

THIR-6000 Bluetooth Series

THIR-6000B

THIR-6000HB

THIR-6000DM-B

**Handheld Image Reader
(Linear / 2D Scanner)**

OPERATION MANUAL

TOHKEN CO., LTD.

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[Memorandum]

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Introduction

Thank you for purchasing this product.

This manual explains the features of this product, operation, system configuration, specifications, etc. In order to use the product properly, please read this manual carefully. When there is any problem during normal use, please document it carefully to be reproduced by our support team. The contents of this manual may be changed without a notice. Please check our website for regular updates

Safety Notice



**DO NOT
DISASSEMBLE**

Please do not disassemble this product as this will void the warranty and might cause an accident.



Follow

Please follow the warnings or notices of computers to be used with this product.



PULL OFF

Please stop using the product when there is smoke smell or strange sound to avoid fire.

Handling with care



About backup data

This product has a memory backup function. This backup can not guaranteed if repair, reconstruction, and upgrade are performed on this Image Reader.



Please do not use this product at temperature or humidity ranges that are different from the product specifications or under the direct sunshine.



Please do not drip water, moisture, oil, etc. on the unit.



This unit can be damaged in environment with corrosive gas.



When stain or dust is stuck on the reading window, please follow the following steps to clean it:

- Wipe off stain lightly with cloth or swab (wet with alcohol)
- Wipe off again with the dry clothes.

DO NOT Wipe off with any chemicals.



This is a high-precision optical device. Avoid shocking the product such as fall.



This unit is designed to use with general electronics devices such as personal computer, office automation equipment, measurement hardware, industrial robot, AV device etc. Please care specially if try to use for safety unit of transportation vehicle (cars, train, airplane), traffic right, gas leak sensor or other device for safety. Please do not use for devices for satellite, devices for nuclear or other devices which involves human lives.

The frequency band of this unit (IEEE802.15.1) is also used by other industrial, scientific or medical instruments like microwave (ISM band).

To avoid cross talk, please follow the following instruction.

1. Please check if there is in-building base station or small voltage wireless base station or amateur wireless base station to detect mobile communication devices
2. By any possibility, if THIR-6000B causes cross talk please contact our sales department.



Prohibited

Please be careful to deal with Li-ion battery. Improper treatment or use of batteries may present a danger of fire, explosion, leakage, or other hazard.

- Please do not disassemble the battery.
- Avoid strong impact on the battery.
- Never dispose of batteries in a fire because they may explode.
- Never use or charge battery with opposed polarity.
- Never connect + and – by steel wire or something. Also don't carry the battery with metal accessories or bobby pin.
- Never use microwave with the battery in.
- Never use other cradle to charge the battery.
- Never charge the battery by connecting it directly to outlet.
- Avoid close to a fire or strong sun shine when charging the battery.



Prohibited

Please treat this unit gently. This unit is a precision equipment.

Where to store



CAUTION

Please do not use/store this unit in the following environment to avoid electrification, fire, defect on the unit, cause damage on other device placed around.

- The temperature or humidity is out rage of the Specification.
- There is a danger of water leakage and electricity leakage.
- The direct sunshine hits.
- It has a dust, salinity and a iron content etc in atmosphere around.
- The static electricity is easy to occur.
- The fire is close, or heat is easy to be confined.
- It has the inflammable or explosive gas in atmosphere around.
This product is not explosion-proof construction.
- The corrosive gas is included in atmosphere around.

Long-term storage



CAUTION

During storage this unit, be sure to avoid the place where there is vibration, dust, high humidity, low temperature, high temperature and direct sunshine.

Wireless device

- This unit is 2.4GHz band wireless device.
- License, registration and/or contract to use this device are not needed to use this unit.

Unpacking the product

After opening the shipping package containing the THIR-6000, take the following steps:

- 1- Check for damage that might occur during the shipping process. Report the damage immediately to the carrier who delivered the shipment.
- 2- Save the shipping container for later storage or shipping.
- 3- Make sure everything ordered is present.

Components	Qty
THIR-6000B series	1
Start-up Instruction Manual	1

Items not included with the product

- Charging base (TBC-6000)

Used to charge rechargeable battery of THIR-6000B series




TBC-6000

- AC Power Adaptor (Optional): In case of purchase separately, select an adaptor with output DC3V to DC6V range and more than 10W. Please confirm polarity and DC plug type as below.

Polarity: $\oplus \ominus \ominus$

DC plug type: EIAJ RC5320A Voltage Segment 2

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1. Getting started

Equipped with a powerful state-of-the-art 2D Imager Scanner and processing CPU, the THIR-6000 is ready to capture images as well as decoding 1D or 2D bar codes.

The THIR-6000 is a 2D Imager Scanner that reads Liner, 2D, and Postal barcodes to meet many different requirements in Delivery, Transportation, Meter Reading, and many other applications.

The ergonomic design of the THIR-6000 provides user comfort even during lengthy scanning sessions.

The new THIR 6000 Bluetooth has the same powerful performance as our THIR 6000. It comes in a IP64 housing with audible sound and vibration feedback for noisy industrial environments. Together with the wireless freedom this new THIR 6000 will be very suitable for many applications in retail and industry.

1) Supported barcodes

The unit can read the following symbols:

1D bar codes:

Code39
Code128
Codabar
ITF (interleaved 2 of 5)
JAN/EAN/UPC
RSS
Code93

2D codes:

Data Matrix (ECC200)
QR Code
Micro QR
PDF 417
Micro PDF
Maxi Code
Composite

2) Picture taking (except THIR-6000(H)U as a Human Interface Device)

The THIR-6000B can take pictures for like seal, signature or ID photo.

3) Ordering information

THIR-6000 (H) (DM) B

1 2 3

1. Resolution

If “H” follows “THIR-6000”, the scanner is high resolution type.

And if there is no “H”, the scanner is normal resolution type.

2. Direct Parts Marking

If “DM” follows “THIR-6000” or “THIR-6000H”, the scanner is for direct parts marking application. DM type has special settings of optics and illumination.

3. Bluetooth

“B” means the interface of THIR-6000 is Bluetooth.

According to this rule, there are 3 types of THIR-6000B family.

- **THIR-6000B**
- **THIR-6000HB**
- **THIR-6000DM-B**

1.1 Scanner components

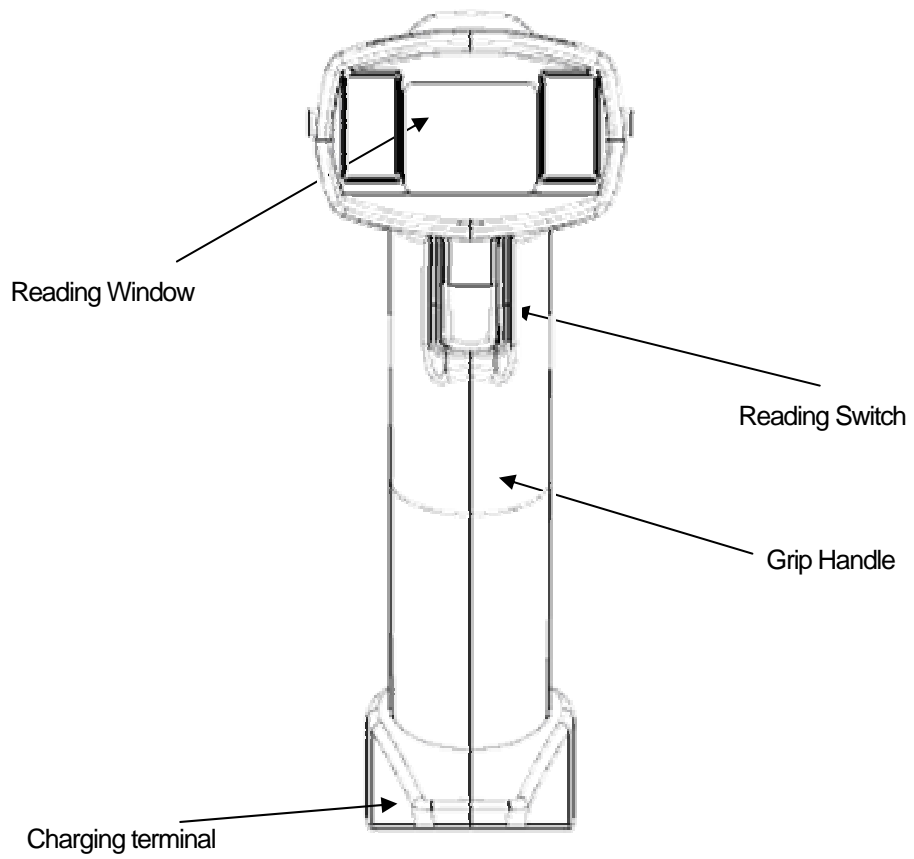


Figure1a. Front View

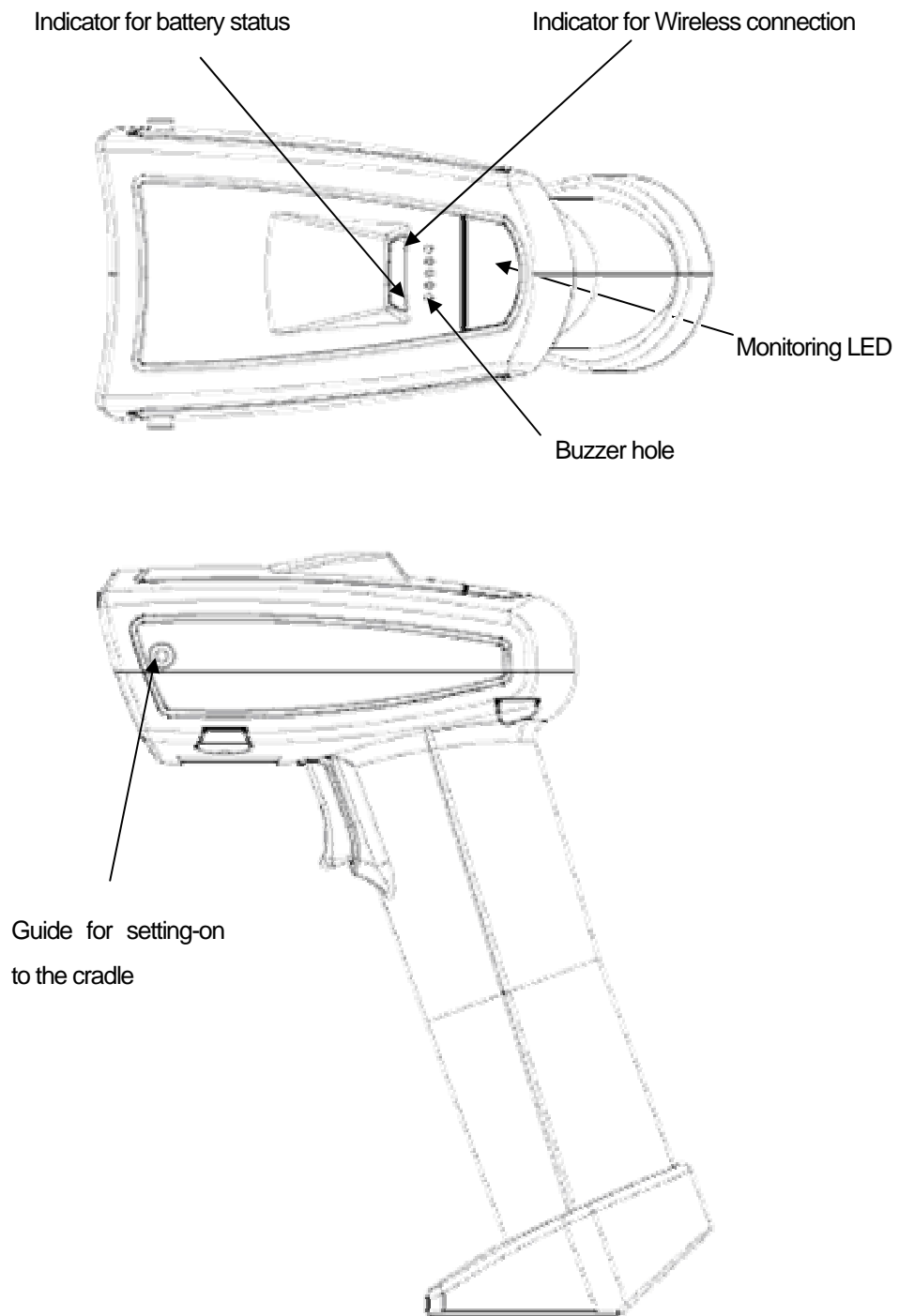


Figure1b. Side and rear View

1.2 How it works

- Monitoring LED

The monitoring LED lights up either GREEN or RED depending on the operation:

- ✓ GREEN light indicates the completion of successful decoding of a symbol.
- ✓ Flashing GREEN light indicates the image data transmission in progress.
- ✓ RED light indicates the failure of data transmission.

- Triggering Switch

This switch is used to initiate the read and decode of a symbol.

- Indicator for wireless connection

GREEN light indicates the status of wireless connection.

- ✓ Turn-ON: Connected
- ✓ Turn-OFF: Disconnected

- Indicator for battery status

GREEN, ORANGE, RED light indicates the status of battery.

- ✓ GREEN: Remained enough
- ✓ ORANGE: Charging.
- ✓ RED: Low battery

- Buzzer

Buzzer indicates states of reading and communication.

- Charging terminal

Used to charge the battery

- Guide for setting-on to the cradle

Used to adjust the position when THIR-6000B is set to the charging cradle

2. How to use THIR-6000B

2.1. Battery charging

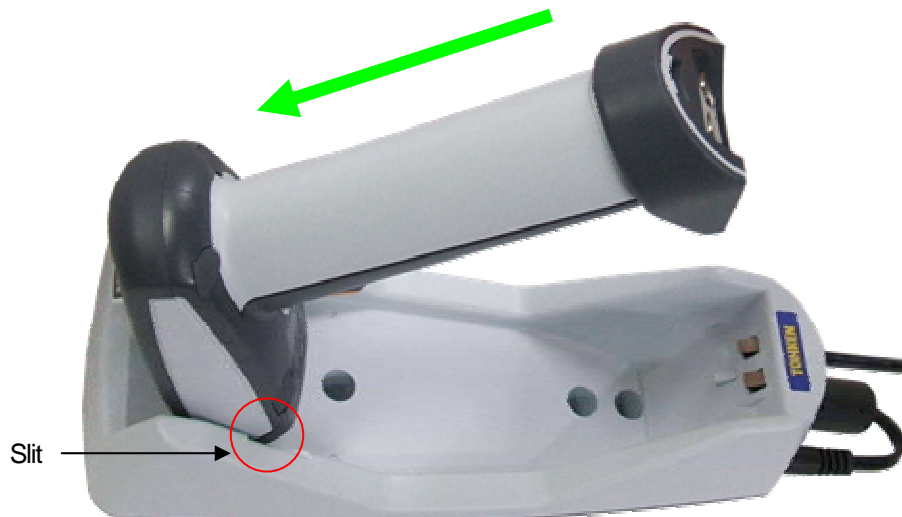
THIR-6000B employs Li-ion rechargeable battery.

Since new batteries are not fully charged, please charge the battery by following the instruction below.

Setting THIR-6000B on to the cradle starts charging the battery.

*Please see "Appendix 1" for more information about the cradle.

1. Insert THIR-6000B by adjusting its "guide" to the slit of the cradle.



2. Lift down the charging terminal to the cradle



3. The indicator for battery status will change to orange. When the battery is fully charged, it will turn green. Normally, the charging time is 3 hours.



 **CAUTION**

Charging time is varied depending on remained amount

Please set THIR-6000B correctly to the cradle otherwise charging process may be failed

Dust and dirt on the charging terminal may prevent to be charged correctly. Please keep it clean by using cotton with ethanol or other neutrality detergent.

The rechargeable battery does not last forever. If a change in the battery life is noticed, it is probably time to purchase a new battery. Criterias to know the time to change the battery are 300 times of charging/discharging or 2 years of usage under proper environmental condition. Please contact our sales department about alternative battery.

2.2 Setting up the Host Computer

THIR-6000 can be connected to the host computer even when it is being charged.

2.2.1 Preparation

1. Install the software comes with Bluetooth adopter.

*Please see the operation manual of the adapter.

2. Start the software

3. Connect THIR-6000B with the software.

*Please see the operation manual of the adapter.

2.2.2 Check the status of connection

If the indicator for wireless connection turns green, THIR-6000B is connected to host computer. If it turns off, it is disconnected.



2.2.3 Security settings

PIN CODE can be set for a security reason. Please see "7.4 How to configure security settings".

2.3 Setting virtual COM port

2.3.1. Communication settings

By using profile of Bluetooth (SPP), THIR-6000B can be communicated with the host computer through virtual COM port. Communication settings, like baud rate or frame structure, are not valid for THIR-6000B.

2.3.2. Communication protocol

Communication protocol is not needed to be set. The host computer has to be equipped the software with the following functions.

- Receiving data from THIR-6000B
- Sending serial command to THIR-6000B
- Receiving picture from THIR-6000B

Please contact our sales department about sample of this software.

2.4 Confirming transmitting data

Barcode data read by THIR-6000B is sent to host computer. It is possible to let users know if the data is correctly transmitted to the host by using buzzer, LED indicator and vibration.

Please see more detail at “7.5. How to confirm data transmitting”.

2.5 Image preprocessing [Only for DM type]

For barcodes which has low contrast or bad quality of printing/markings, THIR-6000DM-B has image preprocessing functions. These work well especially for direct parts marking application.

Please see detailed command list at “7.6 Image preprocessing”.

For more detail about image processing, please ask our sales department about “Operation manual for image preprocessing”.

3. Operation

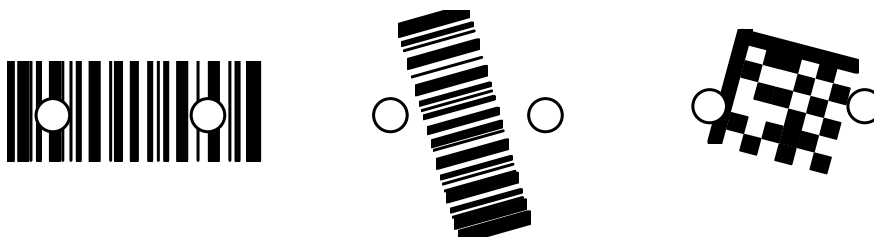
3.1 Barcode reading

- Once the user pulls the reading switch, the THIR-6000 shows two red points by LED light to indicate the proper reading area.



Note: The unit turns off the red dot-shaped laser pointer automatically after 30 seconds if there is no reading operation. Triggering the READ switch, the unit again displays the red laser dot.

- The unit will try to read the target symbol which is in the center of red pointers as shown in the figure below:



- Upon completion of successful reading, the monitoring LED lights up "GREEN" and the unit beeps once.
- Release the reading switch.

3.2 Beeping Sounds

Event or Status of scanner	Sounds
Power ON	beeps 5 times (long, long, short, short, short)
Succeeded in reading	Short beep 1 time
Fails to transmit the data	Short beeps 7 times
On all the other occasions	remains silent

3.3 Image data transaction

*) THIR-6000U as a HID can not capture images.

Bitmap/image (name*.bmp, 1280 x 1024 pixel)

- Transmitting the data with serial interface takes 2 min. with baud rate 15.2Kbps (THIR-6000).
- In case of USB1.1, (THIR-6000(H)U), transmitting the image takes approximately 10 seconds.

The green monitoring LED blinks while the unit transmits the image.

Notes:

- A) The host computer should be provided with software to receive the transmitted data.
- B) The image size is changeable.

3.4 Vibration

When this unit can decode a symbol successfully, it vibrates itself.

To enable/disable this function, the setting barcode menu is available.