

# Instruction Manual

## Battery Powered Crimping Tool EC-400B



Due to continuing improvements, actual product may differ slightly from the product described herein

## SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the month and year of purchase. Keep this manual and the receipt in a safe and dry place for future reference.

## IMPORTANT SAFETY INFORMATION

**In this manual, on the labeling, and all other information provided with this product:**



**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.**

### **⚠️ DANGER**

**DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.**

### **⚠️ WARNING**

**WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.**

### **⚠️ CAUTION**

**CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.**

## GENERAL SAFETY RULES

TO WORK IN SAFE CONDITIONS WITH THIS TOOLING, IT IS IMPERATIVE TO READ CAREFULLY THE DIRECTIONS FOR USE AND TO FOLLOW THE INSTRUCTIONS IT CONTAINS. IF YOU DO NOT RESPECT THE INFORMATION WRITTEN IN THAT INSTRUCTION MANUAL THE WARRANTY WILL BE CANCELLED.

### **1. Work area safety**

- a. Keep work area clean and clear. Cluttered or dark areas invite accidents.
- b. This tool is not insulated; please do not use it on live conductor.
- c. Please do not use or store the tool under high temperature, or one surrounding filling with corrosive fluid. Pay attention to the sealing kits becoming aging.
- d. Keep children and bystander away while operating the Battery powered crimping tool. Distractions will cause you to lose control.

### **2. Electrical safety**

- e. Make sure the plug matches with the plug seat. Never try any changes on the plug.
- f. Do not put tool, battery and charger under a rainy or humid surroundings, it is easy to trigger an electric shock accident if any water goes into the electric system of the tool.
- g. Do not use electric wire to carry, pull, or to draw out the plug and do not connect the “-” and “+”, the damaged or twined wire may cause an electric shock accident.
- h. If the charger was strongly crashed, or dropping down or any other damages happening, please do not try to repair it by yourself, send it back to the authorized service center as soon as possible. The damaged charger may cause an electric shock accident.
- i. The best temperature for charging is between 10°C-40°C. Make sure the air hole of the battery and charger are uncovered during charging.
- j. Please cut off the power of the charger each time to reduce the hazard from child or the person who not expert on the tool.
- k. Do not wait until the battery runs over for recharging, the recharging will caused the battery does not working anymore. Please keep the battery out of the tool to avoid the power discharge.
- l. Please do not burn the battery or make it being short-circuited, it may cause explosion.
- m. Do not use the waste battery otherwise it will caused the electric shock.
- n. Do not disassemble the battery and charger. If any problem please contact with manufacture or agent.

### **3. Personal safety**

- o. Stay alert, watch what you are doing and use common sense when operating the tool. Do not use the tool while you are tired or still under the influence of drugs, alcohol or medication. A moment of inattention may result in series personal injury.
- p. Use safety equipment. Always use safety equipment such as mask, helmet, safety cap, insulating shoes and etc to reduce the risk of personal injury.
- q. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes jewelry or long hair can be caught in moving parts.
- r. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts .

# EC-400B BATTERY POWERED TOOL

Read the entire SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before using this product.

## 【Specification】

EC-400B is a tool for crimping Cu/Al lugs with cables from 16-400 mm<sup>2</sup>. It is powered by Li-ion, actuated by motor and controlled by MCU. With a high pressure hydraulic system, it is a perfect tool to be used in electrical construction site.


Max. crimping force:	120KN
Crimping range:	CU400mm <sup>2</sup> /AL 300mm <sup>2</sup>
Stroke:	38mm
Hydraulic oil:	Shell Tellus T15#
Ambient temperature	-10-40℃
Voltage:	18V
Time/crimp:	9-18s( depend on the size of cable)
Time/charger:	Approx. 120 times (CU 150mm <sup>2</sup> )
Charging voltage:	AC 100V~240V ;50~60Hz
Charging time:	Approx35-40 mins
Accessories:	
Crimping die:	16.25.35.50.70.95.120.150.185.240.300.400 mm <sup>2</sup>
Battery:	2 pcs
Charger:	1 pc
Sealing ring of cylinder:	1 set
Sealing ring of safety valve.	1 set


## 【Description of components】





Parts No.	Description	Function
03	Ram/Die holder	For fixing die
04	Die	For crimping, interchangeable die
02	Head	Crimping head
05	Retaining clips	For locking/unlocking die.
06	Trigger	For starting operation
09	Retract button	For manual retracting the piston in case of an incorrect operation.
07	Battery lock	For locking/unlocking the battery.
08	Battery	For supplying power, rechargeable Li-ion (18V) .
01	Body	Nylon body ,light and compact design
04	Oil cylinder	Powerfully output crimping force
10	LED indicator	For indicating the operating condition and battery discharging situation.


# 1. Function description

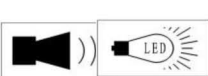
 MCU –automatically detect the pressure during operation and provide security protect, shut off the motor and reset automatically after operation.


 AUTO  
Auto reset- Release the pressure automatically, retract the piston to the starting position when reached the max output.

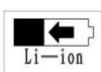
 MAN  
Manual reset —Can retract the piston to the starting positioning in case of an incorrect operation.


 II  
The unit is equipped with a double piston pump which is characterized by a rapid approach of the die towards the connector and a slow crimping motion.◦

 360°  
The head can be smoothly turned by 360°around the longitudinal axis in order to gain better access to tight corners and other difficult working areas.

 One significant sound will be heard and a red display flashes if any error occurs.

 The whole tool is controlled by one trigger. This results in an easy handling and a better grip compared to a two button operation.

 Li-ion  
Li-ion batteries do neither have a memory effect nor self discharge. Even after long periods of non operation the tool is always ready to operate. In addition we see a lower power weight ration with 50% more capacity and shorter charging cycles compare to NIMH batteries.

 A temperature sensor makes the tool stop working automatically when the temperature over 60°C under long time working, the fault signal sounds, it means the tool can't continue work until the temperature reduce to the normal.

# OPERATING INSTRUCTION

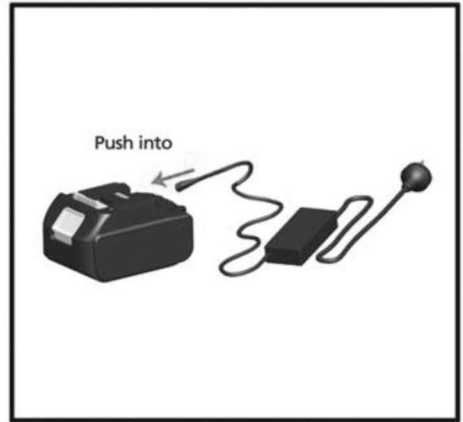
*Use this tool for the manufacture's intended purpose only. Use other than that which is described in this manual can result injury or property damage.*

## 1. Charging

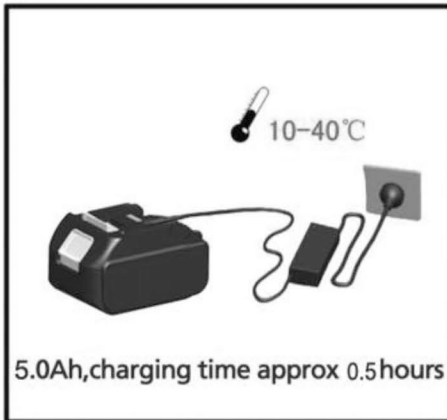
Push battery into charger and connect the plug with the plug seat. Make sure the room temperature is between 10°C-40°C. The charging time is around 2 hours. Please see the illustration below.



1.



2.



3.



4.

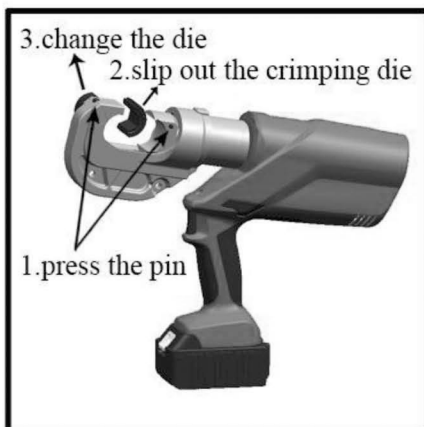
## 【Usage of the tool】

- 1) First you have to check the LED indicator is light or not. If the indicator is light off for more than 5 seconds, it means no power of the battery and should change the full powered battery to settle on the tool.
- 2) Select the right dies for the intended application  
**Don't operate the tool without dies.**
- 3) Place two dies up and down after activating the retaining clips. Then the connecting material shall be positioned in the crimping head correctly, in order to start the crimping procedure,
- 4) A crimping process is initiated by switching the trigger. It is defined by the closing motion of the dies. The connection material is positioned in the stationary half of the crimping dies and the moving part is approaching the compression point.
- 5) A crimping cycle is terminated when the dies contacted each other and when the maximum crimping force is reached. After the crimping cycle is completed the piston retracts automatically. During the crimping process can be terminated by the Retract button. Afterwards a new crimping cycle please remove the connecting material out of the head.

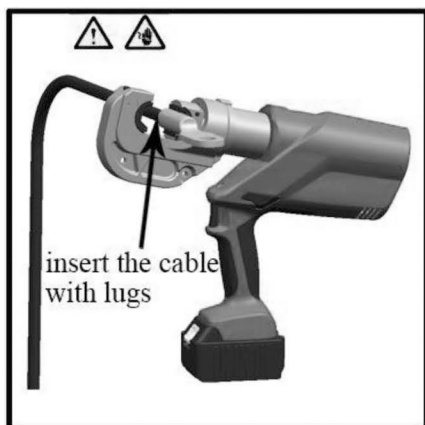




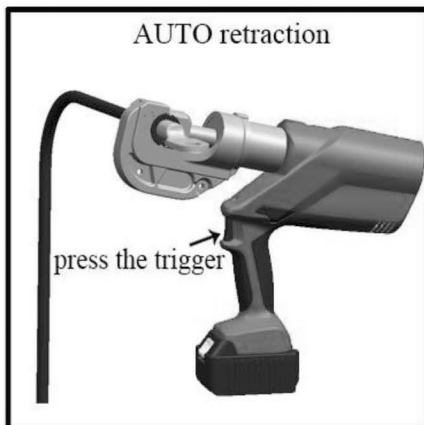
1.



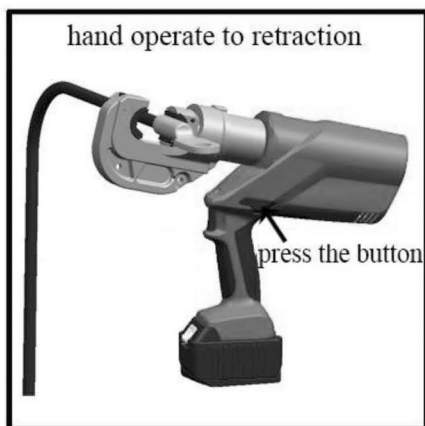
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3.



4.



5.

# MAINTENANCE AND SERVICING

## **⚠WARNING**

**Damaged equipment may cause serious personal injury. Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further using.**

1. **Before each using**, inspect the general condition of the tool. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, or any other condition that may affect its safe operation.
2. **After using**, clean external surfaces of the tool with clean, moist, smear the rust preventing oil on the metal surface of the tool and the dies to avoid rusty. Take out the battery from the tool each time to avoid operating the tool unconsciously. Store the tool in the dry environment.
3. Service to the tool should only be done by a qualified Service Technician.
4. In order to prolong the life of the tool please change the oil per year. Make sure the oil filtered by 120 mesh net or over 30 $\mu$ m strainer. Meantime avoid the dusty into the oil cup.
5. After a long time using, the sealing kits will be damaged, if there is leakage please contact with the manufacturer and/or the distributor to change the sealing kits.
6. If the tool not used for a long time, please make sure the piston stay on its starting position, clear up the tool and paint the rustproof oil both to the tool and accessories. Take out the battery and put them into box and store the tool in a dry surrounding.

## TROUBLESHOOTING

FAULT	ANALYSIS	SOLUTION
Tool is inoperative	<ol style="list-style-type: none"> <li>1. Dirt, contaminants, etc in ram area of tool.</li> <li>2. Tool battery contacts damaged</li> <li>3. Tool components worn or damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean tool</li> <li>2. Reform contacts</li> <li>3. Return tool to manufacture or distributor</li> </ol>
Motor is inoperative	<ol style="list-style-type: none"> <li>1. Low or uncharged battery</li> <li>2. Broken switch components</li> </ol>	<ol style="list-style-type: none"> <li>1. Check charged battery. Inoperative battery may be discharged or may have reached life expectancy</li> <li>2. Return tool to manufacture or distributor</li> </ol>
Motor runs but tool will not complete a cycle	<ol style="list-style-type: none"> <li>1. Oil level low</li> <li>2. Air in hydraulic system</li> <li>3. Cold oil</li> </ol>	<ol style="list-style-type: none"> <li>1. Return tool to manufacture or distributor</li> <li>2. Pull trigger and hold retract button simultaneously. Run for approximately 10-15 seconds and then attempt to cut. If unsuccessful, return tool to manufacture or distributor</li> <li>3. Pull trigger and hold retract button simultaneously to warm oil. Store tool in warm area.</li> </ol>
Dies stop during operation	<ol style="list-style-type: none"> <li>1. Oil level low</li> <li>2. Air in hydraulic system</li> </ol>	<ol style="list-style-type: none"> <li>1. Return tool to manufacture or distributor</li> <li>2. Pull trigger and hold retract button simultaneously. Hold for 10-15 seconds</li> </ol>
LED glows for 20 seconds	<ol style="list-style-type: none"> <li>1. Battery charge low</li> </ol>	<ol style="list-style-type: none"> <li>1. Charge or replace battery</li> </ol>
Tool loses oil	<ol style="list-style-type: none"> <li>1. Damaged internal seal</li> </ol>	<ol style="list-style-type: none"> <li>2. Return tool to manufacture or distributor</li> </ol>