The Revolutionary ERSA *i*-CON and *i*-Tool:
*i*ntelligent and Performing Power
For the Ultimate *i*nnovation in Hand Soldering

ERSA GmbH

Soldering & Inspection Systems

ERSA *i*-Tool
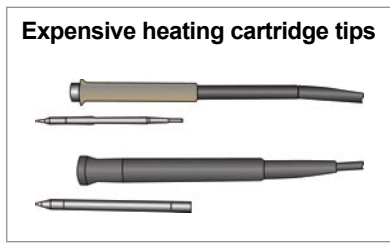# The World's Most *i*ntelligent
Professional Soldering Iron!

Guaranteeing quality in a Lead Free environment will put the greatest demands on hand soldering applications. How well the iron recovers or puts back the heat lost at the tip and how long the tip remains on the joint, ultimately determines the actual joint temperature. Slow recovering irons will lead to inconsistent joint temperatures. Today, soldering iron manufacturers are developing better performing irons, but many are based on the tip being attached to the heating element cartridge which means the tip temperature can overshoot and the tip price is very high! Such irons force companies to throw away a perfectly good and expensive heating element only because the small copper tip is worn out!

To meet the Lead Free challenge, ERSA is introducing its newest technology (patent pending) for a state of the art solder station

– the ERSA *i*-CON and *i*-Tool! Today at ERSA, "*i* " stands for *intelligent, innovative, intuitive, ingenious, interactive, informative* – simply *ideal!*

As process windows become smaller, the soldering task becomes more difficult. True *i*nnovation demands more than just a nice slogan, a catchy word. Today's soldering stations must be *i*ntelligent themselves but *i*ntuitive for the user. The *i*nteractivity between operator and station must be greater, and the *i*nteractivity between stations themselves must be greater. Truly *i*ngenious solutions are engineered to optimize process quality and productivity while at the same time reducing operating costs. These are the elements that make up today's *i*deal soldering station, and these are precisely the elements that make up the world's most *i*ntelligent soldering iron ever designed – the ERSA *i*-Tool!

Expensive heating cartridge tips

Micro power soldering irons offer performance and ergonomic advantages, but have the two major drawbacks of tip temperature overshoot and expensive heating cartridge tips.

Old iron technology
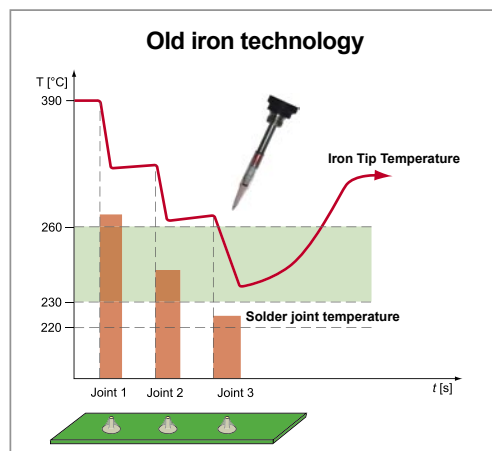
Standard soldering irons where the sensor is located far away from the tip will lead to inconsistent solder joint quality. The tip looses temperature into the joints but does not recover fast enough before the next joint is made.

***ERSA i*-Tool / *i*-CON**
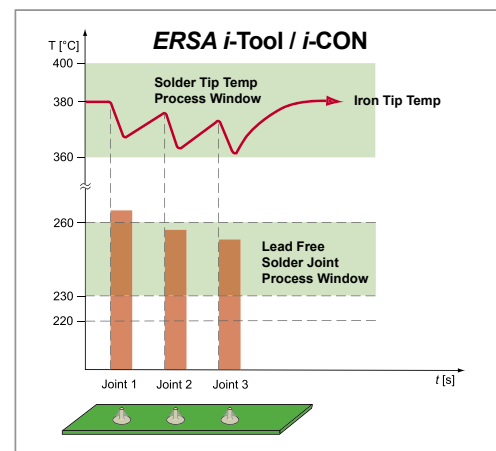
The i-Tool recovers so fast that all solder joints can be made with nearly the same temperature. The sensor measures the actual tip temperature very close to the tip extremity. The Process Window Alarm assists the operators in guaranteeing repeatable quality.

ERSA *i*-CON:
Solving the Industries Toughest Hand So

1. Low cost i-Tip
   (Consumable, long life)

2. i-Tip fastener
   (Re-usable, long life)

3. Heating element
   (Re-usable, long life)

i-Tool Solder iron: *Ultra light (only 30 grams), ultra short (only 155 mm), and ultra short tip-to-grip (only 45 mm).*

*i*nnovative features of this technology

150 W micro heating element (patent pending): allows for standard, long life, low cost tips to be removed without replacing the expensive heating element each time the tip wears out.

Ultra fastest heat up and recovery of all soldering irons that have exchangeable, low cost tips: room temp to 350 °C in approx. 9 seconds; from standby to 350 °C in approx. 3 seconds.

"One Touch" Easy to Use operation: user friendly station software with large, multifunctional display has on-line Help Text and easy menu navigator with *i*-Op control.

Automatic Standby Motion Sensor: recognizes when the iron is being used and automatically goes into a standby temperature when the iron is put into its holder.

i-Set Tool: this optional item allows for automatic down-loading of station settings and lockout by acting as a type of USB stick. Simply upload the station settings from an *i*-CON into the *i*-Set Tool. The *i*-Set Tool is then plugged into any other *i*-CON station and all set parameters are automatically downloaded in less than 5 seconds and the station is locked out!

Process Window Alarm: informs operator with a visual and acoustic signal if the soldering iron tip gets too hot or too cold. QC can specify a Process Window in which the iron is allowed to work, and for the first time ever in the history of hand soldering, it is possible to guarantee that every solder joint is made with the proper temperature!

***i*-Tool Calibration:** unlike other systems, the microprocessor which stores the temperature calibration of the iron is actually located in the PCB handle. This now allows for each individual *i*-Tool to be calibrated independent of the solder station meaning great time and cost savings. Only the irons need to be taken for calibration, which is much easier and faster!

Lead free *i*-Tips: The low cost *i*-Tips are specially plated with the new ERSADUR-LF galvanic process lasting 2 to 3 times longer than standard tips!

Power Level Settings: allows for the use of three different power settings which control the heating element overshoot depending on the heat required. Thus, the operator can choose the right setting for the right job – either more power or more control! Power Level Low guarantees NO OVERSHOOT for maximum component safety!

The fastest, safest programming and locking out of solder stations for maximum quality control and documentation!

Safe control is possible when temp sensitive components require NO OVERSHOOT! - Power Level Low!

Multiple soldering and desoldering Tools for maximum flexibility

Special Chip Tool tips for 0201 rework.

i-CON2 offers all the amazing features of the revolutionary i-CON in a double iron digital station with Chip tool for SMD removal

Chip tool
SMT desoldering tweezers

X-Tool
High power through hole desoldering

X-Tool with compressor unit and i-CON

Both the *i*-CON and the *i*-CON2 allow for the use of various soldering and desoldering tools to be used in addition to the *i*-Tool.

The Chip Tool offers a wide range of SMT desoldering tips for safe and fast removal of the smallest chips (0201, 0402, etc.) up to medium size PLCCs.

The X-Tool is a high powered desoldering iron designed for the toughest through hole desoldering applications which must be used in combination with the CU compressor unit. All tools are automatically detected when connected to either the *i*-CON or the *i*-CON2 station and can be individually programmed.
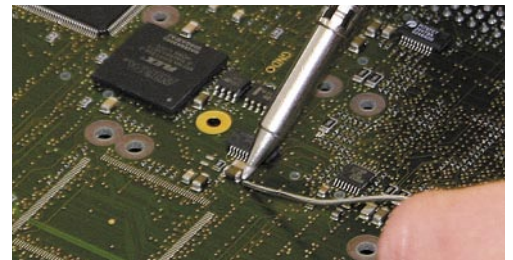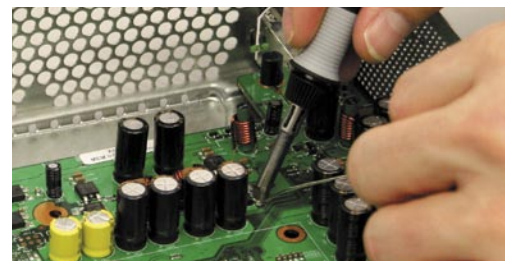

Tools are automatically detected when inserted into the station and a pre-determined program is started.

Low temp., safe SMD soldering.

High mass SMD soldering in hard-to-reach areas.
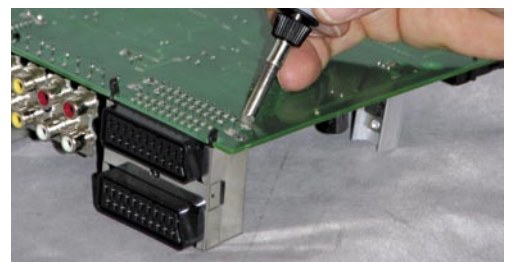
High mass Through hole soldering.

Features, technical description
ERSA *i*-Tool and *i*-CON:

i-CON soldering station

Supply voltage; frequency:	220 – 240 VAC/50Hz; 110 – 120 VAC/60 Hz
Admissible ambient temperature:	0 °C – 40 °C / 0 - 104 °F
Secondary voltage:	24 V~
Continuous rating:	80 W (120 W with i-CON 2) protection class I (double insulation)
Weight:	2 kg / 4.4 lb
Control technology:	*i*-Tool: *i*-TRONIC control (patent pending) with digital PID algorithm and multiple sensors; X-Tool: SENSOTRONIC control system with digital PID algorithm; Chip tool: RESISTRONIC control system
Temperature range:	continuous 150 °C – 450 °C / 300 °F – 842 °F
Display:	blue LCD display
Operation:	one-touch operation by means of a rotary type push button
Cable:	2 m / 6.5 ft PVC with connector
Antistatic:	antistatic design suitable for operation in an ESD environment. MIL-SPEC/ESA standard
Non-operative temperature fluctuation:	less than +/-2 °C
Tip to ground resistance:	less than 2 ohms
Tip leakage:	less than 2 mVeff, VDE, EMV checked
Fuse rating:	800 mA, slow-blow
Connectable soldering and desoldering tools:	*i*-Tool, Chip tool, X-Tool

i-Tool soldering iron

Voltage:	24 V~
Rating:	150 W +/- 10 %
Heating time:	approx. 9 s to 350 °C / 662 °F
Weight (without cable):	approx. 30 g / 1 oz
Cable:	1.5 m / 5 ft highly flexible, heat resistant, antistatic
Model:	antistatic according to MIL-SPEC/ ESA standards with integrated ID and standby function

Total weight soldering station, tool holder, soldering iron incl. packaging: approx. 3.1 kg / 7 lb

Lead-free soldering, inspection or rework: ERSA solutions for a safe process.

Ask for the latest issue of the ERSA multimedia Demo CD!

More than 70 ERSA representatives in over 65 countries.

Headquarters
ERSA GmbH
Leonhard-Karl-Str. 24
97877 Wertheim / Germany
Phone: +49 (0) 9342 / 800-0
Fax: +49 (0) 9342 / 800-100
e-mail: info@ersa.de
www.ersa.de

America
ERSA North America
A Division of KURTZ North America Inc.
1779 Pilgrim Road
Plymouth, WI 53073
USA
Phone: 800 363 3772
Fax: +1 920 893 3322
e-mail: infoersa@kna.net
www.ersa.com

Asia
ERSA Asia Pacific
A Division of KURTZ Far East Ltd.
Suite 3505, 35/F.,
China Resources Building
26 Harbour Road, Wan Chai
Hong Kong
Tel.: +852 2331 2232
Fax: +852 2758 7749
e-mail: kurtz@kfe.com.hk
www.ersa.com

Room 601, 6th Fl. Beethoven Plaza
1158 Chang Ning Road
Shanghai 200051
China
Tel.: +86 (21) 5241 6000
Fax: +86 (21) 5241 9918
e-mail: kurtz@kurtz.com.cn
www.ersa.com

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