

# **JBC ALE Automatic-Feed Soldering Control Unit Instruction Manual**

Home » JBC » JBC ALE Automatic-Feed Soldering Control Unit Instruction Manual



#### **Contents**

- 1 INSTRUCTION MANUAL
- 2 ALE
  - 2.1 Automatic-Feed Soldering Control Unit
  - 2.2 Packing List
  - 2.3 Features and Connections
  - 2.4 Solder Reel Assembly
  - 2.5 Tool Assembly
  - 2.6 Solder Wire Loading
    - 2.6.1 Main Menu Screen
    - 2.6.2 Tin Reloaded Process Screen
  - 2.7 Solder Wire Feeding
  - 2.8 Control Process
    - 2.8.1 Feeder Setting Modes
    - 2.8.2 Troubleshooting
    - 2.8.3 Program Mode
    - 2.8.4 Quick Access to Feeder Setting

**Modes** 

- 2.8.5 Menu Screen
- 2.9 Changing Guide Kits
  - 2.9.1 Changing Wheels and Blade
- 2.10 Accessories
- 2.11 Accessories
- 2.12 Maintenance
- **2.13 Notes**
- 2.14 Specifications
- 3 Documents / Resources
  - 3.1 References
- **4 Related Posts**

#### **INSTRUCTION MANUAL**



#### **Automatic-Feed Soldering Control Unit**

This manual corresponds to the following references:

# With Solder Wire Perforation

for wire ø 0.8mm:

- ALE-908UVA (100V)
- **ALE-108UVA** (120V)
- **ALE-208UVA** (230V)

for wire ø 1.0mm:

- **ALE-910UVA** (100V)
- **ALE-110UVA** (120V)
- **ALE-210UVA** (230V)

for wire ø 1.2mm.

- **ALE-212UVA** (230V)

for wire ø 1.6mm:

- **ALE-216UVA** (230V)

# **Without** Solder Wire Perforation:

for wire ø 0.4mm:

- **ALE-204UA** (230V)

for wire ø 0.5mm:

- **ALE-205UA** (230V)

for wire ø 0.8mm:

- **ALE-208UA** (230V)

for wire ø 1.0mm:

- ALE-110UA (120V)

# **Packing List**

The following items are included in **all references**:



Automatic-Feed Soldering Control Unit .... 1 unit





**Manual** ...... 1 unit Ref. 0030217

Key Set for SF / AL\* ...... 1 unit Ref. 0019341 includes:



Spanner ..... 1 unit



**Allen Key** Ø 1,5 ...... 1 unit



**Allen Key** Ø **2,5** ...... 1 unit



The following items are included according purchased reference:



1. Components already assembled in Control Unit

**With** solder wire perforation: **Without** solder wire perforation:

for wire Ø 0.8 mm / Ø 0.032 in for wire Ø 0.38 - 0.4 mm / Ø 0.015 - 0.016 in

- Ref. GALE08V-A - Ref. GALE04D-A

for wire Ø 1.0 mm / Ø 0.040 in for wire Ø 0.46 - 0.56 mm / Ø 0.018 - 0.022 in

- Ref. GALE10V-A - Ref. GALE05D-A

for wire Ø 1.2 mm / Ø 0.047 in for wire Ø 0.80 - 0.82 mm / Ø 0.032 - 0.033 in

- Ref. GALE12V-A - Ref. GALE08D-A

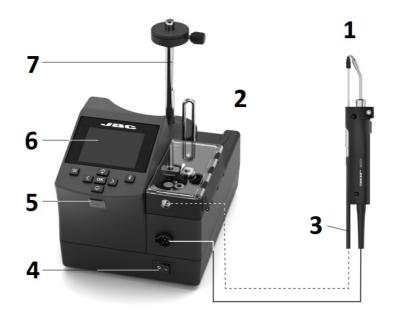
for wire Ø 1.6 mm / Ø 0.063 in for wire  $\emptyset$  0.90 – 1.10 mm /  $\emptyset$  0.036 – 0.044 in

- Ref. GALE10D-A - Ref. GALE16V-A

# Warning!

For correct operation, it must be chosen the guide kit that corresponds to the solder wire diameter in use. The components (wheels, clamps and nozzles) which are included in the corresponding guide kit must be assembled to ALE.

#### **Features and Connections**



#### 1. ALE250

Automatic-Feed Soldering Iron\*

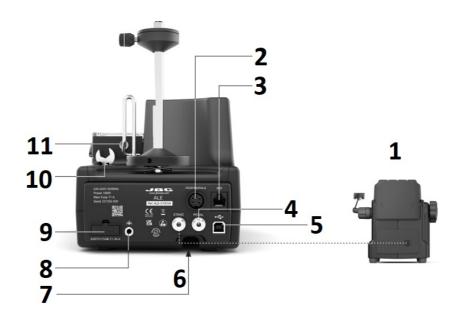
# 2. **ALE**

Automatic-Feed Soldering Control Unit

# 3. SOLDER WIRE GUIDE

Kit for ALE250 availabe for different solder wire diameters see page 11 + 12

- 4. Main Switch
- 5. USB-A Connector
- 6. Control Screen
- 7. Solder Reel Stand



# 1. ALES

Stand for ALE250 Automatic-Feed Soldering Iron\*

- 2. To Peripherials
- 3. RJ12 Connection for Robot System
- 4. Pedal Connection
- 5. USB-B Connector
- 6. below
- 7. Power Socket
- 8. Equipotential Connection
- 9. Fuse
- 10. Allen Key and Spanner Storage
- 11. Solder Wire Inlet

\*not included



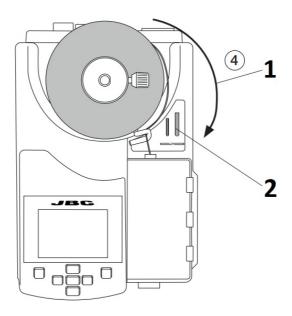
- 1. Axis
- 2. Solder Reel
- 3. Solder Wire
- 4. Solder Wire Guidedance
- 5. Reel Locking Screw
- 6. Reel Locking

Open the reel locking screw (1) and remove the reel locking (2) from the axis.

Assemble the solder reel onto the axis (3) and reassemble the reel locking screw (1). The flat side of the axis must align with the inner flat side of the reel locking.

**Note:** Press lightly the reel locking (1) down before tightening the reel locking screw (2) to prevent free reel spinning.

⚠ Insert the solder reel in such a way – when viewed from above – that the solder wire unwinds on the dispensing mechanism side (4).

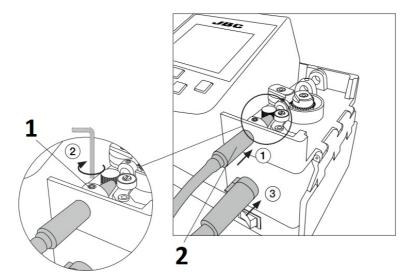


#### 2. Solder Wire

# **Tool Assembly**

Connect the tool to the control unit following these steps:

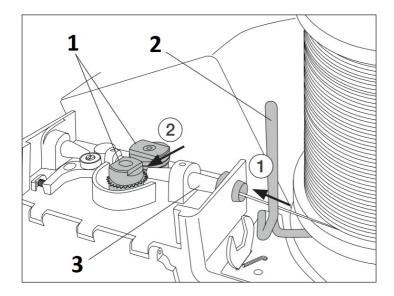
Insert and push the guide nozzle until the end (1) and tighten the screw (2). Then connect the tool connector (3).



- 1. Screw
- 2. Insert until the end

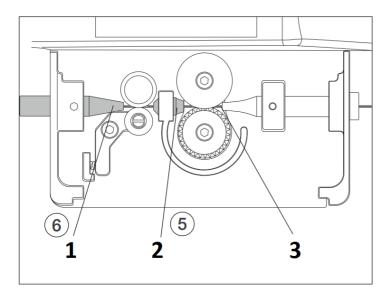
# **Solder Wire Loading**

Pass the solder wire through the wire guidance and introduce the solder wire into the inlet nozzle (1) until it reaches the wheels (2).



- 1. Wheels
- 2. Wire Guidance
- 3. Inlet Nozzle

Make sure the wire passes through the Intermediate Nozzle (5) and enters into the Guide Tube (6).

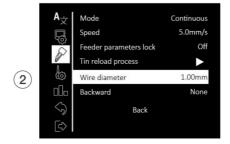


- 1. Guide Tube
- 2. Intermediate Nozzle
- 3. Wire

#### Main Menu Screen

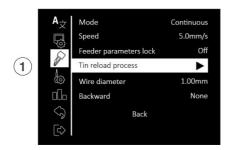
Access to Main Menu by , select "Feeder Settings" (1) and then "Wire Diameter" (2) to adjust the value to the current solder wire diameter.





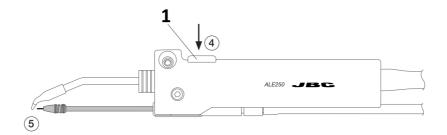
**Tin Reloaded Process Screen** 

Select "Tin Reloaded Process" (1) and then use to feed the solder wire and advance until it comes out through the outlet nozzle. Keep pressed and after a while, the wire will advance faster.





Forward the solder wire by pushing the dragging button (4) until the wire comes out of the tip (5).



# 1. Solder Wire Dragging Button

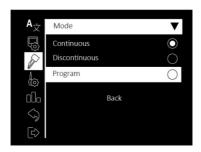
To feed the solder wire, alternatively, the pedal P405 can be used. The pedal should be plugged in at the rear of the feeder control unit into the pedal connector.



#### **Control Process**

#### **Feeder Setting Modes**

Choose between "continuous", "discontinuous" and "program" mode. Access to Main Menu by Feeder Settings" and then "Mode".



Depending on the selected mode, different parameters are available for setup.

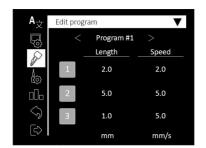
Continuous Mode Discontinuous Mode Program Mode



#### Troubleshooting

Station troubleshooting available on the product page at www.jbctools.com

#### **Program Mode**





#### **Quick Access to Feeder Setting Modes**

The solder wire dispensing values can be directly set up from the work screen.

Press or to change the tool temperature value.

When the main screen is displayed, by pressing button speed and length value can be set up. The following parameters can be changed according to the different dispensing modes:

- Contiunous Mode: Speed
- Discontinuous Mode: Speed and length
- Program Mode: 3 feeding parameter pairs (length and speed) for every program.

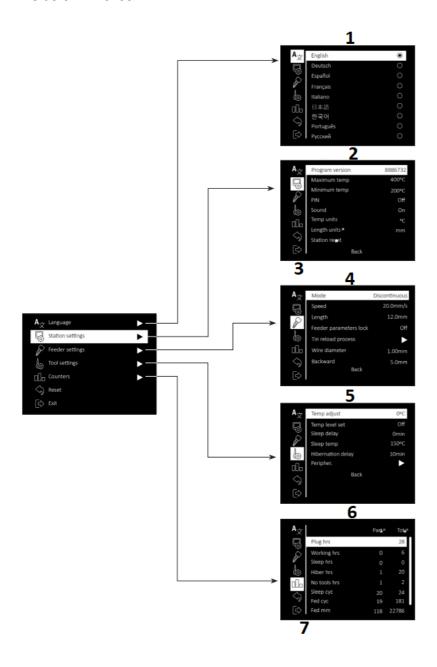
**Note:** First select the program to be modified at the work screen by using and to switch between the programs.



# 1. Program number #

Menu Screen

Default PIN: 0105



- 1. Language
- 2. Station Settings
- 3. \*choose between mm and inches
- 4. Feeder Settings
- 5. Tool Settings

- 6. Counters
- 7. \* partial and total counters are shown

#### **Changing Guide Kits**

#### **Changing Wheels and Blade**

For this operation, disconnect the device from the mains. Disconnect the tool from the control unit and open its cover.

First disassemble the guide tube (6), the nozzles (2)+(3), then the wheels, blade and clamp (4)+(5). Disassemble the counter wheel (1). Use the Allen key and the spanner, provided with the station.

# Assembly with Solder Wire Perforation:

Assemble the counter wheel (1).

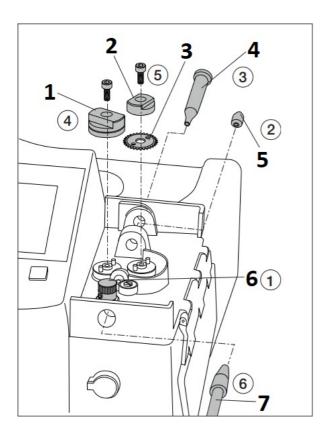
Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

Assemble the inlet nozzle (3).

Assemble the guide wheel\* (4) and tighten the screw.

Assemble the blade first, then mount the blade clamp (5) onto the same axis and tighten the screw. **Caution:** handle the blade carefully to avoid injury.

Insert the guide set (6).



1. Guide Wheel \*

- 2. Blade Clamp
- 3. Blade
- 4. Inlet Nozzle
- 5. Interm. Nozzle
- 6. Counter Wheel
- 7. Guide Set

# Assembly without Solder Wire Perforation:

Assemble the counter wheel (1).

Insert the intermediate nozzle (2) until its collar rests against the housing and tighten the screw.

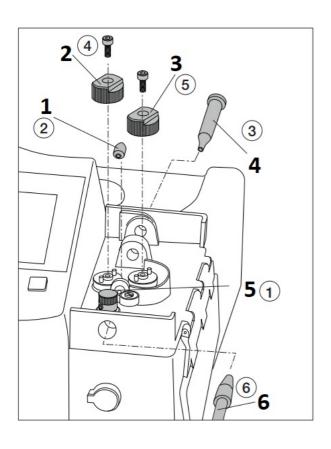
Assemble the inlet nozzle (3).

Assemble the support wheel\* (4) onto the axis and tighten the screw.

Assemble the traction wheel (5) and tighten the screw.

Insert the guide set (6).

\* wheel bears diameter marking



- 1. Interm. Nozzle
- 2. Support Wheel \*
- 3. Traction Wheel
- 4. Inlet Nozzle

- 5. Counter Wheel
- 6. Guide Set

# Accessories

Various guide sets are available. Select the appropriate guide set depending on the solder wire diameter to be used.

# Solder Wire Guide Kits for ALE250 with Solder Wire Perforation

# GALEXXV-A WITH SOLDER WIRE PERFORATION

Wire diameter						
xx	Diameter of use					
08	Ø0,8 mm	Ø0,032 in				
10	Ø1,0 mm	Ø0,040 in				
12	Ø1,2 mm	Ø0,047 in				
15	Ø1,5 mm	Ø0,059 in				
16	Ø1,6 mm	Ø0,063 in				

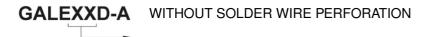
	Guide tube	
GALE 08V-A	00283 58	
GALE 10V-A	00283 59	
GALE 12V-A	00283 60	
GALE 15V-A	00283 61	
GALE 16V-A	00283 63	

# **SPARE PARTS**

	Outlet nozzle	Nozzle	Guide wheel	Blade	Blade clamp	Inlet nozzle	Interm. nozzle	Counter wheel	Screws	Threaded stud	Nozzle grip sping
Wire ∅								0	•	•	
GALE08V-A	0025270		0021696	0021555	0018638	0018632	0024955	0026693 (Supplied with		0026696 (x3)	0030549
GALE10V-A			0021699			0019170	0024956	ALE)			
GALE12V-A		0021158	0023738			0019171	0024957	0026694			
GALE15V-A	0025274	4	0019696				0024958				
GALE16V-A	0025276		0025922			0024233	0024959				

# Accessories

Solder Wire Guide Kits for ALE250 without Solder Wire Perforation



	Wire diameter						
XX	Range	Range of use					
04	Ø0.38 – 0.40 mm	Ø0.015 – 0.016 in					
05	Ø0.46 – 0.56 mm	Ø0.018 – 0.022 in					
06	Ø0.60 – 0.64 mm	Ø0.023 – 0.025 in					
07	Ø0.70 – 0.78 mm	Ø0.028 – 0.031 in					
08	Ø0.80 – 0.82 mm	Ø0.032 – 0.033 in					
10	Ø0.90 – 1.10 mm	Ø0.036 – 0.044 in					
12	Ø1.14 – 1.27 mm	Ø0.045 – 0.051 in					
15	Ø1.50 -1.57 mm	Ø0.060 – 0.063 in					
16	Ø1.60 -1.63 mm	Ø0.063 – 0.065 in					
18	Ø1.80 mm	Ø0.073 in					

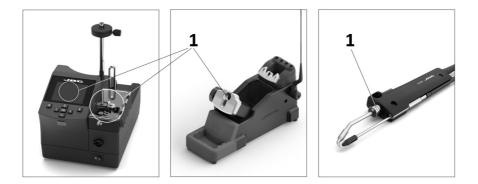
	Guide t ube	
GALE04 D-A		
GALE05 D-A	0028358	
GALE06 D-A		
GALE07 D-A	0028359	
GALE08 D-A	002000	
GALE10 D-A	0028360	
GALE12 D-A	0028361	
GALE15 D-A	0028362	
GALE16 D-A	0028363	
GALE18 D-A	0028493	

# **SPARE PARTS**

	Outlet nozzle	Nozzle	Traction wheel	Support wheel	Inlet nozzle	Interm. nozzle	Counter wheel	Screws	Threaded stud	Nozzle grip spring
<i>Wire</i> ∅						0	P. P	•	•	8
GALE04D-A	0025268	0020345	0024954							
GALE05D-A	0025266			0019519	0019520	0024954	0026693	0026695 (x2)	0026696 (x3)	0030549
GALE06D-A	0022994			0019519		0025293				
GALE07D-A	0025289				0018632	0025291				
GALE08D-A	0025270	0004450	0019479	0019480	0010032	0024955				
GALE10D-A	0021560	0021158			0019170	0024956				
GALE12D-A	0025272	0040474	0024957							
GALE15D-A	0025274		0019481	0019171	0024958	0000004				
GALE16D-A	0025276			0028367	0024233	0024959	0026694			
GALE18D-A	0021559			0028367	0024234	0024960				

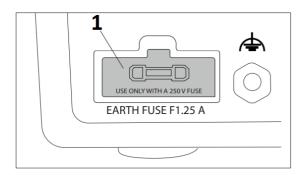
Before carrying out maintenance, always switch the device off and disconnect it from the mains. Allow the equipment to cool down.

- Clean the station screen with a glass cleaner or a damp cloth.
- Use a damp cloth to clean the casing and the tool. Alcohol can only be used to clean the metal parts.
- Periodically check that the metal parts of the tool and stand are clean so that the station can detect the tool's status.



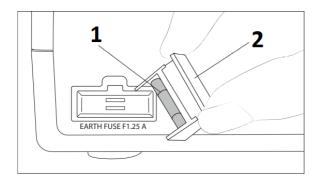
# 1. Clean periodically

- Maintain the tip surface clean and tinned prior to storage in order to avoid tip oxidation. Rusty and dirty surfaces reduce heat transfer to the solder joint.
- Periodically check all cables and tubes.
- Replace a blown fuse as follows:
- **1.** Pull off the fuse holder and remove the fuse. If necessary use a tool to lever it off.



#### 1. Fuse Holder

2. Insert the new fuse into the fuse holder and return it to the station.



- 1. Fuse
- 2. Fuse Holder
- Replace any defective or damaged pieces. Only use original JBC spare parts.
- Repairs should only be performed by a JBC authorized technical service.

#### Safety



It is imperative to follow safety guidelines to prevent electric shock, injury, fire or explosion.

- Do not use the units for any purpose other than soldering or rework. Incorrect use may cause a fire.
- The power cord must be plugged into approved bases. Be sure that it is properly grounded before use. When unplugging it, hold the plug, not the wire.
- Do not work on electrically live parts.
- The tool should be placed in the stand when not in use in order to activate the sleep mode. The soldering tip or nozzle, the metal part of the tool and the stand may still be hot even when the station is turned off. Handle with care, including when adjusting the stand position.
- Do not leave the appliance unattended when it is on.
- Do not cover the ventilation grills. Heat can cause inflammable products to ignite.
- Avoid flux coming into contact with skin or eyes to prevent irritation.
- Be careful with the fumes produced when soldering.
- Keep your workplace clean and tidy. Wear appropriate protection glasses and gloves when working to avoid personal harm.
- Utmost care must be taken with liquid tin waste which can cause burns.
- This appliance can be used by children over the age of eight and also persons with reduced physical, sensory or mental capabilities or lack of experience provided that they have been given adequate supervision or instruction concerning the use of the appliance and understand the hazards involved. Children must not play with the appliance.

<ul> <li>Maintenance must not be carried out by children unless supervised.</li> </ul>				
Notes				
Specifications				
ALE Automatic-Feed Soldering Control Unit With Solder Wire Perforation				
for wire ø 0.8mm: Ref. <b>ALE-908UVA</b> – 100V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V				
Ref. <b>ALE-108UVA</b> – 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V Ref. <b>ALE-208UVA</b> – 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V				
for wire ø 1.0mm:				
Ref. <b>ALE-910UVA</b> – 100V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V Ref. <b>ALE-110UVA</b> – 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V				
Ref. <b>ALE-210UVA</b> – 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V for wire ø 1.2mm.				
IUI WIIE Ø 1.4IIIII.				

Ref. **ALE-212UVA** – 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire ø 1.6mm:

Ref. ALE-216UVA - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

Without Solder Wire Perforation

for wire ø 0.4mm:

Ref. ALE-204UA - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire ø 0.5mm:

Ref. **ALE-205UA** – 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire ø 0.8mm:

Ref. ALE-208UA - 230V 50/60Hz. Input fuse: T1A. Earthing Fuse: F 1.25A. Output: 23.5V

for wire ø 1.0mm:

Ref. **ALE-110UA** – 120V 50/60Hz. Input fuse: T2A. Earthing Fuse: F 1.25A. Output: 23.5V

Output Peak Power:130 W / 23.5 V

- Selectabe Temperature Range: 90 - 450 °C / 190 - 840 °F

- Idle Temp. Stability (still air): ±1.5°C / ±3°F (Meets and exceed IPC J-STD-001)

- Temp. Accuracy: ±3% (Using reference cartridge)

- Temp. Adjustment:  $\pm 50^{\circ}$ C /  $\pm 90^{\circ}$ F (Through station menu settings)

Connections: USB-A Uptade and files import-export

**USB-B Software PC** 

RJ12 Fume extractor connection

– Equipontencial bonding: Optional connection to EPA– Tip to Ground Voltage/Resistance: <2 mV RMS / <2 ohms</li>

Meets and exceed

ANSI/ESD S20.20-2014 / IPC J-STD-001F

- Ambient Operating Temp:  $10 - 50 \,^{\circ}\text{C} / 50 - 122 \,^{\circ}\text{F}$ 

Solder Wire Diameter: According purchased reference

- Max. Wire Length: 250 mm / 9.84 in (for discontinuous + program mode)

- Min. Wire Length: 0.5 mm / 0.02 in

Forward Speed Range
Speed of Backward Funktion
0.5 to 50 mm/s / 0.02 to 1.97 in/s
0.0 to 5.0 mm/s / 0.5 to 0.20 in/s

Number of Programs:5 Programs

Number of Program Steps:1 to 3 Steps (for each program)

Control Unit Dimensions: 235 x 145 x 150 mm
 (L x W x H) 9.25 x 5.71 x 5.91 in
 Total Net Weight: 5.81 kg / 12.81 lb

Package Dimensions / Weight: 368 x 368 x 195 mm / 6.72 Kg
 (L x W x H) 14.49 x 7.68 in / 14,82 lb

#### **Compatible Solder Reel:**

Reel Weight: Up to 2 kg / 4.41 lb
Max. Reel Diameter: 100 mm / 3.94 in
Max. Reel Height: 100 mm / 3.94 in

Complies with CE standards.

ESD safe.



#### Warranty

JBC's 2 year warranty covers this equipment against all manufacturing defects, including the replacement of defective parts and labour.

Warranty does not cover product wear or misuse.

In order for the warranty to be valid, equipment must be returned, postage paid, to the dealer where it was purchased.

Get 1 extra year JBC warranty by registering here: <a href="https://www.jbctools.com/productregistration/">https://www.jbctools.com/productregistration/</a> within 30 days of purchase.



This product should not be thrown in the garbage.

In accordance with the European directive 2012/19/EU, electronic equipment at the end of its life must be collected and returned to an authorized recycling facility.



www.jbctools.com

0030217-130123

#### **Documents / Resources**



JBC ALE Automatic-Feed Soldering Control Unit [pdf] Instruction Manual ALE Automatic-Feed Soldering Control Unit, ALE, Automatic-Feed Soldering Control Unit, Sold ering Control Unit, Control Unit

# References

- JBC Soldering and Rework equipment for electronics
- Warranty Extension

Manuals+,