

Lithium ion battery/Charger

1 *Intended use*

This rechargeable lithium ion battery and its charger are intended to be used with IPLEX G/RX/RT/TX/LX/LT/MX II series industrial videoscopes. Do not use them for any other purpose.

2 *Instruction manual*

This instruction manual contains essential information on using this instrument safely and effectively. Before use, thoroughly read this manual and the instruction manual for the IPLEX G/RX/RT/TX/LX/LT/MX II series and use the instruments as instructed. Keep this and all related instruction manuals in a safe, accessible location. If you have any questions about any information in this manual, please contact EVIDENT.

3 *Instrument compatibility*

The lithium ion battery can be used with its specialized charger or in IPLEX G/RX/RT/TX/LX/LT/MX II series videoscopes. Using incompatible equipment can result in user injury or equipment damage as well as degradation of the performance.

4 *Important Information—Please Read Before Use*

4.1 **Marks used in this manual**

The following signal words are used throughout this manual.



DANGER

- Indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury or damage of observation object.



WARNING

- Indicates a potentially hazardous situation which, if not avoided, could result in death, serious injury or damage of observation object.



CAUTION

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices or potential material damage.

NOTE

- Indicates additional helpful information.

4.2 Handling of the battery and the battery charger

Observe the precautions described below when handling the battery and battery charger.

Otherwise, battery fluid leak, excessive heat generation, smoke, battery burst, electric shock and/or burns may result.

Before use, thoroughly review this instruction manual to fully understand the information contained in them, and observe their instructions during use.



DANGER

- Use the NC2040OL24, NC2040NO29 or NC2040NO34 battery and the CH5000C or CH5000X battery charger.
- Never use the instrument in the following types of environments.
 - Where flammable atmospheres are present
 - Where metal dust or other dust is presentOtherwise, an explosion or fire may result.
- Do not allow connectors to become shorted.
- Do not attempt to apply solder directly to a terminal.
- Do not interconnect the electrodes of the battery with metal, or carry or store the battery together with metal objects.
- Do not connect the battery directly to a power outlet or the cigar lighter of an automobile.
- Do not immerse the battery in fresh or sea water, or allow the battery to get wet.
- Do not throw the battery into fire or subject it to heat.
- Do not attempt to open or modify the battery.
- Do not pierce the battery, hit it with a hammer, or step on it.
- Do not subject the battery and the battery charger to strong impact.
- Do not use or leave the battery where it is exposed to direct sunlight, in a closed automobile in the sun, near a heater, etc.
- Fluid leaking from the battery can cause loss of sight if it gets into your eyes. Flush your eyes with tap water or other clean water without rubbing. Contact a physician immediately.
- Do not use the battery charger outdoors.
Otherwise, electric shock might occur, or smoke emission and fire might occur, causing damage to the charger. The battery charger is designed for indoor use.



WARNING

- Do not repair, disassemble, or modify the instrument.
This instrument does not contain any user serviceable parts. Do not disassemble, modify or attempt to repair. User injury and/or equipment damage can result.
- Do not cover the battery charger with clothing, bedding, or other material while charging.
- After charging is complete, always be sure to unplug the battery charger's power plug from the electrical outlet.
- Immediately unplug the battery charger and stop using it at the first sign of heat generation, abnormal odor, abnormal noise, smoke, or any other abnormality.
Contact EVIDENT.
- If the battery charger cannot complete battery charging in the specified recharging time, stop trying to recharge the battery.
- Do not use a battery if it shows any irregularity such as fluid leak, discoloration, deformation or other abnormality.
Immediately request servicing.
- Should the battery fluid get onto your skin or clothing, immediately rinse with tap water or other clean water.
Otherwise, a skin injury may result. Contact a physician for treatment if necessary.
- Do not allow the battery compartment to become deformed and never put any foreign object into it.
- Do not allow metal or water, or any other fluid to get into the battery compartment or onto the battery terminals.
Should any foreign object enter the main unit, remove the battery and disconnect the AC adapter, and immediately contact EVIDENT.

- Do not use a commercially available travel converter with the battery charger. Otherwise, the battery charger may be damaged.
- Do not remove the battery as soon as possible after using the instrument for a long time.
Heat generated by the battery creates the risk of burn injury.
- Do not leave the battery in a location subject to moisture, water leak or extremely high or low temperatures.
- Do not touch the battery terminals while your hands are wet.
- If you do not plan to use the battery for a long time, remove it from the main unit and store it in a dry place.
Otherwise, battery fluid leak and heat build-up may result in a fire or injury.
- Keep the battery out of the reach of small children.



CAUTION

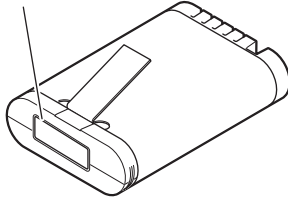
- If you are experiencing problems loading the battery, do not try to force it in. Check the orientation of the battery and check the terminals for abnormalities. Trying to force the battery into the compartment may cause malfunction.
 - If you are having problems removing the battery from the instrument, do not apply undue force.
Contact EVIDENT.
 - Contact the airlines in advance when you transport the battery by the aircraft.
 - Do not store the battery and the battery charger in the following locations.
 - Environments subjected to high temperature, high humidity, and large amounts of dust or particulate
 - Locations exposed to direct sunlight or radiation
 - Locations subject to gas that includes halide^{*1}Doing so could damage the equipment.
 - *1The performance of some kind of electric parts will be deteriorated by the gas including the halide contained in the insecticide, the herbicide, and the gas extinguishant, etc.
 - If you do not plan to use the battery for a long time, be sure to charge the battery until the battery charge rate reaches 40% to 80% (Power level indicator: 2 to 4) before storing it, otherwise, the battery may be completely discharged and damaged.
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NOTE

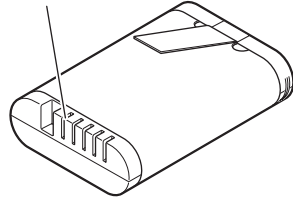
- The battery is a consumable item.
 - When disposing of a battery, be sure to do so in accordance with all local laws, rules, and regulations.
Before disposing of a battery, check your local laws, rules, and regulations and follow them accordingly.
 - In general, the battery performance drops as the ambient temperature drops. Note that the battery performance degraded due to low temperatures recovers when the temperature rises to a normal level.
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5 **Battery nomenclature and functions**

Power level indicator



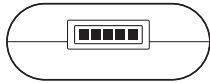
Terminal



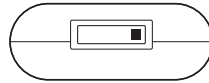
6 **Battery power level indicator**

Check the five LEDs to see how much the battery has charged.

Fully charged

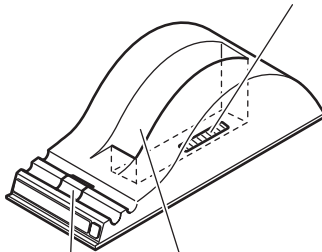


Charging is needed



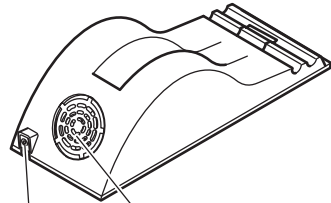
7 **Charger nomenclature and functions**

Terminal



Battery slot

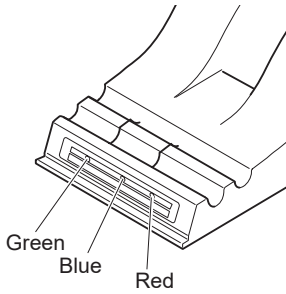
Calibration button



Fan

AC adapter connector

Indicator display

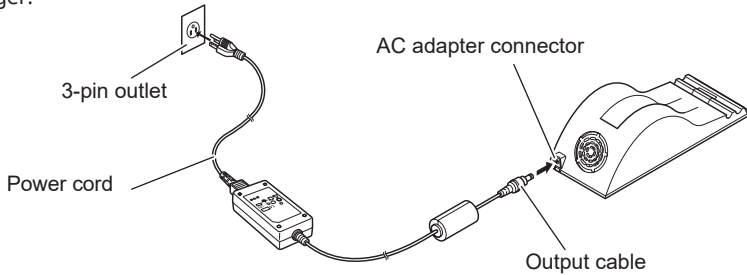


	Flashing	Lighted
Green	Charging	Charging finished
Blue	Calibrating	Calibrating finished
Red	Calibration needed	Error

8 Charger operations

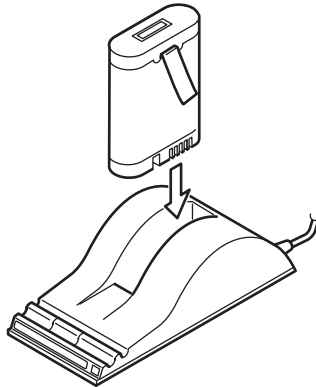
8.1 Preparing the power supply

Connect the output cable plug of the AC adapter to the AC adapter connector of the charger.



8.2 Inserting the battery

Align the terminals on the battery and the charger and insert the specified lithium ion battery into the battery slot.



NOTE

- Contamination of battery electrodes with sweat or oil will cause contact failures. When the battery is dirty, wipe it clean with a dry cloth before use.
- The charger's internal fan may turn on while a battery is charging.

■ Charging the battery

1. The battery starts charging when it is inserted into the slot on the battery charger.
2. When the green indicator changes from blinking to a steady light, charging is done
Remove the battery.

NOTE

- Be sure to recharge the battery before using it for the first time after purchase or after it has not been used for a long period.
 - Charging a battery takes approximately 2.5 hours.
 - The green indicator blinks while a battery is charging.
 - When charging is finished, the green indicator stays illuminated.
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■ Calibrating the battery

Calibration improves the accuracy of the battery's power level indicator. Calibrate the battery if the power level indicator seems to be inaccurate.

1. Only press the calibration button if calibration is necessary.
2. When the blue indicator changes from blinking to a steady light, calibration is done.
Remove the battery.

NOTE

- The accuracy of the battery's power level display on the screen of the IPLEX G/RX/RT/TX/LX/LT/MX II is not affected by calibration.
 - You do not necessarily need to calibrate the battery after using it in the IPLEX G/RX/RT/TX/LX/LT/MX II, even if the red indicator blinks while the battery is charging.
 - You can calibrate the battery even if the red indicator is not blinking.
 - Calibration takes approximately 7 to 11 hours. The battery is completely discharged and then fully charged.
 - Start calibration again from the beginning in the following cases.
 - If during calibration the power is turned off and then back on again.
 - If during calibration the battery is removed from and then re-inserted into the slot.
 - The blue indicator flashes during calibration.
 - When calibration is finished, the blue indicator stays lighted.
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8.3 Disposal after use

1. Disconnect the power cord plug from the AC mains outlet.
2. Disconnect the AC adapter's output cable plug from the AC adapter connector.

9 Specifications and operating and storage environments

Battery specifications and operating and storage environments

Item	Specification
Manufacturer	Inspired Energy, Inc.
Model number	NC2040NO29 or NC2040NO34
Type	Lithium ion battery
Nominal voltage	10.8 V DC
Nominal capacity	31 Wh
Operating temperature and relative humidity	Charging: 0°C to 45°C, 80% RH or less Storage: -20°C to 60°C, 80% RH or less
Dimensions/Weight	58.9(W)× 85.0(D)× 22.3(H)mm, approximately 190 g

Charger specifications and operating and storage environments

Item	Specification
Product name	Industrial Endoscope Accessory
Model number	CH5000C or CH5000X
Compatible battery	Lithium ion battery NC2040NO29, NC2040OL24 or NC2040NO34
AC adapter input output rating	Input: 90 to 260 VAC, 50/60 Hz Output: 24 V, 2.5 A DC
Operating temperature and relative humidity	0°C to 50°C, 80% RH or less
Dimensions/Weight	92.0 (W) x 180 (D) x 58.0 (H) mm, 235 g (without AC adapter)

NOTE

- NC2040OL24 cannot be used with IPLEX RX/RT series.

NOTE: This product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

Manufactured by

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