OPR-3101

Wireless 1D Scanner

Simple Intruction manual

1. Package contents

1-1. OPR-3101
- Scanner body

<Accessory>
- ➤ Re-chargable battery pack

1-2. CRD-3101
- Communicating cradle body

<Accessory>
- ➤ AC adopter
- ➤ RS-232Ccable

1-3. CHG-3101
- Charging cradle body

<Accessory>
- ➤ AC adopter

2．Detailed view

2-1．OPR-3101(Scanner)
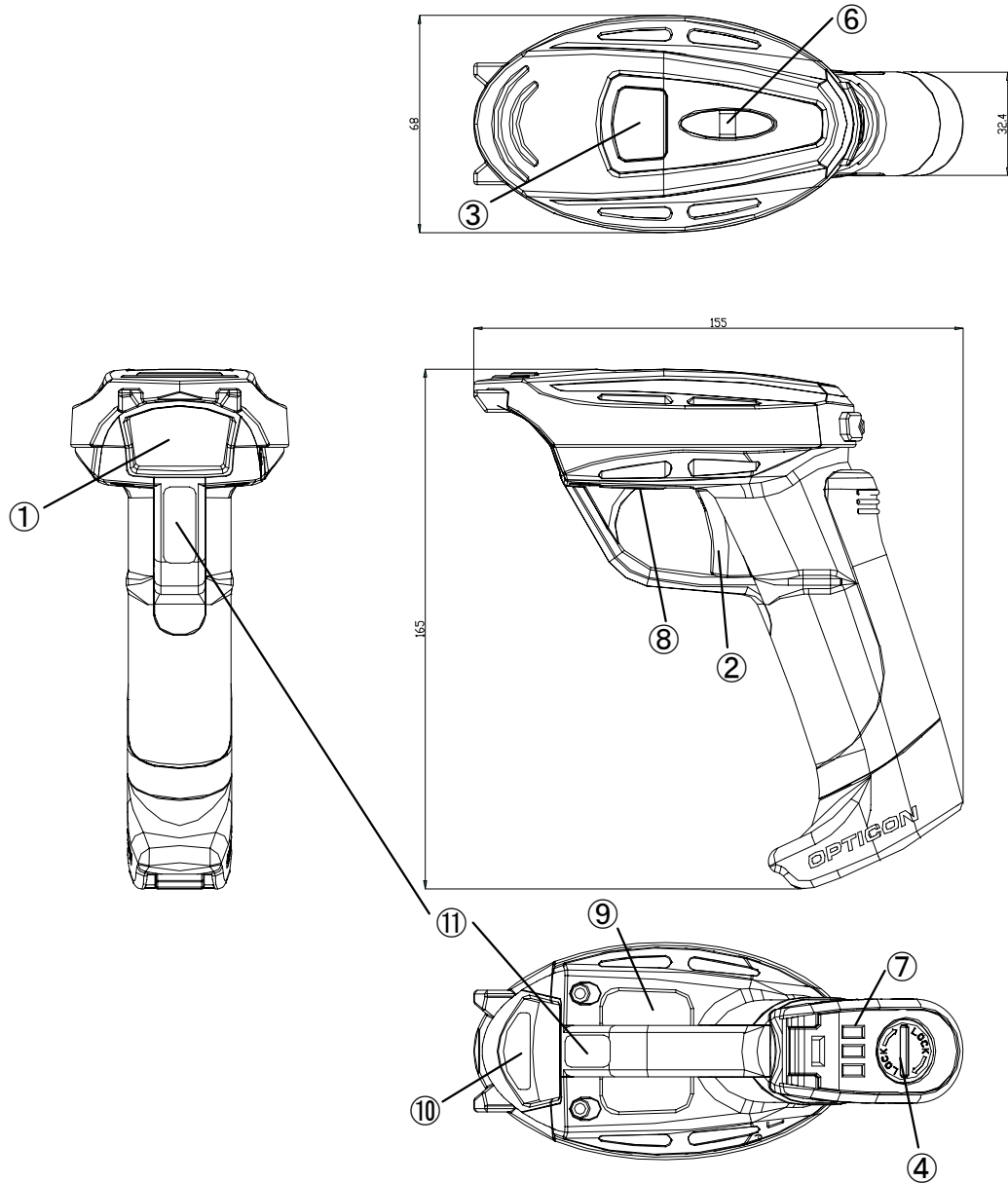
OPR-3101　Detailed View

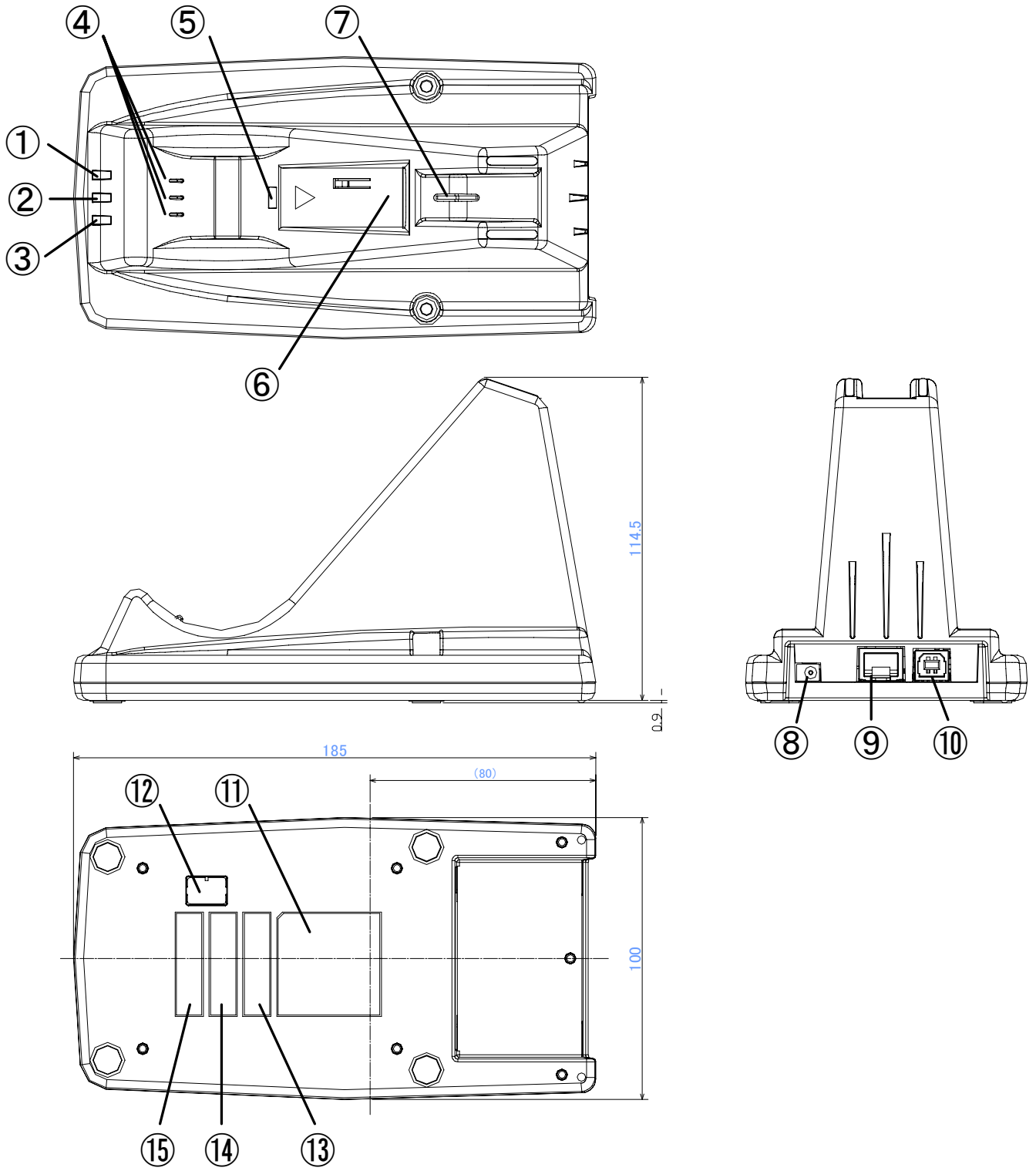| Name	Function
1. Window	Through the laser output and receive catoptric light from Barcode.
2. Trigger switch	Scanning barcodes, connecting / disconnecting Bluetooth .
3. Indication Panel	Indicating how well the scanner reads, connection status of Bluetooth, operation mode, remaining battery and charging status.
4. Lock for Battery Lid	For setting/detaching the battery pack.
5. Terminal for charging	Receiving electric power supply through the feeding terminal of the cradle.
6. Hook	Attach hand strap
7. Charging terminal	Receiving electric power supply through the feeding terminal of the cradle.
8. Buzzer sound hole	Show the status of success or failure of scanning and error occurrence.
9. Model name label	Shows the names of model, each specification, authentication text, logo and ID numbers.
10. Serial number label	Shows serial numbers
11. Laser caution label	Cautionary note of laser

Chart 1.　CHG-3101/CRD-3101　Name of parts and functions

① ④ ⑤ ⑦ ⑥

114.5

0.9

185

(80)

⑧

⑪

100
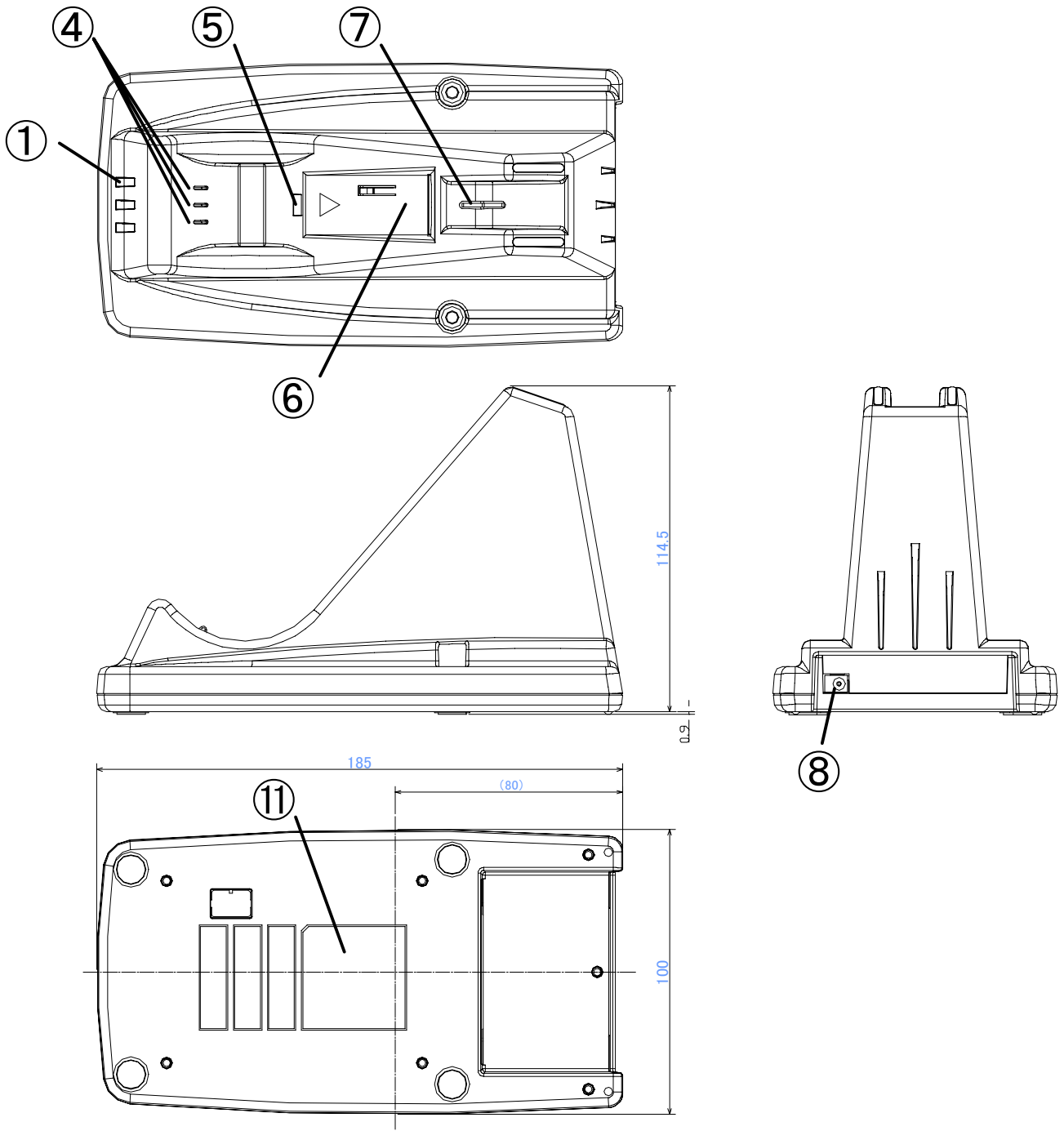
2 Detailed View

2-3.　CRD-3101

3.　CRD-3101　Detailed view

Name	Function
2. Power supply LED	LED Confirming power supply
2. Indication LED for wired data line	Wired data line (Between PC or Host system and Cradle)
3. Indication LED for wireless data line	LED confirming connection / disconnection of Bluetooth
4. Terminal for power supply and Detector	Charging terminal for OPR-3101
5. Charging LED	LED confirming charging status of the battery pack
5. Battery charger	Battery charger for the single battery pack
7. Scanner detection switch	Detecting when the scanner body is put on the battery charger.
8. ＤＣ Jack	A jack for charging AC adopter
9. Plug-in phone jack	Plug-in phone jack for RS-232C interface
10. USB connector	Connector for USB interface
11. Model name label	Shows the names of model, each specification, authentication text, logo and ID numbers.
12. Dip switch	Switch for function settings *Please refer to chart 3 in the next page.
13. ＢＤ address label	Scanning it when connecting the scanner and cradle
14. Reserved	For other lavel area1.
15. Reserved	For other lavel area2.

Chart 2. CHG-3101/CRD-3101　Name of parts and functions

2-4． Dip switch settings

Dip switch located on the bottom of CRD-3101

Please follw the chart shown below

DIP SW	FUNCTION	REMARKS
SW1	Invalid	Please use it with remaining power-off mode.
SW2	No security. Incwairi is effective.	It can connect without authentication.
SW3	Opto protocol is invalid.	It must disable SW3 in case of connect Bluetooth devices except Scanner.
SW4	The detection of the DTr signal is invalid.	It is forced to choose RS232C. Switch it on when RS32C I/F is not with DTR signals/
SW5	Initialization (Shipment setting)	Contains of settings place back to default settings when switching it on. When the default settings finish, please turn it on.
SW6	Software down load mode	Used when upgrading a firm ware through using RS232C I/F. Please keep remaining power-off mode for nomal use.

Chart3 Dip switch settings

※All switches are effective when they are power-on mode.

※SW2,3 and 4 are on, other SW are off when shipment setting.
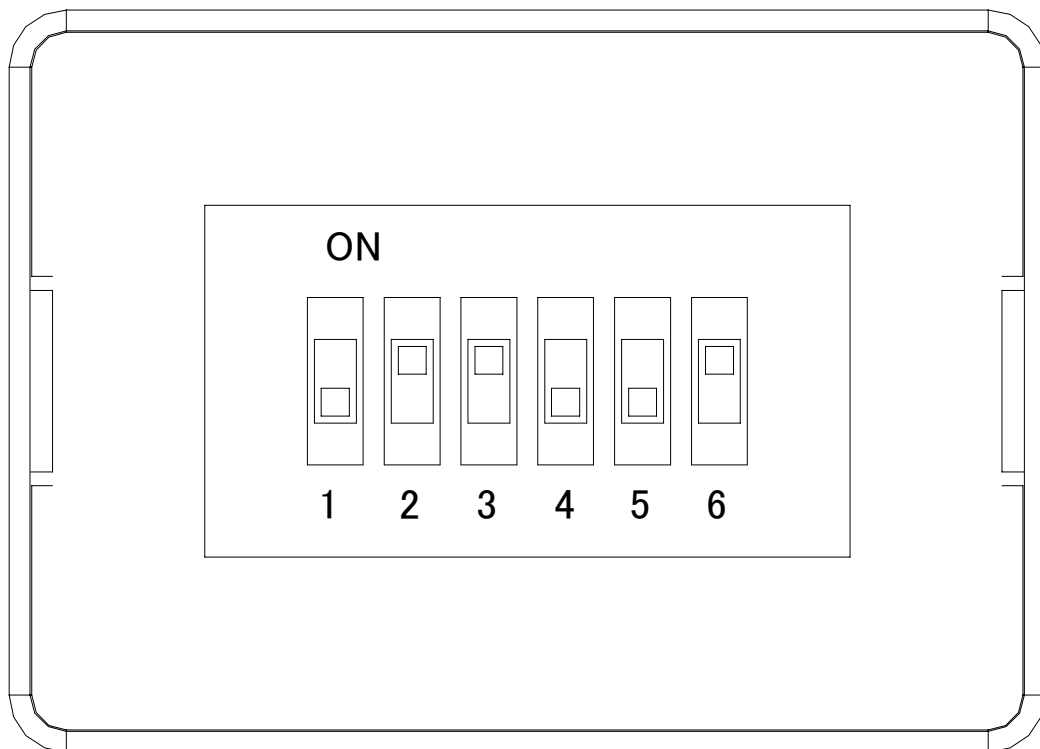
DIP switch l Detailed View

3．For use

3‑1．About the scanner

The charging battery pack is shipped without attaching the scanner.

Please attach the charging battery pack to the scanner.

As soon as attaching cradle or charger to the scanner, it will operate automatically ---Red LED, the status indicator lights.

Also, when charging finishes, it becomes waiting mode.

OPR-3101 Contains of status indicator LED　Buzzer operation

Status	LED		Buzzer	Remarks
At the start of charging	red	Light	—	It lights when the battery is not fully charged.
	green	Light	—	It lights when the battery is fully charged.
In the middle charging	red	Light	—	It lights when the battery is being charged.
	green	Light	—	It turns green when the battery charge is completed.
Reading codes	blue	Blink	2 tone-sound	It behaves in case of reading Barcode and send that data to PC or Host system.
	red	Blink	Single tone short sound	Shows that it is a transmission failure.
	green	Blink	2-tone semi-long sound	Shows that it is storing data on the memory.
Bluetooth connection	blue	Continuously blink	—	Shows that Bluetooth is in process of connecting.
	blue	Light	2tone long sound (Connecting completed)	Shows the connection of Bluetooth has been completed.
	red	Light	Single tone semi-long sound	Shows Bluetooth connection failure
Bluetooth disconnection	red	Light	2-tone long sound	Shows Bluetooth disconnection
	red	Light	Single tone long sound	Shows

4．OPR-3101 Contains of status indicator LED

３‐２ About the charging cradle

CHG-3101 is specialized charger for OPR-3101.

CHG-3101 is not only able to charge the scanner, but also the charging battery pack.

・LED display of the cradle

Code	LED display	color	Remarks
⏻	Powrer Supply LED	red	It lights when the battery is not fully charged.
―	Charging LED	red	Status LED when charging the battery pack with the cradle It lights both when the battery is fully charged and being charged in the beginning of charging,
		green	It lights both when the battery is fully charged in the beginning of charging and charging is completed.
		green/red	Green LED lights and red LED blinks periodically. It means either status that the battery pack is not attached or set properly.

５．CHG-3101 Display status

３‐３．About the communication cradle

CRD-3101is specialized communicating and charging cradle for OPR-3101.

CRD-3101 is not only able to charge the scanner, but also the charging battery pack.

It supports RS232C and USB interfaces. You can change them by transformation of cables.

It automatically recognizes the interfaces by observing the signal voltages.

＊When both interfaces' cables connects to the cradle, USB is prior to RS232C.

・Cradle LED display

Code	LED display	Color	Remarks
⏻	Powrer Supply LED	Red	It lights when the adopter is supplied with power.
IOIOI	Communication LED	Orange	It lights when it is sending and receiving data.
		Red （※）	Disconnection of interface cable, host PC waiting
📶	Wireless LED	Blue	It lights when Bluetooth is connected, It continuously blinks when Bluetooth is not connected.
―	Charging LED	Red	The LED of the status display When charging the battery pack with the cradle. It lights both when the battery is fully charged and being charged in the beginning of charging,
		Green	It lights both when the battery is fully charged in the beginning of charging and charging is completed.
		green/red	Green LED lights and red LED blinks periodically. It means either status that the battery pack is not attached or set properly.

６．CRD-3101 Display

※ I t can't detect when the host computer doesn't support DTR signals..

・USB interface

USB 2.0 and full speed compliant specifications are supported,

Host computer recognize it as a HID device.

※It's capable of Hi - Power drive.

3‐4．Charging time

As for CHG-3101/CRD-3101,l the battery connected to the cradle isn't charged while the scanner is charged.

Spec.	AC supplying mode	Remarks
Approx. 5 hours	AC adopter drive	The time needed for fully charging the empty battery
Approx. 10 hours	USB Hi-Power drive	

７．Charging　times of CRD-3101/CHG-3101

3‐5．How to change the battery pack.

＜Process＞

1.Turn the screw of the bottom of the grip end anti clockwise with like a 1-Euro sized coin.

2.Open the lid and take out the old battery.(not to drop it.)

3.With checking for inner shape of Battery-box , insert new-BatteryPack faces Battery-terminal to Battery-box.

4.Close the lid and turn the screw clockwise.

４．Scanning barcodes

When pressing the button, laser beam is output from the reading window.

＜○ Correct operation＞　　　　　＜×Wrong operation ＞　　　　　＜×Wrong operation＞

５．Connection of wireless communication system,

Wireless specifications

OPR3101 employs the Bluetooth (ver. 2.0 compliance) as a wireless interface.

It is capable of communicating with the devices with similar profiles owing to SSP correspondence.

■Data sending outputs

Class 2

■the structure of connection

1 ： 1 　　(＊1 ： N is not supported.)

■Operation mode when connecting

OPR3101　　　　　　　　　　　　　　　　　： Master

CRD3101　or　ＰＣ and other connecting device　　 ： Slave

■Authentication and encryption

Authentication and encryption functions 　: Set with menu bar codes

※ When connecting with the communication cradle, authentication and encryption are effective. (In case of the DIP switch 2,3 are power-off mode.

※ There's a need to match the settings of authentication and encryption in case of connecting other devices.

■Communication distance

Approximately 10 meters

※ It varies depending on use environment.

■Connecting device settings

Choose the device to connect. The specialized cradle is set by default settings.

※ When setting it initial setting of SO, communicating cradle is set as a connecting device.

※ When set PC and other devices, the items as below are initialized.

・Authenticating connection settings　　　　: none

・ ＰＩＮ code settings　　　　　　　　　: none

・ Encryption settings　　　　　　　　 : none

・ ACK/NAK control settings　　　　　: non procedural

■BD address settings

Scan the BD address barcode written on the bottom of the scanner when connecting to CRD 3101.

It is to specify the other party. Please let us know BD address when connecting it to USB adopter and other Bluetooth device so that we can offer you the BD address Barcode lavel. You can connect your Bluetooth device scaning this lavel.

■Connecting authentication settings

Settings for authentication settings

Please complete to enter the pin code with 30 seconds due to the time limit of the authentication system.

　　　※Please set the PIN code before connecting with authentication.

　　　※It may be a need to enter the pin code　connecting with authentication. Then please enter the code again.

　　　※You don't need to enter the Pin code when connecting without authentications.

６．Connecting and disconnecting process

６‐１．Connecting process

CRD-3101

1. Connect CRD-3101 to AC adopter and eitherRS232C I/F or USB cable.
2. Make sure the power supply LED, communicating LED, and wireless LED blinking.
3. Connect the cable to the host computer.
4. Make sure the communicating LED lights of after blinking.
5. Scan the BD address label.
6. As soon as blue LED blinks, connecting starts.
7. When connecting succeed, blue LED starts to light after blinking and the buzzer sounds.

　　※Please let us know when connecting it to USB, adopter and other Bluetooth device so that we can offer you the BD address barcode.

　　　※Red LED blinks and buzzer beeps as a caution when connecting fails.

６‐２．Disconnecting process

1.Disconect the communication as below.

　　・Scan the label for disconnecting , [＋－-DISC－＋]

2. When disconnecting finishes, red LED lights and the buzzer beeps.

　　※Also you can disconnect the communication to read default setting menu Barcode [SO] .

7．Settings for shipping

The menu barcodes of scanner, communication and connection make settings easy. Therefore there are menu barcodes for the default settings. Default setting <SO>menu is set before shipping.

Default Setting　[SO]　Readable codes

Code type	Reading	Transit and code length	Transit and CD	Calculate and CD	Prefix settings	Suffix settings	Other transit items
UPC-A	○	×	○	○	―	CR	
UPC-A Add-on	×	×	○	○	―	CR	
UPC-E	○	×	○	○	―	CR	
UPC-E Add-on	×	×	○	○	―	CR	
EAN-13	○	×	○	○	―	CR	
EAN-13 Add-on	×	×	○	○	―	CR	
EAN-8	○	×	○	○	―	CR	
EAN-8 Add-on	×	×	○	○	―	CR	
CODE-39	○	×	○	×	―	CR	Not transmit ST/SP
CODE-39 Trioptic	○	×	○	×	―	CR	Not transmit ST/SP
NW-7(CODABAR)	○	×	○	×	―	CR	Not transmit ST/SP
Industrial2of5	○	×	○	×	―	CR	
Interleaved2of5	○	×	○	×	―	CR	
CODE-93	○	×	×	○	―	CR	
CODE-128	○	×	×	○	―	CR	
EAN-128	×	×	×	○	―	CR	
S-Code	○	×	○	×	―	CR	
MSI/Plessey	○	×	○CD1	○CD1	―	CR	
UK/Plessey	○	×	○	○	―	CR	
Telepen	○	×	×	○	―	CR	
Matrix2of5	×	×	○	×	―	CR	
Chinese Post Matrix 2of5	×	×	○	×	―	CR	
IATA	○	×	○	×	―	CR	
RSS-14	×	×	○	○	―	CR	
RSS-limited	×	×	○	○	―	CR	
RSS-expanded	×	×	○	○	―	CR	
PDF417	×	×	―	―	―	CR	
MicroPDF417	×	×	―	―	―	CR	

８．Menu barcodes for settings

Connection / disconnection settings for OPR3101

８‑１．How to set

When scanning the same setting items, the item most recently scanned is effective.

Order	Menu barcodes for scan
1	Scan the SET (zz)barcodes
2	Scan the optional barcodes.
3	Scan the END (zz)barcodes

８‑２．Default settings

The setting the place it back to the settings for shipping.

Set	Z Z	ZZ
Default	S O	S0
End	Z Z	ZZ

８‑３．Connection / disconnection control

Connection and disconnection can operate with the direct menu as below.

(No need to scan the END ZZ barcodes.)

Connect	+ - C O N N - +	+-CONN-+
Disconnect	+ - D I S C - +	+-DISC-+

※ **It's impossible to connect the other scanner to current cradle or Bluetooth device without disconnecting operation.**

8-4．Control settings for wireless output measurement

The scanner keep sending and receiving status by setting the scanner with the items as below and that make various wireless performance measurement easy.

	COMMAND NAME	BARCODE	COMMAND
1	_+-RFPOWER-+_	‖‖‖‖‖‖‖‖‖‖‖ + - R F P O W E R - +	Inquiry
2	_+-TXSTART-+_	‖‖‖‖‖‖‖‖‖‖‖ + - T X S T A R T - +	Non-Modulation
3	_+-TXDATA1-+_	‖‖‖‖‖‖‖‖‖‖‖ + - T X D A T A 1 - +	Non-Hop
4	_+-TXDATA2-+_	‖‖‖‖‖‖‖‖‖‖‖ + - T X D A T A 2 - +	Hop
5	_+-RXSTART-+_	‖‖‖‖‖‖‖‖‖‖‖ + - R X S T A R T - +	Receive
6	_+-AFHTEST-+_	‖‖‖‖‖‖‖‖‖‖‖ + - A F H T E S T - +	AFH
7	_ZZ_	‖‖‖‖‖‖ Z Z	Start/End of SetUp for below COMMAND
8	_CH00_	‖‖‖‖‖‖ C H 0 0	Frequency LOW
9	_CH39_	‖‖‖‖‖‖ C H 3 9	Frequency MIDDLE
10	_CH78_	‖‖‖‖‖‖ C H 7 8	Frequency High
11	_PT00_	‖‖‖‖‖‖ P T 0 0	Packet Type DH5
12	_PT01_	‖‖‖‖‖‖ P T 0 1	Packet Type 2DH5
13	_PT02_	‖‖‖‖‖‖ P T 0 2	Packet Type 3DH5
14	_PMAX_	‖‖‖‖‖‖ P M A X	Transmission Power Max
15	_PMIN_	‖‖‖‖‖‖ P M I N	Transmission Power Min
16	_ZZ_	‖‖‖‖‖‖ Z Z	Start/End of SetUp for below COMMAND
17	_SO_	‖‖‖‖‖‖ S O	Initial Setting

※Command numbers 1 to 6 can scan directly without settings by start/end ZZ codes. After scanning these numbers , the commands keep operating as long as the red and green LED blink.
Press the trigger button to release the command.

※There's a need to scan start/end ZZ codes concerning command 8 to 15.
※   For example, you can confirm the RF output with read few RF-test Barcode combination.

Confirm the Non-Modulation, Non-Hop and AHF with under condition.
Data Packet type：2DH5 , Frequency：Low , Maximum RF ou

1　「ZZ」 → 「_CH00_」 → 「_PT01_」 → 「_PMAX_」 → 「ZZ」

2　「_+-TXSTART-+_」　：Keep Non-Modutation mode after read this Barcode and during LED-flushing.

3　Press Trigger-Switch to release Non-modulation mode. Turn off LED after press Trigger-Switch.

4　「_+-TXDATA1-+_」　　： Under the step1 condition , for confirmation Non-Hop mode by reading this Barcode. Keep to output Non-hop mode during LED flushing after read this Barcode.

5.　To release Non-hop mode , do operate step3

6. Under the step1 condition , for confirmation AFH mode by reading this Barcode. Keep to output AFH mode during LED flushing after read this Barcode.

7.　To release AFH mode, do operate step3.