adapter (bought separately) with M52*0.75 internal

thread.

· Screw the selected adapter onto the eyepiece of the Y050.

· Install firmly the adapter with Y050 together onto the objective lens of your day device.

· Then you can use Y050 as a front attachment.

As a monocular

· When used as a monocular, it needs to switch to the monocular mode, in which the status bar at the top of the screen shows x1/ x2/ x4.

W   ⚞   G1   20:35   🔋

For a better observation experience, the longot Monocular (15) is suggested to use (bought separately from the longot website).

Screw the longot Monocular (15) onto the eyepiece of the Y050.

In monocular mode, the Y050 supports up to 4x electronic zoom, and with the 4x24 Longot Monocular (15), you will be able to obtain up to 16x amplification.

Operation

· Open the lens cover (8).

· Press and hold down the Power (10) button for 3s to power the device on. Wait for 5s until thermal image appears on the display.

· Lens Focus Adjustment: rotate the lens focus ring (7) to focus on the object being observed.

· Calibration:

- Shutter correction： calibration the image with a short press of the Down (3) button for shutter correction

- Background correction: long press the Down (3) button，the display will appear the prompt for "Cover lens during calibration" icon，then close the lens cover (8) to complete background correction.

· Image settings: short press the Menu (4) button to enter the Shortcut Menu interface, to set electronic zoom (only for Monocular mode) / image mode / Brightness / Scene mode / Sharpness level.

· Power Off: long press Power (10) button for 3s to power off the Y050.

· Standby Mode: Press the Power (10) button briefly to standby the device for power saving. And press the Power (10) button again to wake it up.

Zeroing (only for Attachment mode)

When Y050 is installed on the day scope as an infrared extension component, if the reticle of the day scope is not in the center of the infrared image, the image zeroing function can be used to shift the infrared image to ensure the position consistency between the day scope image and the infrared image.

· Please finish the calibration of the day scope before mounting Y050.

· Install Y050 on the day scope referring to the Installation section.

· Then aiming at the target at 100 meters and shoot. Measure the horizontal distance and vertical distance between the bullet hitting point and the aiming point afterwards.

· In the home screen, press and hold down Menu (4) button to enter the Main Menu interface.

· Press the Up (6) / Down (3) button to select the Zeroing Profile option ( ) and select a zeroing profile with a short press of the Menu (4)button.

Then select the Zeroing option (⊕) and short press the Menu (4) button to enter the Zeroing interface.

· In the zeroing interface, short or long press the Up / Down / Camera / Menu button briefly to move the position of infrared image until the target on the infrared image is consistency with the reticle center of the day scope.

· When the zeroing is done, long press Menu (4) + Camera (5) buttons to save and exit the zeroing interface, or hold down Up (6) + Down (3) buttons for 3s to save and set the coordinate of the zeroing position as (0,0) and exit to the home screen.

Photography and Video recording

Y050 series is built-in 32GB storage space for photography and video recording. The files of images and videos will be named by time, so it is recommended to set the time in the Main Menu or synchronize the time in the Settings of the Longot Outdoor APP before using the photography and video recording function.

Photography

Press the Camera (5) button in the home screen to take a photo. The screen freezes for 0.5s, and a photo icon appears on the screen.

· Photographs are saved in a built-in storage space.

· When the exclamation mark icon appears on the right side of the camera icon, it prompts that the memory space is insufficient. Check and transfer videos and images to other media to free up the space.

Video recording

In the home screen, press and hold down the Camera (5) button to start a video recording.

· A recording timer displays on the top of the screen. the time format is MM: SS (minute: second).

· During recording, it is still possible to take a photo with a short press of the Camera (5) button.

· Also, you can enter and navigate the menu function during video recording.

· Press and hold down the Camera (5) button to stop and save the recording.

·The video and photo are saved in the built-in storage space.

Note

- You can open and operate the menu during video recording.
- The images taken and the videos recorded are stored in the built-in memory space in the format of PIC_HHMMSS.jpg (image) and VIDEO_HHMMSS.mp4 (video), with HHMMSS indicating hour/minute/second.
- The maximum duration of a video recording file is 30 minutes. When the duration is more than 30 minutes, the video will be automatically recorded onto a new file.
- The number of files is limited by the internal memory space of the device. Check the remaining space regularly, and transfer your videos and images to other media to free up the space on the memory card.

Memory Access

When the device is turned on and connected to a computer, it is recognized by the computer as a flash memory card, which is used to access the device's memory and make copies of pictures and videos.

Turn on the riflescope and connect it with the computer via Type-C cable.

Double click "my computer" on the desktop - double click to open the device named "Longot" - double click and open the device named 'Internal Storage' to access built-in memory.

· There are different folders named by time in the storage.

· Recorded photos and videos in that day are saved in the folders.

· Select desired files or folders to copy or delete.

Shortcut Menu

In the home screen, press the Menu (4) button briefly to enter the shortcut menu interface. The functions are as followings:- E-zoom ($\oplus$, only for Monocular mode): short press the Menu (4) / Camera (5) button to E-zoom the image from x1 to x4.

- Image mode (🎨) ： short press the Menu (4) / Camera (5) button to switch the image mode from White hot、Black hot、Red hot、Color.

- Screen Brightness (☀️): short press the Menu (4) / Camera (5) button to switch the screen brightness from level 1 to level 6.

- Image Contrast (◖): short press the Menu (4) / Camera (5) button to switch the image contrast from level 1 to level 6.

- Scene Mode (🖼️): short press the Menu (4) / Camera (5) button to switch the scene mode among Forest, Flatland and City.

· Press the Up (6) / Down (3) button briefly to switch the function options.

· Press and hold the Menu (4) button to exit to the home screen or exit automatically if no operation within 5s.

Main Menu

In the home screen, press and hold down the Menu (4) button for 3 seconds to enter the main Menu interface.

· In the main Menu, press the Up (6) / Down (3) button briefly to switch the menu option.

· Press the Menu (4) button briefly to adjust the parameters of present option or enter to the submenu.

· Press and hold down Menu (4) button for 3 seconds to exit to the home
screen.

· Press the Power (10) button briefly to save and exit to the upper interface.

Main Menu function description

Ultraclear 👁	Turn Ultraclear mode on/off · Press and hold down the Menu (4) button to enter the Main Menu. · Select the Ultraclear option with the Up (6) / Down (3) button. · Turn the Ultraclear mode on /off with a short press of Menu (4) button, along with the sound of shutter calibration. · The icon will be displayed on the bottom status bar when the Ultraclear mode is on. · Ultraclear Mode will show more image details under the cloudy, rainy, foggy and other harsh weather conditions.
Wi-Fi 📶	Turn Wi-Fi function on/off · Press and hold down the Menu (4) button to enter the Main Menu. · Select the Wi-Fi option with the Up (6) / Down (3) button. · Turn the Wi-Fi function on /off with a short press of Menu (4) button. · The icon will be displayed on the bottom status bar when the Wi-Fi is on. · When Wi-Fi is on, it can be connected with the mobile phone APP.
Video Output 🔲▸	Turn video output on/off · Press and hold down the Menu (4) button to enter the Main Menu. · Select the Video Output option with the Up (6) / Down (3) button. · Briefly press of the Menu (4) button to turn video output on/off. · The icon will be displayed on the bottom status bar when the video output function is on. · Video output function enable connectivity with an eternal display or recording device.
Auto shutter calibration ⊘	Turn the Auto shutter calibration on/off · Press and hold down the Menu (4) button to enter the Main Menu. · Select the Auto shutter calibration option with the Up (6) / Down (3) button. · Briefly press of the Menu (4) button to set the Auto shutter calibration mode on / off. · The icon will be displayed on the bottom status bar when the Auto shutter calibration is on. · When the Auto shutter calibration is on, the shutter will automatically when the Image quality deteriorates.

Video UI UI	Turn on/off the function of video recording with UI · Press and hold down the Menu (4) button to enter the Main Menu. · Select the Video UI option with the Up (6) / Down (3) button. · Briefly press of the Menu (4) button to set the Video UI mode on / off. · The icon will be displayed on the bottom status bar when the Auto shutter calibration is on. · If the Video UI function is on, the UI information will be recorded with the video.
Zeroing Profile	Select the Zeroing Profile (only for Attachment mode) · Press and hold down the Menu (4) button to enter the Main Menu. ·Select the Zeroing Profile option with the Up (6) / Down (3) button. · There are four types for selection: G1/G2/G3/G4. For MAH50: - G1/G2: Recommended magnification of the day light optics for 1x-5x - G3/G4: Recommended magnification of the day light optics for 6x-10x

Zeroing Profile	For MAL38: - G1/G2: Recommended magnification of the day light optics for 1x-5x - G3/G4: Recommended magnification of the day light optics for 6x-8x For MAL25: - G1/G2/G3/G4: Recommended magnification of the day light optics for 1x-5x · Briefly press of the Menu (4) button to Switch and select one zeroing type.
Zeroing	Zeroing (only for Attachment mode) Press and hold down the Menu (4) button to enter the Main Menu. Select the Zeroing option with the Up (6) / Down (3) button. Briefly press of the Menu (4) button to enter the Zeroing interface.

Zeroing ⊕
· In the zeroing interface, short press the Up / Down / Camera / Menu button briefly to move the position of infrared image.
·Long press Menu (4) + Camera (5) buttons to save and exit the zeroing interface, or hold down Up (6) + Down (3) buttons for 3s to save and set the coordinate of the zeroing position as (0,0) and exit to the home screen. For the details, please refer to Section 10 Zeroing. |
| **Ballistic calculation** 📏 | Ballistic calculation
· Press and hold down the Menu (4) button to enter the Main Menu.
· Select the Range Notification option with the Up (6) / Down (3) button.
· Briefly press of the Menu (4) button to enter the Ballistic calculation interface. |
| **Ballistic calculation** 📏 | · Briefly press Menu (4) to turn on/off Ballistic calculation function. You need to set the parameters of the Ballistic calculation through the Longot Outdoor APP before perform the ballistic calculation function.
Note: When setting the ballistic calculation parameters through the Longot Outdoor APP , you need to ensure that thezeroing profile (G1/G2/G3/G4) settings in the APP are consistent with the MAH50R device.
· Select Meters or Yards for range unit

Note： When the ballistic calculation is on, short press the Up (6) button to perform a single range.
The distance value and the recommended ballistic offset (MOA / CM) will be displayed, and automatically disappear after 10 seconds. |

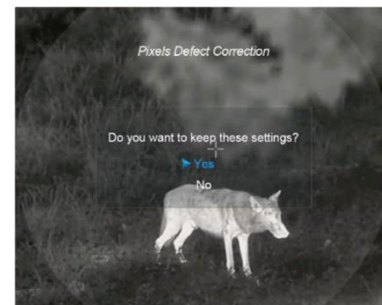| **Pixels Defect Correction** ⊞	Pixels Defect Correction `Press and hold down the Menu (4) button to enter the Main Menu. `Select the Pixels Defect Correction option with the Up (6) / Down (3) button. `Briefly press of the Menu (4) button to enter the Pixels Defect Correction Interface. `A reticle will appear in the center of the screen and the number of corrected defect pixels will display at the bottom of the screen. `And then, moving the reticle to select the Defect Pixels by pressing the Up / Down / Camera / Menu button. `After selecting the Defect Pixels, press and hold the Up (6) + Down (3) buttons at the same time to correct the blind pixels.

Pixels Defect Correction ⊞	 When the Add message appears on the bottom of the screen for a short time, the correction is successful.
Settings ⚙	 This function is used to set the date, time, language, factory reset and view the device information. · Press and hold the Menu (4) to enter the main menu. · Select the Settings option with the Up (6) / Down (3) button.

Settings ⚙️		· Press the Menu (4) briefly to enter the submenu. · This menu item allows you to configure the following settings.
	Date setting 📅	Date setting · In the settings submenu interface, select the Date option with the Up (6) / Down (3) button. The date is displayed in year/month/day format. · Press the Menu (4) briefly to activate the date reset function. Two small triangle symbols are displayed above and below the 'Year' in default. · Briefly press the Menu (4) button to switch among Year, Month, Day and Exit option. · Press the Up (6) / Down (3) button to set the number.
Time setting 🕐		Time setting · In the settings submenu interface, select the Time option with the Up (6) / Down (3) button. The time is displayed in 24-hours format as Hour: Minute. · Briefly press the Menu (4) button to activate the time reset function. Two small triangle symbols are displayed above and below the 'Hour' in default. · Briefly press the Menu (4) button to switch between Hour, Minute and Exit option. · Press the Up (6) / Down (3) button to set the time.

Language		Language setting · In the settings submenu interface, select the Language option with the Up (6) / Down (3) button. · Enter the Language submenu with a short press of the Menu (4) button. · Press the Up (6) / Down (3) button to select the language desired. · Confirm your selection with a short press of the Menu (4) button and return to the upper interface automatically.
Factory Reset		Reset to the factory settings · In the settings submenu interface, select the Factory Reset option with the Up (6) / Down (3) button.

Factory Reset		· Press the Menu (4) button to enter the Factory Rest interface. · Press Up (6) / Down (3) button to select "Yes" or "No". · Confirm your selection with a short press of the Menu (4) button and return to the upper interface automatically. · When "Yes" is selected, Y050 will restore the factory settings and restart. When "No" is selected, it will return to the upper menu interface.
Info		System Information · In the settings submenu interface, select the Info option with the Up (6) / Down (3) button. · Press the Menu (4) button to show the relevant information.

Wi-Fi Function

Y050 has a built-in Wi-Fi module, which enables the device to connect wirelessly to external devices such as smart phones.
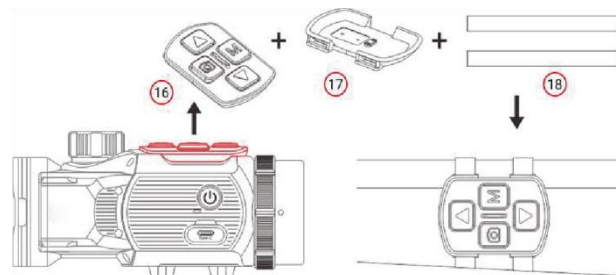
· Press and hold down the Menu (4) button to enter the Main Menu.

· Turn Wi-Fi function on /off with a short press of Menu (4) button.

· Retrieve the Wi-Fi signal named "XXXXX_xxxxxxx" with an external device such as smart phone, whch XXXXX represents the model and xxxxxxx represents the SN code of the device.

· Select the Wi-Fi, and enter the password on the mobile device to set up the connection. The initial password is 12345678.

· When Wi-Fi is successfully connected, you can control the device via Longot Outdoor APP.

Remote Control

Y050 button module can be removed from the Y050 and installed at any

position of the gun with its own accessory as a remote control.

· Remove the button module (16) from Y050 unite.

· Install the button module (16) on the base (17) provided with the packag

· Thread the two magic straps (18) into the base (17) and attach the module onto the suitable position of your gun.

· Then you can control the Y050 remotely.

· The remote control has a built-in battery that can be used continuously for more than 30 days.

· If the battery runs out, reattach the button module (16) to the Y050 and charge it automatically via the pogo pin.

Technical Inspection

A technical inspection of the device is recommended before use.

· Check the external appearance of the device (there should be no cracks in the casing).

· Check the condition of the lens and eyepiece (there should be no cracks, greasy spots, dirt or other deposits)

· Check the condition of the rechargeable battery (this should be charged) and the electrical contracts (there should be no presence of salts or oxidation).

Maintenance

Maintenance should be carried out at least twice a year and consist of the following actions.

·Wipe the external surfaces of metal and plastic parts free of dust and dirt with a cotton cloth. Silicone grease maybe used for this.

· Clean the electrical contacts of the battery and battery slot on the unit using a non-greasy organic solvent.

· Check the glass surfaces of the eyepiece and the lens. If necessary, remove dust and sand from the lenses (preferably using a non-contact method). Cleaning of the external surfaces of the optics should be done with substances designed especially for this purpose.Carry out the recommended checks and troubleshooting steps in the order shown in the table. If there are defects that are not listed in the table or it is impossible to repair yourself, please contact with us as soon as possible.

Private demolition is strictly prohibited.

General Trouble Shooting

The table lists all the problems that may occur when operating the device.

Trouble description	Probable reason	Trouble shooting
Fail to start up	Battery is low power	Charge your MATE or use the InfiRay Battery Pack
Fail to work with the remote control	Remote battery is low power	Attach the remote to the MATE's body and charge it via the pogo pin
Image is fuzzy, not clear, with vertical stripes and uneven background	No calibration for a long time	Perform the shutter calibration or background calibration
Image is too dark	Low screen brightness	Adjust the screen brightness
Blurred image with clear GUI	The objective lens is not focused	Adjust the focus ring of the objective lens until the image becomes clear

	There is dust or condensate on the interior or exterior optical surfaces of the lens	Wipe off the outside optical surfaces with a soft cotton cloth. Let it dry by leaving it in a warm environment for 4 hours
No analog video output	The video output function is not turned on	Turn the video output function in the Main Menu
	Data cable doesn't support data transmission	Replace a new data cable
Point of impact does not match the aiming point	Zeroing needs to be done	Do zeroing according to the section 12
	Zeroing profile is incorrect	Check the zeroing profile setting

After-sales service

Dear Customers,

Thank you for choosing our products, the devices meet industry standards and comply with Longot's quality assurance and after-sales services term. Please follow the user manual carefully. The warranty card is an important document of sending back when users find the devices are abnormal or defective.

The device against defects and workmanship for a period of two years from the moment of production date(The modification of warranty is invalid, the production date is not equal to sales date), Use improperly or the artificial damage is not the maintenance scope! And cases of the following is not include the warranty:

· If the device has been modified or tampered with.

· If the device has been marked with mechanical or chemical damage.

· If the device has been tampered with by unauthorized repair.

· If the device has been damaged as natural disasters.

· If the device has been damaged as a result of liquids or other substances getting inside.

· Any other damage by incorrectly used.

Any questions in your using period, please don't hesitate to contact your buyer or send an e-mail to our after-service department, the contact email is:

marina@szlongot.com.