



说明书材质要求： 105g 有光铜版纸	说明书成品尺寸： 105*143mm
第一： 专色用6级防晒油墨+CMYK油墨要求： 1. PANTONE137C专色油墨 (专色用6级防晒油墨) ： 如果自己配色，油墨配比为：酒联中黄 (防晒) 2000g 酒联金红 (防晒) 225g 2. C色油墨：酒联天蓝墨 3. M色油墨：酒联金红墨 4. Y色油墨：pantone123C专色油墨 5. K色油墨：酒联黑墨	第二：特别注意： 1. 印刷时看样请参考我司提供的实物样品颜色。不得偏色 2. 137C的专色 不得 参考C=0, M=35, Y=90, K=0对应的四色 色谱颜色来看样印刷 Pantone 137C Black（两色印刷）
折叠方式： 骑马钉 (20P以上用骑马钉)	备注：

特别注意：此页内容不印刷

风琴折 + 对折 页面顺序

16P 页面顺序

9	10	11	封面
12	13	14	封底

1	2	3	4
5	6	7	8

20P 页面顺序

11	12	13	14	封面
15	16	17	18	封底

1	2	3	4	5
6	7	8	9	10

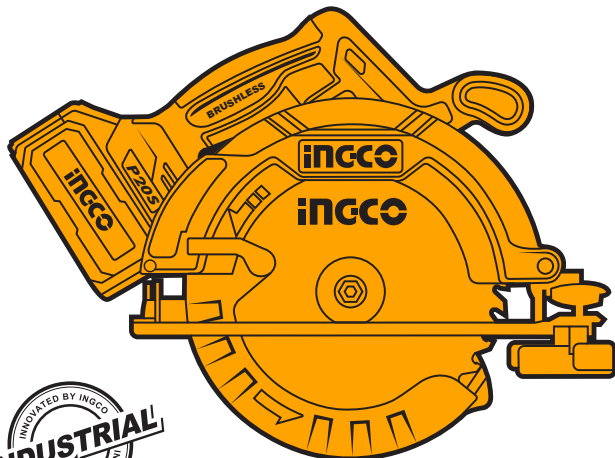
更改记录	1. 新制作			1. 封面更新锂电品名单词 2. 添加专业款标记		
	0124_V01	2024_1_20	XM	0324_V02	2024_3_19	XM
	版本号	日期	设计师	版本号	日期	设计师

INGCO

www.ingco.com

PRODUCT MANUAL

CORDLESS CIRCULAR SAW



CSLI1652 UCSLI1652 CSLI1652xy UCSLI1652xy
x(blank,1,2,3,4,5,6,7,8,9,E,S,A,M)
y(blank,-1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)



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.

1) Work area safety

- a) **Keep work area clean and well lit.** *Cluttered or dark areas invite accidents.*
- b) **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.*
- c) **Keep children and bystanders away while operating a power tool.** *Distractions can cause you to lose control.*

2) Electrical safety

- a) **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.*
- b) **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.*
- c) **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
- d) **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.*
- e) **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.*
- f) **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

- a) **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.**
- b) **Use personal protective equipment. Always wear eye protection. Protective equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.**
- c) **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.**
- d) **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.**
- e) **Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.**
- f) **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.**
- g) **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.**
- h) **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.**

4) Power tool use and care

- a) **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.**
- b) **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.**
- c) **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.*

- d) **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.*
- e) **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.*
- f) **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- g) **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.*
- h) **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.*

5) Battery tool use and care

- a) **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.*
- b) **Use power tools only with specifically designated battery packs.** *Use of any other battery packs may create a risk of injury and fire.*
- c) **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.*
- d) **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.*

- e) **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.*
- f) **Do not expose a battery pack or tool to fire or excessive temperature.** *Exposure to fire or temperature above 130 °C may cause explosion.*
- g) **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.*

6) Service

- a) **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.*
- b) **Never service damaged battery packs.** *Service of battery packs should only be performed by the manufacturer or authorized service providers*

BATTERY TOOL SAFETY WARNINGS

Save these instructions.

⚠ CAUTION!

Only use genuine original batteries. *Use of non-genuine batteries, or batteries that have been altered, may result in the battery bursting causing fires, personal injury, and damage. It will also void the warranty for the tool and charged and dark areas invite accidents.*

⚠ WARNING!

- a) **Do not dismantle, open or shred secondary cells or batteries.**
- b) **Keep batteries out of the reach of children.** *Battery usage by children should be supervised. Especially keep small batteries out of reach of small children.*
- c) **Seek medical advice immediately if a cell or a battery has been swallowed.**
- d) **Do not expose cells or batteries to heat or fire.** *Avoid storage in direct sunlight.*
- e) **Do not short-circuit a cell or a battery.** *Do not store cells or batteries haphazardly in a box or drawer where they may short-circuit each other or be short-circuited by other metal objects.*
- f) **Do not remove a cell or battery from its original packaging until required for use.**
- g) **Do not subject cells or batteries to mechanical shock.**
- h) **In the event of a cell leaking, do not allow the liquid to come in contact with the skin or eyes.** *If contact has been made, wash the affected area with copious amounts of water and seek medical advice.*
- i) **Do not use any charger other than that specifically provided for use with the equipment.**
- j) **Observe the plus (+) and minus (-) marks on the cell, battery and equipment and ensure correct use.**
- k) **Do not use any cell or battery which is not designed for use with the equipment.**
- l) **Do not mix cells of different manufacture, capacity, size or type within a device.**
- m) **Always purchase the battery recommended by the device manufacturer for the equipment.**
- n) **Keep cells and batteries clean and dry.**
- o) **Wipe the cell or battery terminals with a clean dry cloth if they become**

dirty.

- p) **Secondary cells and batteries need to be charged before use.** *Always use the correct charger and refer to the manufacturer's instructions or equipment manual for proper charging instructions.*
- q) **Do not leave a battery on prolonged charge when not in use.**
- r) **After extended periods of storage, it may be necessary to charge and discharge the cells or batteries times to obtain maximum performance.**
- s) **Retain the original product literature for future reference.**
- t) **Use the cell or battery only in the application for which it was intended.**
- u) **When possible, remove the battery from the equipment when not in use.**
- v) **Dispose of properly.**

Tips for maintaining maximum battery life

- a) **Charge the battery cartridge before completely discharged.** *Always stop tool operation and charge the battery cartridge when you notice less tool power.*
- b) **Never recharge a fully charged battery cartridge.** *Overcharging shortens the battery service life.*
- c) **Charge the battery cartridge with room temperature at 10°C-40°C (50°F-104°F).** *Let a hot battery cartridge cool down before charging it.*
- d) **Charge the battery cartridge if you do not use it for a long period (more than six months).**

Important safety instructions for battery cartridge

- 1. **Before using battery cartridge, read all instructions and cautionary markings on battery charger, battery, and) product using battery.**
- 2. **Do not disassemble battery cartridge.**
- 3. **If operating time has become excessively shorter, stop operating immediately.** *It may result in a risk of overheating, possible burns and even an explosion.*
- 4. **If electrolyte gets into your eyes, rinse them out with clear water and seek medical attention right away.** *It may result in loss of your eyesight.*
- 5. **Do not short the battery cartridge:**
 - a) *Do not touch the terminals with any conductive material.*
 - b) *Avoid storing battery cartridge in a container with other metal objects such as nails, coins, etc.*

- c) *Do not expose battery cartridge to water or rain.*
- d) *A battery short can cause a large current flow, overheating, possible burns and even a breakdown.*
- 6. **Do not store the tool and battery cartridge in locations where the temperature may reach or exceed 50°C (122°F).**
- 7. **Do not incinerate the battery cartridge even if it is severely damaged or is completely worn out. The battery cartridge can explode in a fire.**
- 8. **Be careful not to drop or strike battery.**
- 9. **Do not use a damaged battery.**
- 10. **Follow your local regulations relating to disposal of battery.**

Tool / battery protection system

The tool is equipped with a tool/battery protection system. This system automatically cuts off power to the motor to extend tool and battery life. The tool will automatically stop during operation if the tool or battery is placed under one of the following conditions:

Overload protection

When the battery is operated in a manner that causes it to draw an abnormally high current, the tool automatically stops without any indication. In this situation, turn the tool off and stop the application that caused the tool to become overloaded. Then turn the tool on to restart.

Overheat protection

When the tool/battery is overheated, the tool stops automatically. In this situation, let the tool/battery cool before turning the tool on again.

Transportation

Batteries comply with all applicable shipping regulations as prescribed by industry and legal standards (for more information, check with the manufacturer).

Transporting batteries can possibly cause fire if the battery terminals inadvertently come in contact with conductive materials. When transporting batteries, make sure that the battery terminals are protected and well insulated from materials that could contact them and cause a short circuit.

The information provided in this section of the manual is provided in good faith and believed to be accurate at the time the document was created. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure

that its activities comply with the applicable regulations.

Protecting the environment

Separate collection. This product must not be disposed of with normal household waste.

Should you find one day that your product needs replacement, or if it is of no further use to you, do not dispose of it with household waste. Make this product available for separate collection.

Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials.

Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by the retailer when you purchase a new product.

Rechargeable battery pack

This long-life battery pack must be recharged when it fails to produce sufficient power on jobs which were easily done before. At the end of its technical life, discard it with due care for our environment:

- *Run the battery pack down completely, then remove it from the tool.*
- *Lithium-ion cells are recyclable. Take them to your dealer or a local recycling station. The collected battery packs will be recycled or disposed of properly.*

THE SYMBOLS IN INSTRUCTION MANUAL

	Double insulated for additional protection
	Read the instruction manual before using.
	CE conformity.
	Safety alert. Please only use the accessories supported by the manufacturer.
	Wear safety glasses, hearing protection and dust mask.
	Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.
	Charging the battery only below 40°C
	Always recycle batteries.
	Do not destroy battery by fire.
	Do not expose battery to water

ADDITIONAL SAFETY WARNING

Safety instructions for all saws

Cutting procedures

DANGER!

- a) Keep hands away from cutting area and the blade. Keep your second hand on auxiliary handle, or motor housing. If both hands are holding the saw, they cannot be cut by the blade.
- b) Do not reach underneath the workpiece. The guard cannot protect you from the blade below the workpiece.
- c) Adjust the cutting depth to the thickness of the workpiece. Less than a full tooth of the blade teeth should be visible below the workpiece.
- d) Never hold the workpiece in your hands or across your leg while cutting. Secure the workpiece to a stable platform. It is important to support the work properly to minimize body exposure, blade binding, or loss of control.
- e) Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will also make exposed metal parts of the power tool "live" and could give the operator an electric shock.
- f) When ripping, always use a rip fence or straight edge guide. This improves the accuracy of cut and reduces the chance of blade binding.
- g) Always use blades with correct size and shape (diamond versus round) of arbor holes. Blades that do not match the mounting hardware of the saw will run off-center, causing loss of control.
- h) Never use damaged or incorrect blade washers or bolt. The blade washers and bolt were specially designed for your saw, for optimum performance and safety of operation.

Further safety instructions for all saws

Kickback causes and related warnings

- kickback is a sudden reaction to a pinched, jammed or misaligned saw blade, causing an uncontrolled saw to lift up and out of the workpiece toward the operator;
- when the blade is pinched or jammed tightly by the kerf closing down, the blade stalls and the motor reaction drives the unit rapidly back toward the operator;
- if the blade becomes twisted or misaligned in the cut, the teeth at the back

edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.

Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

- a) Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Position your body to either side of the blade, but not in line with the blade. Kickback could cause the saw to jump backwards, but kickback forces can be controlled by the operator, if proper precautions are taken.
- b) When blade is binding, or when interrupting a cut for any reason, release the trigger and hold the saw motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur. Investigate and take corrective actions to eliminate the cause of blade binding.
- c) When restarting a saw in the work piece, center the saw blade in the kerf so that the saw teeth are not engaged into the material. If a saw blade binds, it may walk up or kickback from the workpiece as the saw is restarted.
- d) Support large panels to minimize the risk of blade pinching and kickback. Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.
- e) Do not use dull or damaged blades. Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.
- f) Blade depth and bevel adjusting locking levers must be tight and secure before making the cut. If blade adjustment shifts while cutting, it may cause binding and kickback.
- g) Use extra caution when sawing into existing walls or other blind areas. The protruding blade may cut objects that can cause kickback.

Safety instructions for saws with pendulum guard and saws with tow guard

Lower guard function

- a) Check the lower guard for proper closing before each use. Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position. If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting handle and make sure it moves freely and does not touch the blade or any other part,

in all angles and depths of cut.

- b) Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use. Lower guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.
- c) The lower guard may be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise the lower guard by the retracting handle and as soon as the blade enters the material, the lower guard must be released. For all other sawing, the lower guard should operate automatically.
- d) Always observe that the lower guard is covering the blade before placing the saw down on bench or floor. An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after switch is released.

Safety instructions for plunge type saws

Guard function

- a) Check the guard for proper closing before each use. Do not operate the saw if the guard does not move freely and enclose the blade instantly. Never clamp or tie the guard so that the blade is exposed. If the saw is accidentally dropped, the guard may be bent. Check to make sure that the guard moves freely and does not touch the blade or any other part, in all angles and depths of cut.
- b) Check the operation and condition of the guard return spring. If the guard and the spring are not operating properly, they must be serviced before use. The guard may operate sluggishly due to damaged parts, gummy deposits, or a build-up of debris.
- c) Assure that the base plate of the saw will not shift while performing a "plunge cut". Blade shifting sideways will cause binding and likely kick back.
- d) Always observe that the guard is covering the blade before placing the saw down on bench or floor. An unprotected, coasting blade will cause the saw to walk backwards, cutting whatever is in its path. Be aware of the time it takes for the blade to stop after the switch is released.

Additional safety instructions for all saws with riving knife

Riving knife function

- a) Use the appropriate saw blade for the riving knife. For the riving knife to

function, the body of the blade must be thinner than the riving knife and the cutting width of the blade must be wider than the thickness of the riving knife.

- b) Adjust the riving knife as described in this instruction manual. Incorrect spacing, positioning and alignment can make the riving knife ineffective in preventing kickback.
- c) Always use the riving knife except when plunge cutting. The riving knife must be replaced after plunge cutting. The riving knife causes interference during plunge cutting and can create kickback.
- d) For the riving knife to work, it must be engaged in the workpiece. The riving knife is ineffective in preventing kickback during short cuts.
- e) Do not operate the saw if the riving knife is bent. Even a light interference can slow the closing rate of a guard.

RESIDUAL RISKS

Even when the power tool is used as prescribed it is not possible to eliminate all residual risk factors. The following hazards may arise in connection with the power tool's construction and design:

- a) Health defects resulting from vibration emission if the power tool is being used over longer period of time or not adequately managed and properly maintained.
- b) Injuries and damage to property to due to broken accessories that are suddenly dashed.

WARNING!

This power tool produces an electromagnetic field during operation. This field may under some circumstances interfere with active or passive medical implants. To reduce the risk of serious or fatal injury, we recommend persons with medical implants to consult their physician and the medical implant manufacturer before operating this power tool.

INTENDED USE

This circular saw is intended to cut wood products by lengthways and crossways straight cuts and miter cuts with angles while in firm contact with the workpiece.

SPECIFICATIONS

Technical specifications

Model No.		CSLI1652 CSLI1652xy	UCSLI1652 UCSLI1652xy
Blade diameter		165mm	6-1/2"
Max. cutting depth	at 90°	55mm	2-1/6"
	at 45°	42mm	1-7/10"
No load speed		5200 rpm	
Rated voltage		20V	

Model No. Note: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

- Due to our continuing program of research and development, the specifications herein are subject to change without notice.
- Specifications and battery cartridge may differ from country to country.

⚠ WARNING!

Only use original battery pack and battery charger as below for this power tool:

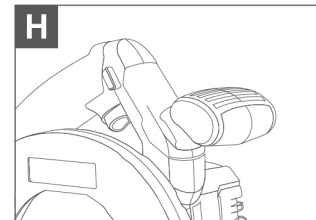
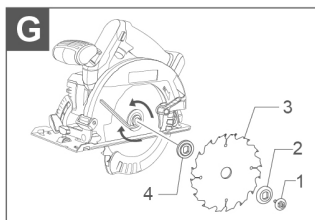
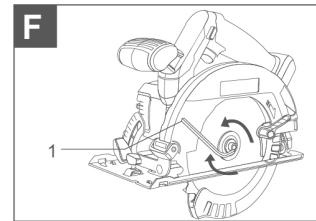
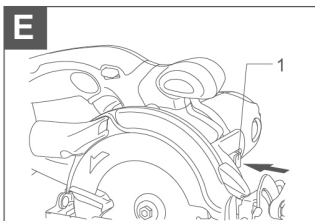
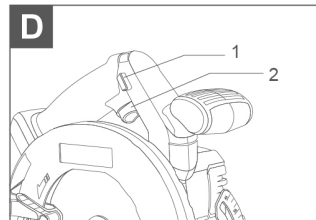
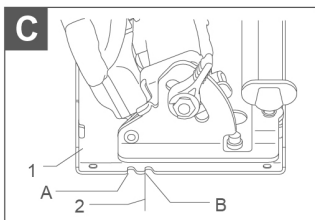
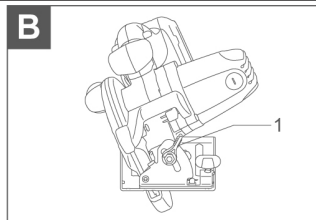
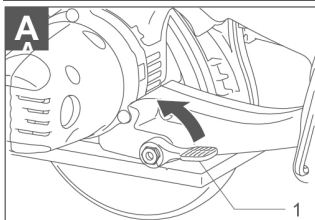
Product	Battery pack		
Model No.	Type	Rated voltage	Rated capacity
FBLI2001 FBLI2001xy	Lithium-Ion	18.5V d.c., 20V Max	2.0Ah
FBLI2002 FBLI2002xy			4.0Ah
FBLI2003 FBLI2003xy			5.0Ah

Model No. NOTE: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

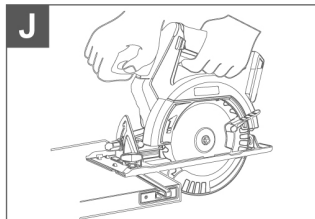
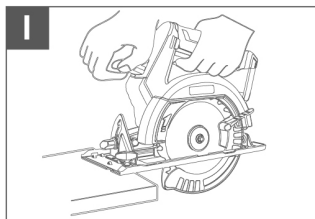
Product	Battery pack charger			
Model No.	Input power	Input voltage	Output rated voltage	Output rated current
FCLI2001 FCLI2001xy	50W	220-240V ~50/60Hz	20V d.c.	2A
UFCLI2001 UFCLI2001xy		110-120V ~50/60Hz		
FCLI20411 FCLI20411xy FCLI2034 FCLI2034xy	105W	220-240V ~50/60Hz	21V d.c.	4A
UFCLI20411 UFCLI20411xy UFCLI2034 UFCLI2034xy		110-120V ~50/60Hz		

Model No. NOTE: x (blank, 1,2,3,4,5,6,7,8,9,E,S,A,M); y (blank, -1,-2,-3,-4,-5,-6,-7,-8,-9,E,S,A,M)

OPERATION PICTURE



OPERATION PICTURE



FUNCTION DESCRIPTION

Adjusting depth of cut (see Figure A)

Figure A: 1. Lever

Caution

After adjusting the depth of cut, always tighten the lever securely.

Loosen the lever on the side of the rear handle and move the base up or down. At the desired depth of cut, secure the base by tightening the lever.

For cleaner, safer cuts, set cut depth so that no more than one blade tooth projects below workpiece. Using proper cut depth helps to reduce potential for dangerous KICKBACKS which can cause personal injury.

Bevel cutting (see Figure B)

Figure B: 1. Lever

Loosen the lever on the bevel scale plate on the front base. Set for the desired angle (0° - 50°) by tilting accordingly, then tighten the lever securely.

Sighting (see Figure C)

Figure C: 1. Base 2. Cutting line

For straight cuts, align the A position on the front of the base with your cutting line. For 45° bevel cuts, align the B position with it.

Switch action (see Figure D)

Figure D: 1. Lock-off lever 2. Switch trigger

CAUTION!

Before inserting the battery cartridge into the tool, always check to see that the switch trigger actuates properly and returns to the "OFF" position when released.

Do not pull the switch trigger hard without pressing the lock-off lever. This can cause switch breakage.

To prevent the switch trigger from being accidentally pulled, a lock-off lever is provided. To start the tool, press the lock-off lever and pull the switch trigger. Release the switch trigger to stop.

WARNING!

For your safety, this tool is equipped with lock-off lever which prevents the tool from unintended starting. Never use the tool if it runs when you simply

pull the switch trigger without pressing the lock-off lever. Return tool a service center for proper repairs Before further usage.

Never tape down or defeat purpose and function of lock-off lever.

Electric brake

This tool is equipped with an electric blade brake. If the tool consistently fails to quickly stop blade after switch trigger release, have tool serviced at a service center. The blade brake system is not a substitute for lower guard. Never use tool without a functioning lower guard. serious personal injury can result.

Lighting the lamp

⚠ CAUTION!

Do not look in the light or see the source of light directly.

Only to turn on the light, pull the switch trigger without pressing the lock-off lever. To turn on the light and run the tool, press the lock-off lever and pull the switch trigger with the lock-off lever being pressed.

⚠ NOTE

- **Use a cotton stick to wipe the dirt off the lens of lamp. Be careful not to scratch the lens of lamp, or it may lower the illumination.**
- **Do not use gasoline, thinner or the like to clean the lens of lamp. Using such substances will damage the lens.**

Assembly

⚠ CAUTION!

Always be sure that the tool is switched off and the battery cartridge is removed before carrying out any work on the tool.

Removing or installing blade (see Figure E~F)

Figure E: 1. Shaft lock

Figure F: 1. Hex wrench

⚠ CAUTION!

Be sure the blade is installed with teeth pointing up at the front of the tool. Use only the wrench to install or remove the blade.

To remove the blade, press the shaft lock so that the blade cannot revolve and use

the wrench to loosen the hex bolt counterclockwise. Then remove the hex bolt, outer flange and blade.

To install the blade, follow the removal procedure in reverse. Be sure to tighten the hex bolt clockwise securely.

Figure G:

1. Hex bolt
2. Outer flange
3. Saw blade
4. Inner flange

When changing blade, make sure to also clean upper and lower blade guards of accumulated chips and particles. Such efforts do not, however, replace the need to check lower guard operation before each use.

Hex wrench storage (see Figure H)

Figure H: 1. Hex wrench

When not in use, store the hex wrench as shown in the figure to keep it from being lost.

OPERATION

CAUTION! (see Figure I)

- **Always insert the battery cartridge all the way until it locks in place. If you can see the red part on the upper side of the button, it is not locked completely. Insert it fully until the red part cannot be seen. If not, it may accidentally fall out of the tool, causing injury to you or someone around you.**
- **Be sure to move the tool forward in a straight line gently. Forcing or twisting the tool will result in overheating the motor and dangerous kickback, possibly causing severe injury.**
- **If the tool is operated continuously until the battery cartridge has discharged, allow the tool to rest for 15 minutes before proceeding with a fresh battery.**

Hold the tool firmly. The tool is provided with both a front grip and rear handle. Use both to best grasp the tool. If both hands are holding saw, they cannot be cut by the blade. Set the base on the workpiece to be cut without the blade making any contact. Then turn the tool on and wait until the blade attains full speed. Now simply move the tool forward over the workpiece surface, keeping it flat and advancing smoothly until the sawing is completed.

To get clean cuts, keep your sawing line straight and your speed of advance uniform. If the cut fails to properly follow your intended cut line, do not attempt to turn or force the tool back to the cut line. Doing so may bind the blade and lead to dangerous kickback and possible serious injury. Release switch, wait for blade to stop and then withdraw tool. Realign tool on new cut line, and start cut again. Attempt to avoid positioning which exposes operator to chips and wood dust being ejected from saw. Use eye protection to help avoid injury.

Rip fence (guide rule) (Accessory) (see Figure J)

The handy rip fence allows you to do extra-accurate straight cuts. Simply slide the rip fence up snugly against the side of the workpiece and secure it in position with the screw on the front of the base. It also makes repeated cuts of uniform width possible.

MAINTENANCE&MALFUNCTIONS

Possible malfunctions and methods of their eliminations

Malfuction	Probable causes	Actions
When the machine is turned on, the electric motor does not work.	● Switch failure ● The power cord or wiring is broken, power cord plug malfunction; ● No brush contact with the collector; ● Wear/damage of brushes	Disconnect the machine from the mains and contact a qualified specialist.
Formation of a circular fire on the collector	● Brush wear/damage of the brush holder; ● Malfuction in the armature coil	Disconnect the machine from the mains and contact a qualified specialist. Please don't repair the machine by your own.
When working, smoke or the smell of burning insulation appears from the ventilation openings.	● Malfuction in the electric motor coil; ● Malfuction of the electrical part of the tool.	
Increased noise in the gearbox	● Wear/breakage of gears or bearings	
When the machine is turned on, the spindle does not rotate	● Gearbox failure.	

Critical state criteria

Critical state criteria	Probable causes	Actions
Cracks on the surfaces of bearing and housing parts	Fatigue deformation of metal	Disconnect the machine from the mains and contact a qualified specialist. Please don't repair the machine by your own.
The power cord or plug is damaged	Overload or breakage	
Excessive wear or damage to the motor or reductor mechanism, or a combination of signs	Fatigue deformation of metal	

Critical state criteria

List of critical failures	Actions
Electric motor sparking	It is necessary to contact a qualified specialist
The appearance of extraneous noise	It is necessary to contact a qualified specialist
If the above malfunctions are detected, it is necessary to disconnect the machine from the mains and contact a qualified specialist	

