# Pulsed Heat Controller

MR-130B

Particular heat control enables precision reflow soldering!

MR-130B]

MR-130B pulsed heat controller controls pulsed current for heating to obtain ideal temperature to perform reflow soldering precisely. Real-time temperature feedback from a thermocouple attached to a thermode enables to adjust heat temperature in detail and precision performance according to the programmed heat profile can be done. MR-130B shows great performance also at ACF bonding and heat staking.
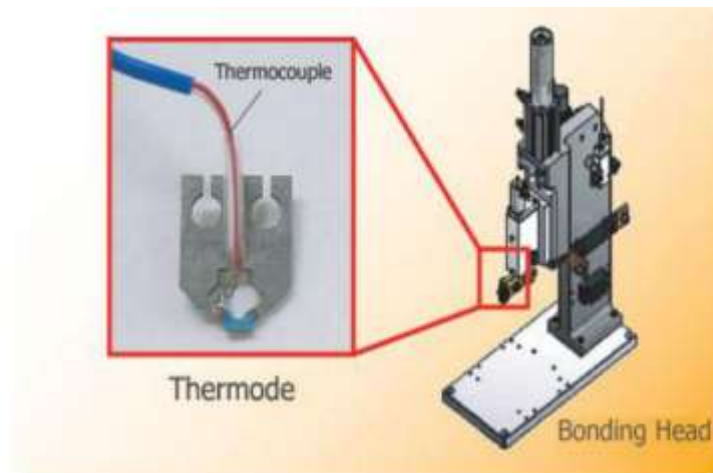
- Process Example -
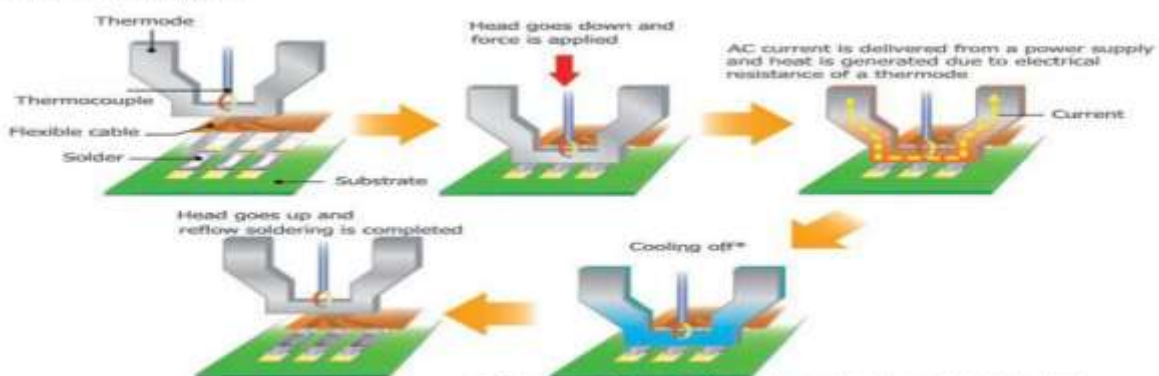
* After current stops a thermode and a holder absorb the heat from a workpiece and a workpiece gets cool down. Forced air cooling is also available for shortening the takt time.

[MR-130B]

MR-130B contributes to small footprint due to transformer integrated control unit.

MR-140A is the recommended model, which transformer is placed separately, to integrate into automated machine.

☐ Precision real-time control

Controls heat temperature utilizing real-time temperature feedback from a

thermocouple and heating time to perform in accordance with a programmed heat

profile.

Image of heat profile
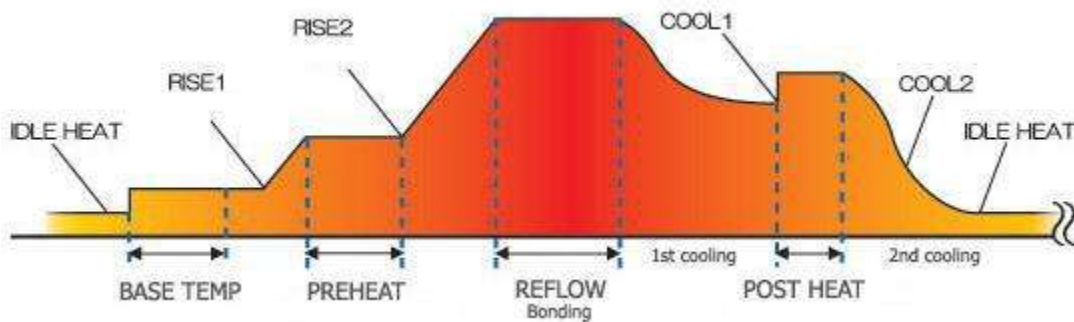
☐ Large LCD

Displays both graphic and numerical data of setup values, measured values,

waveforms, a schedule number and a program name all at once on a same screen.
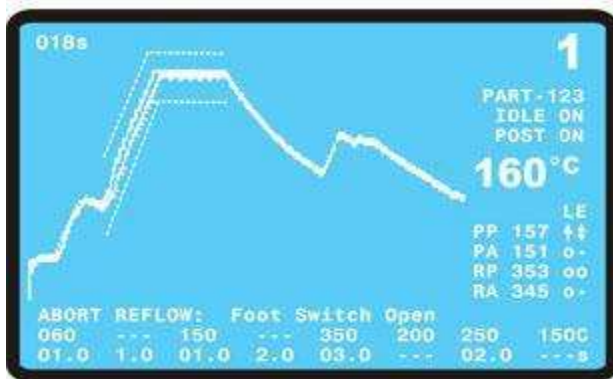

☐ Envelope limits

Displays in waveform both actual temperature and envelope limits at real time and triggers an alarm if the temperature is outside the set envelope limits.

☐ Data edit keys on the front panel

Allow to edit directly the time and temperature parameters of the heat profile on the graphic display. Those keys are vertically aligned with the profile heating states from Base to Cool2 as displayed on the graphic screen.
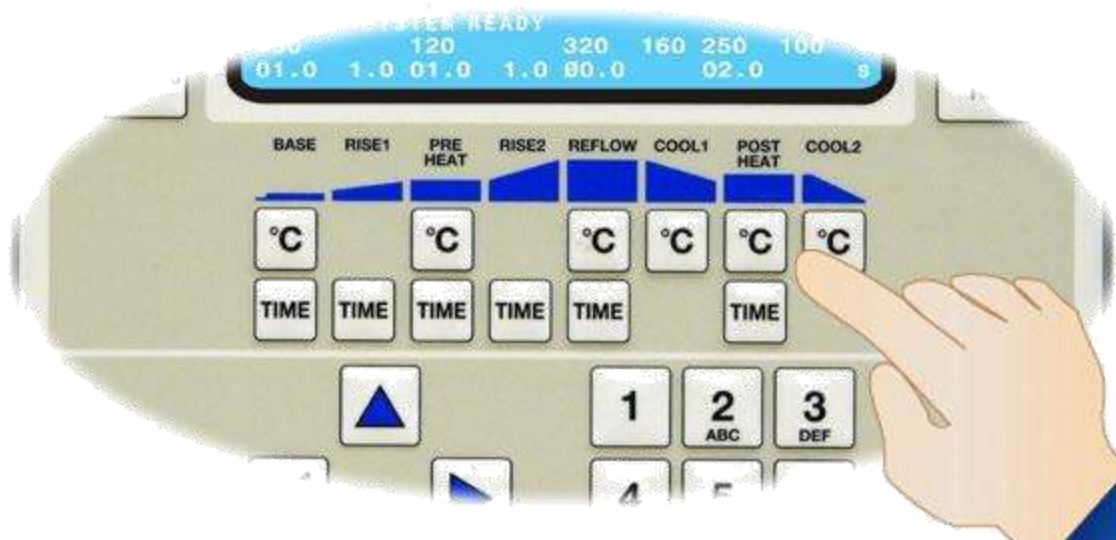
☐ IDLE HEAT and BASE TEMP
IDLE HEAT is for maintaining the thermode at the Idle Temperature when a process is not active. BASE TEMP is for providing a consistent temperature starting point for the process. These functions make it easier to obtain repeatability and to operate reflow soldering which requires more precise control.
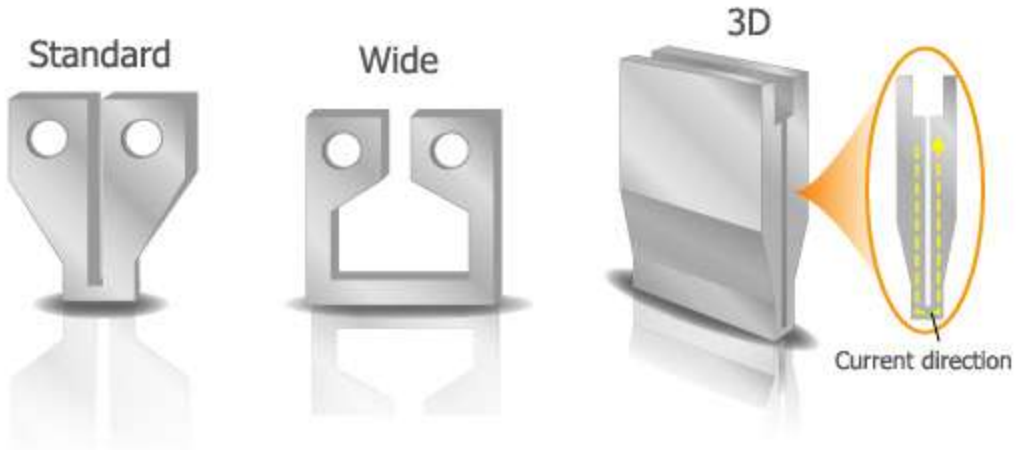
☐ Auto-switch of voltage
Automatically changes output voltage in accordance with each setup schedule.

☐ Schedule name registration
Possible to name each schedule with combinations of alphabets and numbers. Helps to distinguish each schedule.

☐ A variety of thermode lineups
Thermodes which meet customers' requirements can be offered. Please consult for a design of it.

Standard   Wide   3D

Current direction

☐ Applications

PCB and FPC cable   Solar cell and cell tab ribbon   Connecting terminal and stranded wire

Specifications

Model		MR-130B
Power requirements		Single phase, 180-264VAC, 50/60Hz
Breaker capacity		15A
Temperature Control	600℃ and below	±6℃ or ±2% of reading, whichever is greater
	Above 600℃	±3% of reading
Repeatability		±1% of setting
Display Range		15～999℃
Temperature range	Base	25 – 300℃
	Preheat	60 – 500℃
	Reflow	60 – 999℃
	Cool1	25 – 300℃
	Post Heat	25 – 999℃
	Cool2	25 – 300℃
	Idle	25 – 300℃
Time periods	Base	0 – 99.9 seconds
	Rise 1	0 – 9.9 seconds
	Preheat	0 – 99.9 seconds
	Rise 2	0 – 9.9 seconds
	Reflow	0.1 – 99.9 seconds
	Post Heat	0 – 99.9 seconds
Heating rate capability	coarse heating rate	Fast / Medium / Slow / Very Slow
	Fine heating rate	0 – 99%
Secondary voltage		Fast: 3.81V / Medium: 1.90V / Slow: 1.27V / Very Slow: 0.95V
Cooling method		Air cooling
Schedule programming *		Front panel or external controller via RS-232C/RS-485C

RS-232/RS-485 Connectors	Standard 9 Pin D-Sub female connector
User Programmable Heat Profiles	63
Dimensions (mm)	254(W) x 466(D) x 320(H)
Mass	27kg
Ambient temperature / humidity	15 – 40℃ / 93% (40℃) No condensation

*External controller will be prepared by customers.

External view

- MR-130B