

### 【 Maintenance & Storage 】

- ▶ Always be sure that the tool is switched off and the battery is removed before attempting to perform inspection or maintenance,
- ▶ Keep the tool clean and inspect it regularly,



※ Be sure to tighten the screw of gear housing securely, If no, may cause danger of accident, (Refer to Fig. 12)

- ▶ Always wear personal protective equipment,
- ▶ Regularly clean the power tool's air vent, The motor's fan will drag the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards,
- ▶ Store idle power tools out of the reach of children and in a dry place,

To prevent injuries, this product has a function(Safety Lock) that prevents unexpected motor rotation when the battery is inserted, The motor will not run if the battery is inserted while the switch is still ON, After installing the battery, turn the switch off and then back on again,

### 【 Warranty 】

▶ It is warranted 1 year to be free of defects from workmanship and materials for the period of origin purchase, Some states do not allow the exclusion or limitation or incidental or consequential damages, so the limitation or exclusion below may not apply to you,

- Motor, battery is warranted 6 months since the period of origin purchase,
- Battery is consumable item and you need to buy new battery,

▶ This warranty does not apply where

- Repairs have been made or attempted by others ; (such as immersion, external shock, overload operation)
- Natural disasters (fire, earthquake, flood etc)
- Repairs are required because of normal wear and tear ;
- The tool has been abused, misused or improperly maintained ;
- Alterations have been made,

Use within the scope of the tasks listed in the manual, Otherwise, the equipment get damaged, shorten life or get injured, and we do not have the responsibility and not able to repair your power tool.

### BL18G70

18V BRUSHLESS CORDLESS  
5" ANGLE GRINDER



BL18G70

### BL22G90

21.6V BRUSHLESS CORDLESS  
5" ANGLE GRINDER



BL22G90

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**⚠ WARNING** Read all safety warnings and instructions.

Failure to follow all instructions may result in electric shock, fire and / or serious personal injury.

#### 【Cautions】

Do not attempt to overload, after consider intensity of the work using right power tools, If operating time has become excessively shorter, stop operating immediately, It may result in a risk of overheating, possible burns and even an explosion,

## 【 Tool Specification 】

### ▶ Specification

	BL18G70	BL22G90
Voltage	18 Vd.c.	21,6 Vd.c.
No load speed	8,000 min <sup>-1</sup>	10,000 min <sup>-1</sup>
Wheel Diameter	125 mm (5 inch)	125 mm (5 inch)
Spindle	M 14	M 14
Net, Weight	2,34 kg	2,45 kg

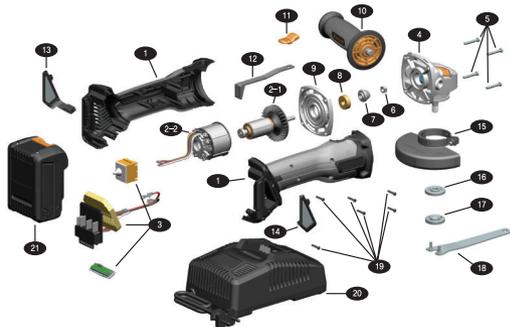
### ▶ Contents

	BL18G70	BL22G90
Cordless Grinder	1 EA	1 EA
Battery	2 EA	2 EA
Charger	1 EA	1 EA
Lock Nut Wrench	1 EA	1 EA
Side Handle	1 EA	1 EA
Operation Instruction	1 EA	1 EA
Carrying Case	1 EA	1 EA

- ※ The Specifications herein are subject to change without notice,  
 ※ Note : Specification may be changed by the requirement of country.

## 【 Exploded View 】

BL18G70 \* 18 V Brushless Angle Grinder



- ※ The Specifications herein are subject to change without notice,

Part Name

NO.	Part Name	Qty
1	Housing	1
2-1	Rotor	1
2-2	Stator	1
3	Switch	1
4	Gear Box	1
5	Screw (T15)	4
6	Nut	1
7	Pinion Gear	1
8	Ball Bearing	1
9	Gear Box Cover(C)	1
10	Side Handle	1
11	Button	1
12	Pole Switch	1
13	Dust Protection-Left	1
14	Dust Protection-Right	1
15	Wheel Guard	1
16	Inner Flange	1
17	Outer Flange	1
18	Lock Nut Wrench	1
19	Screw (T10)	6
20	Charger	1
21	Battery	2

BL22G90 \* 21,6 V Brushless Angle Grinder



Part Name

NO.	Part Name	Qty
1	Housing	1
2-1	Rotor	1
2-2	Stator	1
3	Switch	1
4	Gear Box	1
5	Screw (T15)	4
6	Nut	1
7	Pinion Gear	1
8	Ball Bearing	1
9	Gear Box Cover(C)	1
10	Side Handle	1
11	Button	1
12	Pole Switch	1
13	Dust Protection-Left	1
14	Dust Protection-Right	1
15	Wheel Guard	1
16	Inner Flange	1
17	Outer Flange	1
18	Lock Nut Wrench	1
19	Screw (T10)	6
20	Charger	1
21	Battery	2

- ※ The Specifications herein are subject to change without notice,

## 【 Safety Instructions 】

**⚠ WARNING** Read all safety warnings and instructions.

Failure to follow all instructions may result in electric shock, fire and / or serious personal injury.

Save all warnings and instructions for future reference.

The term "Power tool" in the warnings refers to corded power tool or battery operated power tool.

### 1. Work area

- ▶ Keep work area clean and well lit. Cluttered and dark area may cause injuries.
- ▶ 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 power tool. Distractions can cause you to lose control.

### 2. Electrical safety

- ▶ Power tool plugs must match the outlet. Never modify the plug in anyway. 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 the earthed of grounded surface, 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. Risk keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.
- ▶ **When operating power tools in outdoor, use an extension cord suitable for outdoor use**. Use of a cord suitable for outdoor 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.

### 3. Personal safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating power tools**. Do not use power tools 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 safety equipment, Always wear proper eye protection**. Safety equipment such as dusk-mask, non-skid safety shoes and hearing protection, must be used for appropriate conditions. These will reduce personal injuries.
- ▶ **Prevent unintentional starting**. Ensure the switch is 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 invires accidents.
- ▶ **Remove any adjusting key or wrench before turning the power tool on**. A wrench or a key left attached to a retailing 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 of jewellery, keep your hair, clothing, and gloves 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.

### 4. Use and care

- ▶ **Do not force the power tool. Use the correct power tool for your application**. The correct application 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 the battery pack 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. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools 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 different operations from those intended could result in a hazardous situation.

### 5. Li-ion Battery use and care

- ▶ **Li-ion Battery can be recharged by 100% even if is not fully discharged**. (Li-ion battery has no memory effect\*)
- \* Memory effect : After first use, or neglect long-term use 70~80% of the exercise becomes ability phenomenon.
- ▶ **Use power tools with specifically designated battery packs**. Use of any other battery packs may create a risk of injury and fire.
- ▶ **Ensure that the outside surface of battery terminal is clean**. It causes fire, explosion.
- ▶ **Cool off the power tool for 10 minutes before you replace to a new battery if you operated until discharged**. Heat leads to damage of tool and battery.
- ▶ **Do not disassemble the battery, and protect against shock**. Short circuits occurs and may cause fires and explosions.
- ▶ **Allow heated batteries to cool off before charging**. Please refer to the enclosed with an NTC temperature monitor which allows charging only within a temperature range of 0~55°C. Or it will cause serious damaged to the battery pack.
- ▶ **Do not use the battery charger connect to transformers as DC power charger or engine generator**. Due to failure and fire.
- ▶ **This charger has been designed to stop to charge the battery in cold weather below 0°C**. Do charge the battery cartridge at room temperature - 0°C~45°C (32°F ~113°F).
- ▶ **Please avoid enclosed place while charging and use in well-ventilated place**. Also, do not cover with fabrics and vinyl while charging due to risk of fire.
- ▶ **Do not disassemble the battery charger randomly**. Due to risk of failure.
- ▶ **Have your battery charger repaired by an authorized Aimsak Service Center**.

### 6. 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. This will prolong the useful life of the battery and can be recharged up to 2,000 times when used properly.
- ▶ **(+) and (-) terminal avoid to contact with metal**. Also do not keep and move with metal necklace and hairpin, due to risk of fires, burns and explosion by short-circuit.
- ▶ **Do not connect (+) and (-) in reverse, do not charge as (+) and (-) polarity in changed**. Charging as the change of polarity is a risk of fire or explosion.
- ▶ **Do not expose battery to water or rain**.
- ▶ **Never completely discharge the battery pack**. Not using for long time, please recharge once in 3 months. It can not be charged when completely discharged. If so, please contact nearest A/S center.
- ▶ **Do not discharge Li-ion battery completely as fully discharged battery may cause not to charge the battery properly**. In this case, contact authorized service center to solve it.

- ▶ Ensure that batteries are charged using the correct charger recommended by the manufacturer. Otherwise, It may invite the risk of fire or explosion,
- ▶ Do not expose the battery to the sunshine for a long time period due to risk of fire and explosion,
- ▶ Overloading or using in high temperature causes to leak electrolyte of battery.  
If the seal is broken, device and flowing leakage contact with skin and wash immediately with soap and water, Ensure that if electrolyte gets in to your eyes, rinse them out with water and seek medical attention right away, Liquid comes out from the battery irritates skin and causes fire,
- ▶ Do not put next to fire or burn it even if it is damaged badly or completely discharged due to risk of fire and explosion,
- ▶ Ensure battery is disposed of safely as instructed by manufacturer, Do not throw the battery away in household garbage, fire or water, due to risk of fire, explosion and environmental pollution,

### ◆ Li-ion Battery Charger Instructions,

#### ⚠ WARNING! Use the correct voltage of charger,

- ▶ Do not charge other manufacturer batteries other than 'Aimsak' s one, The appliance is only suitable for charging Aimsak batteries due to risk of fire and explosion,
- ▶ Ensure that the plug and power cord is properly appropriated,  
Do not use damaged charger due to electric shock,
- ▶ Ensure the switch is off position before inserting battery pack, Inserting the battery pack into power tools that have the switch on may cause accidents,
- ▶ Keep the battery charger in a dry and frost-free place, Enter water in the battery charger create failure and electric shock,
- ▶ Do not carry the battery charger with power code and not to plug out with the wire,  
Protect from heat, water and sharp edge due to risk of short-circuit,
- ▶ Plug out immediately if battery charger is damaged or heated, due to fire and explosion when charging continuously,
- ▶ Ensure that charger terminal is clean, Pollution causes electric shock,
- ▶ Do not charge and operate the battery charger on combustible ground or surroundings due to its heating during the charging process, Heated battery charger currents may cause fire,

### ⚠ Grinder Safety Rules

- ▶ The wheel guard must be securely attached to the power tool and positioned for maximum safety. The guard helps to protect operator from broken wheel fragments and accidental contact with wheel,
- ▶ Always use proper wheel guard with grinding wheel.  
The guard protect operator from broken wheel fragments.
- ▶ Do not use accessories which are not specifically designed and recommended by the tool manufacturer, Just because the accessory can be attached to your power tool, it does not assure safe operation,
- ▶ Wear personal protective equipment such as dust mask, safety glasses, hearing protectors, gloves and workshop apron, It can protect operator from broken wheel fragments,

- ▶ Keep bystanders and children a safe distance away from work area, Fragments of workpiece or a broken accessory may fly away and cause injury beyond immediate area of operation,
- ▶ Before using the tool on an actual workpiece, let it run for a while,  
Watch for vibration or wobbling that could indicate poor installation or a poorly balanced wheel,
- ▶ Do not use the water or grinding lubricant,  
It may result in electric shock, fire or serious personal injury,
- ▶ 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,
- ▶ Only use accessory or attachment for its stated purpose, Use of accessory and wheel for operations different from those intended could result in a hazardous situation,
- ▶ Accessories must be rated for at least the speed recommended on the tool warning label, Wheels and other accessories running over rated speed can fly apart and cause injury,
- ▶ The arbour size of wheels, flanges or any other accessory must properly fit the spindle of the power tool, Accessories with arbour holes that do not match the mounting hardware of the power tool will run out of balance, Vibrate excessively and may cause loss of control,
- ▶ The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool, Incorrectly sized accessories cannot be adequately guarded or controlled,
- ▶ Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces, The operator can control torque reactions or kickback forces, if proper precautions are taken,
- ▶ Never place your hand near the rotating accessory, Accessory may kickback over your hand,
- ▶ Always be sure that the tool is switched off and unplugged before carrying out any work on the tool,
- ▶ Always be sure that the tool is switched off and unplugged before replacing the battery,
- ▶ The tool and its air vents have to be kept clean, The dust and powdered metal in the tool may cause electrical hazards,



Wear no-slip safety shoes



Wear hand protection



Wear hard hat



Wear eye protection



Wear hearing protection



Wear dust mask



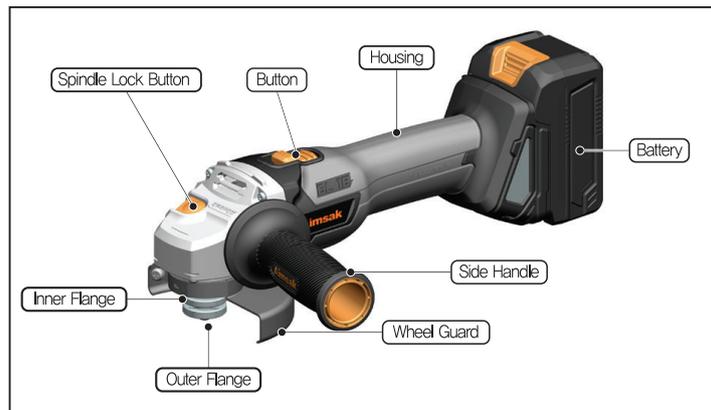
Read the instruction manual

## 【 Operating Instructions 】

### ◆ Functional Description and Specifications

- ▶ Sensing the overcurrent, switch of tool control electric current to reduce speed for protecting Lithium-ion battery.
- ▶ Wear protection glove, During consecutive work, part of gear box (aluminum cap) can get hot,

### ▶ Features



### ▶ Slide switch (Refer to Fig. 1)

- ⚠ Before insert battery, always check to see that the slide switch is on the "OFF" option.

- To start the tool, slide the switch toward the direction "ON"
- To stop the tool, slide the switch toward the direction "OFF"



### ▶ Spindle Lock (Refer to Fig. 2)

- ⚠ Operate the spindle lock button when installing or removing the wheel.  
Never actuate the spindle lock when the tool is working.



### ▶ Installing side (Refer to Fig. 3)

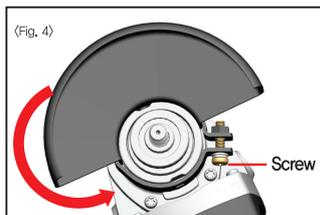
- Screw the side handle securely on the position of the tool as shown in the Fig.3



### ▶ Adjusting wheel guard (Refer to Fig. 4)

- ⚠ Wheel guard must be fitted when using disc grinding wheels and the closed side of the guard always points toward the operator.

- Unscrew and rotate the wheel guard to its correct position, Then retighten the screw securely,

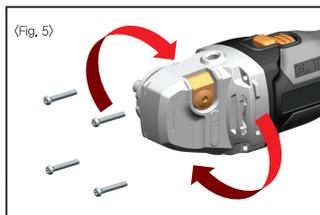


### ▶ Rotating gear box (Refer to Fig. 5)

- ⚠ Remove the battery before rotating the gear housing,

- 1, Unscrew the wheel guard and outer flange, inner flange,
- 2, Unscrew the four screw (T15)
- 3, Rotate the gear housing in the direction you want,
- 4, Retighten the four screw (T15)

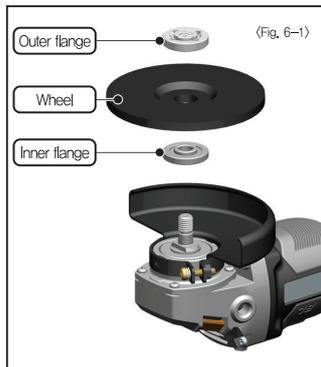
- ※ Gear housing can be rotate 180 degree.



### ▶ Installing wheel (Refer to Fig. 6-1, 6-2)

⚠ Rubber side of inner flange must be faced wheel.

Thread inner flange onto spindle, then place wheel on the spindle. And thread on the outer flange.



To tighten the outer flange, press the spindle lock button so that spindle cannot revolve, then use the wrench and securely tighten clockwise.

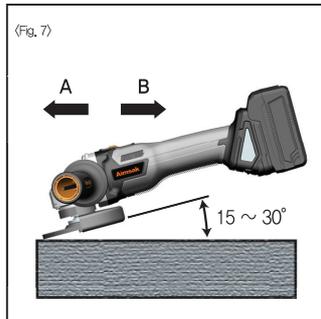
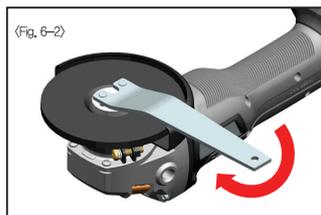
※ To remove the wheel, follow the installation procedure in reverse.

⚠ A loose outer flange could result in serious personal injury.

### ▶ Grinding operation (Refer to Fig. 7)

⚠ Use the abrasive disc when grinding operation. Do not use the cut-off wheel.

1. Grind only with the wheel's edge by lifting the grinder 15 to 30 degrees as shown in Fig 6.
2. Do not press the grinder forcibly against the surface to be ground. Heavy pressure can result damage the surface being ground or damage the griner's motor.
3. Work in the direction A and B.
4. Do not work to direction "A" when you use a new wheel, the wheel edge may cut into the workpiece.

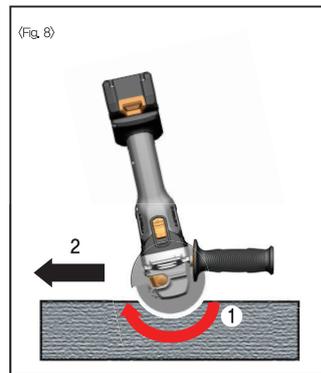


### ▶ Cutting operation (Refer to Fig. 8)

⚠ Never use the grinder in the opposite direction of "2". Use the grinder in the direction "1".

⚠ Use the cut-off wheel when cutting operation. Never use the cut-off wheel for side grinding.

1. Do not press the grinder forcibly against the surface to be ground. Never change the angle of the wheel during cutting operation.
2. Cutting toward the direction "2".



### ▶ Abnormal display mode function

- In case of abnormal mode during operation, the remaining amount display LED light shows the current status of the tool as shown below.
- LED operation automatically turns off after 10 seconds.



※ The LED positions of the BL18G70 and BL22G90 are the same.

Symptoms	LED Indicator	On	Off
Terminal contact failure	LED Off		
High temperature battery protection	LED 3 SPACE On 0,7s / Off 0,3s		
High temperature switch protection	LED 3 SPACE On 0,3s / Off 0,7s		
Overcurrent shutdown	LED 3 SPACE On 0,05s / Off 0,1s On 0,2s / Off 0,65s (2回 Flashing)		
Motor sensor recognition error	LED 3 SPACE On 0,5s / Off 0,5s		
Undervoltage battery protection	LED 1 SPACE On 0,5s / Off 0,5s		

▶ Fuel gauge [BL18G70, BL22G90] (Refer to Fig. 9)

If you press the switch on the bottom of the power tool, the LED light will turn off after a few seconds. Check the battery level as follows.

Indicator	Remaining battery capacity
 3 light on	(Over) 80 %
 2 light on	(Over) 50%
 1 light on	(Below) 20 %
 1 flickering	20% or less



▶ Speed control indicator [BL22G90] (Refer to Fig. 10)

(Refer to Fig. 10)

LED indicator is turned on for several seconds by depressing the switch and torque or speed can be adjusted as follows.

1 step ▷ 2 step ▷ 3 step ▷ 1 step  
Torque and speed setting is saved after 3seconds and stored even after replacing battery.

Indicator	No load speed
 3 light on	10,000 rpm
 2 light on	8,000 rpm
 1 light on	5,000 rpm



▶ Installing and removing battery (Refer to Fig. 11-1, 11-2)

Installing and removing battery. Do not use force when inserting the battery. To insert the battery, align the tongue on the battery with the groove in the housing and slip into place.

Always insert it all the way until it locks in place with a little click. If not, it may accidentally fall out of the tool.

– Inserting battery



– Removing battery



## ▶ Available Charger and Battery

	Battery	Available Charger
	B40L18B	   ALC 4540    ALC 4560    ALC 4640M
	B40L18A B52L18A	
	B20L18D/DF B25L18D/DF	
	B40L18D/DF B50L18D/DF	
	B40L22B B50L22B B60L22B	 ALC 4640M

※ Charging battery B40L18B, B40L18A, B52L18A, B40L18D/DF, B50L18D/DF, B60L18D/DF use the charger ALC 4540, ALC 4560, ALC 4640M which can be checked voltage of each battery cell.

→ Prevent overcharge for life and safety of battery.  
→ Charger ALC 4525 is not compatible.

※ Charging battery B40L22B, B50L22B, B60L22B use the charger ALC 4640M which can be checked voltage of each battery cell.

→ Prevent overcharge for life and safety of battery.

## ▶ Indicators and Meaning (ALC 4540, ALC 4560, ALC 4640M)

Indicators	Meaning
<b>Standby</b>  ▶ Green LED Flickering	▶ Battery charging is workable.
<b>Charging</b>  ▶ Red LED on	▶ Battery is being charged.
<b>Finish</b>  ▶ Green LED on	▶ Fully charged.
<b>Battery High Temperature</b>  ▶ Red & Green LED on	▶ Battery temperature has missed the normal range (0~45 °C) Charge will automatically start when allowable temperature is reached.
<b>Battery low voltage</b>  Red/Green	▶ Pre-charging mode voltage of the battery is low. (When a constant voltage charging mode is switched to rise.)

## ▶ Charger troubleshooting

- If the LED lamp does not work,
  - Check connection of power cord into the outlet,
  - Check the cleanliness of power cord and battery terminal,
  - Insert another battery to check the charger working normally.
- The green LED flickering when the battery is applied,
  - Low temperature : Let stand at room temperature until normal temperature,

※ If this self : Checking does not solve the problem, please contact with Aimsak or authorized service center nearest you.

## ▶ Symbols

The following symbols are important for reading and understanding the operating instructions. Please take note of the symbols and their meaning. The correct interpretation of the symbols will help you to use the machine in a better and safer manner.



## 【 Environmental Protection 】



Do not dispose of power tools and batteries into household waste.  
Do not dispose of power tools and batteries into fire or ocean.  
Be sorted for environmental-friendly recycling.  
Defective or dead out battery packs must be recycled.



Power tools and batteries that are no longer usable must be collected separately and disposed of in an environmentally correct manner.