



UNO d

Electrolytic marking device

Important! Read carefully before use. Store for later reference.

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1 Safety

The operating instructions must be read carefully before use and kept well. The device may only be used as intended, any other use is prohibited.

General understanding of safety

The UNO d is constructed safely. Nevertheless, some activities present hazards that can only be avoided by following the proper procedure described in this manual.

Intended Use

The device is used for electrochemical marking of stainless steels and is to be used with a graphite anode, felt and electrolyte.

- It is intended for commercial use only.
- It is not allowed to use it with other substances or on other materials.
- It is only allowed to use original accessories and spare parts.

Requirements for the work environment

- Only operate the device in well-ventilated, dry and dust-free rooms.
- Never operate the device in potentially explosive or flammable environments.
- Work environments must be free of chlorine-containing solvents.

Qualification of personnel

- Keep out of the reach of children and unauthorized persons.
- The device may only be operated by instructed persons with the competence of correct and safety handling of all components.
- Maintenance work and repairs are only allowed by a qualified electrician. During the warranty period, any repair work must be performed by the manufacturer, otherwise the guarantee expires.

Hazards

Unauthorized modification of the device is prohibited because it may cause unpredictable hazards.

To avoid personal injury or damage of property, the following residual hazards must be observed:

- Danger due to electromagnetic fields
 - Persons with a pacemaker should not operate the device or stay in the vicinity during operation.
- Risk of electric shock
 - Check the device, cables and switches for damage before each use.
- Danger due to hot surfaces
 - The workpiece becomes hot during processing.
 - Handle the workpiece only with gloves.
- Observe the specified mains voltage, otherwise the electrical protective conductor will be destroyed.
- If the graphite anode is not used, there must be no contact with the metal surface, otherwise current will continue to flow, which can lead to damage and hazards.
- In the case of a failure, disconnect the mains plug immediately and contact the manufacturer or dealer.

Working with electrolytes

It is essential to read and observe the EC safety data sheet of the electrolytes used.

- Keep out of the reach of children.
- Protect yourself against harmful vapors through personal protective equipment and ensure adequate ventilation.
- Avoid contact with the eyes. If the electrolyte gets into the eye, wash it out immediately with plenty of water.
- Immediately wipe off splashes with plenty of water.
- Wash your hands thoroughly after work.
- To avoid stains, protect stone or concrete floors from contact.
- The electrolyte should be selected according to the application because it may cause stains on the workpiece.

Special precautions

For a safe use of the device, the following general precautions should be taken:

- Do not eat or drink at the workplace.
- Always work in a well-ventilated room or use an exhaustion.

- Wear personal protective equipment (PPE) such as acid-resistant safety gloves, apron and goggles.
- Observe the following accident prevention regulations (UVV):
 - DGUV Regulation 1 - Principles of prevention
 - DGUV 3 und 4 - Electrical installations and equipment
 - DGUV 6 - Occupational health precaution
 - DGUV 9 - Safety and health and safety marking at the workplace
 - DGUV 209-073 - Workplace ventilation, decision support for operational practice
 - DGUV 204-007 - Handbook of first aid
 - DGUV 204-022 - First aid in the company
 - DGUV 251-003 - Modern occupational safety

Explanation of the warning symbols



Warning of non-ionizing, electromagnetic radiation



Warning against explosive substances



Warning of electrical voltage



Warning of corrosive substances (electrolyte)



Warning of hot surface

Explanation of the signal words

DANGER - denotes an imminent danger. Failure to avoid it will result in death or serious injury.

WARNING - indicates a potential danger. Failure to avoid it can result in death or serious injury.

ATTENTION - indicates a potential danger. Failure to observe may result in moderate or minor injury.

CAUTION - indicates a potentially harmful situation. If it is not avoided, the device or something in its vicinity may be damaged.

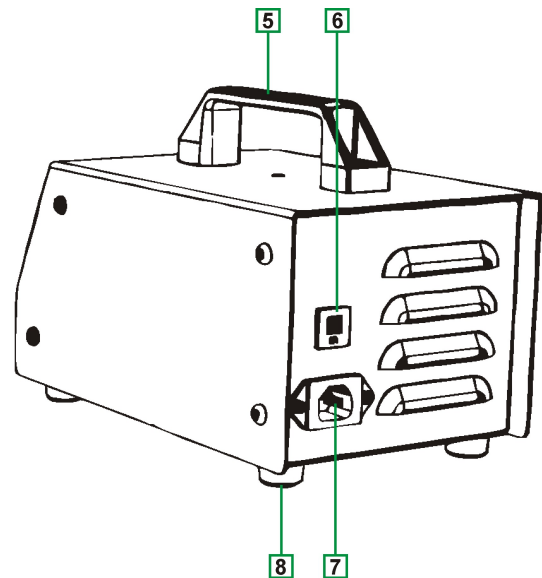
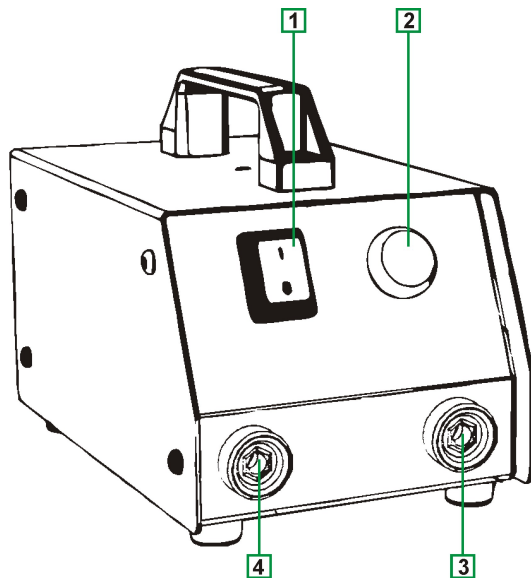
2 Specifications

The **UNO d** is the optimal device for electrochemical marking of stainless steel. With a working voltage of approx. 12V AC in compliance with protection class IP 23, the device was developed and designed for commercial use.

3 Device description

- (1) On/Off switch
- (2) Status LED On/Off
- (3) Connector socket for marking head cable
- (4) Connector socket for ground cable with clamp

- (5) Handle
- (6) Fuse housing
- (7) IEC connector
- (8) Rubber feet



3.1 Scope of delivery

The UNO d is delivered in the case with the accessories of the following table.

Description	Specification	Amount
UNO d	–	1
Ground cable with clamp	Ø 10 mm / 3 m	1
Marking head cable	Ø 10 mm / 4 m	1
IEC Cable with plug	3 m	1
Teflon handle	SK25	1
Container (for electrolytes)	–	1

4 Operation

Please observe the safety instructions in chapter Safety starting on page 4.

4.1 Before first use

The following steps explain the correct preparation of the device. The marking process is described in the following section.

1. Unpack the device
2. Dispose of the packaging material properly
3. Place the device on a level surface in your work area
4. Plug in the earth cable with clamp into the connection socket (4)
5. Plug in the marking head cable into the connection socket (3)
6. Plug in the IEC power cable
7. Insert the plug of the power cable into a 230V mains socket
 - ✓ The device is prepared.
8. Do not switch on the appliance until you have made the preparations.

4.2 Marking

Dark marking is an oxidation process. No material is applied or removed. The surface structure is thus retained. The marking is thus durable and resistant to mechanical and chemical influences.



DANGER

Non-ionizing, electromagnetic radiation

- Persons with a pacemaker should not operate the device or stay in the vicinity during operation.



DANGER

Danger of explosion due to arcing in combination with dust or solvent vapors

- Only operate the device in well-ventilated, dry and dust-free rooms.



DANGER

Risk of electric shock

- Check the device, cables and switches for damage before each use.



DANGER

Handling of electrolytes.

May be corrosive to metals.

- Observe the EC safety data sheet and the instructions in the chapter Safety.
- Protect yourself against harmful vapors through personal protective equipment and ensure adequate ventilation.
- Avoid contact with the eyes. If the electrolyte gets into the eye, wash it out immediately with plenty of water.
- Immediately wipe off splashes with plenty of water.
- Wash your hands thoroughly after work.



WARNING

Hot surface

- The workpiece becomes hot during processing.
- Handle the workpiece only with gloves.

1. Prepare the device as described in section 4.1
2. First clean the area to be marked thoroughly
3. Fill the electrolyte container with electrolyte - at least enough so that the complete felt can be immersed
4. Connect the marking head handle with the marking head cable
5. Attach the ground clamp to the workpiece or conductive work table

CAUTION

Stains and damage due to unintentional flow of current.

- If the graphite anode is not used, there must be no contact with the metal surface, otherwise current will continue to flow, which can lead to damage and hazards.

1. Turn on the device (1)
 - ✓ The status LED is lit (2)
2. Position the stencil on the workpiece
3. Immerse the graphite anode with the felt in the electrolyte in the electrolyte container
 - The felt must be very well wetted, so that a good flow of current is possible
4. Hold the stencil on a corner or secure it with some tape
5. For small areas, press the graphite anode vertically on the template for 1.5 to 2 seconds and move it slightly.
 - For small areas, press the graphite anode vertically on the template for 1.5 to 2 seconds and move it slightly. For larger markings, move the graphite anode evenly over it.
6. Remove the stencil
7. Rinse the surface with water
 - For best results, use distilled or demineralized water
8. Dry the surface with a dry cloth
9. Clean the stencil with water
10. Clean graphite anode and felt regularly and replace dark felts as described in chapter 5.2

- TIP**
- The result depends on various factors (see possible errors and their cause in Chapter 8), test the quality of the writing in advance on a reject part.
 - For an optimal result, moisten the area to be signed with a little electrolyte in advance.
 - There are short term and long life stencil, which are available from the dealer or manufacturer.
 - Do not slide the graphite anode over the edge of the stencil (stains!).
 - Avoid too long marking times, otherwise the stencil burns or gets damaged.

5 Maintenance and cleaning

5.1 Cleaning and changing the felt

1. Disconnect the marking head from the marking head cable
2. Turn the Signier-Fix off the handle
3. Slide the graphite anode together with the felt sideways out of the guide
4. Clean the felt thoroughly under running water
5. Replace a dark felt with a new one
6. Wipe the handle and Signier-Fix with a damp cloth
7. Place the cleaned or new felt around the graphite anode
8. Push both from the side back into the Signier-Fix
9. Turn the Signier Fix back on the handle

5.2 Maintenance plan

Activity	Note	Interval
Check device and accessories	- Check device, cables and switches for damage - Check felt of graphite anode for wear - Check the threads of the handles for corrosion, clean them with a wire brush if necessary and apply some copper-ceramic paste	Daily, before every use
Clean device and accessories	- Clean graphite anode - Clean stencil	Daily, after every use
Repeat test	- According to VDE 701/702 - Only be carried out by a qualified electrician	Yearly

6 Transport and Storage

The device is delivered as a set together with the accessories in a transport case (see delivery contents).

Transport inspection

Check the delivery for transport damage and completeness.

If transport damage is evident, proceed as follows:

- Delivery is not accepted or only with reservation
- Determine the extent of damage
- Report damage to the product, the carrier or the supplier

Storage

Store the device and accessories safely, gently and inaccessible to unauthorized persons. The following measures must be observed:

- Protection against moisture, dust and strong heat
- Protection from direct sunlight, do not store outdoors
- Secure against falling down

Notes for return

Please confirm the return shipment with the dealer or manufacturer.

7 Technical specifications

Item	UNO d
Operating voltage	230V – 50Hz
Power	275 Watt
Working voltage	Ca. 12V
Weight device	3,5kg
Dimension W×H×D	145×180×240mm
Protection	IP 23

8 Troubleshooting

Error	Possible Cause	Solution
Marking does not work	• Too little or no electrolyte • Wrong electrolyte	• Immerse felt in electrolyte for longer time • Use a different electrolyte
Stains after cleaning the marking	• Not rinsed with enough water • Too high water hardness (lime residues)	• Rinse with plenty of water • Use distilled or demineralized water

9 EC Declaration of Conformity

The manufacturer declares that the device UNO d complies with the provisions of the following guidelines:

- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive

and the conformity with the following standards is given:

- DIN EN 50445
- DIN EN 60529
- DIN EN 61000-6-3
- DIN EN 61558-1

10 Disposal instructions



Old appliances must not be disposed of with household waste.

Old electronic equipment marked with this symbol must be disposed of properly, for example, at a local collection point of the city. This ensures that waste equipment is recycled properly, thus avoiding negative effects on the environment.

11 Warranty

This warranty is a voluntary performance of the manufacturer. The statutory warranty rights (subsequent performance, withdrawal, compensation and reduction) are not affected by this guarantee.

The manufacturer assumes warranty for proper function, freedom from defects in material or workmanship for 12 months from the date of purchase.

Excluded from the guarantee are damages caused by non-observance of the operating instructions, improper handling or normal wear and tear. If a repair is required, please contact the dealer or manufacturer by phone or e-mail.

Warranty service does not extend the warranty period. There is also no claim to new warranty services.