IE-CS14
Flat Multi-core Cable Stripping & Twisting Machine
Operator Manual

V2.0

Table of Content

A. Safety Regulations

Thank you for purchasing IE-CS14 multi-core cable stripping & twisting machine. The machine operator is responsible for ensuring that every employee who uses the machine has received training in accordance with these operating instructions. We have fully considered the safety factors when designing the machine, but the operator still should read through the manual and understand the content. Special attention should be given during the whole work progress, including use, repair & maintain.

1. Reliable earth wire is required.

2. We suggest to use a voltage stabilizer.

3. Box cover and protection covers are not allowed to be unloaded during the processing. When unload the covers for maintenance, the operator have to switch off the power supply.

4. Users must use, repair, maintain this machine only after fully understanding the contents of this usage manual before using the machine.

5. Wrong operation will result in surprising trouble or shortening the service life of the product, lowering the functions.

6. Please deliver this user manual to the next proprietor, together with the machine, if this machine is transferred to other people.

7. Put this book where it can be reached at any time, in order to use it over a long period of time.

▼ATTENTION

Cut off power supply before repair & maintenance.

1.Handling Components

1. **Wire Straightener**

2. **Left Roller Pressure**: Adjust pressure of 2 left rollers. 0 min, 9 max.

3. **Left Roller Gap:** Turn it to adjust roller gap.

4. **Left Guide Tube**: To position wire. Wire goes through it then reach left rollers.

5. **Guide Tube Base**: To fix guide tube. Adjustable, up and down.

6. **Left Rollers**: Controlled by electric motor. Spin to move wire forward and backward. Together with cutter head to feed wire and strip right(front) side of wire.

7. **Guide Tube Base**: To fix guide tube. Adjustable, up and down

8. **Left Roller Lift:** Raise and fall left rollers to insert wire easily.

9. **Right Guide Tube**: To position wire. Wire goes through it and get into cutter head.

10. **Cutter Head Cover:** Keep cutter head clean.

11. **Right Rollers**: Controlled by electric motor. Spin to move wire forward and backward. Together with cutter head to transfer wire, strip left(end) side of wire and twist wire.

12. **Right Roller Lift:** See 8. Left Roller Lift.

13. **Right Roller Gap**: See 3. Left Roller Gap

14. **Right Roller Pressure**: Adjust pressure of 2 left rollers. 0 min, 9 max.

15. **Wire Stacker**

16. **Touch Screen**: Set and program process parameters.

17. **START Button**: The machine starts working when press it.

18. **STOP Button**: The machine stops working when press it.

19. **EMERGENCY Button**: The machine stops working emergently when press it.

2. Operation

Program

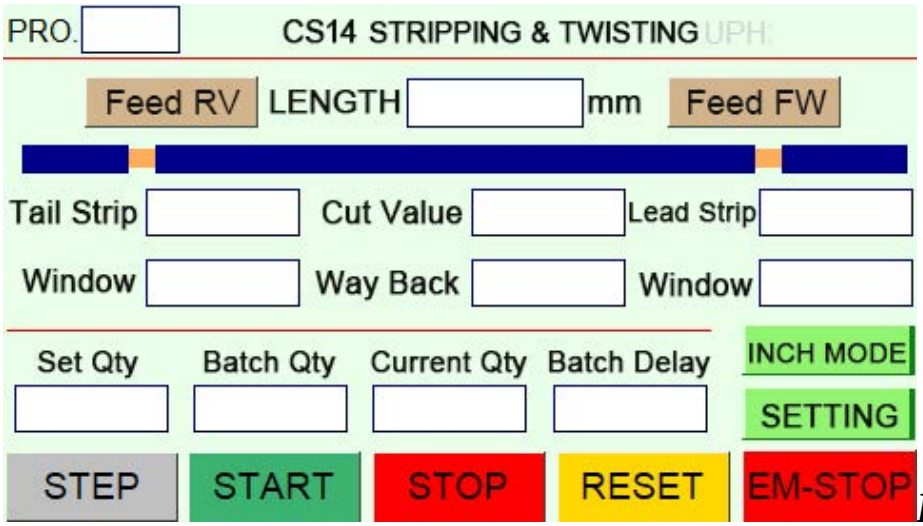


Figure 1

1.1 PRO(program): Edit, save and invoke program. Range from 0 to 99.

1.2 OPH: Output per hour.

1.3 Feed RV： Control left rollers, drive wire moving backward.

1.4 Length: Cutting length, unit is mm.

1.5 Feed FW： Control right rollers, drive wire moving forward.

1.6 Tail Strip: Jacket cutting length at left(tail) side.

1.7 Window (left): Jacket pull off length at left (tail) side. Less than 1.6Tail Strip, jacket partially (half) pull out; more than 1.6Tail Strip, jacket fully pull out.

1.8 Cut Value: Input the conductor diameter. The number smaller, blades closer, jacket cutting deeper, vice versa. The unit is mm.

1.9 Way Back: After cutting jacket, the blades move backward to avoid scratching conductor. The number depends on jacket thickness, jacket thicker, set way back number bigger, vise versa. Universal range is approx 0.5-5mm.

1.10 Lead Strip: Jacket cutting length at right (lead) side

1.11 Window(right): Jacket pull off length at left (tail) side. Less than 1.10Tail Strip, jacket partially (half) pull out; more than 1.10Tail Strip, jacket fully pull out.

1.12 Set Qty: Set the target quantity. Must be bigger than 1.13 Batch Quantity.

1.13 Batch Qty: The quantity of per batch. Machine stops working automatically after finishing this number.

1.14 Current Qty: Counter, total finished products quantity.

1.15 Batch Delay: Machine pauses seconds automatically after finishing 1.13 Batch Quantity, then restart working automatically. If input 0, machine will not restart working automatically.

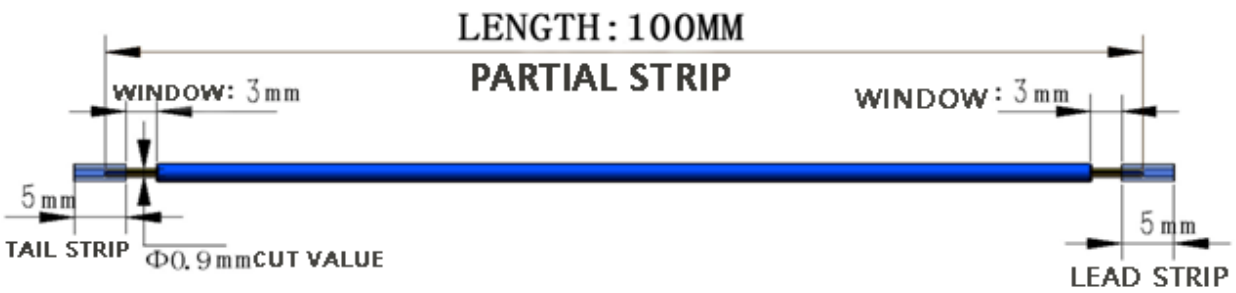
1.16 STEP/SINGLE/Auto: Step-machine runs step by step. Single-machine runs one cycle. Auto-machine runs constantly.

1.17 START: Press START after setting, the machine starts working as program.

1.18 STOP: Press STOP, the machine stops working.

1.19 RESET: Press RESET to reset the machine.

1.20 EM-STOP: EMERGENCY STOP, the machine stops working emergently.



INCH MODE

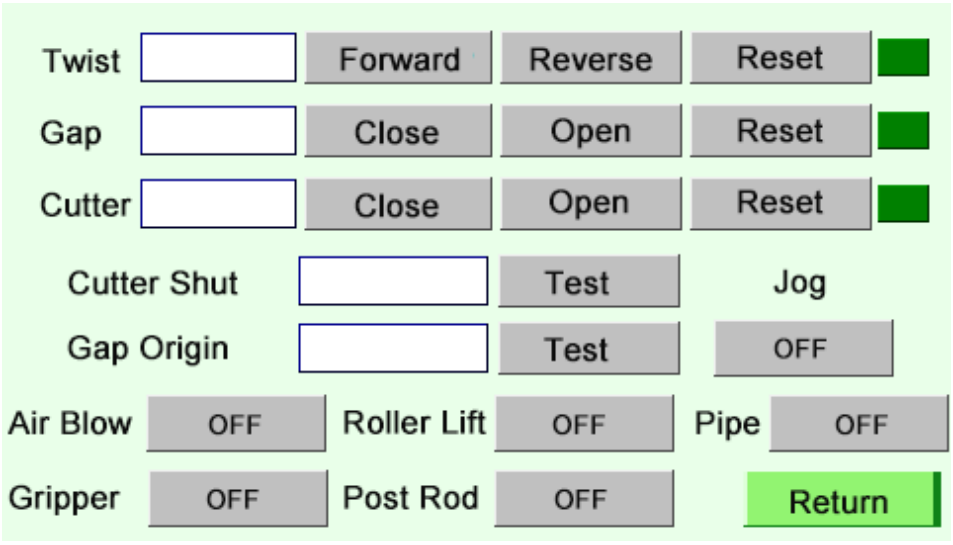


Figure 2

2.1 Twist: To adjust twisting height.

2.2 Gap: To adjust twisting height.

2.3 Cutter: To adjust blades until the blades just close exactly and leave no space.

Reset: Press it to reset cutter value.

2.4 Cutter Shut: Input the 2.3 Cutter number..

Test: Press it to test if the blades close exactly.

Jog: To do fine adjustment for blades moving. Unit is 0.1mm.

Correct **CUTTER** setting is top important. Please confrim blades close precisely.

2.5 Gap Origin: Input **2.2 Gap**value.

2.6 Air Blow: Blow wire jacket off. Press it to rest blowing function.

2.7 Gripper: Optional device for long processing.

2.8 Roller Lift: To test if right roller lift.

2.9 Post Rod: Optional device for long processing.

2.10 Pipe: Guide tube swings up to do long tail stripping.

SETTING

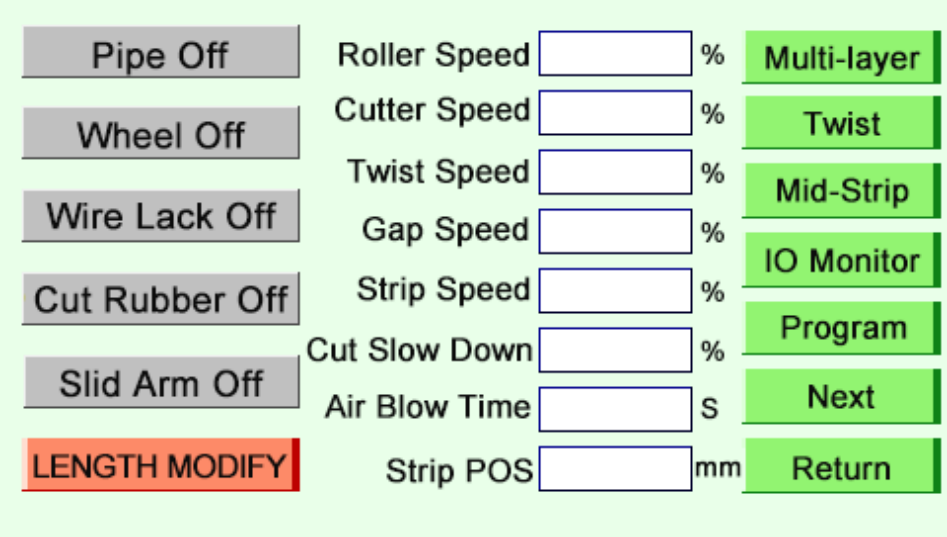


Figure 3

3.1 Roller Speed: Wire feeding speed, min 00, max 99.

3.2 Cutter Speed: Blades moving speed, min 00, max99.

3.3 Twist Speed: Wire twisting speed, min 00, max 99.

3.4 Gap Speed: To set twist gap speed.

3.5 Strip Speed: Jacket pulling off speed. Speed slower, pull force bigger, vise versa.

3.6 Cut Slow Down: Blades slow down when cutting jacket off, min 00, max 99. Smaller number, higher speed, smaller cutting force, vise versa.

3.7 Air Blow Time: Press it to set air blow time.

3.8 Strip POS: To be added.

3.9 PIPE OFF/ON: Guide tube swings up to avoid wire scratch when strip wire tail.

3.10 ROLLER LIFT OFF/ON: To be added.

3.11 WIRE LACK OFF/ON: To monitor wire lack and sound alarm.

3.12 CUT SCRAP OFF/ON: To cut scrap jacket off which cling on blade.

3.13 ROBOT ARM OFF/ON: Optional device.

LENGTH MODIFY

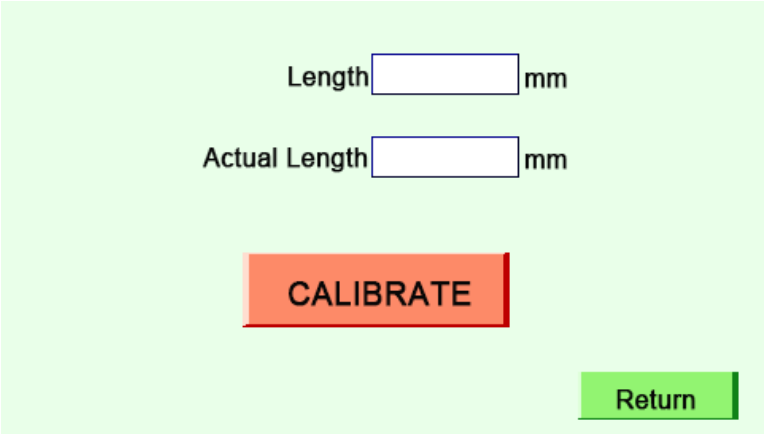


Figure 4

4.1 Length: Input **1.4Length** value. **4.2 Length Actual:** Input ctual cutting length.

4.3 CALIBRATE: Press it, cutting length will be corrected automatically.

Mid-Strip

Mid-Strip OFF/ON

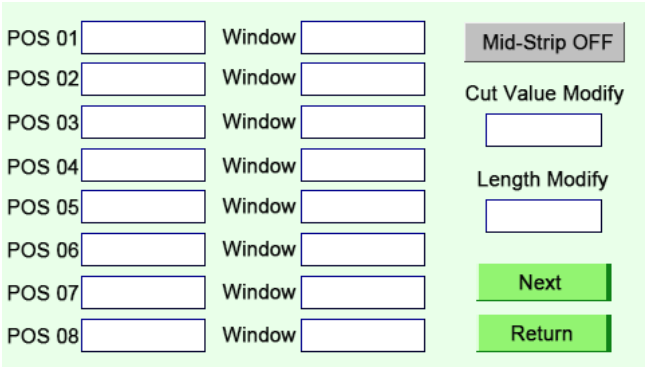


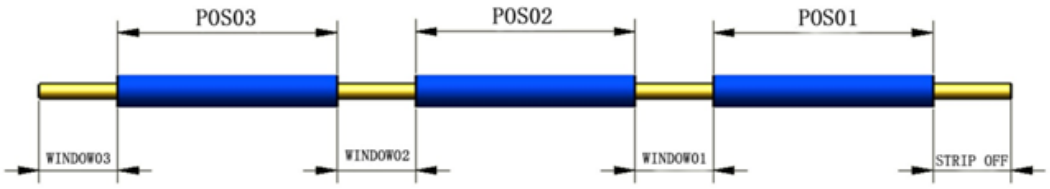
Figure 5

5 .1 Pos 01: Jacket cutting length from end to 1st middle strip;

Window: Jacket pulling off length of 1st middle strip. etc.

5.2 Cut Value Modify: When jacket is tough, this increase cut depth to strip jacket.

5.3 Length Modify: When Tail full stripping failed, input it to increase pull off length.



TWISTING

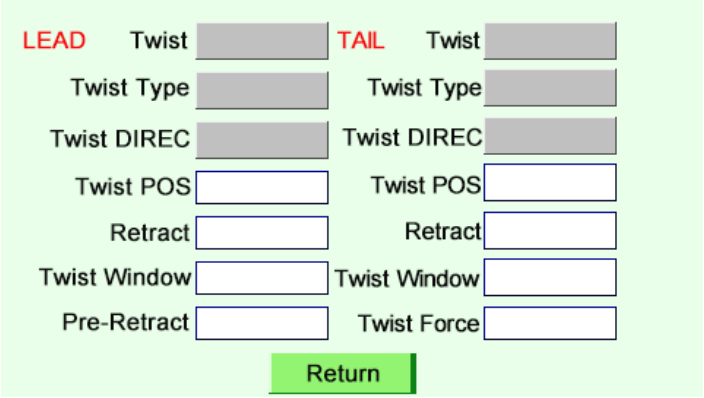


Figure 6

6.1 LEAD Twist ON/OFF: Lead (right) side twisting or not.

6.2 Twist Type: Lead (right) side twisting type, **BACK**-left rollers swing back to remove jacket during twisting. **LOCAT**-left rollers don't move during twisting.

6.3 Twist DIREC: Switch twist direction, clockwise and anti-clockwise.

6.4 Twist POS: Send Lead (right) side to the center of right rollers.

6.5 Retract: To set wire retract length, when **6.2 Twist Type** is **BACK**.

6.6 Twist Window: To englarge window length, when **6.2 Twist Type** is **LOCAT**.

6.7 Pre-Retract: Left roller pre-retract to straighten wire before twisting..

6.8 TAIL Twist: Tail (left) side twisting or not.

6.9 Twist Type: See **6.2 Twist Type**.

6.10 Twist DIREC: See **6.3 Twist DIREC.**

6.11 Twist POS: See **6.4 Twist POS**. .

6.12 Retract: See **6.5 Retract**.

6.13 Twist Window: See **6.6 Twist Window.**

6.14 Twist Force: Number bigger, twist force bigger.

Multi-Layer **Double Layer OFF/ON**

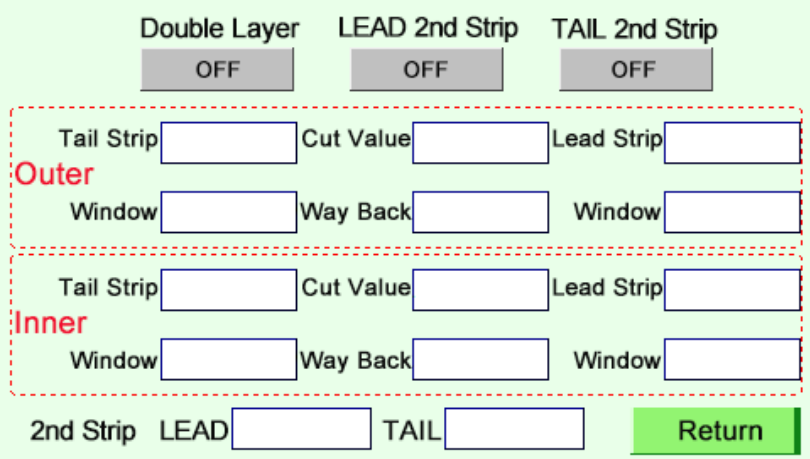


Figure 7

7.1 LEAD 2nd Strip: Turn it on when 1.10Lead Strip is long.

7.2 TAIL 2nd Strip: Turn it on when 1.6Tail Strip is long.

Outer **7.3 Tail Strip:** Outer jacket cutting length at Tail (left) side.

7.4 Window(left): Outer jacket pulling off length at Tail (left) side.

7.5 Cut Value: The cutting depth of outer jacket on both sides.

7.6 Way Back: Blade retract to pull off outer jacket and avoid scratching inner core.

7.7 Lead Strip: Outer jacket cutting length at Lead (right) side.

7.8 Window(right): Outer jacket pulling off length at Lead (right) side.

Inner **7.9 Tail Strip:** See **7.3 Tail Strip**.

7.10 Window(left): See **7.4 Window(left)**.

7.11 Cut Value: See **7.5 Cut Value**.

7.12 Way Back: See **7.6 Way Back**.

7.13 Lead Strip: See **7.7 Lead Strip**.

7.14 Window(right): See **7.8 Window(right)**.

7.15 2nd Strip: Strip twice when 1.10Lead Strip is long

3. Error Message

ERROS	SOLUTION
Lead/Tail non strip	1. Decrease wire diameter number if cutting depth is thin. 2. Decrease gap of LEFT/RIGHT ROLLERS. 3. Increase WINDOW length.
Bad twisting result	1. Adjust twist position 2. Increase 6.6Twist Force. 3. Choose twist type: BACK **6.2/6.8.** 4. Adjust 2.1TWIST value.
Press mark on jacket	1. Determine that it's caused by RIGHT or LEFT rollers. 2. If by LEFT ROLLERS, increase the gap 3. If by RIGHT ROLLERS, increase the gap.
Strip rake at double sides	1. Adjust guide tube to be closer to blades. 2. The wire gets into cutter head with rake. By adjusting guide tube position or use smaller tube to make wire goes parallel.
Conductor pulled out at double sides	1. Pulled out by blades when strip jacket. Increase the 1.8Cut Value. 2. Increase 1.9Way Back number.
Conductor cut off	Cut Value is small. Increase it and retry processing, until no hurt conductor.
Wire non cut off	1. Decrease 3.2Cutter Speed. 2. Blade is blunt, change new blade. 3. BLADES are not close at parallel. Reset blades leaving tiny space.
Actual cutting length doesn't match set length	1. Something like scrap jacket in rollers. Clean it. 2. Check wires, if wires receives resistance during feeding. 3. Belt of LEFTROLLERS are loose, tighten it. 4. Wire jacket is with paraffin. Clean the rollers by banana oil or gasoline.
Rollers don't work	1. Check if input LENGTH. 2. Check if the belt is broken. 3. Check if the roller drivers are ok（GREEN light is yes，RED light is no）
Cutter head don't work	1. Check if cutter head driver is ok(Green light is yes, RED light is no） 2. Check if cutter head gear is jammed or broken. 3. Check if slide block lack lubricating oil. 4. Check the I/O monitor. When blade return to original point, if green light is not on, the sensor is broken. Need to change sensor.
START failed	1. Check if input OUTPUTSET number. 2. If 1.14Current Qty number achieves 1.12Set Qty, zero it.

4. Tech Parameters

Functions	Flat cable, cut into length, double layer stripping, conductor twisting, cutting length calibration, data library.
Cable Range	φ2-6mm
Stripping Length	Outer: Tail (Left) 0.1-60mm, Lead (Right) 0.1-150mm
	Inner: 2 - 30mm on both sides.
Cutting Length (L)	0.1-9999mm
Cutting Tolerance	0.002 x L
Twisting Length	0.1-10mm
Production Rate	500-800 pcs/h
Memory Capacity	100 programs
Air Supply	0.4-0.7Mpa (clean and dry air)
Power Supply	AC220V ,50/60Hz
Dimensions	700 x 480 x 350mm
Weight	45kg

5. Maintenance

a) CUT OFF power supply first!

b) Keep the workbench and machine to be clean.

c) Clean the machine with a brush and a cloth.

d) Add lube oil per shift.

e) Clean scrap jacket every day.