

*OPTO*ELECTRONICS CO., LTD.

# ***OPI-4012***

*Wireless 1D/2D Imager*

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## **Instruction Manual**

(Tentative)

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**OPTOELECTRONICS Co., Ltd.**

This specification is subject to change at any time without prior notice

## Overview

Thank you for purchasing the OPI-4012 wireless imager scanner.

Please read this instruction manual carefully before handling this product.

This instruction manual provides safety and operating instructions for the OPI-4012. Specifications and additional detailed settings are available in the OPI-4012 Master Specifications and the Universal Menu Book.

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# 1. Precautions for Your Safety

For your own safety, read these procedures carefully before using this product.  
After reading this document, keep it accessible for future reference.

**This instruction manual includes the following symbols and markings to help you use this product properly and safely. The meanings of those symbols are described below. Be sure to remember their meanings.**

 DANGER	If you ignore the danger described and operate the product in an improper manner, there is the potential for serious injury or death.
 WARNING	If you ignore the warning described and operate the product in an improper manner, there is a danger of serious bodily injury or damage to the product and/or the environment.
 CAUTION	If you ignore the caution described and operate the product in an improper manner, there is the potential for damage to the product.

	A triangle indicates something you should be careful about.
	This symbol indicates a DON'T. It will be accompanied by instructions on something you must not do.
	This symbol indicates a DO. It will be accompanied by instructions on something you must do in that situation.

## ■About the Scanner

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 **DANGER**

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Do not use this device near flammable substances (such as gas and explosives).

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 **WARNING**

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Do not throw this device into a fire. Doing so may cause the battery case to burst, resulting in injury or possibly acting as an accelerant for the fire.



Do not insert foreign substances into the device. Doing so may short-circuit or overheat the battery, resulting in fire or electric shock.



Do not use this device while walking or driving. Doing so may cause accidents.



Do not disassemble or modify this device.



Do not use this device in the following areas. Doing so may cause fire, electric shock, malfunction, or radio interference:

- In areas exposed to direct sunlight for long periods of time
- In dusty environments
- Near water or in extremely high humidity or other liquids
- Near heat sources, such as radiators, heat registers, stoves, or other types of apparatus that produce heat
- Near microwaves, medical devices, or low-power radio stations. Read more in the Medical equipment and Radio equipment sections.



Do not use this device while it is connected with the following equipments or environments. This may affect the surrounding equipments by radio interference, resulting in injury or physical damage.

- The medical equipments or safety devices designed to protect human body.
- The environment where the serious damage is concerned to occur.

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 **CAUTION**

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Prohibited

Do not drop this device or set it on an unstable surface from which it could fall.

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Prohibited

Do not open the battery case lid in the area where battery is likely to contact with water.

Do not expose the battery pack to liquids or allow the battery contacts to get wet.

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**■ About the Rechargeable Battery**

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 **WARNING**

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Prohibited

Do not attempt to modify or alter the battery. Doing so may cause the battery pack to generate heat, or lead to burst, leakage, explosion or ignite.

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Prohibited

Do not throw the battery into a fire. Doing so may cause the battery case to burst, resulting in injury or possibly acting as an accelerant for the fire.

---



Prohibited

Do not short the power leads on the battery pack. If the (+) and (-) terminals come in contact with metals (such as a necklace or hairpin), short-circuiting occurs.

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Constraint

Set the battery pack as indicated on the battery label.

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Constraint

If liquid from a leaking battery pack gets in the eyes, wash them with clean water and consult a physician immediately.

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 **CAUTION**

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Constraint

Check the local regulations for proper battery disposal. This makes it possible to collect and recycle used batteries and to save the environment.

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Constraint

When the device is not in use for a long period of time remove the battery pack. Over time, batteries left in an unused device may leak, causing corrosion and resulting in product malfunction.

## 2. Handling Precautions

2.1 Please follow the following instructions for proper usage.

- Do not leave this device in highly humid or dusty areas.
- When condensation occurs, such as when moving this device from a cold to a warm environment, dry the scanner before using it.
- Do not leave this device in areas where static electricity is easily generated (such as the carpeted area) or near equipment which generate magnetism (such as a TV or a radio).
- This device is a precision apparatus. Do not subject this device to strong impact. Do not throw or drop this device from large height.
- When cleaning this device, rub gently with either a soft dry cloth or a damp cloth with mild detergent. Do not use solvents; they may discolor the device.
- Do not leave this device in direct sunlight or in a high temperature area.
- Keep the battery pack away from water or all other liquid.

## 2.2 Radio Equipment

The OPI-4012, as radio equipment for low-power radio stations of 2.4 GHz band advanced data communication systems specified in the Radio Law, has obtained the Certification for Construction Design of Specified Radio Equipment. Therefore, it does not have radio station license in Japan.

The following activities are prohibited under the Radio Law:

- Remodeling and disassembly
- Peeling off the certificate label

## 2.3 Bluetooth

- Bluetooth® is a trademark owned by its proprietor and used by OPTOELECTRONICS Co., Ltd. under license.
- To communicate via Bluetooth, the device which the OPI-4012 is connected to must support the same Bluetooth version and profile.
- The OPI-4012 is compliant to Bluetooth standards. However, we do not guarantee the connection between the OPI-4012 and other Bluetooth devices which have not been tested by us.
- Bluetooth supporting devices use 2.4 GHz frequency band. However, many other sorts of devices also utilize this frequency band. It may affect the communication speed or communication range of this device.
- Communication speed and communication range of the OPI-4012 may differ due to the obstacles and radio wave conditions between the OPI-4012 and the other Bluetooth device, which the OPI-4012 is connected to. Conditions of the device, which the OPI-4012 is connected to, may also affect the communication speed and communication range of the OPI-4012.
- There is a Bluetooth antenna embedded to the OPI-4012. An extreme contact with a metal object may affect the performance of the antenna.

## 2.4 Frequency Band

This device uses the 2.4 GHz frequency band. Read the following information carefully before using this device.

**In the frequency band of this scanner, scientific, medical and industrial devices, including microwaves, are used. Also, other radio stations, including local private radio stations for mobile object identification and stations requiring a license for manufacturing lines at factories, specific power-saving radio stations requiring no license, and amateur radio stations, are managed.**

- Please make sure that “other radio stations” are not managed in the frequency band 2.4 GHz before using this device.
  - If radio interference occurs between this device and other radio stations, change the service space immediately, or stop transmitting radiowaves to avoid the interference.
  - If you have any questions or troubles, please contact our marketing group.
- ✓ **OPTOELECTRONICS Co., Ltd. shall not be held responsible for any accidental data losses or data damages which may occur by defects or accidents.**

### 3. Package Contents

The package contents are listed as below.

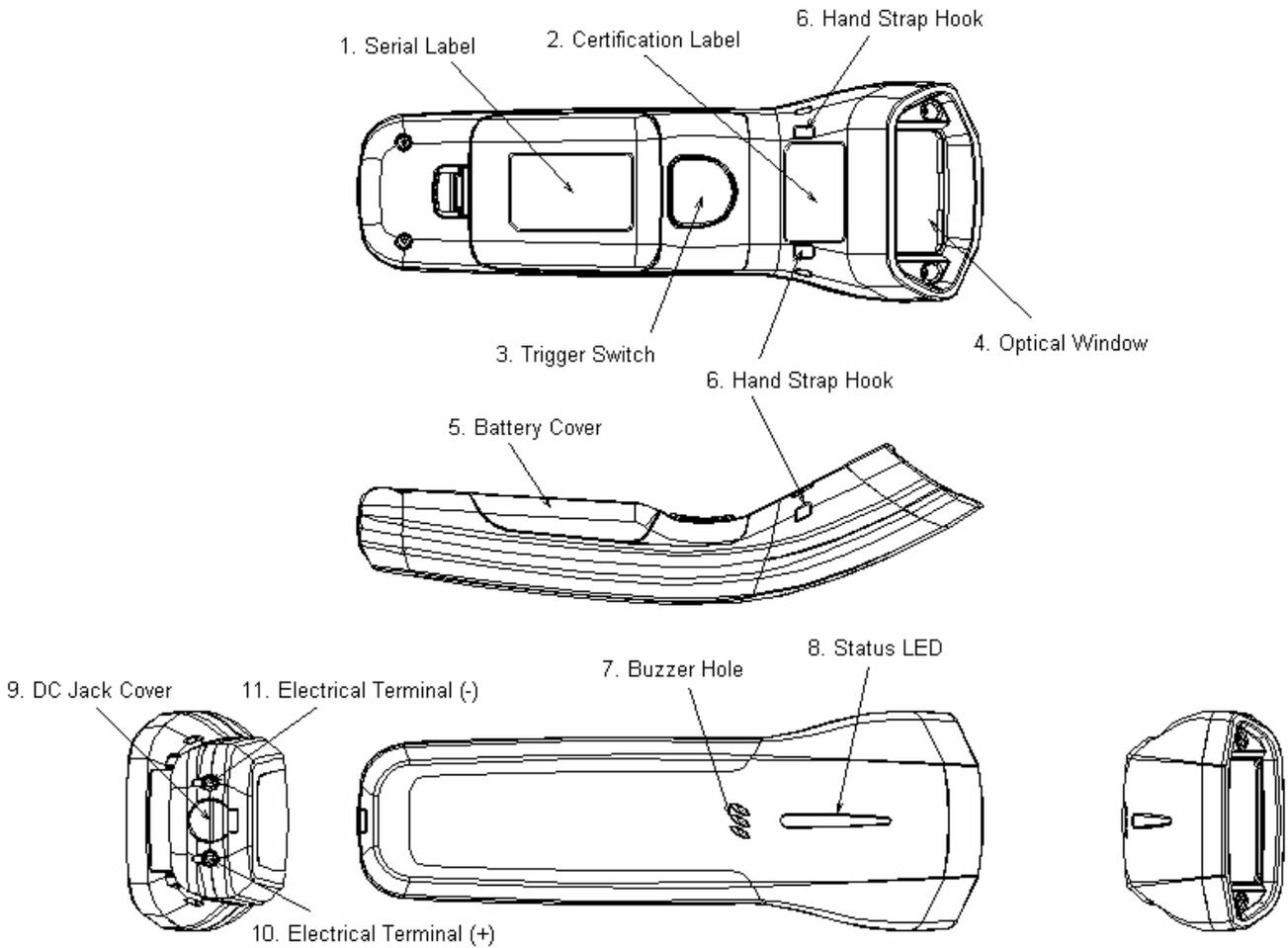
Please confirm that you have the following items before getting started.

- 1 scanner (OPI-4012) with an embedded battery pack
- 1 hand strap
- 1 copy of Instruction manual
- 1 dedicated AC adapter

- ✓ The number of accessories may differ depending on the product specification.
- ✓ Please contact the nearest dealer if accessories are damaged or missing.

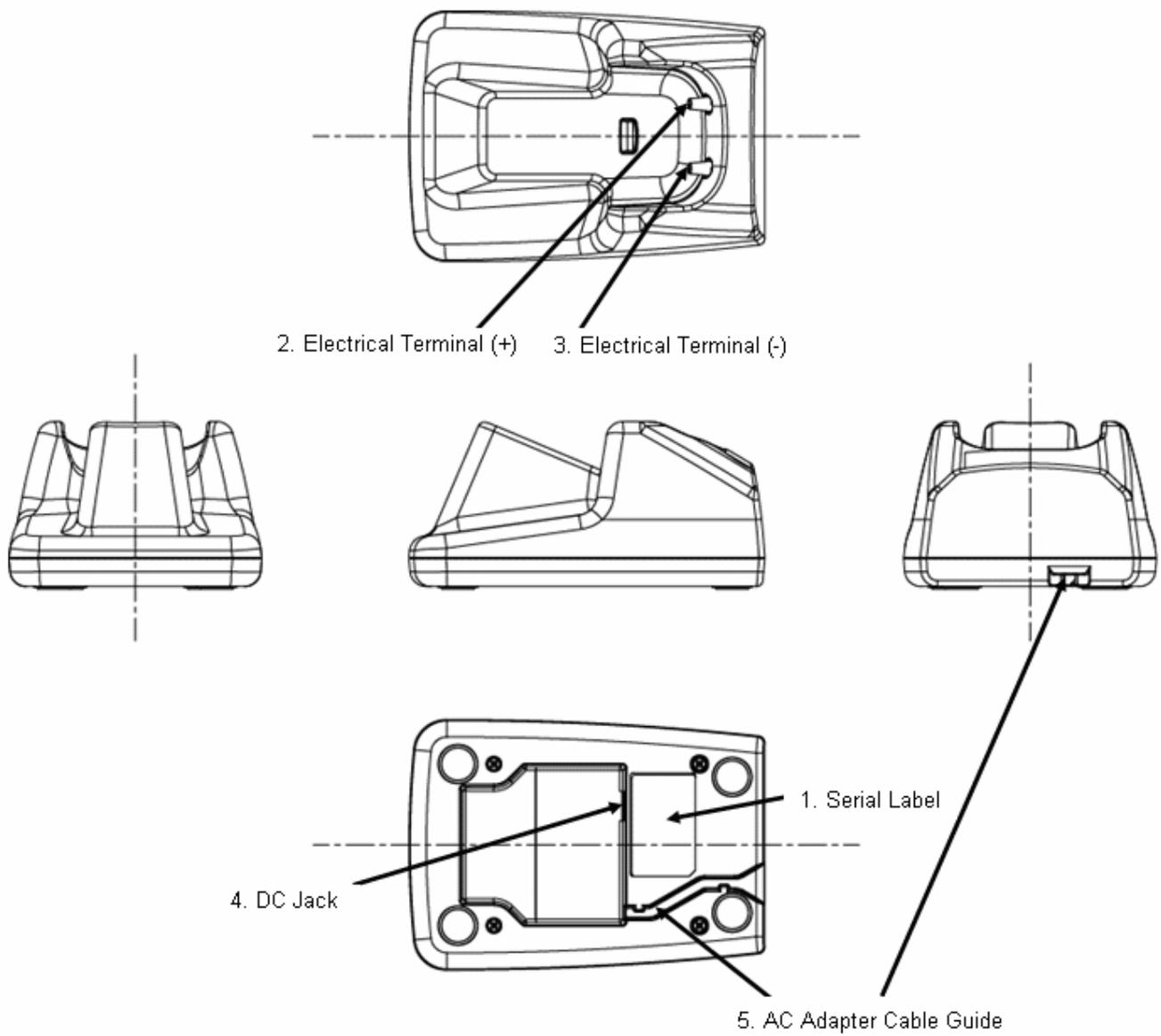
## 4. Detailed View

### 4.1 OPI-4012 (Scanner)



Part	Function
1. Serial Label	
2. Certification Label	A certification label for wireless communication technology
3. Trigger Switch	To scan and decode a barcode, you need to press the trigger switch.
4. Optical Window	The scanner emits a laser beam through the optical window while scanning a barcode.
5. Battery Cover	
6. Hand Strap Hook	Those hooks are necessary to attach a hand strap.
7. Buzzer Hole	Buzzer sounds through the buzzer hole.
8. Status LED	The status LED is used to alert users to the status of the scanning operation, wireless connectivity, data storage, remaining battery level and recharging time.
9. DC Jack Cover	A cover to protect DC jack. Open the cover when charging the scanner using a dedicated AC adapter.
10. Electrical Terminal (+)	Charging terminals are used to supply power to the scanner from a dedicated cradle (CHG-4001).
11. Electrical Terminal (-)	

4.2 CHG-4001 (Dedicated cradle for the OPI-4012, optionally sold)



Name	Functions
1. Serial Label	
2. Electrical Terminal (+)	Charging terminals are used to supply power to the scanner from a dedicated cradle (CHG-4001).
3. Electrical Terminal (—)	
4. DC Jack	Connect a dedicated AC adapter.
5. AC Adapter Cable Guide	Install a dedicated AC adapter cable along the guide.

## 5. Getting Started

### ■ About the OPI-4012

The OPI-4012 scanner is set to low power mode by default. Please press and hold down the trigger switch for a while to activate the scanner. The scanner will not operate if the main battery is empty. Please charge the main battery using a dedicated AC adapter before getting started. It is also possible to charge the main battery using a dedicated cradle (CHG-4001).

#### • LED and Buzzer Notification

Status	Color	Display	Operating Status	Buzzer
Charging	Red	Lighting	Shows that the scanner is being charged. *1	No
	Green	Lighting	The light changes from red to green when charging is completed.	No
Scanning	Green	Blinking	Shows that the scan or data transmission was executed normally.	Yes
	Red	Blinking	Shows that the data could not be transmitted.	Yes
	Orange	Blinking	Shows that the data is being stored in memory.	Yes
Bluetooth Connection	Green	Continuously Blinking	Shows that a Bluetooth connection is being made.	No
	Green	Lighting	Shows that a Bluetooth connection is made..	Yes
	Red	Lighting	Shows that the scanner failed to make a Bluetooth connection.	Yes
Bluetooth Disconnection	Red	Lighting	Shows that the scanner has disconnected a Bluetooth communication.	Yes
	Red	Lighting	Shows that a Bluetooth communication is disconnected for the scanner being in outside of the communication range.	Yes

\* The LED does not turn red when the cradle detects a fully charged battery.

#### • Charging Time

Specification	Condition
About 3 hours	To fully charge an empty battery.

### ■ About Hand Strap

Use the hand strap to avoid dropping the scanner when carrying or using it.

- ✓ **Do not swing the scanner around.**

Charging the scanner (its main battery) on the CHG-4001 cradle

Concave (凹)

Switch for terminal detection

Electrical contacts

Scanner on the cradle

1. Set the scanner on a dedicated cradle.
2. Make sure that the concave (凹) of the scanner shown above clicks on the hook of the cradle.

■ Replacing battery

<Removing battery>  
battery>

<Placing

Open

Battery Cover Lock

Battery Cover

Unlock and remove the battery case cover

Remove the battery

Electrical Contacts

Check the polarity (+, -) and place the battery

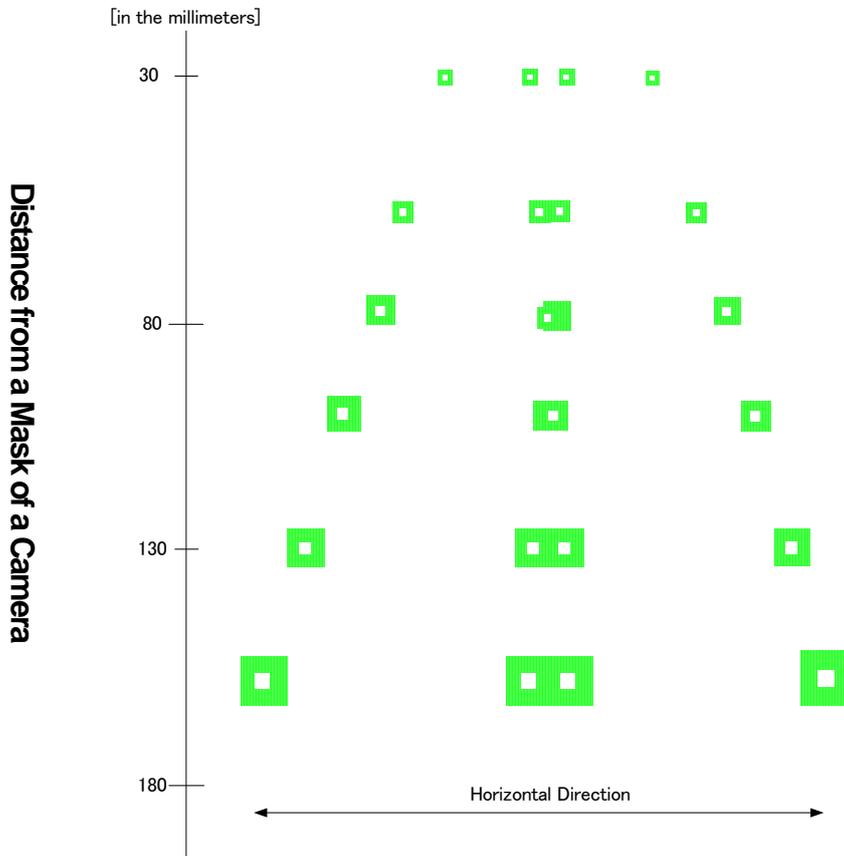
Battery label

Place the battery in the direction as shown in the illustration

Fit the cover and press it until it clicks

## 6. Scanning Barcodes

During a scan, the green LED patterns shown below will be visible. These patterns assist you in aiming the scanner; they are superimposed on the illuminated scan field. The aiming patterns are only a guide. They do not indicate exact scannable width or distance between a scanner and a barcode.



- How to use the aiming guide
  - The focal point is where two central LED light patterns (green and square-shaped) overlap—where two dots meet.
  - To scan a barcode within the aiming range, make sure that two central LED light patterns overlap, then place the center of the overlapping LED light patterns on the center of the barcode.
  - To scan a barcode wider than a width of the aiming range, aim at the barcode from further away. Make sure that the barcode is between two LED light patterns on both the right and left.
- ✓ **Scanning performance may decline due to the specular reflection when the symbology is printed on certain types of materials. In such cases, incline the scanner at 15 degrees to adjust the scanning angle.**

## 7. Wireless Communication

### 7.1 Wireless Specifications

- The OPI-4012 communicates using Bluetooth (Ver 2.0) wireless communication technology. The OPI-4012 supports SPP (serial port profile) and communicates with other Bluetooth devices which support the same profile.

#### ■ Protocol Stack

RF (Radio Frequency Protocol)  
BB (Base Band Protocol)  
LM (Link Manager Protocol)  
L2CAP (Local Link Control and Adaptation Protocol)  
RFCOMM (RS-232C Emulation)

#### ■ Profile

GAP (Generic Access Profile)  
SPP (Serial Port Profile)

#### ■ Transmission Power

Class 2

#### ■ Communication Configuration

1 Scanner (OPI-4012) to 1 Host

- ✓ It is not possible to connect more than one scanner to one host.

#### ■ Communication Mode

Scanner (OPI-4012): Master  
Bluetooth device: Slave

#### ■ Low Power Mode

Sniff mode is not supported.

#### ■ Data Security

Encryption and authentication features are supported by the OPI-4012.

#### ■ Communication Distance

Approximately 10 meters.

- ✓ The communication distance may differ depending on the operating environments.

## 7.2 Menu Barcode for the Configuration

- Use menu barcodes to configure the following settings of the scanner:
  - ✓ Please carry out the configuration before making a Bluetooth connection.
  - ✓ Please refer to the Universal Menu Book for details.
  
- Bluetooth Device Address Settings (Mandatory)
- Bluetooth Security Settings
- PIN Code Settings
- Encryption Settings
- Handshaking Settings
- ACK/NAK Timeout Settings
  
- Bluetooth Device Address Settings
  - Carry out Bluetooth device address settings to identify the Bluetooth device to which the OPI-4012 will be connected.
  - Refer to the Bluetooth device address label attached to the Bluetooth device. Find appropriate menu barcodes to scan the 12-digit address.
    - ✓ You cannot connect more than one Bluetooth devices to one OPI-4012 scanner.
    - ✓ If you scan a wrong menu barcode, please start the setting from the beginning.
  
- Bluetooth Security Settings
  - Carry out this setting to provide safe connection between the scanner and the Bluetooth device..
  - You must carry out authentication within 30 seconds. Please input the PIN code within the 30 seconds.
    - ✓ When the authentication is enabled, please set the PIN code before making connection.
    - ✓ When the authentication is disabled, the PIN code settings are not required.
  
- PIN Code Settings
  - When the authentication is enabled, PIN code settings are required.
  - You also have to set the PIN code on the other Bluetooth device.
  - The PIN code is a code of 1 to 16 characters.
  
- Encryption Settings
  - You can encrypt the scanned data by enabling the encryption setting..
    - ✓ When the other Bluetooth device does not support the encryption settings, the encryption settings of the scanner will be invalid.

#### ■ Handshaking Settings

- You can set the handshaking for the communication between the host and the scanner.
- When it is set to “No handshaking”, the reliability of the transmitted data will be lower. It is recommended to enable ACK/NAK.
  - ✓ ACK/NAK No Response
  - ✓ ACK/NAK

#### ■ ACK/NAK Timeout Settings

- You can set the timeout for the ACK/NAK sent from the host.

#### ■ Communication Settings

- Communication settings are set to the following by default:
  - ◆ Bluetooth Device Address Settings: Disabled
  - ◆ PIN Code Settings: Disabled
  - ◆ Encryption Settings: Disabled
  - ◆ Handshaking Settings: No Handshake
  - ◆ ACK/NAK Timeout Settings: 100 ms
- The following communication settings can be configured using the attached menu barcode lists.
  - Auto connect
  - Data memorizing
  - Trigger connection
  - Press trigger switch time to connect
  - Press trigger switch time to disconnect
  - Auto disconnect
  - Auto reconnect

#### ■ Auto Connect

- You can set the scanner to automatically connect after setting the Bluetooth device address.

#### ■ Data memorizing

- Scanned barcode data will be stored in a memory automatically when the data memorizing setting is enabled.
- The capacity of the memory is about 100KB.
- When the memory get full while the scanner is outside of the communication range, the scanner sounds a buzzer and you will not be able to continue the scanning operation.
- The stored data will be transmitted automatically when the scanner returns to the communication range.
- If you scan the data clear menu barcode [+MCLR+] or the IEEE address label while resending the stored data outside of the communication range, the stored data will be deleted.
- If you disable the data memorizing settings while the scanner is outside of the communication range, the stored data will be deleted.

- ✓ The scanner will not carry out the scanning operation if the data memorizing setting is disabled.
- ✓ Auto reconnect feature will operate in every 20 seconds.

■ Trigger Connection

- You can set the scanner to connect or disconnect by pressing down the trigger key for the set duration.

■ Press trigger switch time to connect

- This is the time the trigger switch needs to be pressed where after the scanner tries to establish a connection.

■ Press trigger switch time to disconnect

- This is the time the trigger switch needs to be pressed where after the scanner disconnects.

■ Auto disconnect

- If the scanner is idle for configured time, it will be disconnected.

■ Auto reconnect

- If the scanner is disconnected because it is out side of the communication range, the reader will try to establish connection during the configured time.

■ Default setting [S0]

- Foregoing settings are set to the following by default:
  - ◆ Auto Connect: Enabled
  - ◆ Data Memorizing: Enabled
  - ◆ Trigger Connection: Disabled
  - ◆ Press trigger switch time to connect: 3 seconds
  - ◆ Press trigger switch time to disconnect: 5 seconds
  - ◆ Auto disconnect: Disabled
  - ◆ Auto reconnect: 5 minutes

## 8. How to Configure the Wireless Communication Settings

### 8.1 Connect without Authentication

1. Use the universal menu book to set the scanning options and read options of the scanner.
  - This operation will not be necessary if you would like to use the scanner with the default settings.
2. Use this instruction manual to set the communication settings.
  - Scan the menu barcode “Connect to PC”. (The trigger connect option will be enabled.)
  - Scan the numbers and characters of the 12-digit Bluetooth device address.
3. Establish connection with the Bluetooth device as follows:
  - Scan a 12-digit Bluetooth device address
  - Press trigger key for the set duration.
  - Scan “Manually connect” menu barcode [+CONN-+].
4. The LED of the scanner blinks green light and make connection.
5. Once the scanner makes connection successfully, the LED turns solid green and the scanner sounds a buzzer.
  - If the scanner fails in making connection, the LED of the scanner blinks red light and the scanner sounds a warning buzzer. \*
6. You will be able to scan barcodes.
7. You can disconnect the Bluetooth communication as follows:
  - Scan “Manually disconnect” menu barcode [+DISC-+].
  - Press trigger key for the set duration.
8. The LED of the scanner turns solid red and the scanner sounds a warning buzzer when it disconnect Bluetooth connection.

#### Notes:

- \* Please make sure that the authentication is disabled.
- \* Please confirm the Bluetooth device address.

## 8.2 Connect with Authentication

1. Use the universal menu book to set the scanning options and read options of the scanner.
  - This operation will not be necessary if you would like to use the scanner with the default settings.
2. Use this instruction manual to set the communication settings.
  - Scan the menu barcode “Connect to PC”. (The trigger connect option will be enabled.)
  - Scan the numbers and characters of the 12-digit Bluetooth device address using the attached list of menu barcodes.
  - Scan the menu barcode “Enable authentication”.
  - Scan the numbers of the PIN code using the attached list of menu barcodes.
  - If you desire to encrypt the scanned data, scan the menu barcode “Enable encryption”.
3. Establish connection with the Bluetooth device as follows:
  - Scan a 12-digit Bluetooth device address
  - Press trigger key for the set duration.
  - Scan “Manually connect” menu barcode [+CONN-+].
4. The LED of the scanner blinks green light and make connection.
5. Input the same PIN code to the Bluetooth device.
6. Once the scanner makes connection successfully, the LED turns solid green and the scanner sounds a buzzer.
  - If the scanner fails in making connection, the LED of the scanner blinks red light and the scanner sounds a warning buzzer. \*
7. You will be able to scan barcodes.
8. You can disconnect the Bluetooth communication as follows:
  - Scan “Manually disconnect” menu barcode [+DISC-+].
  - Press trigger key for the set duration.
9. The LED of the scanner turns solid red and the scanner sounds a warning buzzer when it disconnect Bluetooth connection.

### Notes:

- \* Please make sure that the authentication is disabled.
- \* Please confirm the Bluetooth device address.
- \* Please confirm the PIN code.

## ■ Notes

- The scanner does not scan any barcodes other than menu barcodes before it is connected to the Bluetooth device. (If the [BM1] settings are configured, the scanner will scan other barcodes.)
- If you scan a 12-digit barcode label before connecting the scanner to the Bluetooth device, the scanner will acknowledge the 12-digit barcode as a Bluetooth device address.
  - Before establishing Bluetooth connection:
    - A 12-digit barcode label with quiet zones on both ends (Code 39) → Acknowledged as a Bluetooth address
    - A 12-digit barcode label → Acknowledged as a Bluetooth address
  - After establishing Bluetooth connection:
    - A 12-digit barcode label with quiet zones on both ends (Code 39) → Acknowledged as a Bluetooth address
    - A 12-digit barcode label → Acknowledged as a barcode
- If the battery voltage gets low, the LED lights red when scanning a barcode. Please charge the scanner.
- When the scanner is outside of the communication range or when the Bluetooth communication is disconnected, the LED of the scanner turns solid red and the scanner sounds a buzzer.
- When the scanner carries out a scanning operation outside of the communication range, the LED of the scanner turns orange and the buzzer sound changes.
- When the scanner is set to “data memorizing disabled”, the scanner will not carry out scanning operation outside of the communication range.
- When the memory of the scanner gets full while the scanner is outside of the communication range, you will not be able to continue the scanning operation.
- The scanner tries to automatically reconnect in every 20 seconds while it is outside of the communication range.
- When the “trigger connection option” is enabled, the scanner will stop the auto reconnect operation and establish the connection when the trigger is pressed for the set duration (press trigger switch time to connect).
- In this case, the stored barcode data will be deleted.
- Also, if you disable the data memorizing settings while the scanner is outside of the communication range, the stored data will be deleted.
- If you use a trigger key to reconnect while the scanner is set to [CA00], the scanner will return to the idle mode and stored data will be deleted. To reconnect using the trigger key, do not set to [CA00] but set to [CA99] and [BM1].

## 9. Default Settings

\* Refer to the Product Specification Manual and the Universal Menu Book for the readable codes.

### 9.1 Default Settings 1: Readable Codes

Code type	Reading	Transmit code length	Transmit CD	Calculate CD	Transmit other	Prefix settings	Suffix settings
UPC-A	○	×	○	○		—	CR
UPC-A Add-on	×	×	○	○		—	CR
UPC-E	○	×	○	○		—	CR
UPC-E1	×	×	○	○			
UPC-E Add-on	×	×	○	○		—	CR
EAN-13	○	×	○	○		—	CR
EAN-13 Add-on	×	×	○	○		—	CR
EAN-8	○	×	○	○		—	CR
EAN-8 Add-on	×	×	○	○		—	CR
CODE-39	○	×	○	×	Not transmit ST/SP	—	CR
Tri-Optic	○	×	○	×	Not transmit ST/SP	—	CR
NW-7(CODABAR)	○	×	○	×	Not transmit ST/SP	—	CR
Industrial 2of5	○	×	○	×		—	CR
Interleaved 2of5	○	×	○	×		—	CR
Matrix 2of5	×	×	○	×		—	CR
Chinese Post matrix 2of5	×	×	○	×			
Korean Postal Authority code	×	×	×	○		—	CR
S-CODE	○	×	○	×		—	CR
Telepen	○	×	×	○		—	CR
CODE-93	○	×	○	○		—	CR
CODE-128	○	×	○	○		—	CR
MSI/Plessey	○	×	○	○		—	CR
UK/Plessey	○	×	○	○		—	CR
IATA	○	×	○	○		—	CR
PDF417	○	×	×	○		—	CR
Micro PDF417	○	×	×	○		—	CR
QR CODE	○	×	×	○		—	CR
Micro QR	×	×	×	○			
Data Matrix (ECC200)	○	×	×	○		—	CR
Data Matrix (ECC0-140)	×	×	×	○			
Maxi CODE	○	×	×	○		—	CR
Aztec CODE	○	×	×	○		—	CR
Aztec Runes	×	×	×	○			

9.1 Default Settings 1: Readable Codes (continued)

Code type		Reading	Transmit code length	Transmit CD	Calculate CD	Transmit other	Prefix settings	Suffix settings
RSS-14	Standard	○	×	×	○		—	CR
	Truncated							
	Stacked							
	Stacked Omni-directional							
RSS Limited		○	×	×	○		—	
RSS Expanded	Standard	○	×	×	○		—	CR
	Stacked							
Composite EAN	EAN-13 CCA	×	×	×	○		—	CR
	EAN-13 CCB							
	EAN-8 CCA							
	EAN-8 CCB							
Composite UPC	UPC-A CCA	×	×	×	○		—	CR
	UPC-A CCB							
	UPC-E CCA							
	UPC-E CCB							
Composite RSS	RSS-14 CCA	×	×	×	○		—	CR
	RSS-14 CCB							
	RSS Limited CCA							
	RSS Limited CCB							
	RSS Expanded CCA							
	RSS Expanded CCB							
Composite UCC/EAN-128	UCC/EAN-128 CCA	×	×	×	○		—	CR
	UCC/EAN-128 CCB							
	UCC/EAN-128 CCC							

Note:

- 1) In the column of “Reading”, “○” means “Enable to read” and “×” means “Disable to read”.
- 2) In the column of “Transmit code length”, “○” means “Transmit code length” and “×” means “Not transmit code length”.
- 3) In the column of “Transmit CD”, “○” means “Transmit check digit”, “×” means “Not transmit check digit”.
- 4) In the column of “Calculate CD”, “○” means “Calculate check digit” and “×” means “Not calculate check digit”.
- 5) In the column of “Prefix settings”, “—” means “There is no Prefix settings”.

## 9.2 Default Settings 2: Read Options, Trigger, Buzzer, LED settings

Parameter	Default Settings
Setting the number of characters	Fixed length OFF all codes
Read mode	Multiple read
Inter-character gap check (NM-7)	Character *1 > Inter-character gap
Multiple columns read (barcode only)	Disabled
Trigger switch	Enabled
Read time	2 seconds
Buzzer durations	200 msec
Buzzer tone	3kHz+2.5kHz
Buzzer loudness	Loud
LED indicator duration	200 msec

## 9.3 Default Settings 3: Communication settings

Parameter		Default Settings
Wireless Communication Settings	Device address	Bluetooth device
	Data memorizing	Disabled
	Trigger connection	Disabled
	Press trigger switch time to connect	Disabled
	Press trigger switch time to disconnect	Disabled
	Auto disconnect	Disabled
	Auto reconnect	5 minutes
	ACK/NAK	No Handshake
	ACK/NAK Timeout	1 second
	PIN Code	Enabled (last 4 digits of the BD address)
Bluetooth Connection Setting	Auto connect	Enabled
	Authentication	Enabled (authentication if not paired)
	Encryption	Disabled

## 10. Menu Barcodes

This section contains the menu barcodes of the OPI-4012 default settings.

Other menu labels are listed in the Universal Menu Book, such as Code options, String options, Read options, and Indicator options.

### 10.1 Setting Method

There are two ways to configure the settings:

#### Setting 1. Scanning CODE39 barcodes:

To set the required options, proceed as follows: Scan the Set label, the required label, and the END label in sequence.

\* If several labels in the same option are read, the last label read is enabled.

#### Setting 2. Scanning QR code:

This needs to scan directly without reading the "SET" and "END" labels.

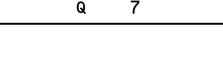
<Menu Barcodes>

<Bluetooth Options >

CODE39 labels			QR code label
SET	ZZ	 Z 7	
Connect to	CNPC	<u>Connect to PC</u>  C N P C	
	CNCR	Connect to Cradle  C N C R	
END	ZZ	 Z Z	

CODE39 labels			QR code label
SET	ZZ	 Z Z	
Bluetooth address setting	BDAS	Set Bluetooth address  B D A S	
	BDAE	End Bluetooth address  B D A E	
END	ZZ	 Z Z	

Barcode for Bluetooth address setting

0	 Q 0			
			9	 Q 9
1	 Q 1			
			A	 0 A
2	 Q 2			
			B	 0 B
3	 Q 3			
			C	 0 c
4	 Q 4			
			D	 0 d
5	 Q 5			
			E	 0 E
6	 Q 6			
			F	 0 F
7	 Q 7			
8	 Q 8			

Flow : [ZZ] ⇒ [BDAS] ⇒ [12Digit Bluetooth address] ⇒ [BDAE] ⇒ [ZZ]

In case reading wrong address, restart from reading [BDAS]

CODE39 labels			QR code label
SET	ZZ	 Z Z	
Authentication	AUTE	<u>Enable</u>  A U T E	
	AUTD	Disable  A U T D	
END	ZZ	 Z Z	

CODE39 labels			QR code label
SET	ZZ	 Z Z	
Encryption	ENCE	Enable  E N C E	
	<u>ENCD</u>	<u>Disable</u>  E N C D	
END	ZZ	 Z Z	

CODE39 labels			QR code label
SET	ZZ		
PIN code	PINS	Set PIN code setting 	
	0		
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	PINE	End PIN code setting 	
	END	ZZ	

<Communication and Connection>

CODE39 labels			QR code label
SET	ZZ	 Z Z	
Auto connect	ENAU	<u>Enable</u>  E N A U	
	DIAU	Disable  D I A U	
END	ZZ	 Z Z	

<Connection/Disconnection>

Manually connect	+--CONN--+	 + - C O N N - +
Manually disconnect	+--DISC--+	 + - D I S C - +

<Default (Interface)>

CODE39 labels			QR code label
SET	ZZ	 Z Z	
Default	SO	 S O	
END	ZZ	 Z Z	

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]

OPTOELECTRONICS Co., Ltd.

OPI-4012 Instruction Manual

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**FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Radiation Exposure Statement**

This device complies with Part 15 of FCC RF Rules. Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment