

INSTRUCTION MANUAL FOR HIGH PRECISION FIBER CLEAVER

CT50

Please read this instruction manual carefully before operating the equipment. Adhere to all safety instructions and warnings contained in this manual.



1. Warnings and Cautions

WARNING: There is a possibility of death, serious injury, or equipment damage resulting from improper use by ignoring this documentation.

Safety glasses should always be worn during fiber preparation and splicing operation. Fiber fragments can be extremely dangerous if they come into contact with your eyes or skin.

CAUTION: There is a possibility of personal injury or equipment damage resulting from improper use by ignoring this documentation.

Do not disassemble or modify the cleaver.

This cleaver is designed for cleaving the glass optical fibers used in telecommunications. Do not attempt to cleave any other material.

Cleaver blade is extremely sharp. Do not touch as personal injury may result.

Take care not to contact the blade with your fingers during operation.

Never expose the cleaver to water, for example, from rain or moisture.

■ Wireless communication function/Certification

- The CT50 has a wireless communication function. The initial setting of the wireless communication function is OFF when shipping from the factory.
 - The wireless communication function shall conform to local Statutory and Regulatory requirements where the product is used.
 - Confirm the certification of the CT50 before turning the wireless communication function ON. If you use it without the certification, you may be prosecuted.
 - The latest status of the certification is described in the product page on web site.
- If you have any questions, contact an authorized distributor. It is possible to check it in the following web site.

CT50 Product Page: <https://www.fusionsplicer.fujikura.com/>
Fujikura Authorized Distributor Lists:
<https://www.fusionsplicer.fujikura.com/service/index.html>

■ Bluetooth® Wireless Technology

- CT50 uses wireless communications through Bluetooth technology.
- The CT50 uses the 2.4GHz frequency band for wireless communication. The modulation scheme is the DSSS. The estimated interference distance is 10m or less.
- The wireless communications used to send and receive data can be intercepted by Third parties.
- The Bluetooth wireless communication function of the CT50 is not guaranteed to work with all smartphones.



CAUTION!

The CT50 is compliant with the rules on the technical standard conformance of specified wireless equipment based on the Radio Law/ Telecommunications Business Act., and as a proof of it, the technical compliance mark is depicted on the name plate. If you remove the screws and alter the inside of the CT50, the technical regulations conformity certification becomes invalid. Do not use the CT50 with the certification invalid, as it is violation of the Radio Law and Telecommunications Business Act.

Do not use the CT50 near a microwave oven or any other area where magnetism, electrostatic charge, or radio interference is generated. The wireless signal may be weaker in certain environments. Other devices using same 2.4GHz band used by the CT50 may cause interference or reduced processing speed in both devices.

Wearers of the electronic medical equipment such as implanted pacemakers or defibrillators must carry and use the CT50 at least 22cm away from the implanted device. The signal from the CT50 may affect the operation of the electronic medical equipment.

When using the CT50 near a medical facility or in a hospital, turn the wireless communication function of the CT50 off. The signal from the CT50 may affect the operation of the electronic medical equipment.

Turn the wireless communication function off near fire alarms, automatic doors and other automatic control equipment. Failure to do so may cause the equipment to fail or malfunction.

When shipping the CT50 by aircraft, turn the wireless communication function OFF or detach the battery from the main body because the signal from the CT50 may interfere with the operation of the aircraft. Follow the instructions from the airline for such devices

2. Components of Cleaver

Name	Part Number	Qty	Remarks
Cleaver Main Body	CT50	1pc.	
Fiber Plate	AD-50	1pc.	
Fiber Scrap Box	FDB-05	1pc.	
Carrying Case	CC-37	1pc.	
Hexagonal Wrench	HEX-01	1pc.	
Instruction Manual	M-CT50-E	1pc.	This documentation
AAA battery	-	2pc.	-
Accessories			
Spare blade	CB-08	1pc.	Cleave blade for CT50
Arm kit	ARM-CT50-01	1pc.	Arm kit for CT50
Side Cover	SC-CT50-01	1pc.	Side Cover for CT50

3. Applicable Fiber

Applicable fiber	Silica optical fiber, SMF, MMF, NZDSF etc. Cladding Dia. 0.125mm, Coating Dia:0.16 to 0.9mm Fiber count: Single to 12 ribbon fiber
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Item	Applicable fiber	Cleave length
Fiber Holder	1 to 12 ribbon	10mm
AD-50	Single	5 to 20mm (Coating Dia.0.16 to 0.25mm)
		10 to 20mm (Coating Dia. > 0.25mm)
		14mm (Drop Cable, ϕ 2, ϕ 3mm code)
AD-10-M24	Single	5 to 20mm (Coating Dia.0.16 to 0.25mm)
		10 to 20mm (Coating Dia. > 0.25mm)

4. Appearance

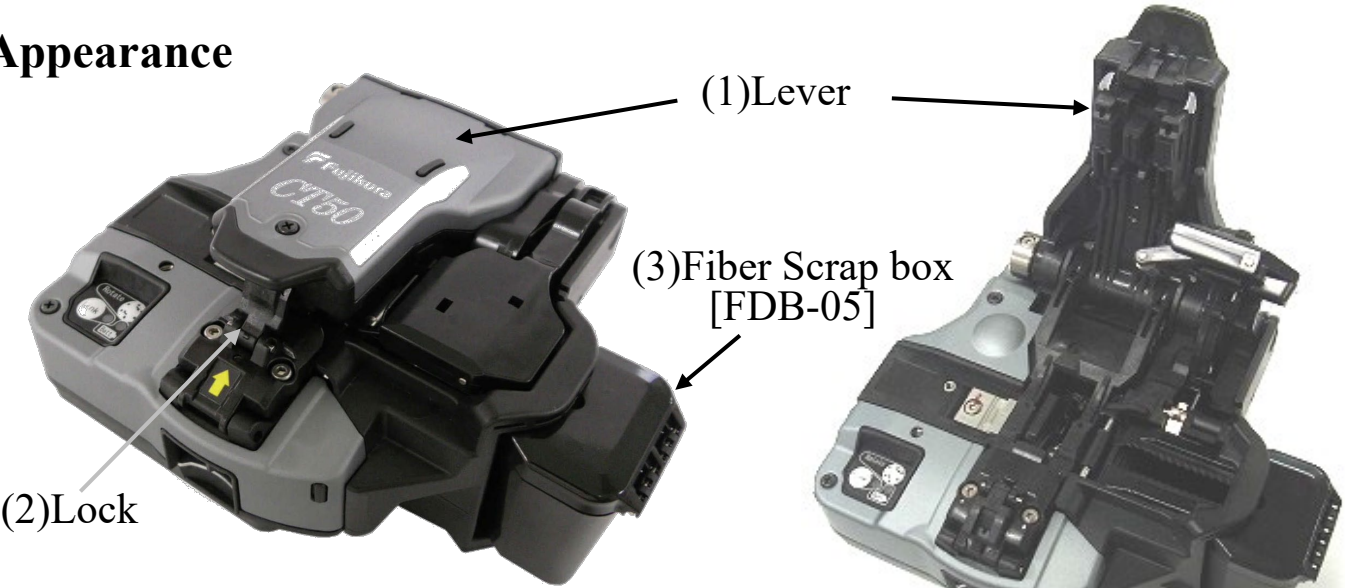
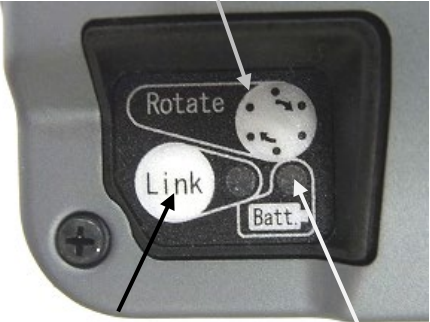


Fig.4-1 Lever closed

Fig.4-2 Lever opened

(4) Rotate button



(5) Link button

(6) Batt. LED

Name	Function
Rotate button	Rotates the cleave blade.
Link button	Connects to smartphone or splicer.
Batt. LED	Indicates the remaining battery capacity. Lights red to indicate a blade motor error.

Fig.4-3 Button operation

5. Procedure

5-1. Battery Operation

Press Link button. Batt. LED indicates the remaining battery capacity.

Green: More than 10%, Red: Less than 10%

Battery replacement:

Remove the Battery compartment lid. Replace 2pc. AAA batteries.

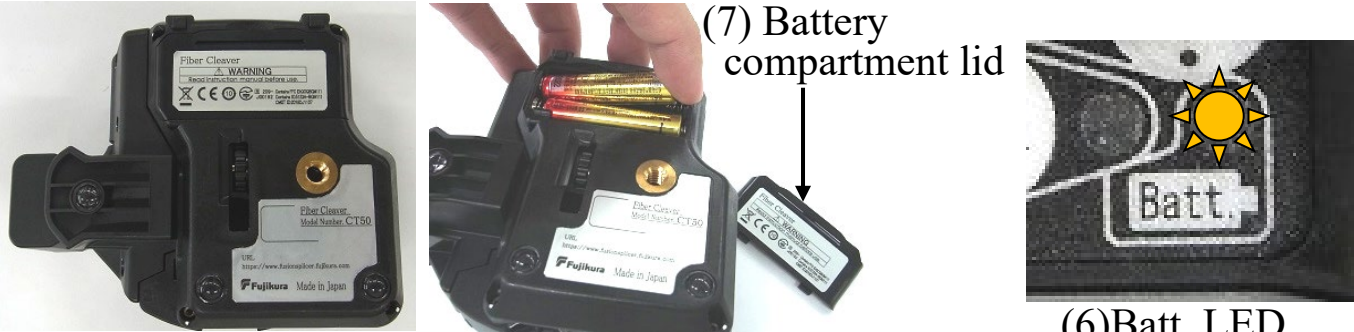


Fig.5-1 Bottom view

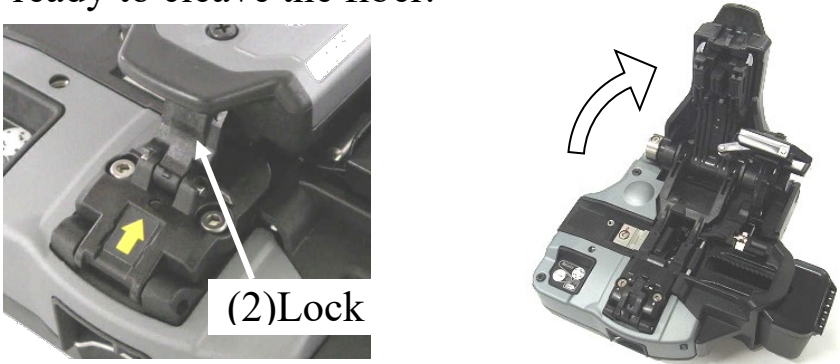
(6) Batt. LED

NOTE: If the battery capacity is less than 10%, Batt. LED lights red automatically after opening Lever(1). Please replace the battery immediately.

NOTE: Storage/operation at low temperatures reduces battery capacity in comparison to battery capacity at normal temperature. Low capacity is shown by the red battery indicator LED. If this occurs and the blade cannot be rotated automatically, rotate it manually as describes in section 6-2.

5-2. Cleaving Operation

1. Release the Lock(2) from the Lever(1).
2. Lift the Lever until it stops. The blade is automatically cocked to the starting position and is ready to cleave the fiber.



NOTE: The Lever can lift up to 100 degrees. Do not move it beyond 100 degrees.

3. Strip 24 to 30mm of coating from the fiber to be cleaved, clean the fiber with an alcohol wipe and set it in the cleaver.

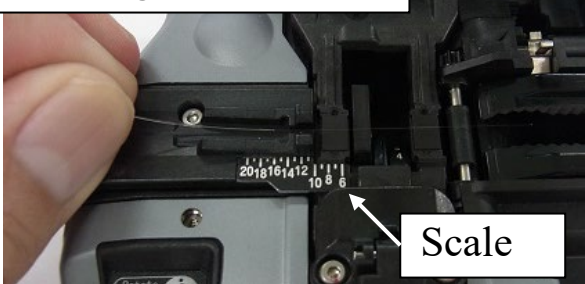
Cleaving with AD-50:

When cleaving the fiber with AD-50 adaptor, check and adjust the fiber length using the scale on the adaptor.

Cleaving with Fiber Holder:

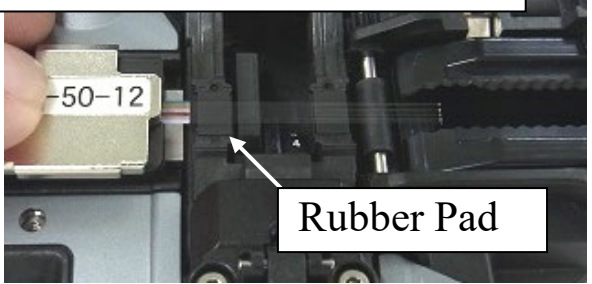
Push the fiber holder towards. Check the position of the fiber coating. If it sits on the rubber pad, adjust the fiber position in the Fiber Holder until it doesn't sit on the pad.

Cleaving with AD-50



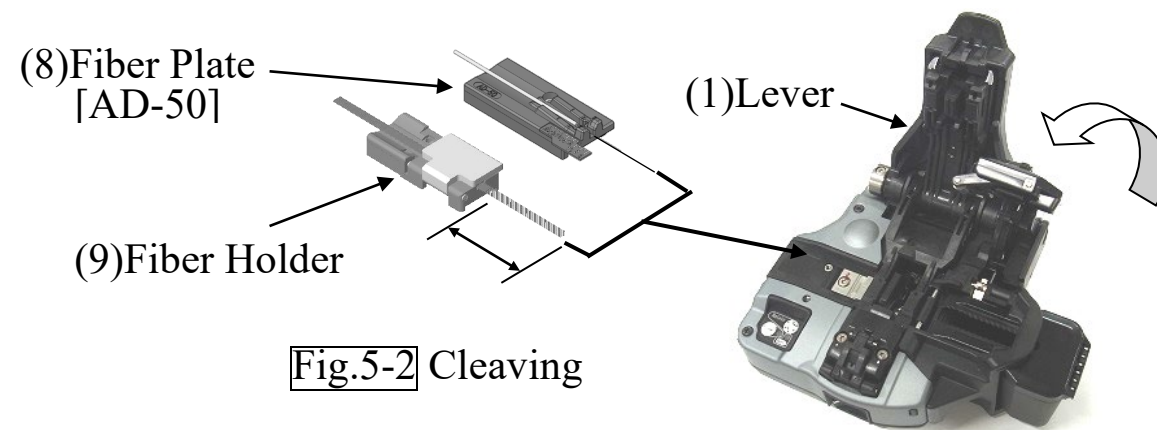
Adjust the cleaving length by using the scale.

Cleaving with Fiber Holder



Verify the fiber coating does not sit on the rubber pad.

4. Close and gently push down on the Lever(1) until it stops. The blade automatically moves and the fiber is cleaved. The scrap the cleaved fiber scrap is automatically deposited into the Fiber Scrap Box [FDB-05]. Properly dispose of the scrap by emptying the Fiber Scrap Box at an appropriate time.



5. Lift the Lever(1) until it stops and remove the fiber from the cleaver. Be careful not to contaminate the end-face of the fiber by touching anything with it.
6. After finishing the operation, close the Lever(1) and then secure it with Lock(1). Store it in its carrying case.

Fiber scrap disposal

- (1) Detach FDB-05 from the body. (2) Pinch the sides of the FDB-05 lid and open.
- (3) Dispose of the fiber scrap. (4) Replace the FDB-05 back into the body.



Fig.5-3 Disposal of fiber scrap

6. Maintenance

Properly clean the cleaver to ensure consistent cleave quality. If the cleaver does not cleave properly after cleaning, rotate the blade or change the blade height. Refer to 6-3.

6-1. Cleaning

Clean all parts that the optical fiber touches with an alcohol moistened gauze or a cotton swab.

If the cleaver is exposed to water, dry it with gauze to prevent any rust.

NOTE: Do not touch the blade during cleaning.

6-2. Change Blade Position

The CT50 uses a circular blade that has 16 positions. Each position can cleave 1,250 fibers. Rotate to the next number for a new blade position after cleaving more than 1,250 fibers. Check the Blade Position Number(10) printed to the side of the blade. This procedure describes how to rotate it by 3 methods.

Method1: Rotate the blade using the Rotate Button

1. Open the Lever(1) until it stops.
2. Press **Rotate** button. The blade rotates during pressing the **Rotate** button.
3. Check the blade position number.



Fig.6-1 **Rotate** Button

Method2: Rotate the blade using a Smartphone or splicer

1. Open the Lever(1) until it stops.
2. Rotate the blade using the application software "Splice+" or the splicer.

NOTE: In the Method2, it needs to connect the CT50 with the smartphone of the splicer before rotating the blade. Refer to section7.

NOTE: If an error occurs when attempting to rotate the blade, the Batt. LED indicator will blink red. In this case, close Lever(1) and repeat. If same problem happens, contact a Fujikura authorized distributor.

Method3: Rotate the blade manually by Blade Rotating Dial.

This method can rotate the blade without the battery. If battery power is low, use this method.

1. Close the Lever(1) and then rotate the Blade Rotating Dial(11) in the direction of the arrow until it clicks.
2. Check that the Blade Position(10) has advanced to next number.

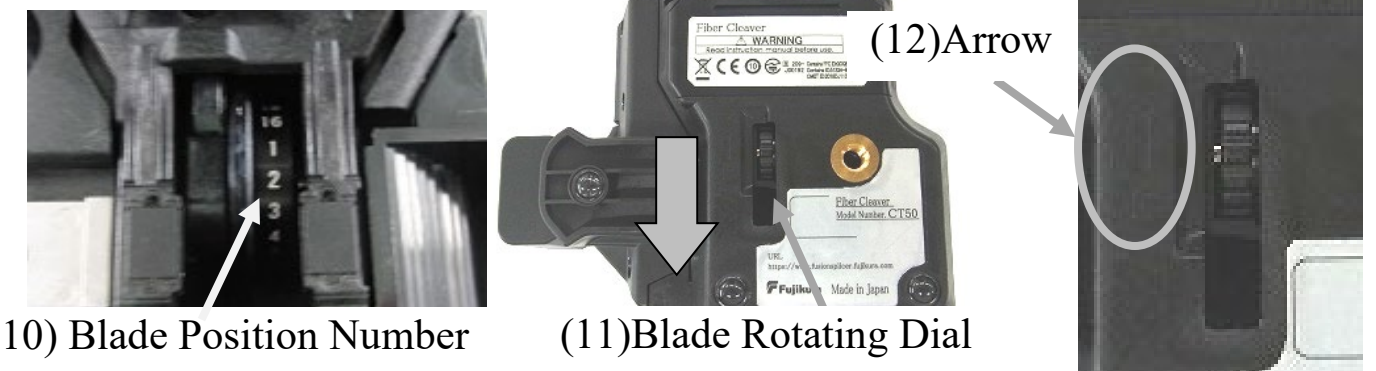


Fig.6-2 Blade Position Number and Blade Rotating Dial

6-3. Change Blade Height

The Blade height can be changed by rotating the Blade Height Dial(13) located on the front of the cleaver. It can be raised a total of 2 times.

1. Verify the position of the Blade Height Dial(13).
2. Rotate it to next number. Do not rotate more than one position at one time.

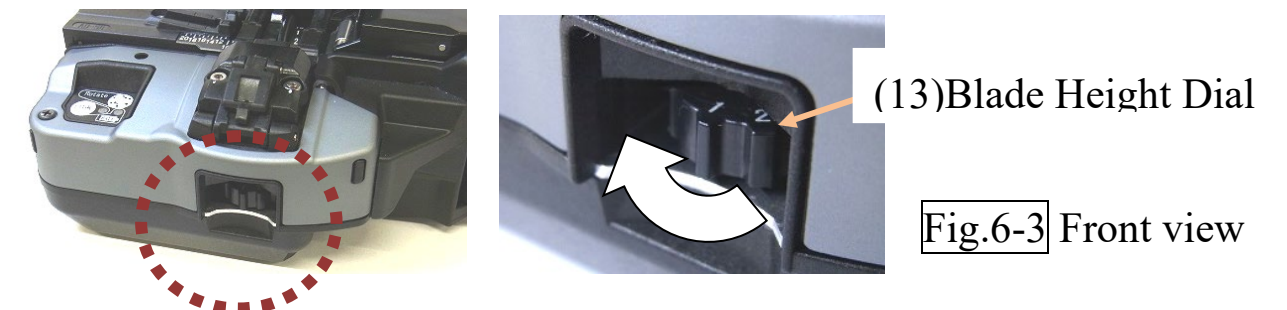


Fig.6-3 Front view

NOTE: Replace the blade after raising it 2 times, and after all 16 positions have been used.

The Cleave Blade and Arm set for CT50 is user serviceable. Contact your Fujikura distributor for details.

7. Wireless communication function

The CT50 uses Bluetooth wireless technology. After establishing a wireless connection with the splicer or a smartphone, it is possible to change the settings of CT50 with a splicer or a smartphone.

7-1. How to check the status

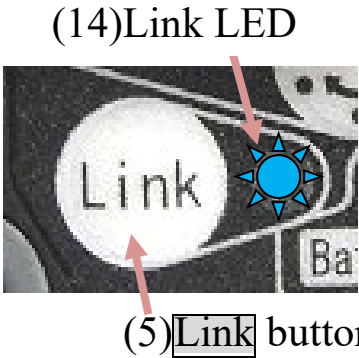
Press **Link** button for a few second. The Link LED indicates the status.

Link LED lights Blue: The wireless connection is successfully established.

Link LED doesn't light.: The wireless connection is not established.

7-2. How to connect the CT50 with a smartphone.

- 1. Execute the application “Splice+” in the smartphone.
- 2. Press the **Link** button on the CT50 for 6 seconds.
- 3. The Link LED on the CT50 blinks. It shows the CT50 stands by the pairing signal. If the CT50 doesn’t receive the pairing signal from the smartphone after 30 seconds, the Link LED on the CT50 goes dark. Please repeat the procedure from the step 1.
- 4. When the smartphone finds the CT50, it displays the serial number.
- 5. Select the CT which you want to connect in the display.
- 6. After the wireless connection between the CT50 and the smartphone, the Link LED on the CT50 lights blue for 2 seconds.



NOTE: Once the wireless connection between the CT50 and a smartphone is established, the CT50 continuously emits a signal. It is necessary to turn the wireless communication function OFF to stop the emitting the signal from the CT50. Refer to below section 7-3.

7-3. How to turn the wireless communication function of CT50 OFF

- 1. Press the **Link** button for 6 seconds.
- 2. The Bluetooth LED on the CT50 blinks.
- 3. Press the **Link** button on the CT50 for a while. The Link LED on the CT50 goes dark and the wireless communication function stops.

7-4. About the application software of the smartphone

Splice+ is a smartphone application that works in cooperation with Fujikura's devices for optical fiber splicing work which are Bluetooth capable.

Directions



- (1)Download the application software “**Splice+**” from Google Play or App Store to your smartphone. The keyword is “fujikura splice+”.
- (2)When the app starts, it shows a list of the devices.
- (3)The rectangular link icons on the left of the top menu indicates the wireless communication status.
 - (i) Dark blue icon: Tapping that icon establishes a connection between the app and the device.
 - (ii) Blue icon: The app is already connected to the device.
 - (iii)Grey icon: The corresponding device isn't ready for connection.

8. Safety Information

■ **Typical certification of the wireless communication function**

- USA (Part 15 of the FCC Rules) / FCC ID : QOQBGM111
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions. (1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- CANADA (RSS-247 of the Industry Canada Rules) / IC : 5123A-BGM111
- European Union (RE directive 2014/53/EU)
Safety : IEC 60950-1, EMC: EN 301 489-17 v3.2.1
Spectrum : EN 300 328 v2.1.1
- JAPAN (Article38-24 paragraph 1) : Certification number: R209-J00192

■ **Smartphone and software requirements**

- Wireless communication technology: Bluetooth 4.1 or later
- OS version for iPhone: iOS8.0 or later (after iPhone6)
- Android: Android 5.0 or later

■ **Trademarks**

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- iOS® is a registered trademark of Cisco Systems Inc. of the United States.
- Android® and Google Play® are the registered trademarks of Google Inc.

9. RECYCLING and DISPOSAL

In European Union



In accordance with the European Parliament Directive 2002/96/EC, electrical parts and materials that can be re-used and/or recycled have been identified in order that the use of new resources and the amount of waste going for landfill can be minimized.

In the European Union, do not discard this product as unsorted municipal waste. Contact your local authorities.

In other countries

[Recycling] To recycle this product, disassemble it first, sort each part separately by material components and follow your local recycling regulations.

[Disposal] This product can be disposed of same as the standard electric products. Follow your local disposal regulations.

10. Contact Address

Inquiries concerning products should be made to the nearest sales agency or one of the following:



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