

## Introduction

Dear Customer:

Thank you for purchasing this product.

Before starting operation, please read through these operating instructions completely observing all operating and safety information!

This product is EMV-tested and meets the requirements of the applicable European and national guidelines. Proof of CE conformity has been established and the corresponding declarations are obtainable from the manufacturer.



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## Usage in accordance with intended purpose

The digital soldering station is temperature-controlled with an adjustable soldering tip temperature. The adjustable temperature lets you perform all soldering work in the field of electronics with various soft solders (especial suitable without lead solder). The soldering tip can be exchanged.

The display shows the nominal and the current temperature. Three programmable buttons can be assigned freely selectable temperature values.

The enclosed soldering iron was calibrated on this soldering station (temperature accuracy). If the soldering iron has to be exchanged, it must be calibrated again.

A high-impedance potential equalization socket enables application on MOS components or ESD workstations and protects you from static charge during soldering.

The soldering station is designed in protective class 2 (double or reinforced insulation) and may only be operated with common household voltage (110/220 V ~60/50Hz).

Soldering work on live parts is not permitted.

Operation is not permitted under unfavourable ambient conditions.

Unfavourable ambient conditions include:

- wetness or excessive humidity
- dust or combustible gases, vapours or solvents
- strong vibrations

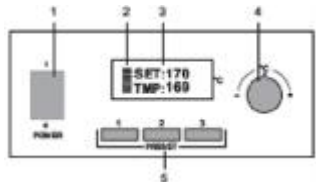
Uses other than those described above are not permitted. They will lead to damage to the product. Additionally misuse may lead to short circuiting, fire, electrical shocks etc.

No part of the product must be modified or converted!

The safety instructions should be observed without fail!

## Controls/ indicators

- 1 Operating switch
- 2 Heating output display
- 3 Illuminated display
- 4 Temperature controller
- 5 Multi-function buttons



## Safety and Hazard Instructions



**In case of damage resulting from the non-observance of these operating instructions, the warranty lapses! We will not assume any responsibility for consequential damage! We do not accept any liability for personal injury or damage to property caused by incorrect handling or non-observance of the safety instructions! The warranty will lapse in these cases.**

This device left the factory in perfect condition in terms of safety engineering.

To maintain this state and ensure safe operation, the user must observe the safety instructions and warnings contained in these operating instructions.

### The following symbols must be observed:



A triangle containing an exclamation mark indicates important information in these operating instructions which is to be observed without fail.



The lightning symbol in a triangle warns against an electric shock or the impairment of the electrical safety of the device.



The "hand" symbol indicates special information and advice on operation of the appliance.

For safety and certification (CE) reasons, unauthorized modifications and/or changes to the soldering station cables are not permitted. Only an expert may replace damaged power cables.

The soldering station is designed in protective class 2. Make sure the insulation of the casing is neither damaged nor destroyed.

Electric appliances and accessories should be kept out of the reach of children! It is not a toy.

Never connect your electronic device to the mains immediately after it has been taken from a cold room to a warm one. The resulting condensation could, under adverse circumstances, destroy the appliance. Allow the device to reach room temperature before switching it on.

Never touch the device with wet or moist hands. Danger of electric shock!

Ensure sufficient ventilation when soldering. Soldering vapours may be hazardous to your health.

Wash your hands thoroughly after working with solder containing lead. Do not put solder containing lead into your mouth and do not eat while working with it.

The connecting cable has to be protected against heat and sharp edges.

Wear suitable protective clothing and glasses when soldering. Children must be supervised at all times when they are in the proximity of soldering irons.

Only solder on non-flammable surfaces. Protect other materials nearby from damage through heat.

If you have reasons to assume that safe operation is no longer possible, then disconnect the appliance immediately and secure it against inadvertent operation.

It can be assumed that safe operation is no longer possible if:

- the appliance is visibly damaged,
- it does not function any longer and
- if it has been stored for long periods of time under unfavourable conditions

- if it has been subject to considerable stress in transit.

## Initial operation

- Unpack the soldering station and check all parts for damages. Damaged parts may not be put into operation.
- Place the support for the soldering iron on the side next to the soldering station. Wet the sponge in the sponge rest with water.
- Plug the soldering iron into the 5-pole socket on the soldering station. The plug only fits in the right polarity.
- Place the soldering iron in the support stand. Note that the metal dish of the support stand heats up over the course of time.
- Place the soldering station onto a stable and robust surface.
- Connect the mains plug with a live outlet and switch the soldering station on at the mains switch (I = ON / 0 = OFF).
- Set the desired soldering tip temperature at the temperature control (approx. 270 - 360°C for plumbiferous solder).
- Alternatively you can also set the temperature via the function keys by pressing them (PRESET 1-3). The buttons are pre-programmed with the following temperature values:

PRESET 1 = 150°C (standby)

PRESET 2 = 270°C

PRESET 3 = 360°C

To change the preset position, briefly press another button. You leave a preset position by changing the temperature control.

- The bar display (2) shows the heating output of the soldering iron. The number of bars decreases when the nominal temperature was reached. If the temperature is exceeded when decreasing, the display goes off until the correct temperature has been reached again.



**Only hold the soldering iron by its handle. Never touch the hot soldering tip or the shaft. Danger of burning!**  
**Always place the soldering iron into the soldering iron support while it heats up and when taking breaks during soldering.**



**Make sure the soldering contacts of the workpiece are clean.**

- Cover the heated soldering tip with solder. Wipe off excess solder on the damp cleaning sponge.
- Heat the soldering spot and add solder.
- Let the soldering spot cool off.
- Clean the soldering tip on the damp sponge after each soldering work.
- After you have finished the soldering work, place the soldering iron into the support and turn the soldering station off at the operating switch.
- Do not file the soldering tip as this destroys it.



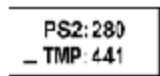
**Allow the soldering iron to cool down after use. Never submerge in water.**

## Assignment of the function keys

The digital soldering stations allows you to save three frequently used temperature settings on the three function keys. This avoids having to set the temperature via the control. The keys were pre-programmed by the factory and can be assigned freely.

For reassigning values, proceed as follows.

- Press the desired PRESET key and keep it depressed.
- The display shows the following after approx. three seconds (PS2 = PRESET 2)
- Set the desired temperature with the temperature control.
- The top value behind PS1 / PS2 / PS3 shows the nominal temperature for the respective memory slot.



- After letting go of the PRESET button, the new value is saved. Repeat this for the other buttons.
- The saved values are also preserved after turning the station off.

## Correcting the soldering tip temperature

The temperature was calibrated to the enclosed soldering tip type. When using a different tip, the temperature display deviates slightly from the actual temperature on the tip. This deviation can be compensated on the digital soldering station.

Please proceed as follows.

- Press the two buttons „PRESET1“ and „PRESET3“ simultaneously and keep it depressed.

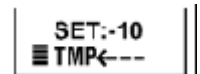
- The following display appears after approx. 3 seconds



- Let go of both buttons.

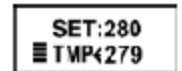
- Each replacement tip has a correction value, which you set with the button „PRESET 1“ for a negative value of up to max. - 20°C and/or a positive value of up to max. +30°C with the button „PRESET 3“.

- The display might show



- Briefly press „PRESET 2“ for saving this value.

- The value was saved. The display might show  
-> The arrow behind „TMP“ shows an active value correction (< negative / > positive)





A negative value means that the soldering tip draws more heat from the heating element. The set temperature requires more heating output. Vice versa with a positive value.

The setting is preserved after the soldering station is turned off.

## Calibration

In order to achieve the highest possible accuracy of the temperature display, the soldering station was calibrated to the enclosed soldering iron in the factory.

If you need to replace or exchange the soldering iron, you have to re-calibrate. The procedure takes approx. 8 minutes and consist of three stages:

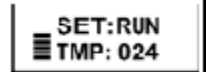
For calibration, proceed as follows.

- Turn the soldering station off and let the soldering iron cool down.
- Replace the old soldering iron with another one of the same type and output.
- Place the new soldering iron in the support stand.
- Press the buttons „PRESET 1“ and „PRESET 3“ and keep these depressed.
- Switch the soldering station on. The calibration menu starts. The display shows the following:
- Let go of both buttons.



The calibration program starts with a heating up phase. This takes approx. three minutes and is displayed with a countdown from 15 to 1 in the TMP line. After this time, the soldering tip temperature is approx. 270 to 400°C.

- The second stage starts automatically.
- The temperature of the soldering tip is controlled. This is once again indicated by a countdown from 24 to 0.



- The soldering tip temperature is stable after approx. five minutes. The temperature is below 220°C here.



Avoid drafts of air under all circumstances during the calibration phase. This could have a negative impact on the calibration process.

- The third stage also starts automatically. Now you have to measure and set the temperature values.

- The display shows the following image. The “ TMP” line shows three dashes, the “ SET” line shows the value of the temperature control depending on its current position.

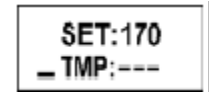


- Now measure the temperature on the soldering tip with a precise measuring probe and read off the actual temperature on the thermometer.

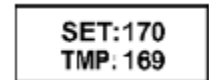


Use a small measuring probe for measuring, as a large one may falsify the measuring result. K-type thermal probes are well suited.

- Set the determined value on the temperature control. By turning, you change the value in the „SET“ line.



- Briefly press the button „PRESET 2“. This terminates the setup menu and displays the current soldering iron tip temperature.



- If you press the button „PRESET 2“ longer to finish, you switch back to the preset temperature of „PRESET 2“. In both cases, the calibration of the new soldering iron is finished successfully. Turn the soldering station off when it is not in use.



You can cancel an accidentally started calibration process at any time by turning the station off when the button „PRESET 2“ was not pressed yet. The preset values are preserved.

## Maintenance and Cleaning

Apart from occasionally exchanging the soldering tip and external cleaning, the soldering station is maintenance-free.

### Exchanging the soldering tip

Turn the soldering station off and let the soldering iron cool down completely.

Loosen the metal cap nut on the shaft of the soldering iron. First pull off the metal shaft and then the soldering tip.

Attach a new soldering tip and tighten the shaft carefully again.



If you have selected a different type of soldering tip, you have to correct the temperature of the soldering tip.

### Replacing the Fuse

If the mains switch is not lit when the station is turned on although the outlet is live, separate the soldering station from the mains by pulling the power plug.

The fuse holder for the circuit breaker is located in the bottom of the station.

You can remove the fuse insert by turning counter-clockwise with a matching screwdriver.

A defect fuse may only be replaced with a fuse of the same type and with equal electric parameters. Never repair the fuse!

Ensure a tight fit when screwing in the fuse insert.

If the defect persists after changing the fuse, put the soldering station out of operation.

### Cleaning

The appliance should be cleaned with a clean dry cloth or brush only.



Do not use cleaning agents which contain abrasives, petrol, alcohol or similar substances for cleaning purposes. Otherwise the appliance covering could corrode. Moreover the vapours are detrimental to health and explosive. Nor should sharp-edged tools, screwdrivers, metal brushes etc. be used for cleaning purposes.

### Disposal



When the device has become unusable, dispose of it in accordance with the current statutory regulations.

## Troubleshooting

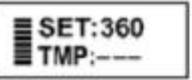
In purchasing the digital soldering station, you have acquired a product which has been designed to the state of the art and is operationally reliable.

Problems and malfunctions may, however, still arise.

For this reason, the following is a description of how you can eliminate possible malfunctions yourself.



**Always adhere to the safety instructions!**

| Fault  | Possible cause  |
|--|---|
| No display of the soldering tip temperature<br> | <ul style="list-style-type: none"><li>• The temperature is outside of the measurable range</li><li>• The soldering iron is not connected</li><li>• The soldering iron is defective.</li></ul> |
| Appliance does not work  | <ul style="list-style-type: none"><li>• Is the mains switch illuminated when the device is turned on?<br/>Replace the fuse</li></ul>  |
| Incomprehensible characters on the display or no operation possible  | <ul style="list-style-type: none"><li>• The processor was disrupted.<br/>Turn the device off and on again (reset).</li></ul>  |



**Repairs other than those just described should only be performed by an authorised electrician.**

## Technical data

|                           | AT203Dr                  | AT204Dr                  | AT208Dr                  |
|---------------------------|--------------------------|--------------------------|--------------------------|
| Operating voltage         | AC110V/60Hz              | AC110V/60Hz              | AC110V/60Hz              |
| Power consumption         | Max.85W                  | Max.110W                 | Max.130W                 |
| Soldering iron voltage    | 24V AC                   | 24V AC                   | 24V AC                   |
| Soldering iron output     | 60W                      | 80W                      | 100W                     |
| Soldering tip temperature | 150—450C                 | 150—450C                 | 150—450C                 |
| Fuse                      | 250V T400mA<br>slow-blow | 250V T630mA<br>slow-blow | 250V T800mA<br>slow-blow |