



Operating instructions

GB

ERSA soldering station

i-CON[®] 2





Contents

1. Introduction	5
1.1 Supply unit	5
2. Technical data	6
3. For your safety	7
3.1 Pictograph and symbol explanations	8
3.2 Intended use	9
4. Transport, storage and disposal.....	12
5. Commissioning	13
5.1 Before starting operation.....	13
5.2 Switching on for the first time.....	14
6. Functional description.....	16
6.1 Operation	16
6.2 The Work mode	17
6.2.1 Software version	17
6.2.2 Activating tools.....	18
6.2.3 Setting temperature setting of the heating plate	18
6.2.4 Working with the heating plate.....	19
6.2.4.1 Output values of the heating plate	20
6.3 Parameter mode	21
6.3.1 i-Set-Tool.....	23
6.3.2 Set temperature	25
6.3.3 Calibration temperature	25
6.3.4 Tip offset	26
6.3.5 Calibrating the i-CON 2.....	28
6.3.6 Calibration temperature	29
6.3.7 Power Level	29
6.3.8 Standby-Time.....	30
6.3.9 Standby-Temperature	30

Contents

6.4	Configuration mode.....	31
6.4.1	Temperature window.....	32
6.4.2	Process alarm.....	32
6.4.3	Password lock.....	33
6.4.3.1	Setting the password.....	33
6.4.3.2	Changing the password	35
6.4.3.3	Input of values without deactivating the password.....	35
6.4.3.4	Forgotten password	36
6.4.4	Temperature unit.....	36
6.4.5	Language selection.....	36
6.4.6	Adjustable shut-down function (idle state).....	37
6.4.7	Device number.....	38
6.4.8	Heating plate.....	39
6.4.8.1	Connecting heating plate to soldering station	39
6.4.8.2	Activating the heating plate	39
6.5	Factory settings ("default").....	40
6.6	Contrast	41
6.7	Replacing the soldering tip.....	42
6.7.1	i-Tool	42
6.8	Changing the Heating Element.....	44
6.8.1	i-Tool	44
6.8.2	Chip-Tool, X-Tool	45
6.9	Sensitive components.....	46



Contents

7. Error diagnosis and remedy	47
7.1 General Errors	47
7.2 Other Errors	48
7.3 Continuity check for i-Tool	49
7.3.1 Heating element	49
7.3.2 Thermocouple	49
7.4 Parameter changes not possible	49
7.5 Error Messages	50
8. Maintenance	52
8.1 Important care jobs	52
8.2 Cleaning	52
9. Replacement parts, accessories	53
9.1 ERSADUR Long-Life Soldering tips (i-Tips)	56
10. Warranty	60

1. Introduction

We appreciate your decision to purchase this high-quality soldering station. The i-CON 2 from ERSA is a top-of-the-line micro- processor-controlled soldering station. It is designed for use in industrial production, repairs and in laboratories.

1.1 Supply unit

Two soldering/desoldering tools (hereafter referred to as “Soldering Tool”) can be connected to the supply unit and operated together. You can activate the connected soldering tools by simply by pressing the pushbutton. A connected i-Tool is automatically activated as soon as it is taken out of the storage stand.

The use of a microprocessor facilitates operation and sets new standards for the functions available at the soldering station. Five independent tool settings can be made and saved for each connected tool by means of a simple menu guide. With the i-Set Tool (option) it is possible to save these settings. Also you can write back the saved settings into the soldering station. This way, the basic settings can be transferred quickly to several soldering stations.

The i-CON 2 can be operated with various soldering tools. Besides the new i-Tool, the de-soldering iron “Chip tool” (for processing SMCs) and the desoldering iron X-tool (Vacuum unit CU 100 necessary) can also be connected to the station. The possibility to connect the Power tool, Tech tool and Micro tool to the station rounds off our range of tools. A wide variety of functions, high speed and control precision make this soldering station especially suitable for manufacturing processes subject to stringent quality requirements.

The soldering station can optionally be delivered with a serial PC-interface. Control signals for the soldering fume extraction EA110 are also available on this interface.

Operating instructions

2. Technical data

Soldering station i-CON 2		
Description	Value	Unit
Mains voltage	220-240	VAC
Mains frequency	50-60	Hz
Fuse (slow-blow)	1,25	A
Mains voltage	110-120	VAC
Mains frequency	50-60	Hz
Fuse (slow-blow)	2,5	A
Secondary voltage	24	VAC
Maximum short-term heating power	290	W
Mean heating power	120	W
Safety class	I	-
Permissible ambient temperature	0-40	°C
Temperature range (stepless)	150-450	°C
	300-842	°F
Temperature regulation (at idle)	< ± 2	°C
Ohmic resistance between soldering tip and ground	< 2	Ohm
Soldering tip to ground leakage voltage	< 2	mV eff
Other		
Control technology	SENSOTRONIC (PID-behaviour)	
Function display	LC-Display, blue	
Two tools operable at the same time		
Supply line 2 m, PVC, with connector		
Single-knob control via incremental encoder (i-OP)		
Anti-static surface, especially suitable for use in ESD areas.		
Option: Serial interface for controlling the EA110 soldering fume extractor and the 0IRHP100A heating plate.		
In accordance with MIL-SPEC/ESA-standard		
VDE*, EMV-tested		
Conformity		
Connectable soldering/desoldering tools:		
Left side: i-Tool, Power-Tool, Tech-tool, Micro-Tool, Chip-Tool, X-Tool		
Right side: i-Tool		

*A public safety testing company located in Germany.
Similar in operation to its United States counterpart, UL.

Operating instructions

Soldering iron i-Tool		
Description	Value	Unit
Operating Voltage	24	VAC
Maximum heating power	150	W
Mean heating power	80	W
Heating-up time to 350 °C / 662 °F	approx. 10	sec
Weight (without supply line)	approx. 30	g
Other		
Supply line 1,5 m, highly flexible, heat resistant, antistatic		
Type: Antistatic in accordance to MIL-SPEC/ESA-Standard		
The handle features an integrated identification and standby function.		

3. For your safety

ERSA products are developed, produced and tested in compliance with the basic safety requirements.

Nevertheless, residual risks still exist!

For this reason, please read these operating instructions before you operate your device for the first time. It helps you to become familiar with the device's functions and to use them optimally. Please store these operating instructions at a place which is always accessible to all users!

3.1 Pictograph and symbol explanations

In this instruction manual, pictographs are used as hazard notes.



Special information or orders and prohibitions to prevent personal injury or extensive material damage are supplemented by a pictograph and in the text with hierarchically structured bold words:

Warning! Is used to warn of an imminent danger. Possible consequences can be death or personal injury.

Attention! Is used to warn of a possible dangerous situation. The consequences can be personal injury, material or environmental damage.

Caution! Is used for an application recommendation. The consequences of non-observance can be material damage.

In addition to the hierarchic warning notices described above, we use the following symbols:



This is used to mark text passages which contain explanations, information or tips.

- This sign is used to mark
 - activities which you must carry out, or
 - instructions which must be followed by all means

3.2 Intended use

ERSA heating tools may only be used for the processing of soft solder. In special cases, however, if stated explicitly in the operating manual of the respective tool, some tools can also be used to work plastics. If the tool is not used as intended or tampered with, the manufacturer cannot be held liable for any warranty and liability claims on part of the purchaser.



Attention! Check all components before use. Have any damaged parts repaired by a specialist or the manufacturer. Incorrectly performed repairs represent a risk of accidents for the user. Always use genuine ERSA spare parts for any repairs.



Attention! Heating tools get hot. Before heating up the device, check that the tool insert (e.g. soldering tip, modelling insert, etc.) is correctly connected to the heating tool. Do not allow the hot tool insert to touch your skin, your hair or any materials which are heat-sensitive and flammable. Always work on a base with adequate heat-resistant properties.



Attention! Restrict unauthorized access. Make sure that no unauthorized person, in particular children, can get near heating tool without your permission.



Attention! Danger of fire. Before heating up the heating tool, remove flammable objects, liquids and gases from the area where you will be working with your heating tool. Whenever you take a break from your work, place the heating tool in the holder provided for that purpose. Disconnect your heating tools from the mains after use.

Operating instructions



Attention! Never leave your hot heating tool unattended. Remember that the tool insert needs a certain amount of time to cool down to a safe temperature even after you have switched the device off.



Caution! Keep your workplace tidy. An untidy workplace increases the risk of accidents.



Attention! Lead alloyed solders are toxic. Solders containing lead are toxic if they enter human body. For this reason, it is strictly forbidden to eat, drink or smoke. By equal measure, you should thoroughly wash your hands after working with lead alloyed solder.



Attention! Dispose of waste solder in a responsible fashion. Comply with your local authority's waste disposal regulations when disposing of the by-products of your soldering work.



Attention! Ventilation and extraction. The materials and ancillary substances you use whilst soldering can have a detrimental effect on your health. Make sure there is adequate ventilation or extraction. Comply with the relevant safety data sheets.

Operating instructions



Warning! Protect connection cables. Do not use the connection cable to pull out the plug or as a means of carrying the device. Make sure that connection cables are not exposed to heat and do not come into contact with oil or sharp edges. Damaged connection cables represent a potential cause of fire, short-circuits and electric shocks. Damaged connecting cables can cause fire, short circuits, and electric shock, consequently they must be replaced immediately.



Attention! Take account of ambient conditions. Protect your device against all liquids and moisture. Failure to do this represents a risk of fire or electric shocks.



Caution! Look after your heating tool. Always keep your ERSA product in a safe, dry place out of the reach of children. Pay attention to any maintenance requirements. Check your device at regular intervals. Always use genuine ERSA accessories and spare parts.



Attention! Physically and/or mentally disabled people may only use the soldering station when supervised by trained expert personnel! Children are not allowed to play with the soldering station!

National and international regulations

Comply with national and international regulations governing health and safety at work.



4. Transport, storage and disposal

The i-CON 2 are each delivered in a stable box enclosure. Only use the original packaging for transport and interim storage of the systems. Do not move jerky or drop the i-CON 2. The i-CON 2 must be protected from weather influences such as rain, fog, sea air, etc. If the units will be stored for a longer period of time under humid conditions, then the i-CON 2 must be packed air-tight with desiccating agents in the enclosure. Damages due to improper transport and storage are not covered by the guarantee.



Disposal Notice in accordance with directive 2002/96/EC of the European Parliament and the council of January 27, 2003 on Waste Electrical and Electronic Equipment (WEEE). Products labelled with the symbol of the crossed out wheeled bin must not be disposed of with unsorted municipal waste. For this purpose, the local authorities have set up collecting points. Please ask your municipality which possibilities are offered for the separate collection of WEEE. This way, you make your contribution to the reuse or other forms of use of WEEE to protect our environment and health.

5. Commissioning

5.1 Before starting operation

Please check the contents of the packaging for completeness. For more information read the chapter on [Replacement parts, accessories]! Should the listed components be damaged or incomplete, then please contact your supplier.

Order →	0IC2000A	0IC2000AC	0IC2000AIT	0IC2000AXT
Content ↓				
0IC203A	1 x	1 x	1 x	1 x
0100CDJ	1 x	1 x	2 x	1 x
0A48	1 x	1 x	2 x	1 x
3N544	1 x	1 x	1 x	1 x
0A08MSET	1 x	1 x	2 x	1 x
Power cable	1 x	1 x	1 x	1 x
0450MDJ		1 x		
0A43		1 x		
0CU100A				1 x

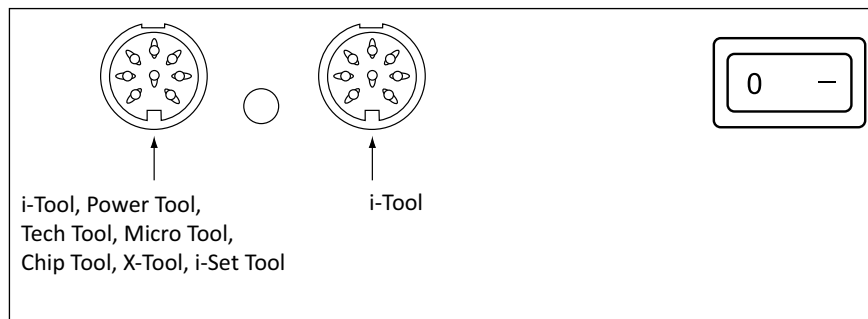
Operating instructions

5.2 Switching on for the first time



Be sure to do the following to ensure the safe and long-lasting operation of the soldering tool:

- Check whether the supply voltage matches the value stated on the rating plate.
- Switch off the soldering station with the power switch.
- Check the right fit of the soldering tip.
- Connect the soldering tool with the control station **1** and put the soldering iron in the holder.



Operating instructions



- Connect the power cable to the network supply socket ②.
- Moisten the viscose sponge with soft water. Do not over wet sponge.
- Switch on the soldering station ③.

6. Functional description

6.1 Operation



The soldering station is switched on/off with the switch ① on the front. When the soldering station is switched on, the switch glows red. The soldering station is controlled via a rotary encoder ② with pushbutton function. It is called i-OP. The i-OP makes it possible to select desired functions or to change values. Clockwise turning results in higher values and counter-clockwise turning in lower values. Slow turning effects change in increments of one. Quick turning changes the selected values in increments of 10/50/100 (depending on the corresponding parameter).

The i-OP has an additional pushbutton function. Via this pushbutton function (pushing), the selected parameters and values are confirmed and become effective for the station. In addition, this pushbutton function enables you to activate the connected tools alternately. All setting steps and measured values are displayed in plain text in a clearly structured display window, which is simply referred to as "Display".

6.2 The Work mode

After the station has been switched on, the switch-on dialog is displayed for approx. 2 seconds. This dialog shows the station name ① and the software version ② of the i-CON 2. After this the station will automatically change to working mode:

The names and the values of the active soldering tool are displayed with larger characters ③

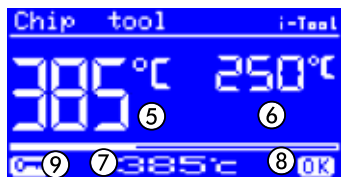
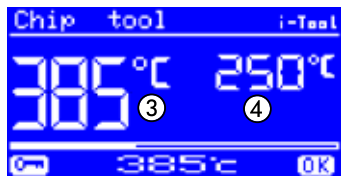
The names and the values of the passive soldering tool are displayed with smaller characters ④

with the parameters:

- Actual value of the active soldering tool ⑤.
- Actual value of the passive soldering tool ⑥.
- Set value of the active soldering tool ⑦.
- Actual value is within the temperature window ⑧, for more information please refer to Chapter [Temperature window].
- Password lock is active (KEY-Symbol) ⑨.



In the work mode, the soldering tool connected at the left jack is displayed on the left side and the soldering tool connected at the right jack on the right side of the display.



6.2.1 Software version

These operating instructions refer to firmware 2.17. For service purposes the number of the software may be of help, you should therefore make a note of it and keep it ready, as you may need it when asked by our Service Department.

6.2.2 Activating tools

You can alternately activate any 2 soldering tools connected to the station by pressing the i-OP. A connected i-Tool is always automatically activated as soon as it is taken out of the storage stand.

In the working mode, the soldering tip temperature of the active soldering tool can be directly changed by turning the i-OP. This is confirmed by pressing the i-OP.



With the password protection activated, then the nominal value can only be changed via the parameter mode. The password is needed for this.

6.2.3 Setting temperature setting of the heating plate

This function can only be vouched for when the soldering station is equipped with a serial PC-interface (Option). You can then use the soldering station to control the infrared heating plate of the 0IRHP100A rework system. Read more on this in the Section [Configuration Mode].



- Click the i-OP 3-times one after the other in the working mode. The adjoining display appears.
- Set the desired temperature setting between [0] and [6] by turning the i-OP.



The heating plate can be operated with 6 temperature settings. Setting [0]: the heating plate is switched off; Setting [1]: lowest heat output; Setting [6] maximum heat output. The factory setting is [0].

- When the desired temperature setting appears, press the i-OP to select the temperature setting.

6.2.4 Working with the heating plate

The heating plate is switched on as follows:

- With the function [Heating plate] activated, you can switch on the heating plate in the working mode by double-clicking the i-OP.
- The ① window appears for 2 seconds. The ② symbol signals that the heating plate is working. Display ③ indicates the set temperature setting.



The heating plate is switched off as follows:

- Double-click the i-OP to switch off the heating plate.

The temperature setting is changed as follows in the working mode:

- Double-click the i-OP to switch on the heating plate.
- The ① window appears.
- Press the i-OP again. Select the desired temperature setting by turning the i-OP. Press the i-OP again to accept the set value.
- The heating plate now operates with the set temperature setting.



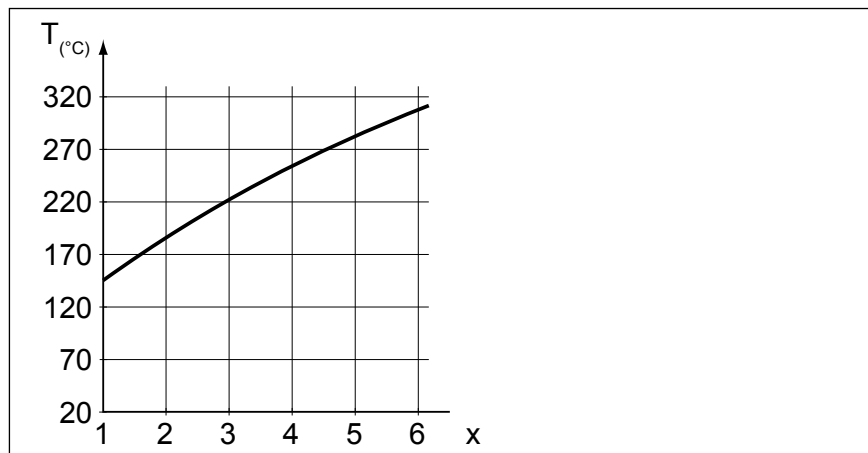
Placing the soldering station in the idle state has the effect of also switching off the heating plate. The fact of the soldering station being taken out of the idle state does not automatically switch on the heating plate. You have to manually switch it on by double-clicking the i-OP. Find out more about this in the section [Adjustable shut-down function (idle state)].

6.2.4.1 Output values of the heating plate

To stop the heating plate overheating, the maximum temperature is limited to 300 °C (Temperature setting 6).

The following characteristic shows the end temperatures of the heating plate at the various temperature settings.

- Horizontal (x): set temperature setting
- Vertical (T): temperature after 10 minutes of heating



6.3 Parameter mode



The following settings can be made in parameter mode:

- Nominal temperature (150 - 450 °C / 302 - 842 °F)
- Calibration temperature (-70...+50 °C / -126...+90 °F)
- Peak offset (if required)
- Energy function (3 stages)
- Standby period (0 - 60 min)
- Standby temperature (150 - 300 °C), only available with i-Tool.

Please proceed as follows to activate the parameter mode:

- Select a soldering tool with the i-OP.
- Press the i-OP and keep pressed for 2 seconds.

The parameter mode is now activated for the chosen tool. The desired parameter is selected by turning on the i-OP.

For the selected parameter ①, a help text ② is displayed in the last line which gives additional explanations or numerical ranges.

Operating instructions



If no soldering tool is connected to the i-CON 2 when the station is switched on, you can, nevertheless, select a soldering tool in the parameter mode and perform your settings. The selected tool is marked with an arrow. If a soldering tool is connected when the station is switched on, you will reach the parameter area of the connected soldering tool.

Proceed as follows in order to change a parameter value:

- Push the i-OP to activate the soldering tool the parameters of which are to be changed.
- Press the i-OP pressed and keep pressed for 2 seconds to open the parameter mode for the active soldering tool.
- Select the desired parameter by turning the i-OP.
- Press the i-OP to activate the cursor, pressing the i-OP subsequently de-activates the cursor.

With the cursor activated, turning the i-OP accordingly changes the value of the parameter.

6.3.1 i-Set-Tool

With the i-Set Tool (option) it is possible to save the settings (including password) of the station. Also you can write back the saved settings into the station. This way, the basic settings can be transferred quickly to several soldering stations. Please observe the i-Set Tool's manual for this purpose. How to use the i-Set Tool:

- Disconnect the soldering tool from the left jack of the soldering station and connect the i-Set Tool with the left jack.
- Turn the i-OP and select the following: Upload: The data of the station is written into the i-Set Tool. Download: The data of the i-Set Tool is written into the station. Then, push the i-OP.

A confirmation prompt is displayed:

- Select [Abort] to end the process or [>>>] to continue.
- Push the i-OP; the settings will be saved. Wait until the text [Parameter saved] is displayed. Then, remove the i-Set Tool.



Operating instructions



Display contrast, calibration and offset are not transferred. The data transfer is effected exclusively with the left jack of the i-CON 2. When transferring data to the soldering station, the parameters for all soldering tools will be overwritten. Take note of this when you operate different soldering tools at your soldering stations.

Even though the soldering station is equipped with a serial PC-interface (option), the device number of the station is not transmitted. Please read section [Device number]!

If data from an i-CON 1 is loaded, the settings on the left side are overwritten with this data. The settings on the right side are reset to the factory settings (default).



6.3.2 Set temperature

The set temperature is the desired soldering tip temperature.



In the work mode, the soldering tip temperature of the active soldering tool can be directly changed by turning the i-OP. Confirm this by pushing the i-OP.



6.3.3 Calibration temperature

Use this function to calibrate the soldering tip temperature. It makes it possible to adjust the display value and actual tip temperature. The adjustable calibration range is -70...+50 °C / -126...+90 °F.

The exact calibration procedure is described in chapter [Calibrating the i-CON 2].



If you do not have a corresponding measuring unit for this measurement, please enter "0" into this parameter field.



Operating instructions

6.3.4 Tip offset



As the soldering tips have different masses and geometric forms, they have different temperature characteristics.

The tip offset is used to adjust the temperature measurement to the respectively used soldering tip or, in the case of temperature sensors, to the type of thermocouple. The soldering tip is adjusted with a number. As the station recognizes the connected soldering tool automatically, the station is familiar with the complete combination of soldering iron and tip when the number has been selected. This way, the temperature measurement and closed-loop control can be adjusted in an optimal way. The tip offset can be set from 1 to the maximum possible limiting value (table on next page) of the connected soldering tool.



If the Chip-Tool is connected, [Tip Type] will appear instead of the entry [Tip-Offset]. In that case, you can select the tip type directly.

Operating instructions

Chip tool	Power tool				Tech tool		Micro tool	
Tip	Tip	Number	Tip	Number	Tip	Number	Tip	Number
0452EDLF060	832 UD	1	832 AD	4	612 SD	1	212 BD	1
0452MDLF020	832 SD	1	842 UD	1	612 UD	1	212 CD	1
0452FDLF040	832 BD	1	842 SD	1	612 BD	1	212 ED	1
0452FDLF075	832 KD	1	842 KD	1	612 AD	1	212 KD	1
0452FDLF100	832 CD	1	842 BD	3	612 KD	1	212 MS	1
0452FDLF125	832 ED	1	842 CD	3	612 ED	1	212 SD	1
0452FDLF150	832 PW	1	842 ED	3	612 GD	1	212 AD	1
0452FDLF175	832 VD	2	842 YD	4	612 CD	1	212 FD	1
0452FDLF200	832 GD	2	842 ID	4	612 TW	1	212 GD	1
0452FDLF250	832 MD	2	842 JD	4	612 MD	1	212 VD	1
0452FDLF275	832 LD	2	852 OD		612 JD	1	212 RD	1
0452FDLF400	832 HD	3			612 ID	1	212 ID	1
0452QDLF100	832 FD	3			612 HD	1	212 ND	1
0452QDLF125	832 TD	3			612 ZD	1	212 WD	1
0452QDLF150	832 ND	3			612 ND	1	212 OD	1
0452QDLF175	832 WD	3						
0452QDLF200	832 RD	3			X-Tool			
0452QDLF250	832 YD	3			Tip	Number		
0452RDLF150					722	2		
0452RDLF225								

6.3.5 Calibrating the i-CON 2

In general, the i-CON 2 features two calibration functions. The two functions are the following:

- Tip Offset function and
- Calibration function.



The tip offset function is not available for a connected i-Tool. The bottom line of the display contains the text [01=No offset for this tool].



Follow these steps to calibrate the soldering station correctly: The first step is to enter the tip used with the soldering tool (see [Tip offset]). Then, the station can determine, control and display the correct tip temperature automatically. If the Tip Offset is not entered correctly, the used soldering tip can become defective too early due to over heating.

Use the calibration temperature (see Chapter [Calibration temperature]) to exactly synchronize the actual tip temperature with the displayed temperature. The following procedure must be observed for the calibration:

- Input of desired set temperature (see Chapter [Set temperature]).
- Set the Tip Offset of the used tip (see Chapter [Tip Offset] tables).
- Set the calibration temperature (see Chapter [Determination of calibration temperature]).

6.3.6 Calibration temperature



- Determine the soldering tip temperature with a calibrated measuring device (e.g. Ersa DTM 100).
- Compare the two displayed values of i-CON 2 and the measuring device.
- Calculate the temperature difference: $\Delta T = T_{i-CON\ 2} - T_{measuring\ device}$
- Set the calculated temperature difference ΔT (with algebraic sign via the rotary motion at the i-OP) in the menu item [Calibrate].



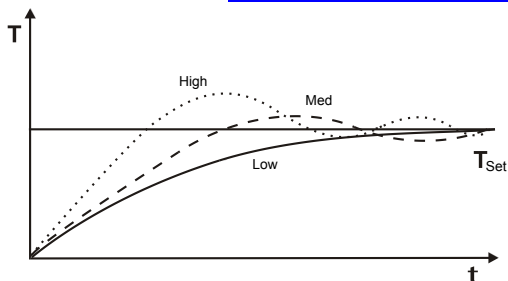
Quiet air conditions are important for the prevention of measurement errors.

6.3.7 Power Level



This function allows the user to influence the control characteristics of the station. This way the preheating and post-heating characteristics of the station can be adapted to the respective field of application. For i-Tool, Power Tool and Tech tool, three settings [high], [med.] and [low] are possible. Due to the special control characteristics, the other tools work with constant control parameters.

- [Low]: Minimum post-heating characteristics. For soldering works with low heat demand.
- [Med.]: Increased post-heating characteristics. For soldering works with increased heat demand.
- [High]: Maximum post-heating characteristics. For soldering works with very high heat demand.



6.3.8 Standby-Time



The standby period is the time from the last work with the soldering tool to the point when the standby temperature is activated. For the i-Tool the adjustment range is 20 seconds to 60 minutes. With all other tools the adjustment range is 1...60 minutes. The input [0] deactivates the standby function.



For small soldering points or soldering works which are performed with very little motion, a sufficiently high standby-time should be selected. Otherwise the standby-function may lower the temperature already during the soldering process!

As a measure to save energy and to prolong the lifetime of soldering tip and heater you can automatically trigger an idle state for the soldering tool. Please read section [Adjustable shut-down function (idle state)]

6.3.9 Standby-Temperature



This is the soldering tip temperature during work breaks. It is automatically activated when the standby-time has elapsed. When the temperature is decreased, power is saved and the service life of tip and heating element is increased.



With the i-Tool reheating to standby temperature is caused by movement, with the Tech-Tool and the x-Tool this is accomplished by short wiping with a moist sponge, with all other tools by pressing or turning on the i-OP.

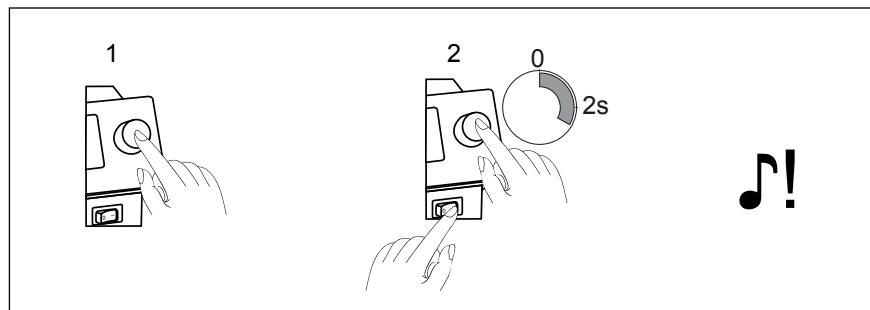
6.4 Configuration mode



In the configuration mode, the following settings are possible:

- Temperature window (monitoring) left and right side
- Device number
- Process alarm (acoustic temp. monitoring)
- Idle state
- Password
- Temperature unit
- Activating the heating plate
- Language selection of the station

To reach the configuration mode, keep the i-OP pushed for 5 seconds when you switch on the i-CON 2.



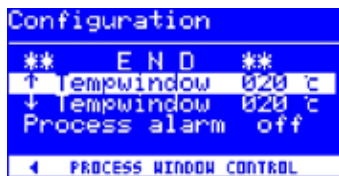
Operating instructions

Via a rotary motion and respective pushing, the station can be configured or newly recorded with the factory settings.



If the password lock is active, the soldering station cannot be reset to its delivery status (default) without the password.

6.4.1 Temperature window



A temperature window with an upper and lower range can be defined separately for every connected soldering tool.

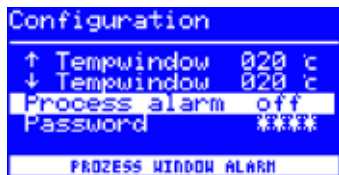
If the actual temperature is within this window, the work dialog displays an "OK".

Factory setting: $\pm 20\text{ }^{\circ}\text{C}$ ($68\text{ }^{\circ}\text{F}$).



The bottom line of the display shows the symbol [◀] for the soldering tool connected to the left socket. The bottom line of the display shows the symbol [▶] for the soldering tool connected to the right socket. Keep turning the i-OP, until the temperature window indicates the desired socket.

6.4.2 Process alarm



If the actual temperature leaves the temperature window, a single acoustic signal is generated. If the actual temperature returns to the temperature window, a double acoustic signal is generated. Factory setting: [off].

6.4.3 Password lock

The data of the station can be protected by a 4-digit (0001-9999) password. This way, settings/changes can be prevented. The station does not come with activated password lock; this is indicated by "0000" in the password input field.

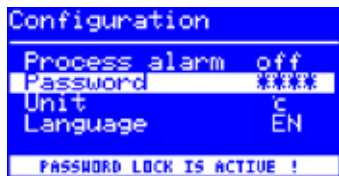
The symbol ⓘ signalizes that the station is protected. Factory setting: [0000] = unlocked.



Please memorize your selected password thoroughly or note it down at a safe spot. Only Ersa can deactivate a forgotten password. If you have an i-Set Tool with the saved factory settings, you can also unlock the station on your own.



①



6.4.3.1 Setting the password

Proceed as follows in order to activate the [password] function:

- Open the configuration mode, select the [change] item.
- Activate the [password] function via turning the i-OP.
- Press the i-OP to activate the cursor, pressing the i-OP subsequently de-activates the cursor.



If the cursor is activated, the value of the parameter is changed accordingly when the i-OP is turned.

- Enter the desired password (number between "0001" and "9999") by turning the i-OP: Clockwise up, counter-clockwise down.

Operating instructions



```
Password activation!  
A NEW PASSWORD IS ACTIVATED !!!  
CHANGES CAN TAKE PLACE ONLY  
WITH THIS NEW PASSWORD !!!  
NOTE : KEEP THIS PASSWORDCODE !  
[ABORT] >>>
```

```
Password activation!  
** PASSWORD - CONFIRMATION **  
REPEAT NEW PASSWORD [0000]
```

```
Configuration  
Process alarm off  
Password *****  
Unit c  
Language EN  
PASSWORD LOCK IS ACTIVE !
```

- Confirm your input by pushing the i-OP. The first [Password activation] image is displayed:

Either

- Select the [ABORT] item to quit the process. The password lock will not be activated in this case.

Or

- Note down the adjusted password, select the [>>>] item (continue), confirm by pushing the i-OP.

The second [Password activation] image is displayed:

- Enter your password again and Confirm your input by pushing the i-OP.



The [Configuration] image with the message [PASSWORD LOCK IS ACTIVE!] is displayed. The station is now protected.

6.4.3.2 Changing the password



The password is set in the configuration mode. If a password has already been set, the code is displayed as asterisks.

If the user wants to change a password, the active password lock must first be revoked by entering the current password.

After the correct input, the new password can be set. If the numerical entry has been completed with the PUSH-function, a note is displayed indicating that the password lock is activated. The purpose of this note is to once more indicate the significance of this function to the operator. If the function is canceled, the previous state is maintained.

If the operator continues the dialog [>>>], the password must be repeated for activation.

If the password has been repeated correctly, the station is protected by the code. If the code has been entered incorrectly, a note is displayed and the previous state is maintained.

The symbol ① signals that the station is protected.

6.4.3.3 Input of values without deactivating the password



If values are to be changed, e.g. set value, without a deactivation of the password, a request to enter the password is issued when the value is tried to be changed. If the correct password is entered, the operator has approx. 30 sec. of time to perform his changes. If he performs settings during this time limit, the time limit will be extended by another 30 sec. each time. This way, further settings can be performed. If no input is carried out for 30 sec., the password lock will be re-activated.

6.4.3.4 Forgotten password

If you have forgotten your password, it can only be de-activated by ERSA Service. In such a case, please refer to the company ERSA, indicating your address, name, invoice and serial number of the soldering station (see type plate). The password lock may also be de-activated with the i-Set Tool. Please observe the corresponding hint at section [Password lock] to this purpose!

6.4.4 Temperature unit

Here, the desired temperature unit, degree Celsius (°C) or Fahrenheit (°F), can be selected. Factory setting: "°C"



Caution! When the temperature unit is changed, a setup mode is carried out. During this time (approx. 5 sec.), the station must not be switched off.

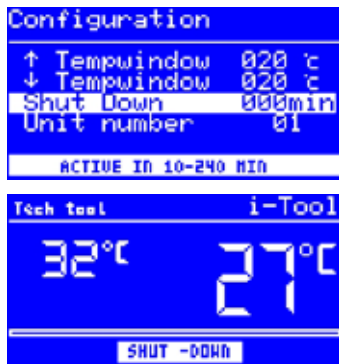
6.4.5 Language selection

Here, the desired language for the menu navigation of the i-CON 2 can be selected. Factory setting: "English".



Operating instructions

6.4.6 Adjustable shut-down function (idle state)



The adjustable shut-down function (idle state) serves the purpose of energy saving and prolonging the lifetime of soldering tip and heater. In idle state the tools cool down to room temperature. The bottom line in the display then shows the text [Idle state]. You can end the idle state at any time by actuating the i-OP.

Please proceed as follows to activate the function [Shut-Down]:

- Open the configuration mode and choose the option [Shut-Down].
- Activate the menu [Shut-Down] by turning the i-OP.
- Press the i-OP to activate the cursor, press the i-OP again de-activates the cursor
- Enter the desired time from [010] to [240] minutes by turning the i-OP accordingly. The input [000] deactivates the function [Shut-Down]

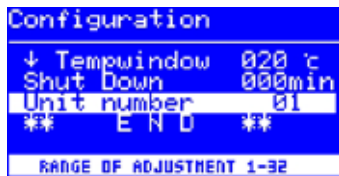


If the cursor is activated, turning the i-OP changes the value of the parameter accordingly. The set time applies for both connected tools. The set time starts to run, only after both tools are in [Standby]. If the tools are still not used during this time, idle state is activated after this time has expired. With the i-Tool the idle state is automatically terminated when the tool is taken out of the storage stand. Once the first tool has "woken up" from idle state, the second tool will also be reactivated.

A controlled heating plate is not automatically activated! Find out more about this in the section [Working mode].

Operating instructions

6.4.7 Device number



This function is only required, if the i-CON 2 is equipped with a serial PC-interface (Option). An unambiguous device number must be assigned for identification, to enable the PC to correctly allocate the connected station.

Please proceed as follows to set the [Unit number]:

- Open the configuration mode and choose the option [Unit number].
- Activate the menu [Device number] by turning the i-OP.
- Press the i-OP to activate the cursor, press the i-OP again de-activates the cursor.
- Enter the desired number from [01] to [32] by turning the i-OP accordingly.



If the cursor is activated, turning the i-OP changes the value of the parameter accordingly. Details for correct assignment of device numbers can be found in the documentation for the serial PC-interface. Each station must have its own number. A double assignment of a number is not unambiguous and can lead to malfunction.

6.4.8 Heating plate

This function can only be vouched for when the soldering station is equipped with a serial PC-interface (Option). You can then use the soldering station to control the infrared heating plate of the 0IRHP100A rework system.

The following accessories are needed:

- Control cable from soldering station to 0IRHP100A
- Y-control cables given that the soldering fume extractor and the 0IRHP100A are to be controlled together.

6.4.8.1 Connecting heating plate to soldering station

- Connect the 0IRHP100A control cable with the soldering station control cable.
- Switch on the 0IRHP100A rework system.

6.4.8.2 Activating the heating plate

- Select the menu [Heating plate] in the configuration mode by turning the i-OP.
- Activate the cursor by pressing the i-OP.
- Activate the function by turning the i-OP. The adjoining display appears.
- Terminate the configuration menu.



Information on working with the heating plate can be found in the chapter [Working mode].



Operating instructions

6.5 Factory settings ("default")

The following lists shows the settings with which the station was programmed in our works. These settings can be restored via the "default function" in the "Configuration" mode. The only exception is the setting of the password which is not deleted via the default function.

Configuration mode	
Parameter	Settings
↑ Tempwindow left side	20 °C
↓ Tempwindow left side	20 °C
↑ Tempwindow right side	20 °C
↓ Tempwindow right side	20 °C
Shut down	000
Unit number	01
Heating plate	0
Process alarm	Off
Password	0000 (is not deleted via the default function)
Unit	°C
Language	EN

Parameter mode					
Parameter	i-Tool	Tech tool (X Tool)*	Power tool	Chip tool	Micro tool
Tempset (°C)	360	360	360	385	285
Calibrate (°C)	0	0	0	0	0
Tip-Offset	1	1 (2)*	1	422 MD	1
Power level	Medium	Medium (High)*	Medium	High	High
Standby-Time (min)	5	10	10	10	10
Standby-Temp (°C)	250	230	230	280	280

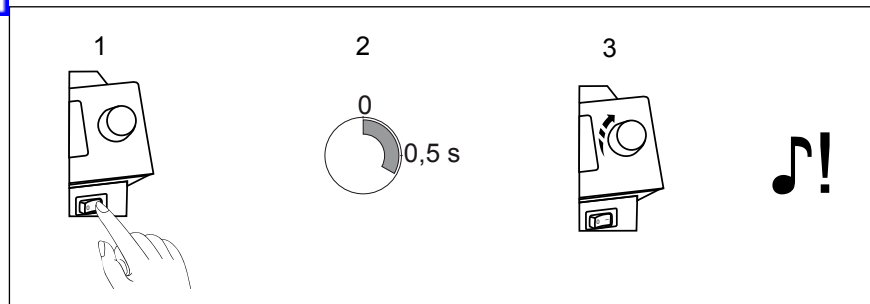
Operating instructions

6.6 Contrast



Follow these steps to adjust the contrast of the display to the respective work environment:

- Switch on the station and rotate the i-OP immediately. This activates the [Contrast] mode.



The buzzer signals with a beep that the mode is active.

- Adjust the desired contrast by turning the i-OP.
- Confirm your input by pushing the i-OP.

6.7 Replacing the soldering tip

Replace the soldering or desoldering tip when they are worn.

Before replacing the soldering tip:

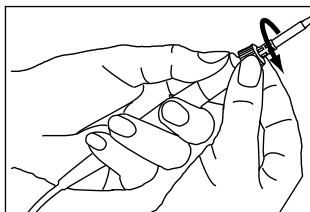
- Switch off the station and let the soldering tip cool off.



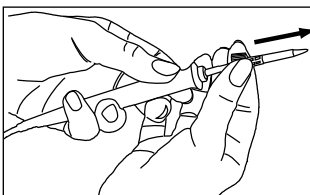
Attention! Only replace the tips when they are cold - burn hazard!

When the tip has cooled off, proceed as follows:

6.7.1 i-Tool



- Loosen the soldering tip by turning the knurled nut counter-clockwise.



- Pull the tip and the retainer off of the heating element.

Operating instructions



- Carefully push the soldering tip out of the collar. Do not bend!



Attention! Do not press on top of the tip! Risk of injury!

- Carefully pull the new soldering tip into the retainer, until it engages. Do not bend!

- Slide the new soldering tip and the collar onto the heating element.

- Screw the tip tightly onto the soldering iron by turning the knurled screw clockwise.



Caution! Do not operate soldering tools without soldering tip! By this means the heating element may be damaged!

6.8 Changing the Heating Element

Before changing a heating element:

- Switch off the station and let the soldering tip cool off. Subsequently remove the soldering tip as described above.



Attention! Only replace the heating elements when they are cold - burn hazard!

6.8.1 i-Tool



- Position the tweezers tool between handle ① and thread ②



- Loosen the heating element by levering it slightly

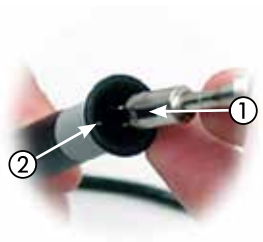


- Pull out the loosened heating element

Operating instructions



- Slide the new heating element into the handle
- Pay attention that the slot ① in the heating element matches the pin ② in the handle.
- Firmly push the heating element into the handle.



6.8.2 Chip-Tool, X-Tool

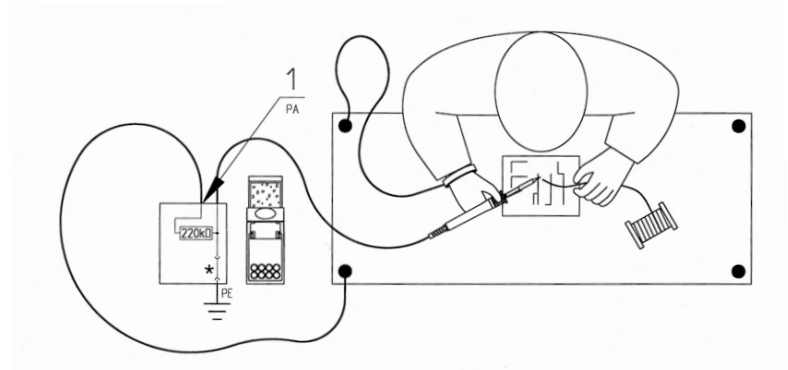
- When changing the heating elements, proceed as described in the "ERSA Chip-Tool" Operating Manual (3BA00128-00) and "ERSA X-Tool" Operating Manual (3BA00023-00).

6.9 Sensitive components

Many components may be damaged by electrostatic discharge (please observe the warnings on the packaging or ask the manufacturer or supplier). These components can be protected by an ESD-secure workplace (ESD = electrostatic discharge). The soldering station can be easily integrated into such an environment. The soldering tip can be connected at high resistance (220 kΩ) to the conductive workbase via the potential equalization jack (1).

The soldering station has complete antistatic protection and also meets the requirements of the American military standard.

The soldering tips are default hard grounded.



*Hard grounded in accordance with military and ESA standard.



Operating instructions

7. Error diagnosis and remedy

7.1 General Errors

If the soldering station does not operate as expected, check the following items:

- Is main voltage present? Correctly connect the mains lead to the device and socket.
- Is the fuse defect? The fuse can be found at the rear side of the device in the mains connecting socket.
- Note that a defective fuse may also indicate a deeper cause of error. Simply changing the fuse therefore generally does not suffice.
- Is the soldering tool correctly connected to the supply unit?

Operating instructions

7.2 Other Errors

Other errors may also occur, indicating possible defects in the soldering tool. These errors are:

- The station permanently displays only the room temperature. In this case, there is a defect in the heating element or cable with thermocouple-controlled soldering irons (i-Tool, Power tool and Tech tool).



If the station is in idle state, the room temperature will also be displayed after a few minutes!

- The station permanently displays an actual temperature that is too high. This error can occur during operation of Chip tool. In this case, switch off the station and replace the soldering tool with an intact one.
- The display is switched off and no longer displays anything, but the mains switch continues to be illuminated. In this case, the soldering station is overloaded. Once the soldering station has cooled down sufficiently (approx. 30 minutes), work can be continued.



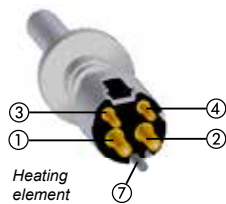
Operating instructions

7.3 Continuity check for i-Tool

If the soldering tip is not heated up after the previously mentioned points have been checked, you can check the heater resistor and the temperature sensor with an ohmmeter for conductance.

7.3.1 Heating element

The continuity resistance between measuring points ① and ② should be approx. 3,5 - 4,5 Ohm (at cool soldering iron). In the event of interruption, the heating element is to be replaced (⑦ = potential equalization).



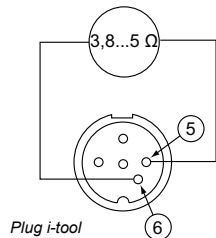
7.3.2 Thermocouple

There should be approx. 2 - 3 Ohm continuity resistance between measuring points ③ and ④. If the continuity resistance is higher, the tool has to be repaired.

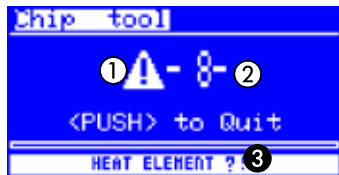
With a measuring at the plug (heating element must be mounted in the soldering iron) there should be approx. 3,8..5 Ohm between measuring points ⑤ and ⑥.

7.4 Parameter changes not possible

If the station is protected by a password, the parameters only can be changed by entering the correct password. (see chapter [Password lock]).



7.5 Error Messages



The i-CON 2 carries out an automatic error diagnosis. The result of a diagnosis is displayed as an error code: The triangular pictograph ① appears in the display of the soldering station. The error code ② is displayed as a number between 2 and 99. Additionally, an information text ③ is displayed in the bottom line. The error codes are listed in the following table. Error messages have to be confirmed with the i-OP. After the error has been eliminated and the error message has been confirmed, the connected soldering tool will be heated again.

Operating instructions

Code	Test in display	Cause	Remedy
2	[CALIBRATION FATAL ERROR !]	Station no longer calibrated	Have factory calibration carried out
4	[RT-compensation]	Measurement reading of KTY not ok	Have soldering tool and soldering station checked
6	[WRONG TOOL/CHANGE CONNECTOR SIDE]	The soldering station is unable to recognize the connected tool, or the tool was connected to the wrong socket.	Connect the tool to the other socket, have the tool inspected
7 ⁽¹⁾	[HE MISSING ? SENSOR ?]	Heating element is not installed correctly Thermocouple error	Install heating element correctly Have soldering tool checked
7 ⁽²⁾	[THERMOCOUPLE ?]	Thermocouple error	Have soldering tool and soldering station checked
8	[HEAT ELEMENT?!]	Heating element defect. Note: If the heater of the X-Tool is defective, the station will sense the X-Tool as Tech Tool.	Check heating element / Check soldering station
9	[DATA LOST !!]	Parameter/Configuration data destroyed	Reset soldering station to factory setting in the configuration mode
10	[iCON-FATAL ERROR]	Hardware error value recording	Have control electronics replaced
71	[iTOOL AND HE DEFECTIVE/ EXCHANGE]	Both the electronics and the heating element of the i-Tool are defective.	Replace the i-Tool
98	[MAINS FREQUENCY ERROR]	Mains frequency outside of frequency range ($\pm 10\%$)	-
99	[iCON OVERLOAD PROTECTION]	soldering station overloaded	i-CON: Replace soldering station / i-CON 2: Let soldering station cool off
(1) With i-Tool only (2) All but i-Tool			

8. Maintenance

8.1 Important care jobs

To ensure a long service life of your station, a few points must be observed.

- Make sure that the soldering and desoldering tip is always tinned. A soldering tip which is always clean will become passive within a short time. If you always leave a small amount of solder at the soldering tip when you stop soldering, the service life increases substantially.
- If necessary, wipe the soldering and desoldering tip on a damp sponge prior to start soldering/desoldering in order to remove used solder and flux residue.
- To obtain good electrical and thermal conductivity, occasionally remove the soldering tip and clean the heating element shaft with a brass brush.
- Make sure that the effectiveness of the ventilation holes is not impaired by a build-up of dust.



Only use genuine ERSA consumables and spare parts to ensure reliable functionality and warranty!



Warning! There are no parts to be maintained within the device!

8.2 Cleaning

Occasionally clean the device with a moistened soft cloth. Steam cleaners, pressure washers, scrubbing sponges, abrasives, solvents like alcohol or benzine must not be used!

9. Replacement parts, accessories

Replacement parts, accessories		
	Description	Order-no.
Soldering stations		
	i-CON 2 electronic station, 120 W, antistatic, compl. with 1 i-Tool soldering iron and holder	01C 2000A
	i-CON 2 electronic station, 120 W, antistatic, compl. with 1 i-Tool soldering iron and 1 holder, 1 Chip-Tool de-soldering tool and 1 holder	01C 2000AC
	i-CON 2 electronic station, 120 W, antistatic, compl. with 2 i-Tool soldering iron and 2 holders	01C 2000 AIT
	i-CON 2 electronic station, 120 W, antistatic, compl. with 1 x-Tool soldering iron and 1 holder, 1 i-Tool soldering iron and 1 holder	01C 2000AXT
Single parts		
	i-CON 2 electronic station, 230/24 V, 120 W, antistatic	01C 203 A
	i-Tool soldering iron, 24 V, 150 W antistatic with tip 0102CDLF16	0100 CDJ
	Holder for i-Tool	0A 48
	Heating element and tip change tweezers for i-Tool, i-Tips	3N 544
	i-Set Tool	0103IST

Operating instructions

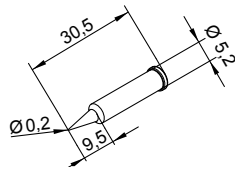
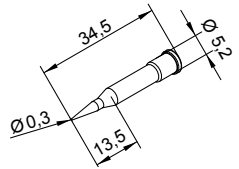
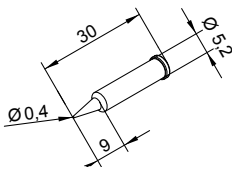
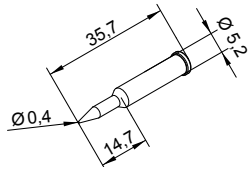
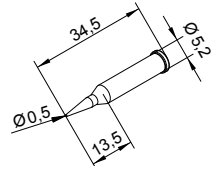
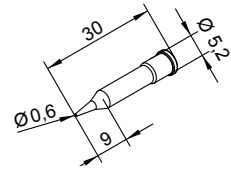
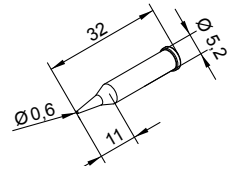
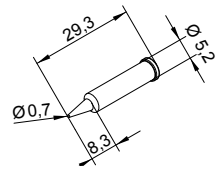
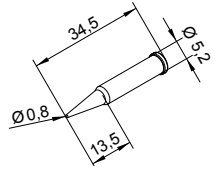
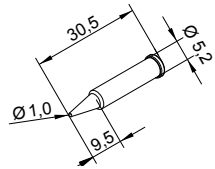
Replacement parts, accessories		
	Description	Order-no.
	Knurled nut for i-Tips	3N 497
	Collar for i-Tips	3N 539
	Knurled nut with jointing sleeve for i-Tips	3IT1040-00
	Heating element for i-Tool	010102J
	Viscose sponge for holder	0003B
	Brass brush	3TZ00051
	Dry sponge with holder	0A08MSET

Operating instructions

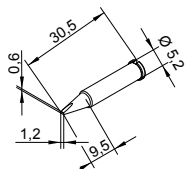
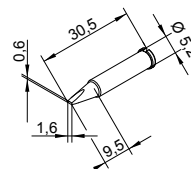
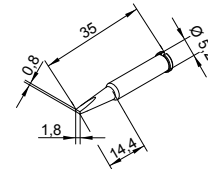
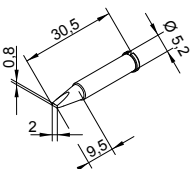
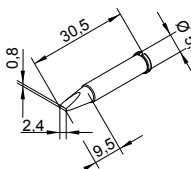
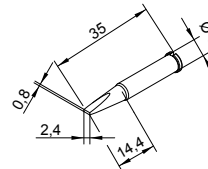
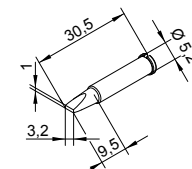
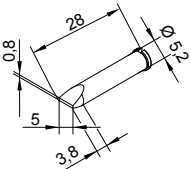
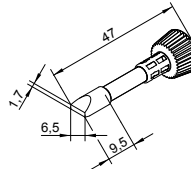
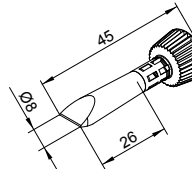
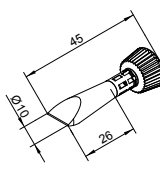
Replacement parts, accessories		
	Description	Order-no.
	X-tool desoldering iron, 24 V, antistatic, with desoldering tip 722 ED1223	0720 ENJ
	Desoldering Pincette Chip tool, 24V, 2 x 20 W, antistatic, with tips 422 MD	0450 MDJ
	Replacement parts for the Chip-tool, see the "ERSA Chip-Tool" Operating Instructions (3BA00128-00).	
	Replacement parts for the X-tool, see the "ERSA X-Tool" Operating Instructions (3BA00023-01).	
	i-CON control cable to the heating plate	0IRHP 100A-14
	Y control cable for simultaneous connection of heating plate and soldering fume extractor	0IRHP 100A-15

Operating instructions

9.1 ERSADUR Long-Life Soldering tips (i-Tips)

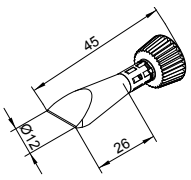
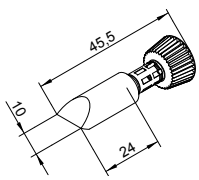
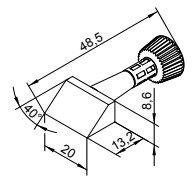
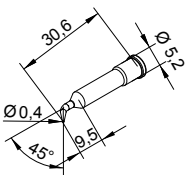
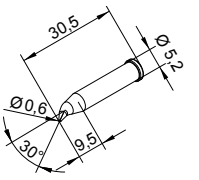
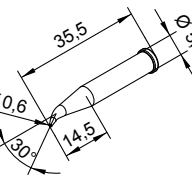
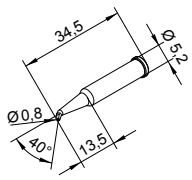
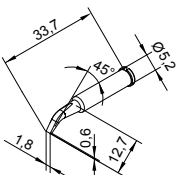
i-Tips [P]			
 0102PDLF02	 0102PDLF03L	 0102PDLF04	 0102PDLF04L
 0102PDLF05L	 0102PDLF06	 0102PDLF06L	 0102PDLF07
 0102PDLF08L	 0102PDLF10		

Operating instructions

i-Tips [C]			
 0102CDLF12	 0102CDLF16	 0102CDLF18L	
 0102CDLF20	 0102CDLF24	 0102CDLF24L	 0102CDLF32
 0102CDLF50	 0102CDLF65	 0102CDLF080C	 0102CDLF100C

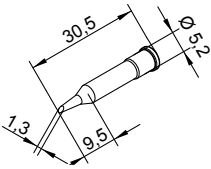
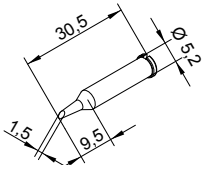
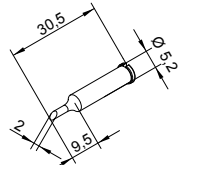
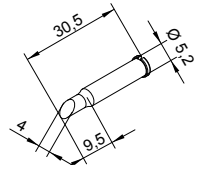
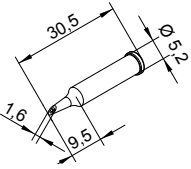
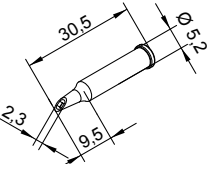
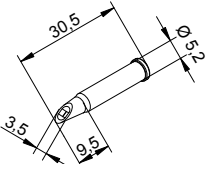
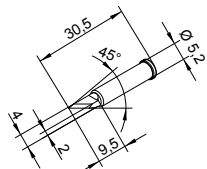
Operating instructions



i-Tips [C]			
 0102CDLF120C	 0102CDLF100	 0102CDLF200	
i-Tips [S]			
 0102SDF04	 0102SDF06	 0102SDF06L	 0102SDF08L
 0102SDF18			

Operating instructions



i-Tips [A]			
 0102ADLF13	 0102ADLF15	 0102ADLF20	 0102ADLF40
i-Tips [W]			
 0102WDLF16	 0102WDLF23	 0102WDLF35	
i-Tips [B]			
 0102BDLF20			
Consideration! Before you start to solder please remove the possibly existing hose protection nozzle.			

10. Warranty

© 02/2011, ERSA GmbH • 3BA00164 Rev. 5

Heating elements and soldering or desoldering tips are treated as wearing parts, and are therefore not subject to the warranty. Any return of goods must be accompanied by a written description of the material or construction fault that has occurred as well as a confirmed purchase invoice.

ERSA created these operating instructions with careful attention to detail. However, no warranty can be given covering content, completeness and quality of specifications in this manual. The content is continuously maintained and modified to the current conditions.

All data published in this manual, including specifications concerning products and procedures, was determined by us to the best of our knowledge and ability, and using the most modern technical aids. These specifications are non-binding and for information only; they do not relieve the user from the responsibility of carrying out his own check before operation of the device. We are not liable for violations of patent rights of third parties for usage and procedures without previous express and written confirmation.

We reserve the right for technical modifications with the intention of improving the product. In the context of the legal possibilities, liability for any damage, including direct and indirect damage, which results from the acquisition of this product, is ruled out.

All rights are reserved. This manual, or any parts thereof, may not be transferred, modified, reproduced, or translated into another language without the written permission of ERSA GmbH.

ERSA GmbH • Leonhard-Karl-Str. 24 • 97877 Wertheim / Germany
Tel. +49 (0) 9342/800-0 • Fax -127 • e-mail: service.tools@ersa.de • www.ersa.de