

Table of Contents



	Page
1. Introduction	19
2. Explanation of Symbols	19
3. Intended Use	20
4. Scope of Delivery	20
5. Features and Functions	21
6. Safety Information	21
a) General Information	21
b) Mains cable/mains voltage	22
c) Location for Installation	22
d) Operation	23
7. Commissioning and Operation	25
8. Replacement of Soldering Tip	28
9. Replacing the fuse	29
10. Maintenance and Care	30
11. Troubleshooting	31
12. Disposal	31
13. Technical Data	32
a) General Information	32
b) Soldering station	32
c) Soldering gun	32

1. Introduction

Dear Customer,

thank you for purchasing this product.

This product complies with the statutory national and European requirements.

To maintain this status and to ensure safe operation, you as the user must observe these operating instructions!



These operating instructions are part of this product. They contain important notes on commissioning and handling. Also consider this if you pass on the product to any third party. Therefore, retain these operating instructions for reference!

If there are any technical questions, please contact:

International: www.conrad.com/contact

United Kingdom: www.conrad-electronic.co.uk/contact

2. Explanation of Symbols



The symbol with a lightning bolt in a triangle is used where there is a health hazard, e.g. from electric shock.



The exclamation mark in a triangle indicates important notes in these operating instructions that must be observed strictly.



The arrow symbol indicates that special advice and notes on operation are provided.



Observe the operating instructions.

3. Intended Use

The digital soldering station serves to perform soldering work in the electrical and electronic area in connection with various soft solders (lead/silver solder). The solder temperature is adjustable, the soldering tip is replaceable. A large LC display shows both the set temperature and the temperature currently measured at the soldering top.

On the side of the soldering station there is a deposit for the solder gun that holds an extensible compartment with a sponge (to clean the hot soldering tip; the sponge must be moistened with water).

The soldering station is only suitable for operation on mains voltage (230 V/AC, 50 Hz).

It is intended for indoor use only. Do not use it outdoors. Contact with moisture, e.g. in bathrooms, must be avoided under all circumstances. The hot soldering tip of the soldering gun may, however, be cleaned with a sponge moistened with water.

For reasons of safety and approval, the product must not be converted and/or changed by you. Using the product for any other purposes than those described above may damage the product. Improper use also may cause dangers such as short circuit, fire, electric shock, etc. Read the operating instructions precisely and keep them. Only pass the product on to any third parties together with the operating instructions.

All company names and product names are trademarks of their respective owners. All rights reserved.

4. Scope of Delivery

- Soldering station
- Operating Instructions

Current operating instructions

Download the current operating instructions via the link www.conrad.com/downloads or scan the displayed QR code. Follow the instructions on the website.



5. Features and Functions

- The soldering tip temperature can be set with two buttons (+150 °C to +450 °C, step width 1 °C); the last temperature set remains saved after deactivation of the soldering station
- Large display with temperature display for target temperature and temperature currently measured in the heating element
- Soldering gun holder firmly installed on the side of the soldering station for secure deposit of the hot soldering gun during work breaks
- Extensible compartment with sponge (to clean the hot soldering tip; sponge must be moistened with water)
- PTC-ceramic heating element
- Replaceable soldering tip
- Replaceable fuse (microfuse 5 x 20 mm, 250 V, 1 A, quick-acting tripping characteristics)
- Soldering station emits a warning sound when the soldering gun is not connected or defective

6. Safety Information



Read the operating instructions attentively and particularly observe the safety notes. If the safety notes and the information in these operating instructions regarding proper handling are not observed, we assume no liability for any resulting injury/property damage. In such cases, the warranty/guarantee will also lapse.

a) General Information

- The unauthorised conversion and/or modification of the product is prohibited for safety and approval reasons. Never disassemble it (except for the procedure described in these operating instructions for replacing the soldering tip or a defective fuse)!
- The product is not a toy. Keep it away from children and pets.
- This product is not intended for use by persons (including children) with limited physical, sensory or mental abilities or persons without the corresponding experience or understanding, unless they are supervised by a person responsible for their safety or have been instructed in use of the device by such a person.
- Do not leave packaging material lying around carelessly. It may become a dangerous toy for children. Danger of suffocation!
- In schools, training centres, hobby and self-help workshops, the use of the product must be supervised by responsible trained personnel.
- In commercial institutions, the accident prevention regulations of the Employer's Liability Insurance Association for Electrical Systems and Operating Materials are to be observed.
- Handle the product with care. Impact, blows or falls from even a low height will damage the product.



- Consult an expert if you are unsure as to the function, safety or connection of the product.
- Have maintenance, adjustment and repair work only performed by a specialist or specialist workshop.
- In case you have questions which are not answered in these operating instructions, contact our technical service or other specialists.

b) Mains cable/mains voltage

- The product's setup corresponds to protection class I. Only a proper protective contact mains socket must be used for operation of the product.
- Before connecting the soldering station, ensure that the mains voltage in your region matches the indication on the rating plate.
- The mains socket to which the mains cable is connected must be easily accessible.
- Do not pull the mains plug from the mains socket by pulling the cable.
- If the mains cable or the soldering station is damaged, do not touch it. Danger to life from electric shock!

First switch off the mains voltage for the mains socket to which the mains cable is connected (switch off the corresponding circuit breaker or take out the fuse, then switch off the fault interrupter protection switch (FI circuit breaker) so that the mains socket is separated from the mains voltage on all poles).

Only then unplug the mains unit from the mains socket.

- If the soldering station is damaged, do not operate it anymore. Take the soldering station to a specialised workshop or dispose of it in an environmentally friendly way.
- A damaged mains cable must only be replaced by a specialist.

c) Location for Installation

- The soldering station is intended for dry indoor use only. It must not get damp or wet. Moisture/wetness on the mains cable/mains plug or in the soldering station poses danger to life from electric shock!

Observe:

The lower area of the soldering gun holder contains an extensible compartment with a sponge in a small metal tray. This sponge may be moistened with water. The hot soldering tip can be cleaned of flux agent residue with the sponge. Never put the soldering tip or the soldering gun in or under water, though.

When moistening the sponge, ensure that no water gets into the soldering station!

- Avoid direct sun irradiation, strong heat or cold. Keep the soldering station away from dust and dirt.
- Choose a solid, flat, clean and sufficiently large surface for the soldering station. Never place the soldering station on a flammable surface (e.g. carpet, tablecloth). Always use a suitable, non-flammable, heatproof surface.
- Keep the soldering station away from flammable or easily inflammable materials (e.g. curtains).
- Never cover the ventilation slits. There is a danger of overheating or fire. Observe sufficient ventilation during the operating phase.



- Never push any objects into the ventilation slits of the soldering station; there is a danger to life from electric shock!
- Do not place the soldering station on any valuable furniture surfaces without using suitable protection. Otherwise, scratches, pressure points, discolourations or scorch/burn marks are possible.
- The product must only be set up, used or stored in places that are not accessible to children. Children must be supervised to ensure that they do not play with the device. Danger of burns!
- Avoid setup in direct proximity of strong magnetic or electromagnetic fields, transmitter aerials or HF generators. This can affect the control electronics.
- Ensure that the cables are not crushed or damaged by sharp edges. Never place any objects on the cable.
- Do not place any containers filled with liquid, vases or plants, on or next to the soldering station or the mains cable.

When these liquids get into the soldering station, the soldering station will be destroyed and there is the highest danger of potentially fatal electric shock.

If liquid has entered the soldering station, first switch off the mains voltage for the mains socket to which the soldering station is connected (switch off the corresponding circuit breaker or take out the fuse, then switch off the fault interrupter protection switch (FI circuit breaker) so that the mains socket is separated from the mains voltage on all poles). Only unplug the mains plug of the mains cable from the mains socket now.

Do not use the product anymore after this, but take it to a specialised workshop or dispose of it in an environmentally compatible manner.

d) Operation

- Do not operate the soldering station inside of rooms or in bad ambient conditions where flammable gases, vapours or explosive dust may be or are present! There is a danger of explosion!
- Do not attach any objects to the soldering station. Never cover the soldering station. There is a danger of fire!
- Before connecting and activating the soldering station, the soldering gun must be connected to the soldering station.
- Ensure that the soldering tip is correctly attached to the soldering gun and fastened. Never operate the soldering gun without soldering tip; this will cause damage to the heating element and the temperature sensor, loss of warranty/guarantee!
- The soldering station is only intended for operation on mains voltage (230 V/AC, 50 Hz). Connect the soldering station only to a proper mains socket of the public mains via the mains cable.
- The lower area of the soldering gun holder contains an extensible compartment with a sponge in a small metal tray. Moisten this sponge with clean, cold water. The sponge can later be used to clean the hot soldering tip of flux agent residue.

When moistening the sponge, ensure that no water gets into the soldering station! Therefore, never pour water directly into the sponge deposit of the soldering station, but take out the sponge and then moisten it with water. Then put it back into the sponge deposit.

Never clean the hot soldering tip on a dry sponge. This will damage the sponge!



- Before first use, the hot soldering tip must be tinned. For this, put some solder (core solder with flux agent) onto the soldering tip (the front 5 mm), so that an even film of solder forms on the tip.
- Do not tap the solder residue at the soldering tip off on the housing of the soldering station!
- Never use the soldering gun to heat liquids.
- Never perform soldering work on live components or elements. Switch off the voltages first.

Caution!

Touching or soldering capacitors (or similar components) or connected lines/conductors may cause potentially fatal electric shock! Capacitors may be charged even hours after the operating voltage was switched off!

- Depending on workpiece or soldering process, the workpiece must be fastened with suitable clamps. This will leave both of your hands free for soldering.
- Keep your workplace clean.
- Work only with enough lighting of the workplace.
- Ensure sufficient ventilation while soldering. Solder and flux agent vapours may be harmful to health.
- Wash your hands thoroughly after working with lead-containing solder.
- Do not put solder into your mouth, do not eat or drink while soldering.
- Wear suitable protective clothing and goggles when soldering. Liquid solder, solder splashes, etc. may cause severe burns or eye injury!
- Never use soldering grease, acids or similar aids when soldering. They cause a bad soldering point and may damage the soldering tip. Preferably use a soldering wire with flux agent core (core solder).
- Never reach beyond the tangible grip limit of the soldering gun when working with it. Danger of burns!
- Only solder on non-flammable surfaces. Observe adjacent materials, since they may be damaged by the heat.
- Only operate the product in moderate climate, never in tropical climate. For more information on acceptable environmental conditions, see the chapter "Technical Data".
- Never operate the device immediately after it has been taken from a cold room to a warm room. The resulting condensation may lead to malfunctions or damage! Moisture on the soldering station, the mains cable or mains plug also poses a danger of potentially fatal electric shock!

Let the product reach room temperature before taking it into operation again. This may take several hours!
- When secure operation is no longer possible, shut off the product and protect it from inadvertent use. Secure operation is no longer warranted if the product:
 - has visible damage,
 - no longer works properly,
 - was stored under detrimental ambient conditions for an extended period or
 - was subjected to considerable transport strain.

7. Commissioning and Operation



Observe Chapter "Safety Information"!

- Set the soldering station up on a horizontal, stable, sufficiently large area.
- Protect heat-sensitive surfaces with a suitable base. Never put the soldering station on valuable furniture surfaces or floors; never put it up on carpet. Keep enough distance from flammable or easily inflammable objects (e.g. curtains).
- Insert the soldering gun into the deposit stand so that the soldering gun cannot fall out.
- Connect the plug at the cable of the soldering gun to the corresponding socket on the front of the soldering station. Then tighten the retaining ring by hand (do not use tools).



Only one alignment of the plug is correct. The notch at the plug must match the counter-part in the socket of the soldering station. Do not use any force when connecting and tightening the retaining ring.

- Pull out the insert below the soldering gun deposit.
- Take the sponge out of the metal dish (sponge deposit) and moisten it with clean, cold water. Let the sponge drip off. Then place the sponge back in the metal dish.



When moistening the sponge, ensure that no water gets into the soldering station! Therefore, never pour water directly into the sponge deposit of the soldering station, but take out the sponge and then moisten it with water. Then put it back into the sponge deposit.

- Connect the mains plug of the soldering station to a proper protective ground mains socket.
- Switch on the soldering station via the mains switch (switch position "I" = on).



When the soldering gun is not connected to the soldering station (or when the soldering gun is defective), the soldering station will emit a warning sound and the "ERROR" display will flash.

- The LC display will be activated after activation.

In the lower area, the display will show the set temperature ("SET"), and in the upper area the temperature measured via the temperature sensor ("TEMP.").



When heating, the temperature at the soldering gun briefly rises above the set temperature. This is normal. During heating, "HEAT ON" will be displayed at the upper right in the display.

If the measured temperature is more than 10 °C above the set temperature, the display "WAIT" will appear. This indicates that you should wait briefly before starting soldering so that, e.g., sensitive parts are not damaged.

- The two arrows can be used to set the desired temperature (the set temperature is saved even after the soldering is switched off):

Arrow "△" = Increase temperature

Arrow "▽" = Reduce temperature



Keep the respective button pressed for quick adjustment.

- Select the temperature according to the soldering process that you want to perform. The temperature always must be higher than the melting point of the solder.

For the solder to melt quickly and soldering to go speedily, the temperature at the soldering station should be set at least 50 °C higher than the melting point of the solder.

- ➔ If soldering takes too long, there will be damage from long heat application in many components. Therefore, it is usually recommended to use a higher soldering tip temperature to keep soldering as short as possible.

A too-high temperature may also cause problems or damage to the part, however.

- If larger amounts of solder need to be heated (e.g. for a large soldering point; or for a soldering point with good heat discharge, such as a cooling sheet), a higher temperature can be set.
- After setting the desired temperature, the soldering station requires several seconds to perform heating and for the soldering tip to reach the desired temperature.

- ➔ Due to the construction of the soldering gun, position of the temperature sensor in the heating element and the heat discharge by soldering, as well as other reasons, the actual temperature will deviate slightly from the set one.

- Pull the soldering gun out of the deposit stand.



Only touch the soldering gun by the plastic grip. Never touch the hot tip or the metal shaft. Danger of burns/injury!

- When the solder touches the soldering tip, it should melt quickly. If smoke rises up, this is the evaporating flux agent inside the solder (core solder).
- Increase the temperature for larger soldering points to complete soldering more quickly.

- ➔ Use the soldering station at the highest temperature setting (+450 °C) only as long as required to avoid excessive stress on the soldering tip.

- Reduce the temperature of the soldering gun during work breaks. This saves energy and extends the service life of the soldering tip.
- Always push the soldering gun into the deposit stand when heating and cooling and during soldering breaks.
- During soldering breaks and before deactivation of the soldering station, ensure that the soldering tip is well tinned.
- Ensure that the workpiece has clean soldering contacts. Use only electronics solder. Acid-containing solder may destroy the soldering tip or the workpiece.
- When soldering, heat up the soldering point with the soldering tip and supply solder at the same time. Take away the solder from the soldering point; then remove the soldering tip from the soldering point. Solder speedily to avoid damage to the workpiece (e.g. lifted-off conductors, overheated elements, etc.).
- Let the soldering point cool off after soldering. Depending on the size of the soldering point, it may take approx. 1 - 2 seconds for the solder to cool off. Do not move the soldered-in part or cable during this time, since a "cold soldering joint" will otherwise result. Such soldering joints will look matte-silver and offer neither good electrical contact nor good mechanical attachment.

A proper soldering point, in contrast, is glossy similar to chrome.

- Occasionally clean the soldering tip of flux agent residue using the moistened sponge. For this, only briefly wipe the soldering tip on the sponge.



Do not press the soldering tip into the sponge. Also never hold the soldering tip against or into the sponge for too long, since it would be damaged by this.

Always ensure that the sponge is sufficiently moist. Never clean the soldering tip on a dry sponge.

Mechanical damage to the soldering tip will destroy the protective layer there and strongly reduce service life. Therefore, do not clean the soldering tip with any sharp-edged objects or a metal brush.

- Before completing the soldering work, the soldering tip must be cleaned of flux agent (see above). Then the soldering tip must be tinned. For this, put some solder onto the soldering tip, so that an even film of solder forms on the tip. This prevents corrosion of the soldering tip.

Then plug the soldering gun into the deposit stand. Then switch off the soldering station (switch position "0" = off).



The soldering gun needs about 10 - 15 minutes to cool off entirely. During this time, do not touch the soldering tip or the deposit stand. Danger of burns!

Before storing the soldering station, it must be cooled off entirely! There is a danger of fire if this is not observed!

8. Replacement of Soldering Tip

Use a soldering tip suitable for the soldering work (the delivery includes a medium-grade tip. Others can be ordered as accessories).

- For matching accessories, see the website for the product under www.conrad.com (enter the item number of the soldering station into the search bar).

Use only soldering tips that are recommended for the soldering station.

When using other soldering tips, it may lead not only to the temperature measurement being incorrect (the actual temperature of the soldering tip will not match the temperature display), but also to damage to the heating element, loss of guarantee/warranty!

A very fine soldering tip must be used when working on small parts. If, in contrast, soldering work is performed on larger parts, a soldering tip with a broader/flat tip should be used. A larger soldering tip can transfer more heat, which will permit faster soldering.

- The soldering principle causes mechanical and thermal load on the soldering tip in use. Especially in very fine soldering tips, this causes the soldering tip to dull over time until smaller components can no longer be soldered precisely.

The service life of a soldering tip depends on different factors. Specifically high soldering temperatures can greatly reduce service life.

The soldering tip must be replaced as follows:

- Switch the soldering station off and let the soldering gun cool off completely.
- Release the corrugated cap nut at the metal shaft of the soldering tip and take it off.

- The heating and cooling processes may cause the cap nut to catch.

In this case, carefully release the cap nut with suitable pliers. Never apply any force, since the heating element may otherwise be damaged; loss of warranty/guarantee!

- Remove the soldering tip from the heating element.
- Put a new soldering tip onto the heating element.
- Put on the cap nut and tighten it manually. Do not apply any force when tightening!

9. Replacing the fuse

The fuse protects the device from overload. The fuse should not trip in normal use.

The fuse may, however, trip in case of a defective soldering gun or short circuit in the cable between the soldering gun and the soldering station. The fuse may also trip if there is a defect in the soldering station.

Proceed as follows to replace a defective fuse:

- Switch off the soldering station. If the soldering gun is still hot, let it cool off entirely.
- Disconnect the soldering station from the mains supply, pull the mains plug from the mains socket.
- Turn the soldering station around so that you see the rear. Turn the fuse holder out entirely with a suitable cross-head screwdriver (turn to the left, counter-clockwise).
- Take the fuse out of the fuse holder.
- Check the fuse, e.g. with a suitable meter (digital multimeter).

If the fuse is defective, replace it with a new fuse of the same build (microfuse 5 x 20 mm, 250 V, 1 A, quick-acting tripping characteristics).



Never use a fuse with any other specifications. Never bridge a defective fuse!

There is a danger of fire!

- Plug the new fuse into the fuse holder. Attach the fuse holder back into the soldering station and screw it back on.
- Take the soldering station into operation again.



If the fuse trips again after activation, have the entire soldering station checked by a specialist.

10. Maintenance and Care

- The soldering station requires no servicing apart from replacing the soldering tip, the sponge or fuse now and then. Servicing or repair must only be carried out by a specialist.
- Before cleaning, switch off the soldering station and disconnect it from the mains voltage; pull the mains plug from the mains socket.
- Let the soldering gun and the soldering station cool off entirely.
- The outside of the soldering station should only be cleaned with a clean, soft, dry cloth.
- Never use any aggressive cleansing agents or chemical solutions since these may damage the casing (discolouration) or impair its function.
- The soldering tip does not require any special cleaning. It is sufficient to clean it of flux agent residue or excess solder now and then at the moist sponge while soldering.
- Before switching off the soldering station, the soldering tip must be tinned well. This prevents corrosion of the soldering tip.

11. Troubleshooting

Problem	Remedy
No display indication	• Is the soldering station connected to the mains voltage and is it switched on? • Has the fuse for the soldering station tripped?
Warning sound is audible and "ERROR" flashes in the display	• Is the soldering gun connected properly to the soldering station? • The soldering gun may be defective (cable, heating element or temperature sensor).
The set temperature is briefly exceeded when heating	• This is due to the functional principle and normal. If you set, e.g., a temperature of +300 °C (lower display line "SET"), the temperature displayed in the upper line ("TEMP.") that is measured via the temperature sensor in the heating element will briefly reach, e.g., +310 °C.
The solder does not liquefy.	• The temperature is set too low. • The heat of the soldering gun is discharged too quickly (e.g. when working on larger pieces). Set a higher temperature or use a soldering tip with a larger/flatter tip. • The soldering gun is not suitable for soldering work (e.g. soldering gutters). • The soldering station is only suitable for working with soft solders.
The set temperature is incorrect	• If you check the temperature of the soldering tip with a high-quality meter, there will be slight deviations for constructional reasons (the temperature sensor will measure the temperature in the heating element, the meter will measure the temperature on the outside of the soldering tip).
Smoke development at the soldering tip	• The flux agent in the core solder will evaporate while soldering. This is normal. Ensure sufficient ventilation at the workplace, do not inhale the flux agent vapours.

12. Disposal



Electronic devices are recyclable and should not be disposed of in household waste. Dispose of the product according to the applicable statutory provisions at the end of its service life.

13. Technical Data

a) General Information

Ambient conditions Temperature -6 °C to +46 °C, humidity 10% to 90% relative, non-condensing

b) Soldering station

Operating voltage 230 V/AC, 50 Hz

Power intake 48 W

Protection class I

Fuse Microfuse 5 x 20 mm, 250 V, 1 A, quick-acting tripping characteristics

Dimensions 185 x 100 x 165 mm (W x H x D)

Weight 1603 g

c) Soldering gun

Operating voltage 24 V/AC

Soldering tip temperature adjustable via the soldering station, +150 °C to +450 °C (step width 1 °C)

Temperature accuracy ±5%

Heating element PTC, ceramics

Cable length approx. 112 cm

Weight 126 g