SHARP

Ver1.0

RFID HandReader

DS-10HR

Operation manual

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Precautions

Be sure to strictly observe the following safety precautions in order to ensure safe operation.

[Explanation of indication mark]
The meanings of the indication marks used in this manual are as follows.

Indication mark	the meaning of the indications
Prohibited	It show that you aren't supposed to do.
Force	It show that you have to do certainly.

※Even if it is not a caveat, please do not use it differently from usage.

<u>During charging</u>

- Check the orientation of the microUSB plug on the USB terminal and insert it in the correct orientation.
  (Fear of breakage)
- Do not apply force to microUSB plug during microUSB connection.
- Charge the battery in an ambient temperature of between 10 °C and 35 °C
  (Fear of fever, smoke, bursting and ignition. Cause of battery deterioration.)
- When unusual odor, fever, discoloration, deformation etc are detected, immediately unplug the USB plug.

- Never charge the battery in wet condition.
  (Fear of electric shock, fire and failure.)
- While equipment is charging it, please don't cover with cloth and a futon or wrap it.

During use

・Please use and store this product in an indoor environment free from condensation of 0 ℃ (32°F) to 40℃(104°F).
・When you have found abnormalities such as unusual smell, fever, discoloration or deformation, immediately remove the hand reader from the arm and stop using it.

・Do not give a strong shock such as dropping it.
・Do not use this equipment near the cardiac pacemaker.

During storage

・Do not put this product at the place where the fire, near the heater, the place exposed to the direct sunlight and in the car of the scorching sun are hot.
(Cause of short, ignition, leakage and explosion.)
・Do not disassemble or remodel.
(Fear of fire, electric shock and injury. Radio Law violation)

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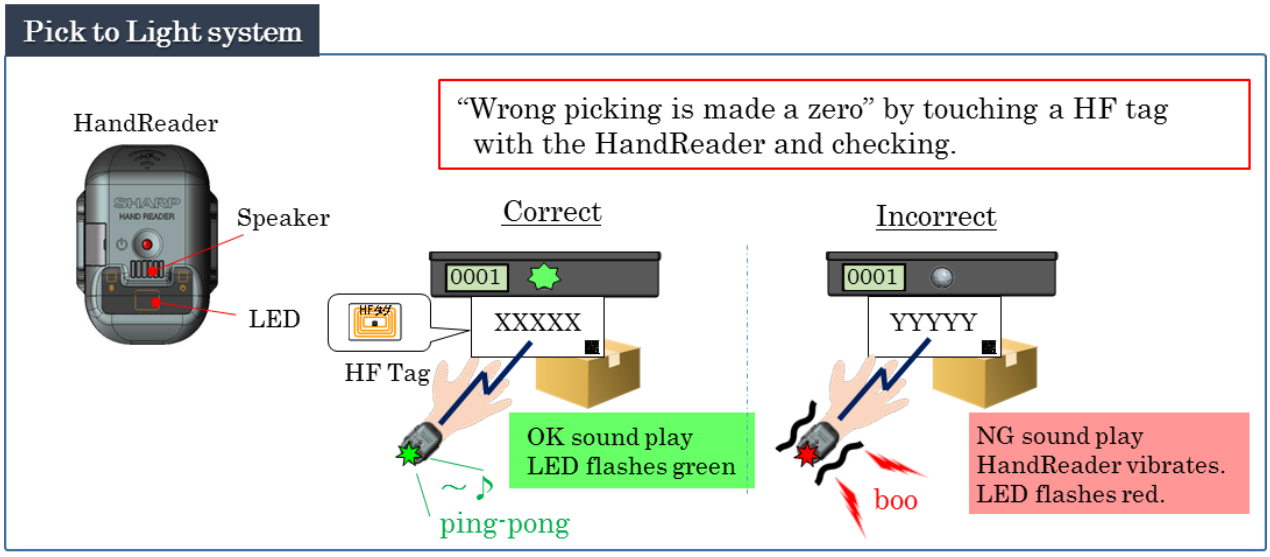
[Product features]

This product is RFID reader of HF band which can be worn on arm. It is possible to read RFID tags in the HF band with an antenna built into the equipment. The read RFID tag data is sent to a host terminal such as a personal computer or a smartphone. In addition, by the instruction from a host terminal, it is possible to play the confirmation sound, blink or light the LED, vibrate the equipment. By linking with the host terminal, this device reacts according to the RFID tag read.

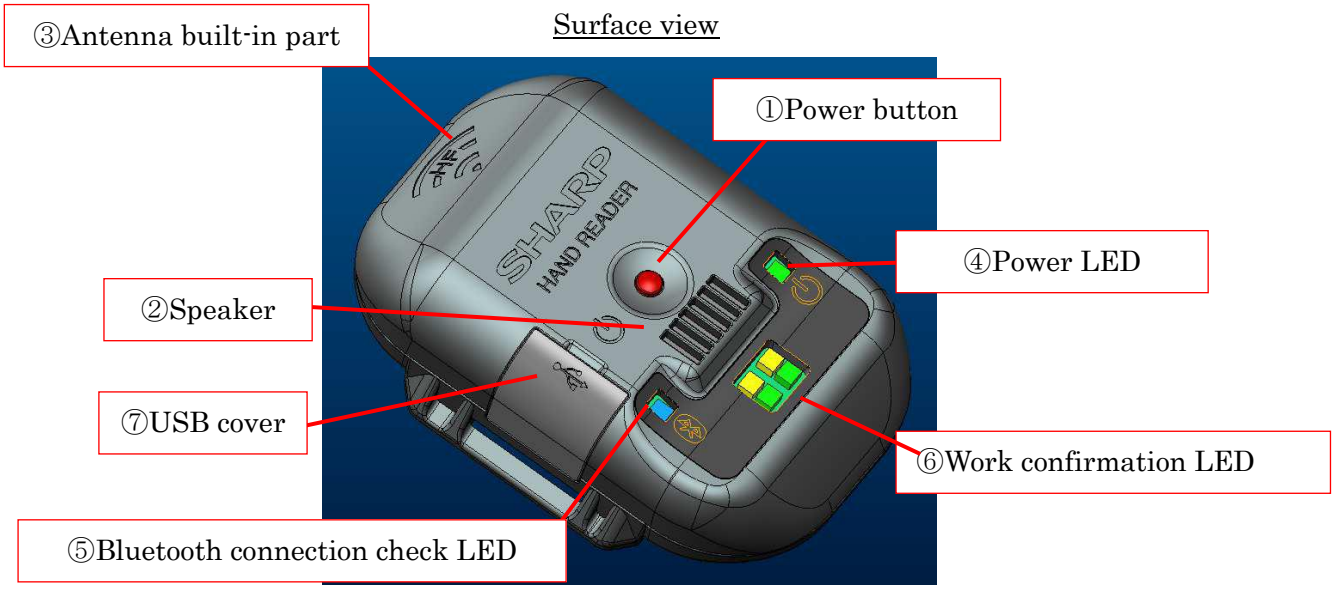
Example

You can use this equipment to check whether there is no error in picking parts during picking work.

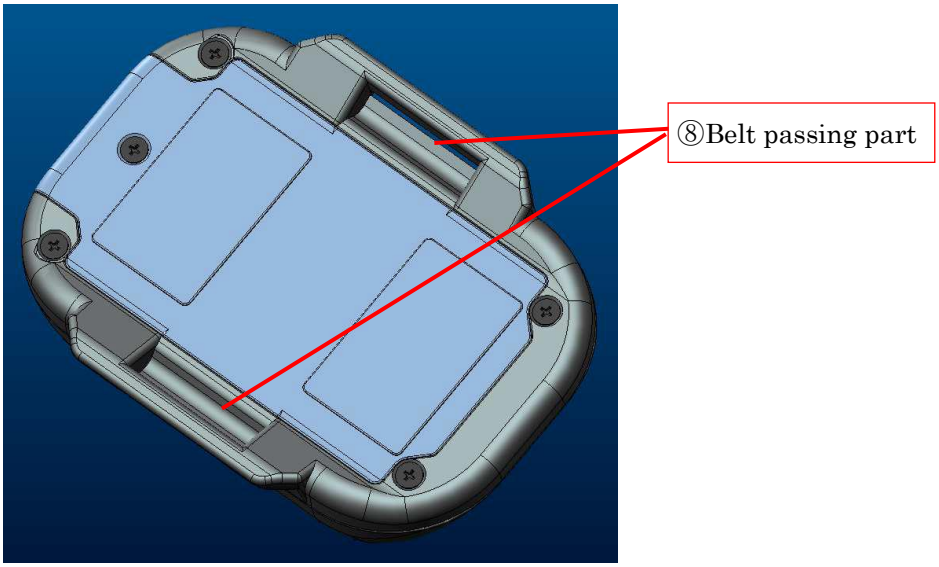


1. Explanation of each part

Surface view



Back view



① Power button	This button controls the On/Off of the Power.
② Speaker	Output sound such as confirmation sound.
③ Antenna built-in part	Part where the antenna is built in
④ Power LED	Notify the state of charge and power supply
⑤ Bluetooth connection check LED	Notify Bluetooth connection status with host terminal
⑥ Work confirmation LED	According to instructions from a host terminal, notify the results of work etc.
⑦ USB cover	Protect USB terminal.
⑧ Belt passing part	The part through the belt.

2. Usage

2.1. LED

This product is equipped with multiple LEDs, and the state of the equipment can be confirmed by checking the LED.

LED type	Color	FLASH / LIGHTING	Content
Power LED	Blue	FLASH	Battery is Recharging,
		LIGHTING	Battery charge completion
	Green	FLASH	-
		LIGHTING	Battery charge is enough.
	Yellow	FLASH	-
		LIGHTING	Battery charge is low.
	Red	FLASH	Just before the battery runs out.
		LIGHTING	An abnormality has occurred in the equipment. The flashing speed will be faster just before the battery runs out.
Bluetooth connection check LED	Blue	FLASH	-
		LIGHTING	Pairing with host terminal
	Red	FLASH	Not connected to host terminal
		LIGHTING	-
Work confirmation LED	Each Color		Control by instructions from a host terminal. Selection from 7 colors(Red, Green, Yellow, Blue, Magenta, Cyan, White)

2.2. Charging the battery

Before using this product, it's necessary to charge the battery.

①Remove the USB cover.

②Insert the USB cable into the main unit.

③Battery charging starts when connected to the power supply source such as an electric outlet.
Power LED flashes in blue.

④Charging is complete when the power LED lights up in blue.

2.3. Connection method with a host terminal

In order to use this product, it is necessary to pair with a host terminal such as a personal computer or smartphone.

①Turn on the power. Long press the power button, confirm that power LED and Bluetooth connection check LED are lit, then release the power button.

②Search the terminal from the Bluetooth setting screen of a host terminal .(In the initial state, it is displayed as “Sharp Handreader”)

③Pair from the host terminal. When the connection is completed, the Bluetooth connection check LED changes from red blinking to blue lighting.

※After doing a pairing once, after turning on the power of this product, it can be connected from a host terminal.

2.4. Attaching this product to your arm.

This product is installed on your arm and used.

①Place this product on a table so that the antenna built-in part is on top.

②Your arm is placed on this product.

③Tighten the belt and stop it with Velcro.

2.5. Termination method

When exiting, long press the power button, confirm that power LED and Bluetooth connection check LED are off, then release the power button.

2.6. Anomalous occurrence

If abnormality such as freezing of equipment occurred, hold down the reset switch.

3. Primary features

By connecting this product to a host terminal, it is possible to send tag reading information to the host terminal. In addition, by the instruction from a host terminal, it is possible to play the confirmation sound, blink or light the LED, vibrate the equipment. Operation can be set from the host terminal. The main setting items are as follows.

Item		Remark
Tag reader	Read Cycle	The reading cycle can be set in 100 msec units.(100msec～2000msec)
	Power	The output can be set to Full Power, Half Power or off.
Vibration		Vibration pattern setting is possible
Sound		You can register and play any sound.
LED		The lighting color and flash pattern of the work confirmation LED can be specified.

4. Hardware specifications

Product name		RFID HandReader
PN		DS-10HR
RFID	Frequency	13.56MHz±7kHz
	Supported standard	ISO15693 (Tag-it HF-I、I・CODE SLI / SLIX)
	Read area	UserData area of 2 blocks(0 and 1 block)
	Power	70mW (Full power) / 33mW (Half power)
	Read range	Up to 6cm (Reference value : depending on a TAG, environment or ETC.)
Bluetooth	Frequency	2.4GHz
	Standard	Bluetooth ver. 4.1 BLE
	Transmission distance	About 18m (Reference value : Depending on a surrounding environment or the performance of a Bluetooth device.)
	Profile	GAP／GATT
LED		For checking power status×1 For checking Bluetooth status×1 For work confirmation ×4
Vibration		Controllable from a host terminal in 100 msec increments (Upper limit : 1sec)
Speaker		Playback of registered sound can be controlled from a host terminal. The registered sound can be changed from a host terminal.
Battery powered		Li-Poly Battery 3.7V 1200mAh
Battery life		About 15 hour（continuous use）※Reference value : according to the actual use environment or conditions
Dimension		Width 60.9mm – Height 82.0mm – Depth 23.0mm （exclude

		band)
Environmental resistance	Working temperature	0 / 40 ℃ 5 / 35 ℃(During charging) non condensing (32 / 104°F 41 / 95°F)
	Storage temperature	-5 / 50℃ non condensing (23 / 122°F)

This product is Extremely Low-Power Radio Equipment. Applications and notifications of licenses are not required for use.

5. For FCC

FCC ID:APY-BSC0003

Contains Transmitter Module FCC ID: SQK-7BLZXX

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

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

It is strictly forbidden to use antenna except designated.
This equipment must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines.

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.