



KH 980

■ UNIVERSAL BATTERY CHARGER

- GB Instruction Manual
- IE
- CY

KOMPERNASS GMBH · BURGSTRASSE 21 · D-44867 BOCHUM
www.kompernass.com
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Read the operating instructions carefully before using the appliance for the first time and preserve this booklet for later reference. Pass the booklet on to whomsoever might acquire the appliance at a later date.

Universal Battery Charger KH 980

Safety instructions

Intended Use

The Universal Battery Charger is intended exclusively for:

- the charging of rechargeable Ni-Cd and Ni-MH batteries with the sizes AAA/AA/C/D and 9V Block.
- domestic use only, it is not intended for commercial use.

Items supplied

- Universal Battery Charger KH 980
- Operating manual
- Guarantee Card

Description of the appliance

- ➊ Charging slots for 9V Block batteries (Charging slots 5 and 6)
- ➋ Charging slots for AAA/AA/C/D batteries (Charging slots 1 to 4)
- ➌ LEDs

Technical data

Input voltage: 100–240V / 50–60Hz

Power consumption: 25W

Protection class: II / 

Charging currents:

6 x AAA (Micro) = 330 mA

6 x AA (Mignon) = 1000 mA

4 x C (Baby), D (Mono) = 1000 mA

2 x 9V Block = 60 mA

Fire hazard!

Do not place the Universal Battery Charger:

- where it would be subject to direct sunlight. It could happen that the Universal Battery Charger overheats and becomes irreparably damaged.
- in close adjacency to sources of heat. This includes for example ovens, fan heaters and similar appliances, as well as the ventilation openings of electrical devices. The Universal Battery Charger could be irreparably damaged.
- in damp environments or in the vicinity of water. Moisture could permeate into the Universal Battery Charger. There would then be the danger of receiving an electric shock and or causing a fire!
- Only charge rechargeable batteries of the types „Ni-Cd“ and „Ni-MH“. NEVER recharge batteries of other types or non-rechargeable batteries. These are not suitable for recharging. Batteries not suitable for recharging can overheat and explode. It could irreparably damage the Universal Battery Charger and the inserted batteries. There is also a risk of personal injury!

Danger of electrical shock!

Do not place the Universal Battery Charger:

- in the close vicinity of water, e.g. baths and swimming pools. Should water permeate into the Universal Battery Charger, the appliance could be irreparably damaged.
- Remove the power cable from the plug socket before cleaning the Universal Battery Charger. You can thus avoid an electric shock. Should water or moisture permeate the Universal Battery Charger despite observing all precautions, immediately remove the power cable from the plug socket.

Injury hazard!

- Always store batteries out of the reach of children! There is a danger that children could swallow batteries! Due to the poisonous content of batteries there is a danger to life!
- When charging batteries never leave the Universal Battery Charger unsupervised.
- The batteries could become hot during charging. NEVER touch hot batteries! There is a risk of being burnt! After charging batteries, first of all remove the power cable of the Universal Battery Charger from the plug socket. Then allow the batteries to cool down before removing them from the Universal Battery Charger.
- Should the power cable be defective, immediately arrange for it to be replaced by a service partner to avoid the risk of injury.

- The Universal Battery Charger does not contain any user-serviceable components. Should you open the housing of the Universal Battery Charger, the warranty expires! Should repairs be needed, contact one of our service partners in your area.

The addresses of our service partners are given on the warranty card. This is supplied with the Universal Battery Charger.

- No liability or warranty will be accepted for damage caused by opening the appliance housing, repairs attempted by non-qualified persons or improper use of the Universal Battery Charger!
- Leakage of battery acids can occur, especially with old batteries. You should remove all batteries from the Universal Battery if you do not intend to use it for an extended period. You can thus protect the Universal Battery Charger from leaking battery acids.

Dealing with rechargeable batteries

- Do not use damaged (corroded) batteries.
- Should batteries leak, avoid skin contact with them. This leads to skin irritation.
- Should a battery leak into the Universal Battery Charger, clean it with a dry cloth. Wear protective gloves!

Commissioning

- Before taking the Universal Battery Charger into use, check that all items are complete/available and free of visible damage.
- Place the Universal Battery Charger on a straight, level, scratch and slip resistant surface.
- Compare the technical details with those of your power supplier. If they match, insert the power plug into a power socket. The Universal Battery Charger is now ready for use.

Charging batteries

Danger!

Charge exclusively rechargeable batteries of the types „Ni-Cd“ and „Ni-MH“.

NEVER recharge batteries of other types or non-rechargeable batteries. These are not suitable for recharging. They could irreparably damage the Universal Battery Charger and the inserted batteries. There is also the danger of a fire as well as an explosion!

- Insert the batteries into the charging slots.
- Press the 9 V Block batteries into the charging slot until they audibly engage.

1 to 8 batteries can be individually charged:

- 4 x Type C or Type D batteries in the charging slots 1 to 4, with additionally
2 x Type 9 Volt Block batteries in the charging slots 5 and 6,

or

- 6 x Type AA or AAA in the charging slots 1 to 4, with additionally
2 x Type 9 Volt Block batteries in the charging slots 5 and 6.

Notice:

Ensure that the batteries are inserted into the charging slots in accordance with their polarities. Otherwise, the batteries will not be charged.

- The charging process now begins. The Universal Battery Charger has an LED for each cell in the charging slot. The LEDs of the respective charging slots show the charge condition of the individual batteries.
- In the first 5 seconds the Universal Battery Charger carries out a capacity test:
 - The LED of the charging slot glows orange: Capacity between 20% - 80%.
 - The LED of the charging slot glows red: Capacity under 20%.
 - The LED of the charging slot glows green: Capacity over 80%.

When the battery capacity has been determined, the charging process begins.

The various displays have the following meanings:



The LED blinks alternatively red and green:
The batteries are being discharged for max. 10 minutes (Refresh-Function).



The LED blinks green:
The charge condition of the batteries is being checked, and afterwards being charged with a battery-sparing impulse loading for ca. 3 minutes at a reduced charging current.



The LED continuously glows red:
The batteries are being charged.



The LED continuously glows green:
The batteries are fully charged.



The LED blinks red:
The inserted batteries are not positioned correctly in the charging slot or are defective.

Note:

Should type C or D batteries be charged in the outer charging slots, the operating condition is displayed by the inner LEDs.

Warning!

The batteries could become hot during charging. After charging batteries, first remove the power cable of the Universal Battery Charger from the plug socket. Then allow the batteries to cool down before removing them from the Universal Battery Charger. NEVER touch hot batteries! There is a danger of being burnt!

- Remove the power cable of the Universal Battery Charger from the plug socket and allow the batteries to cool down.

Afterwards you can remove the charged batteries from the Universal Battery Charger.

Average charging times

Depending on the type, age and remaining charge in the batteries, the charging process can take various lengths of time. The average charging time can be taken from the following table. Take note however that the times given are only guiding values.

Type AAA batteries		
Capacity	Ni-MH	Ni-Cd
900 mAh	245 Min.	–
300 mAh	–	80 Min.

Type AA batteries		
Capacity	Ni-MH	Ni-Cd
2500 mAh	225 Min.	–
800 mAh	–	70 Min.

Type C batteries		
Capacity	Ni-MH	Ni-Cd
4000 mAh	360 Min.	–
1800 mAh	–	160 Min.

Type D batteries		
Capacity	Ni-MH	Ni-Cd
4500 mAh	400 Min.	–
1800 mAh	–	160 Min.

9V Block batteries		
Capacity	Ni-MH	Ni-Cd
200 mAh	280 Min.	–
100 mAh	–	140 Min.

Calculating the charging time

Current time (Min.) =

Capacity of the battery (mAh) $\times 1,5 \times 60$

Charging current of the appliance (mA)

Automatic charging control/ Retention charging

This Universal Battery Charger controls the charging time for rechargeable batteries of the types Ni-Cd and Ni-MH separately. This control is based on the $-\Delta U$ („minus Delta U“) calculation.

In mathematics, with Delta Δ differences are described.

„Minus Delta U“ in this case means a negative voltage difference.

This charge identification makes itself useful in the following effects:

Should a battery be charged with a constant current, its voltage rises continuously. When the battery is full, its voltage reaches a maximum and falls lightly with further current flow. This light fall in voltage is recognised by the charging electronics and the charge process is terminated. The Universal Battery Charger automatically switches to „Retention charging“.

Troubleshooting

The Universal Battery Charger displays no functions

- Check to see if the power cable is correctly inserted into the power socket.
- Check to see if the power socket is „live“. To do this, connect a different, functioning electrical appliance to the socket.

The inserted batteries are not being charged

- Check that the batteries are being inserted in accord with their polarity.
- Check that batteries suitable for charging have been inserted into the Universal Battery Charger. Suitable for charging are exclusively rechargeable Ni-Cd and Ni-MH batteries of the types AAA/AA/C/D and 9V Block batteries.
- Remove the power cable from the power socket and allow the appliance to cool down, as the temperature monitoring has possibly activated itself.

Other malfunctions

Make contact with one of our service partners close to you if:

- the malfunction cannot be corrected as described above,
- or, when operating the Universal Battery Charger, other malfunctions occur.

Cleaning

Clean the housing of the Universal Battery Charger only with a dry cloth. For stubborn soiling use a lightly moistened cloth. When cleaning ensure that no moisture can permeate into the Universal Battery Charger! Never clean the insides of the charging slots with moist cloths. Instead, use a clean soft brush to clean them. Under no circumstances should you use abrasive or chemical cleaners.

Disposal

Device



Do not dispose of the appliance in your normal domestic waste.

Dispose of the appliance through an approved disposal centre or at your community waste facility. Observe the currently applicable regulations. In case of doubt, please contact your waste disposal centre.

Disposal of batteries!



Batteries must not be disposed of in the household waste. Every consumer is legally obligated to dispose of batteries at a

collection site of his community/city district or at a retail store.

This obligation is intended to ensure that batteries are disposed of in an environmentally safe fashion. Only dispose of batteries when they are fully discharged.

Packaging



Dispose of packaging materials in an environmentally responsible manner.

Warranty & Service

This appliance is guaranteed for 3 years from the date of purchase. It has been carefully produced and meticulously checked before delivery. Please keep your receipt as proof of purchase. Contact your service centre by telephone in case of questions pertaining to the warranty. Your goods can be transmitted free of cost only in this manner.

The warranty covers only material or manufacturing faults, not normal wear or damage to fragile parts such as switches or rechargeable batteries.

The appliance is intended solely for private, not commercial, use. If this product has been subjected to improper or inappropriate handling, abuse, or interventions not carried out by one of our authorised sales and service outlets, the warranty will be considered void. This warranty does not affect your statutory rights.

DES Ltd

Units 14-15
Bilston Industrial Estate
Oxford Street
Bilston
WV14 7EG
Tel.: 0870 787 6177
Fax: 0870 787 6168
e-mail: support.uk@kompernass.com

Kompernass Service Ireland

c/o Irish Connection
41 Harbour view
Howth Co. Dublin
Tel: 087-99 62 077
Fax: 18398056
e-mail: support.ie@kompernass.com

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