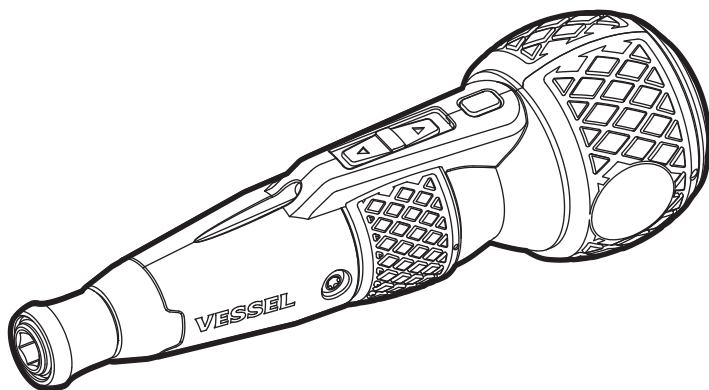


VESSEL®

ENGLISH

INSTRUCTION MANUAL AND SAFETY INSTRUCTIONS FOR BALL GRIP RECHARGEABLE SCREWDRIVER PLUS No.220USB-P1EB



Thank you for purchasing our BALL GRIP Rechargeable Screwdriver No.220USB-P1EB.

Read this instruction manual before use.

Keep it in a safe handy place for future reference.

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This product is in compliance with
all relevant provisions of CE and UKCA directives.

For information on the declaration of conformity,
please visit the following website:

<https://www.vessel.co.jp/english/support/declarations.html>



<Naming Rule>

220USB-WXY

220USB-WXZY

(W: Speed type (W=P, P: Plus type, n0= 280/340/400 min-1);

X: Number of screwdriver bits (X = 1~99 or blank, blank means no
screwdriver bit);

Y= A~Z, (means sales area, uppercase letters can be freely combined,
maximum 2 letters);

Z= A~Z, (means color, uppercase letters can be freely combined,
maximum 2 letters))

**VESSEL application service team will gladly answer questions
concerning our products and their accessories.**

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Distributors

See below for national distributors.

<https://vessel.co.jp/english/distributors/>



DEFINITIONS: Safety Guidelines

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

⚠ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ NOTICE: Indicates a practice not related to personal injury which, if not avoided, may result in property damage.

SYMBOLS



Use eye protection during operation.



Do not use a screwdriver as a pry bar, chisel, punch or hammer.



Protect the battery against heat, e.g., against continuous intense sunlight.



Risk of electric shock.



WARNING: To reduce the risk of injury, read the instruction manual.

GENERAL POWER TOOL SAFETY WARNINGS



WARNING: Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.** The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

► **Keep work area clean and well lit.**

Cluttered or dark areas invite accidents.

► **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.

► **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical safety

► **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

► **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.

► **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

► **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

► **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

► **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

Personal safety

► **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.

► **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

► **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

► **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

► **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.

► **Dress properly. Do not wear loose clothing or jewellery. Keep your hair and clothing away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.

► **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

► **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.

Power tool use and care

► **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.

► **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled

with the switch is dangerous and must be repaired.

► **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

► **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

► **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

► **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

► **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

► **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

Battery tool use and care

► **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

► **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.

► **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.

► **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

► **Do not use a battery pack or tool that is damaged or modified.** Damaged or modified batteries may exhibit unpredictable behaviour resulting in fire, explosion or risk of injury.

► **Do not expose a battery pack or tool to fire or excessive temperature.** Exposure to fire or temperature above 130° C (266° F) may cause explosion.

► **Follow all charging instructions and do not charge the battery pack or tool outside the temperature range specified in the instructions.** Charging improperly or at temperatures outside the specified range may damage the battery and increase the risk of fire.

Service

► **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

► **Never service damaged battery packs.** Service of battery packs should only be performed by the manufacturer or authorized service providers.



SAFETY WARNINGS FOR SCREWDRIVERS

► **Do not use a screwdriver as a pry bar, chisel, punch or hammer.** Broken screwdriver can cause injury.

► **Hold power tool by insulated gripping surfaces, when performing an operation where the fastener may contact hidden wiring.** Fasteners contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

► **Hold the machine with a firm grip.** High reaction torque can briefly occur while driving in and loosening screws.

► **Secure the workpiece.** A workpiece clamped with clamping devices or in a vice is held more secure than by hand.

► **Always wait until the machine has come to a complete stop before placing it down.**

The tool insert can jam and lead to loss of control over the power tool.

► **Before any work on the machine (e. g., maintenance, tool change, etc.) as well as during transport and storage, set the rotational direction switch to the center position.** Unintentional actuation of the switch can lead to injuries.



► **Protect the battery against heat, e.g., against continuous intense sunlight, fire, water, and moisture.** Failure to do so may result in an explosion.

► **In case of damage and improper use of the battery, vapours may be emitted.** Ventilate the area and seek medical help in case of complaints. The vapours can irritate the respiratory system.

► **This product contains a lithium battery.** A lithium battery reaches its end of life after many years of use. To protect the environment, follow the treaties for ecological protection of local governments of your country to properly dispose of this battery.

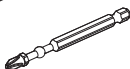


Lithium-ion batteries are recyclable

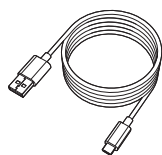
1 Power tool



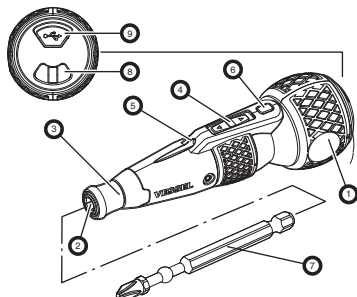
1 Bit



1 USB Charging cable (1m)



NAME OF PARTS



1. Screwdriver handle
2. Bit holder
3. Sleeve
4. Switch
5. LED light
6. Mode switching button/
Charging lamp
7. Screwdriver bit
8. Anti-drop cord attachment
hole
9. Charging port

INTENDED USE

The 220USB is used for tightening and loosening screws. The 220USB is an electric screwdriver that can be charged by connecting a USB charging cable.

FEATURES

- Quick tightening can be performed efficiently with the aid of an electric motor. The final tightening can be done by manual operation.
- Depending on the work, the speed and torque can be selected from 3 modes: Low, Medium, and High.
- The high-intensity LED light brightens the blade edge even in dark places.
- The switch is a slide switch that can be operated forward and backward with light force.
- Small and light weight with USB rechargeable Li-ion battery.
- Various commercially available bits of 6.35 mm (1/4inch) are available.
- Anti-drop cord can be attached.

TECHNICAL SPECIFICATIONS

- Rated voltage	3.6 VDC
- Capacity	800 mAh
No-load speed *	(LO) 280 min ⁻¹ (MID) 340 min ⁻¹ (HI) 400 min ⁻¹
Torque*	
- Electric power (Max.)	(LO) 1.2 N·m (10.62lbf-in)

(MID) 1.6 N·m (14.1lbf-in)

(HI) 2.0 N·m (17.7lbf-in)

- Hand operation (Max.) 12 N·m (106.21lbf-in)

Weight (not including accessories) 170 g (6oz)

Permitted ambient temperature**

- during charging 4° C (39.2° F) - 40° C (104° F)

- operating* and storing 0° C (32° F) - 45° C (113° F)

Battery Li-Ion

Number of battery cells 1

Charging time Approx. 100 min

Number of charges*** Approx. 500 charges

Charging port Micro USB-TypeC

Noise LWA=71.83 dB(A) LPA=63.83 dB(A) K=3 dB(A)
according to Annex I of EN 62841-1 and EN 62841-2-2

Vibration values 0.8443m/s² k=1.5 m/s²
according to Annex I of EN 62841-1 and EN 62841-2-2

Input power (maximum) - Volt 5V DC

-Current 0.7A

* The data are typical values obtained in internal measurement environment and are not guaranteed values. The value may vary depending on the remaining battery level.

Charging or operating at temperatures close to 0° C (32° F) may result in a decrease in charge (usable time) or inoperability due to protection.

** limited performance at temperatures <0° C (32° F)

*** Actual battery life may vary depending on specifications.

- Specifications and sizes are subject to change without notice.

NOISE/VIBRATION INFORMATION

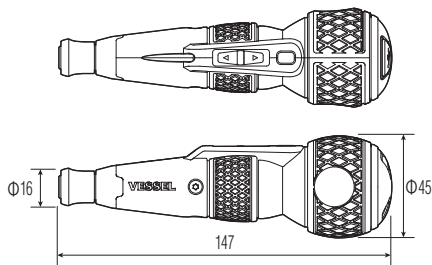
Sound emission values determined according to EN 62841. Typically the A-weighted sound pressure level of the product is 63.83 dB(A). Uncertainty K=3 dB.

The noise level when working can exceed 70 dB(A). Wear hearing protection!

Screwdriving without impact: ah<0.8443 m/s², K=1.5 m/s²

The vibration level given in this information sheet has been measured in accordance with a standardised test given in EN 62841 and may be used to compare one tool with another. It may be used for a preliminary assessment of exposure. The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or insertion tools or is poorly maintained, the vibration emission may differ. This may significantly increase the exposure level over the total working period.

An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool and the accessories, keep the hands warm, organisation of work patterns.



CHARGING

Use a charger with the specified charging capacity.

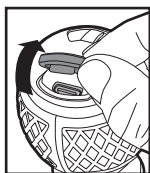
(Output: 5V DC-0.7A)

If the current value is high, the life of the internal battery will be shortened.

* This product does not come with a charger.

- 1) **Open the protective cap (see the figure on the right) of the power tool charging port and insert the USB charging cable.**

Charging may not be possible if the USB charging cable is not correctly inserted into the charging port.

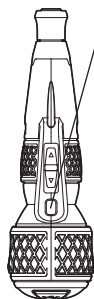


- Pull up the protective cap slightly with your fingernail and pinch it open with your fingers (see figure on the right).
- Use the USB charging cable included with this product.
- Opening from the reverse direction will cause a damage.

LED indication

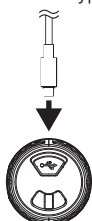
lights up in **red** while charging.

lights up **green** when complete.



Charging port
(Micro USB-typeC)

Charging port
(USB-typeA)



- 2) **Insert the other end of the USB charging cable to a USB port designated in the specifications (commercially available AC adapters, PCs, mobile batteries, etc.).** The charging lamp lights up and the charging starts. While charging the battery, the charging lamp lights red. When charging is complete, the charging lamp lights green.

Note: The battery supplied is partially charged. To ensure full capacity of the battery, completely charge the battery in the battery charger before using the product for the first time. The lithium-ion battery can be charged at any time without reducing its service life. Interrupting the charging procedure does not damage the battery. The Lithium-Ion battery is protected against deep discharging.

Note: If the charge level of the battery is less than 15%, the battery charge lamp will flash red during operation. When the battery voltage drops to the specified value, it cannot operate to protect the product. Stop work and charge the battery.

Note: The product cannot be used during charging. The screwdriver will not operate if the switch is sliding during charging - this is not a breakdown.

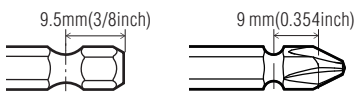
Note: If not used for a long time, disconnect the charger from main power.

- 3) **When charging is complete, remove the USB charging cable and close the protective cap.** Dirt and foreign matter may cause malfunction.

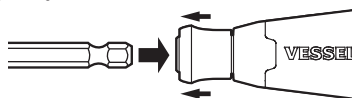
CHANGING THE BIT

Only use the specified bits. If you use bits other than those specified, bits may not be possible to be removed.

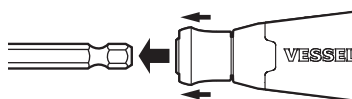
- **Bits** that can be used are limited to products with the following mounting dimensions.



- **Inserting bit:** Slide the sleeve forward, insert the bit all the way in, and release the sleeve. Move the bit back and forth to make sure it is locked. Risk of injury if the bit comes off while operating.



- **Removing bit:** Slide the sleeve forward, pull out the bit and release the sleeve. Be careful not to drop bits or the power tool when operating at height.



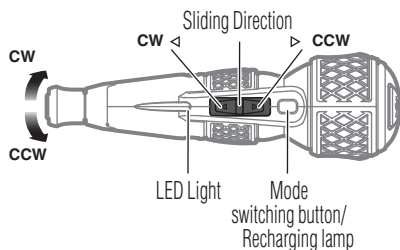
CAUTION: Do not keep sliding the switch when inserting or removing bits. The power tool may operate and cause injury.

NORMAL ROTATION/ REVERSE ROTATION SWITCH

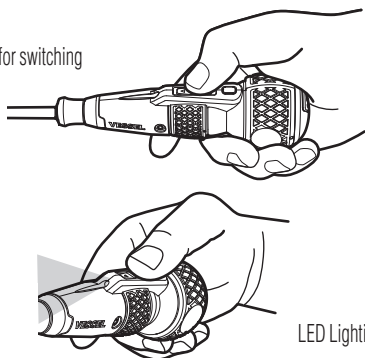
⚠ CAUTION: Do not keep sliding the switch after the power tool turns off automatically. Internal parts may be damaged.

The sliding direction of the switch on this product allows it to rotate in the desired rotation.

- **CW:** To rotate the spindle clockwise, slide the switch forward to rotate it, and the LED light will turn on at the same time. When you release your hand from the switch, the switch returns to the neutral position and rotation stops, but the LED light will turn off after 5 seconds.
- **CCW:** To rotate the spindle counterclockwise, slide the switch backward to rotate it, and the LED light will be turned on at the same time. When you release your hand from the switch, the switch returns to the neutral position and rotation stops, but the LED light will turn off after 5 seconds.



Grip for switching



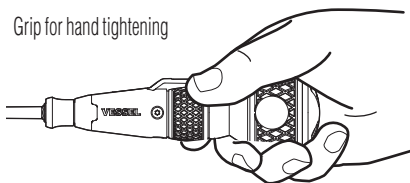
LED Lighting

⚠ CAUTION: Do not look directly into the LED light. Your eyes could be damaged.

⚠ CAUTION: Continually carrying out heavy loads may cause malfunctions. If the work load is too heavy, the product protection function will be activated. When the product protection function is activated, the charging lamp blinks and the product does not operate.

- **Fully automatic spindle locking (Auto-lock):** When the switch is in neutral position, turning the power tool manually will lock the spindle and tighten the screw. It allows the screw to be tightened even when the battery is empty, which allows the power tool to be used as a manual screwdriver.

Grip for hand tightening



⚠ CAUTION: Do not slide the switch while the spindle is locked and the screw is manually tightened. The power tool may be damaged.

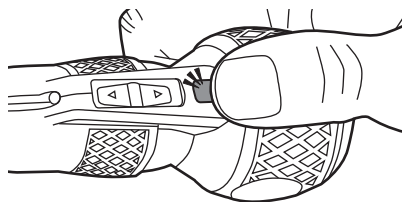
- **Working advice:**

Apply the power tool to the screw only when it is switched off. Rotating tool inserts can slip off.

Mode Switching

Press and hold the mode switching button. Then, the charging lamp will blink green or light up and the rpm and torque will switch.

- Low speed blinking (5 times): 280rpm (1.2N•m) (10.62lbf-in)
- High-speed blinking (10 times): 340rpm (1.6N•m) (14.16lbf-in)
- Lighting (5 seconds): 400rpm (2.0N•m) (17.7lbf-in)



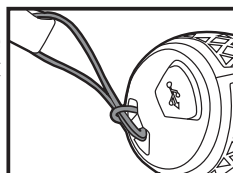
Attachment of the anti-drop cord

⚠ CAUTION: Use an anti-drop cord that is appropriate for the weight of the product. Otherwise, it may cause an accident.

⚠ CAUTION: Check if there is any damage to the mounting hole before use.

⚠ CAUTION: Make sure that the anti-drop cord is securely attached. Otherwise, it may cause an accident.

Attach the strap-shaped anti-drop cord to the anti-drop cord attachment hole. (Refer to the figure on the right.)



MAINTENANCE AND CLEANING

Periodic inspection

⚠ CAUTION: Before any work (e. g., maintenance, tool change, etc.) as well as during transport and storage, set the rotational direction switch to the neutral position. Unintentional actuation of the switch can lead to injuries.

Regular Inspection items

- Loose screws, damages, abnormal operation;
- Damages on the charging cable;
- Inside the bit chuck (a foreign substance left in the chuck may cause bit mounting failure);
- Inside the charging port (dust may cause charging failure).

If this product stops working, contact a dealer where you purchased it.

Cleaning

For safe and proper working, **always keep the tool clean.**

⚠ CAUTION: A reinforced plastic cover is used. Do not use detergents or the following chemicals to wipe the surface. Risk of cracks, electric shock, or failure. Benzene, Thinner, Ketone, Ether and other similar chemicals

Storage

Store the product away from the following environments:

- Places subject to high temperatures, such as in a car;
- Places exposed to direct sunlight;
- Places with a lot of water or moisture;
- Places with a lot of dust and debris;
- Places where children can reach;
- Places where flammable materials such as gasoline are present;
- Places subject to low temperatures.

⚠ CAUTION: When storing the product for a long period of time, place it in a cool place (around 20°C) and recharge it once a year for about 20 minutes.

DISPOSAL

- Do not dispose of power tools as household waste. Contact our distributor (without disassembling) to dispose of used tools in an environmentally safe way. Check the contact information by QR code.
- If above is not possible, sort and dispose of used products according to the rules of your area.

⚠ CAUTION: This product contains a lithium-ion battery. Lithium-ion batteries that have reached their end of life after prolonged use must be disposed of properly in accordance with the national municipal treaty on ecological protection. **[Lithium-ion batteries are recyclable]**

- Removal The lithium-ion battery used in this product is a valuable resource that can be recycled. When disposing of the battery or product, remove the battery and cooperate in recycling.

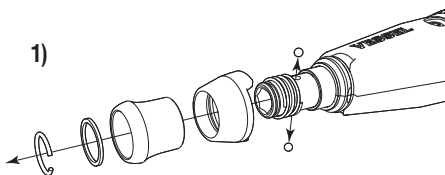
⚠ WARNING: Attach insulating tape to the terminal parts to prevent short circuits.

⚠ WARNING: Do not throw the battery into fire. Do not heat the battery. There is a risk of heat generation, fire, and explosion.

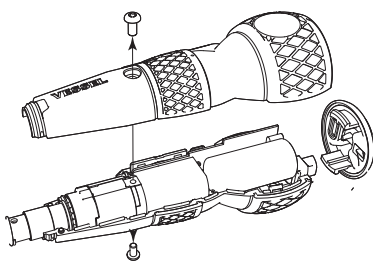
- Battery removal

Before removing a battery that has reached the end of its useful life, turn it on and fully discharge the battery until the motor stops working.

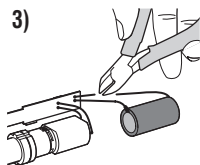
- 1) Disassemble as shown in the illustration.
- 2) Pull out the battery from the power tool and cut the two wires. Cut the wires one by one.
- 3) Insulate the positive and negative terminals of the removed battery with tape.



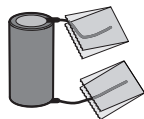
2)



3)



4)



TROUBLESHOOTING

Problem	Possible causes	Solution
No rotation	Battery is not sufficiently charged	Charge battery.
	Breakdown of the switch, motor or circuit board	Contact the distributor where you made the purchase.
	Breakdown of internal parts	Contact the distributor where you made the purchase.
The power tool stops working during operation	Battery is not sufficiently charged	Charge battery.
	The power tool stops working due to protection circuit activation.	Increase the pause time.
	The mode does not switch.	Contact the distributor where you made the purchase.
Abnormal noise	Breakdown of motor and gear	Contact the distributor where you made the purchase.
Heat generation of power tool	Temperature increase due to overload	Increase the pause time.
	Breakdown of motor and circuit board	Contact the distributor where you made the purchase.
	Temperature increase due to charging in progress	Increase the charging pause time.
Bits can't be inserted	The bits does not fit. Incorrect bit used.	Use the correct bit.
	Breakdown of internal parts	Contact the distributor where you made the purchase.
	Foreign matters in the bit chuck.	Check inside the bit chuck and remove any foreign objects.
Idling of the chuck	Breakdown of internal parts	Contact the distributor where you made the purchase.
Working LED does not light up	Breakdown of internal parts	Contact the distributor where you made the purchase.
Can't charge	Charger problem	Confirm whether the output of the connected charger is 5V DC-1A
Slow speed	Battery is not sufficiently charged	Charge battery.
	Breakdown of internal parts	Contact the distributor where you made the purchase.
When charging is complete, the green light and the red light are turned on alternately.	Product specification	Since it is a charging voltage control loop, it has no operating problem, so it can be used directly.
	Breakdown of internal parts	If the battery still does not rotate after charging or the battery is not good, contact the distributor where you made the purchase.

MEMO
