

MODEL EC2002M ELECTRONIC SOLDERING STATION

WARNING: This product, when used for soldering and similar applications, produces chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

OPERATING INSTRUCTIONS

Unpack unit carefully. Place spring and funnel in slot in top of tool stand. Attach tool stand to either side of power unit, if desired. Fill reservoir with water and wet sponge, distilled water is preferred. Insert tool in holder and connect tool plug to receptacle on power unit; rotate plug housing to lock plug into receptacle. Insert line cord plug into properly grounded AC receptacle and turn station on. When the tip temperature reaches 400°F (204°C), remove tool from holder and tin tip with solder. Unit will be ready for use when it reaches the set point temperature.

The unit display shows a "Read" mode by default which displays the current temperature of the tip. To switch into the "Set" mode, turn the knob slightly and the display will show the current set temperature. Release the knob when you have reached the desired temperature setting, and after a three second delay the display will switch back into "Read" mode. When you first turn the unit on, the display should show "888" for two seconds as a test and then will display the "Set" temperature for three seconds before switching into "Read" mode.

Always use the lowest temperature that will handle the load you are soldering. The Weller® electronic control provides maximum power to the heated load even when set to the lowest temperature; therefore, there is no need to use high temperature to handle heavy soldering loads. By using lower temperatures and properly selecting tip styles, sensitive components will be protected from heat damage.

While the unit is in the "Read" mode, the displayed tip temperature may fluctuate. This fluctuation is normal and represents the control system response to the changing load. Tip selection for a particular job may be optimized by observing the tip temperature fluctuations during the soldering operation. Normally, the tip should be selected for minimum fluctuation. This will provide the shortest soldering dwell time; however, some applications may require a fast response with total fluctuation not critical.

A WCM1 Calibration Unit is available that interfaces directly with the EC2002M's microprocessor through the iron receptacle and provides the ability to enable a timed setback mode, a temperature lock out feature, a switch to change the display measurement between °F and °C, digital calibration of the unit to an outside temperature reference, and reset the unit to its original factory calibration. When the unit enters "Setback" mode, the unit display will highlight the bottom segment of all three digits. Turn the unit off and back on to return to normal operation. If the unit is locked to a specific temperature, this temperature may be checked, but not altered, by turning the knob.

WARNING: Do not remove ground prong from line cord plug. Removal may cause tip temperature to be erratic.

CALIBRATION

The EC1201A, EC1302B and EC1503B soldering tools use high precision platinum RTD temperature sensors; therefore, they are interchangeable without any re-calibration. Should you wish to custom calibrate your EC2002M unit, this can be easily accomplished with the use of a WCM1 Calibration Unit and a temperature measurement device like the WA2000.

AVAILABLE MODELS AND HAND PIECES

Product	Description
EC2002M-0	Power unit only, 120V 60Hz, °F display
EC2002M-0D	Power unit only, 240V 50/60Hz, °C display
EC2002M-1	Power unit, 120V 60Hz, °F display, EC1201A tool with ETA tip
EC2002M-1D	Power unit, 240V 50/60Hz, °C display, EC1201A tool with ETA tip
EC2002M-2	Power unit, 120V 60Hz, °F display, EC1302B tool with EPH101 tip
EC2002M-2D	Power unit, 240V 50/60Hz, °C display, EC1302B tool with EPH101 tip
EC2002M-3	Power unit, 120V 60Hz, °F display, EC1503B tool with EMA tip
EC2002M-3D	Power unit, 240V 50/60Hz, °C display, EC1503B tool with EMA tip
EC1201A	40 Watt soldering tool w/ETA tip
EC1302B	20 Watt soldering tool w/EPH101 tip
EC1503B	42 Watt high capacity soldering tool w/EMA tip

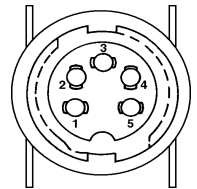
SPECIFICATIONS

1. Power input: 120VAC \pm 10%, 60 Hz, (240VAC \pm 10%, 50/60 Hz). 60 watts
2. Power unit output voltage: isolated 24VAC @ 2.7 amperes.
3. Size: 4.5" x 5.9" x 3.6"
4. Line Cord: 3 wire, U.L. recognized
5. Tip temperature control range: 350°F to 850°F (177°C to 454°C).
6. Control setting resolution: 1°F (1°C).
7. Stability: \pm 10°F (\pm 6°C) per Mil-Std-2000.
8. Absolute accuracy: Average tip temperature is calibrated to \pm 9°F (\pm 5°C) at idle with no load.
9. Ambient temperature range: 60°F to 110°F (16°C to 44°C).
10. Housing made with Electrostatic Protective Material as required in MIL-B-81705.
11. Housing passes Static Decay test per Federal Test Method Std. No. 101, Method 4046.
12. Weller® ESD tools comply with DOD-HDBK-263.
13. EC2002 units are U.L. listed and meet DOD-STD-2000, MIL-STD-2000, MIL-S-45743, W-S-6536, W-S-570, DOD-STD-1686.

TROUBLESHOOTING GUIDE

WARNING: AC LINE VOLTAGE IS PRESENT INSIDE POWER UNIT EVEN WHEN POWER SWITCH IS OFF. REFER SERVICE TO QUALIFIED PERSONNEL.

NOTE: Access to internal parts may be gained by removing four rubber feet, four bottom screws and top case.



TOOL DOES NOT HEAT – DISPLAY NOT LIT

With line cord unplugged and power switch on, check for about 21 ohms at line cord blades for 120VAC units (55 ohms for 240VAC unit).

- Check fuse, located on bottom of case – replace if required. Use slow blow fuse – 0.6A for 120VAC (0.3A for 240VAC).
- Check power switch – replace if defective.
- Check line cord – repair or replace if defective.
- Check transformer primary – replace transformer if defective.

With line cord plugged in and power switch on, check for 24VAC \pm 10% between pins #1 and #4 of tool receptacle.

- Check transformer secondary for 24VAC \pm 10% - replace transformer if defective.
- Check wiring to printed circuit board assembly – repair or replace if defective.
- Replace printed circuit board assembly.

With line cord plugged in and power switch on, check for 5 VDC \pm 1 VDC, between pins #3 and #4 of tool receptacle.

- Replace printed circuit board assembly.

TOOL DOES NOT HEAT – DISPLAY LIT

Check wiring from tool receptacle to printed circuit board.

- Repair or replace if defective.

Replace soldering tool with known good tool and recheck.

- Troubleshoot soldering tool using guide in soldering iron tech sheet.

TOOL OVERHEATING

Replace soldering tool with known good tool and recheck.

- Troubleshoot soldering tool using guide in soldering iron tech sheet.

Replace printed circuit board assembly in station.

TIP TEMPERATURE TESTING ERRORS

NOTE: Tip temperature testing must be done using 30 gauge thermocouple wire resistance welded to the center of the wetted area on the tip, tinning should be removed before welding. Other methods of measurements, or heavier gauge thermocouple wire, will cause errors. Thermocoupled tip temperature test kits are available; see Replacement Parts and Accessories Section.

Replace soldering tool with known good tool and recheck tip temperature.

- Troubleshoot soldering tool using guide in soldering iron tech sheet.

Calibrate station using WCM1 Calibration Unit. Instructions are in Calibration Unit tech sheet.

Calibrate tip temperature using WCM1 Calibration Unit; especially if a category B or C tip is used (see Tip and Tool Selection Sheet for category of tip). Instructions are in Calibration Unit Tech Sheet.

DISPLAY PROBLEMS

Missing segments or digits.

- Replace printed circuit board assembly

Display reading unsteady.

- Check that line cord is properly grounded.
- Check for low line voltage.
- Check AC line for excessive noise.
- Replace soldering tool with known good tool and recheck tip temperature.
- Check tool for defects using guide in soldering iron tech sheet.

HIGH TIP VOLTAGE

Replace soldering tool with known good tool and recheck tip voltage.

- Troubleshoot soldering tool using guide in soldering iron tech sheet.

Check for continuity from pin #5 of tool receptacle to line cord ground pin.

- Check wiring from tool receptacle to line cord ground pin - repair if defective.

CUSTOMER SERVICE

Should you EC2002M require service, it may be sent to the following address:

USA

Cooper Tools - Weller Division

1000 Lufkin Road

Apex, NC 27539

Attn: Repair Department

FAX: 919-387-2640

Phone: 1-800-476-3030

CANADA

Cooper Tools

164 Innisfil Street

Barrie, Ontario, Canada L4N 3E7

Attn: Repairs

FAX: 1-800-403-TOOL (8665)

Phone: 705-728-5564 Ext. 2026

REPLACEMENT PARTS AND ACCESSORIES

KEY NO.	PART NO.	DESCRIPTION
1	SW110	Power Switch
2	EC270	Receptacle and Wire Harness
3	EC271	Circuit Board Assembly
4	TR234	Power Transformer, 120VAC, EC2002M-0
5	FP3	Fuse, 0.6 AMP Slo Blo
Not Shown	TC205	Sponge
Not Shown	DS200K	Desoldering Adapter Kit
Not Shown	TC204	Spring and Funnel for EC1201A Tool
Not Shown	IHF225EC	Spring and Funnel for EC1302B Tool
Not Shown	EC254	Spring and Funnel for EC1503B Tool
Not Shown	EC1201AP	EC1201A Tool with Stand
Not Shown	EC1302AP	EC1302B Tool with Stand
Not Shown	EC1503AP	EC1503B Tool with Stand
Not Shown	SF60	Tool Funnel for SMT Tips
Not Shown	SMTA	Surface Mount Tip Adapter for EC1201A Tool
Not Shown	WA2000	Soldering Tool Analyzer
Not Shown	WCM1	Calibration Unit
Not Shown	WPB1	Weller® Polishing Bar
Not Shown	K111	Temperature Test Kit for EC1201A Tool
Not Shown	K121	Temperature Test Kit for EC1302B Tool
Not Shown	K131	Temperature Test Kit for EC1503B Tool

Assembly Schematic

