



# TMT-R9800S

## Robot Soldering System



### TMT-R9800S

ESD  
FREE

LEAD  
FREE

The Thermaltronics Robot System incorporates innovative design concepts and precision components to ensure accuracy. The combination of high precision hardware and intelligent software ensures precision soldering and low operator training costs.

- ▶ Six Axis Soldering/Dispensing Platform
- ▶ Full vision mapping & Fiducial Marks
- ▶ Laser Height Measurement
- ▶ Curie Heat provides precise temp. control
- ▶ Fume extraction

### TMT-R9800S FEATURES

1. Unlike typical Cartesian robots the Thermaltronics Robot, Model TMT-R9800S, is equipped with full vision, (eyes) to verify the procedure being undertaken and does not simply follow a pre-determined program. In this respect it has an observation mode, a verification mode and as a result – a decision making capability. (Basically a brain). This capability of collecting and utilizing data for production processing is one of the most important factors necessary to meet the requirements of Industry 4.0 standards.
2. Through the use of servo motors and precision ballscrews, the Thermaltronics Robotic system is able to accurately meet the requirements of high speed operation, repeatability and durability. The software is designed to transform system commands into functional operating procedures and with its 6-axis capability, 360° independent fixture rotation, solder tip and solder wire feeding operation from separate axis control, the applications extend beyond conventional soldering and dispensing operations.
3. Application programming is made simple by using full image-merging and mapping techniques.
4. Dynamic laser height measurement/adaptive control, ensures precision soldering repeatability.
5. A full vision mapping system with fiducial marks, provides for intelligent decision making during procedural operations



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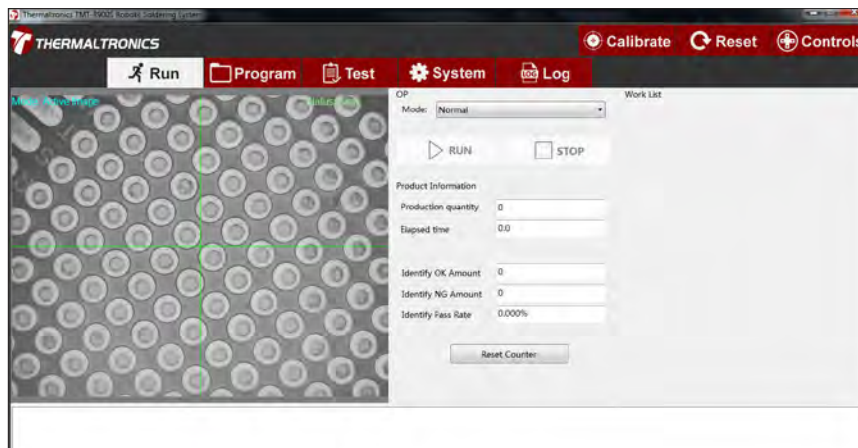
Robot Soldering System



## TMT-R9800S SPECIFICATIONS

Input Line Voltage	TMT-R9800PS-1	100-110 VAC
	TMT-R9800PS-2	220-240 VAC
Servo Motor Axis	6 Axis	
Camera View	290mm x 200mm	
PCBA Size Max	200mm x 200mm with rotation	
Soldering Region Max	190mm x 170mm	
Dynamic Range of Shaft	X Axis	290mm Standard
	Y Axis	200mm Standard
	Z1, Z2 Axis	70mm
	R Axis	360°
Shaft Speed	X, Y & Z Axis	0.1 ~ 300 mm/sec
	R Axis	0.1 ~ 450°/sec
Positioning Repeatability	X, Y & Z Axis	±0.01 mm
	R Axis	±0.02°
Camera resolution	0.015mm	
Air Pressure	Max. 6 Bar/ 87 psi	
Solder wire diameter range	0.3 ~ 1.6 (mm)	
Controller	Industrial Computer	
Operating System	Windows 7 Professional	
Soldering System	120 watts (40 watts RF output)	
Curie Heat Technology	320C ~ 475C (Tip cartridge pre-defined)	
Power Supply	100 ~ 240V AC	
Power Consumption	1 KVA	
Dimensions	800mm (H) x 702mm (D) x 620mm (W)	
Weight	125 KG	

## SOFTWARE INTERFACE



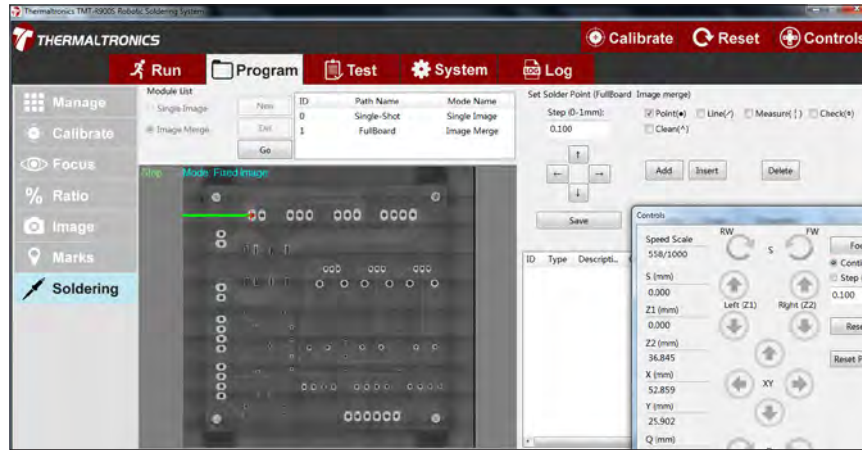


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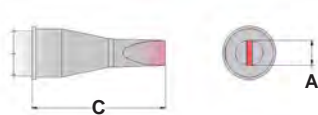


## Robot Soldering System

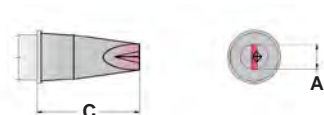
### SOFTWARE INTERFACE



### R SERIES TIP CARTRIDGES



CHISEL



CHISEL W/GROOVE

Part Number	A		C	
	MM	IN.	MM	IN.
R7CH012	1.20	0.05"	13.00	0.51"
R7CH016	1.60	0.06"	13.00	0.51"
R7CH024	2.40	0.09"	13.00	0.51"
R7CH030	3.00	0.12"	11.00	0.43"
R7CH038	3.80	0.15"	22.00	0.87"
R7CH052	5.20	0.20"	12.00	0.47"
R7CH175	2.50	0.10"	10.00	0.39"
R7CH176	1.78	0.07"	10.00	0.39"
R7CH177	1.50	0.06"	10.00	0.39"
R7CH178	1.00	0.04"	9.00	0.35"
R7CH179	1.00	0.04"	6.40	0.25"
R7CH180	3.00	0.12"	8.90	0.35"
R7CH181	3.00	0.12"	5.20	0.20"
R7CH250	5.00	0.20"	7.50	0.30"
R7CP200	2.50	0.10"	6.40	0.25"
R7CP201	1.80	0.07"	6.40	0.25"
R7CP202	1.50	0.06"	6.40	0.25"
R7LC650	5.00	0.20"	11.40	0.45"
R7LR403	1.78	0.07"	15.00	0.59"

Part Number	A		C	
	MM	IN.	MM	IN.
R7BCV020	2.00	0.08"	9.00	0.35"
R7BCV024	2.40	0.09"	9.00	0.35"
R7BCV030	3.00	0.12"	9.00	0.35"
R7DV016	1.60	0.06"	9.00	0.35"
R7DV020	2.00	0.08"	9.00	0.35"
R7DV024	2.40	0.09"	9.00	0.35"
R7DV030	3.00	0.12"	9.00	0.35"



CHISEL BENT

Part Number	B		C	
	MM	IN.	MM	IN.
R7CB225	1.78	0.07"	10.00	0.39"
R7CB226	1.50	0.06"	12.00	0.47"

6 = Temperature Sensitive 7 = Standard Applications 8 = High Performance



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Robot Soldering System



## HARDWARE FEATURES

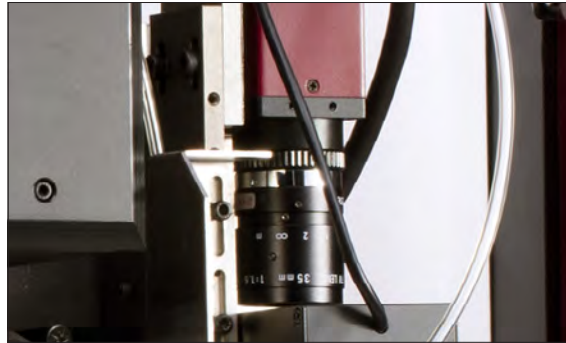
### DUAL ARM SYSTEM

- ▶ Soldering Tip and Solder Wire Feeder are located on two different arms, this simulates the operator's soldering process.



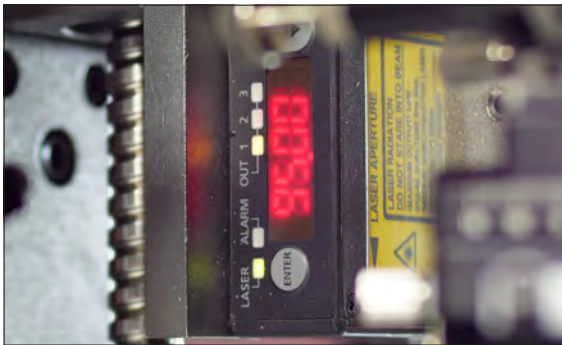
### VISION SYSTEM

- ▶ High resolution Camera for image recognition, scanning & fiducial marks.
- ▶ Programming is done on the image.



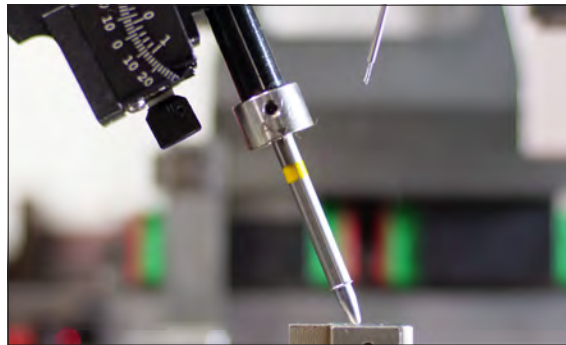
### LASER HEIGHT MEASUREMENT

- ▶ Real time laser measurement eliminates height variance in soldering
- ▶ Check for missing parts & board warpage



### SOLDER TIP CALIBRATION

- ▶ Easy to use tip calibration
- ▶ Maintain high accuracy & repeatability during soldering processes



### TIP CLEANING SYSTEM

- ▶ Two types of cleaning: air blower & brass brush
- ▶ Solder tip can move separately from the solder wire feeder



### FINE TUNING

- ▶ Fine tuning system for solder tip and solder wire feeder
- ▶ Fast and accurate system setup

