

Operating instructions IQ328

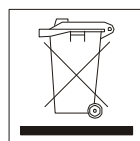
Please read these Operating instructions carefully before using the charger.

We thank you that you have decided to purchase our intelligent fast chargers IQ-328. With this battery charger, you have the possibility to recharge batteries optimal discharge, refresh and test the Mignon (AA) and Micro (AAA). The LCD display gives you a good overview of each battery.



Intelligent fast charger IQ328
“Easy to use“

Please consider to get the safety and care instructions in this manual to this charger efficiently and safely.



Supplied with:

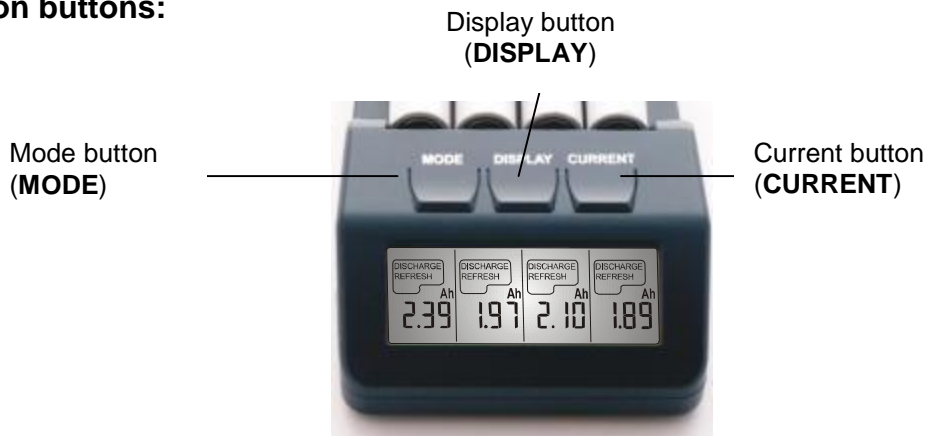
- battery charger IQ328
- Power Supply
- Operating instructions

Important notes:

1. The charger IQ-328 is only for use with rechargeable NiCd and NiMH batteries (AA / AAA) were determined. Never use the charger with other battery / battery types such as Lithium, Alkaline or other types.
2. The charger should be used only in dry, closed rooms only during normal operating conditions.
3. Always follow the manufacturer's instructions to charge the battery with the correct charging current. Never use a higher charging current than the manufacturer recommended.
4. Use only the supplied original power adapter.
5. Note that the batteries can get hot during charging (in particular at high charge currents).
6. If you are not using the charger, then please remove the plug from the socket.
7. Charger during the operation can not be left unattended.
8. Keep batteries out of reach of children.
9. The first time you use new batteries, it might be necessary for the new batteries several times to be charged and discharged before they reach their optimum capacity. Therefore, the user is recommended to use the new battery once REFRESH function.
10. Keep Batteries, charger and cables away from flammable materials

Features:

- three-button Easy-to-use function
- Adjustable charging current:
 - 1-4 batteries: 200, 500, 700, or 1000 mA
 - 1-2 batteries (charging channel 1 and 4): up to 1800 mA
- Display for each charging channel
- temperature sensor to prevent overheating and overcharging
- Delta-Peak or minus delta V (-dV) charge termination ensure for automatic termination of the charging process
- Identifies defective batteries
- REFRESH program to activate older or longer stored batteries
- Charging and discharging function
- LCD display with status display for voltage (V), time (h), current (mA) and charged capacity (mAh or Ah)
- Test function to check the actual battery capacity.

Function buttons:**MODE button (mode):**

After inserting the batteries, the MODE button is used to select the desired charging mode ("CHARGE", "Discharge", "REFRESH" or "TEST"). To selecting you need to hold the MODE button for about 3 seconds. By repeatedly pressing will shown on the display the current mode. The settings are always applied to all occupied slots.

DISPLAY button (display):

During charging, you can press DISPLAY button to get the following values:

- the battery voltage (V)
- Charging time in hh: mm (h)
- The charged capacity (mAh or Ah)
- The present charge and discharge current (mA)

CURRENT button (charging current):

You can Select the charge current within a period of 5 seconds after inserting the battery by CURRENT button. As Standard charging current the charger uses automatically 200 mA.

FUNCTIONS OF THE CHARGER:

The following functions can be selected:

- the battery voltage (V)
- CHARGE function: Charging batteries
- DISCHARGE function: discharging batteries. This Function minimizes the memory effect.
- DISCHARGE-REFRESH function: regeneration of old batteries. This function is especially useful for old and long-stored batteries. It tries to reach an increase in capacity by charging and discharge.
- TEST function: This Function is used to approximate the exact capacity in mAh or Ah to determine the battery.

For each mode: After the battery has reached full capacity (display shows "Full ") the charger will be switched automatically to controlled trickle charge (the batteries are charged with controlled low Current).

CHARGE "CHARGE":

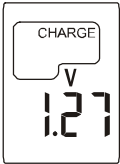


The battery charger using as an automatic default setting a charging current of 200 mA. However, you can select in the first 5 seconds by the CURRENT button between 200, 500, 700, 1000 mA battery for 1-4 or up to 1800 mA for 1-2 batteries. (charging channels 1 and 4). If no choice, automatically starts discharging with 200 mA. In the chart below are some examples of charging Current and average charging times:

Ladezeiten mit verschiedenen Ladeströmen / Charging time with various charging current			
Akkugröße Size of battery	Akku-Kapazität Battery capacity	Gewählter Ladestrom Charging current selected	Durchschnittliche Ladezeit Estimated charging time
AAA Micro	700 mAh	700	~ 65 min
		500	~ 1 h 30 min
		200	~ 3 h 40 min
AA Mignon	2700 mAh	* 1800	~ 1 h 30 min
		* 1500	~ 1 h 45 min
		1000	~ 2 h 50 min
		700	~ 3 h 55 min
		500	~ 5 h 55 min
		200	~ 13 h 50 min

* Wenn nur ein oder zwei Akkus geladen werden, sofern nur Fach 1 und 4 genutzt wird, kann ein Ladestrom von bis zu 1500 oder 1800 mA durch die Betätigung der CURRENT-Taste eingestellt werden.
 When only one or two rechargeable batteries are charged, provided that only slot No. 1 and slot No. 4 are used, a charging current up to 1500 mA or 1800 mA may be stated by the pressing the CURRENT button.

When the batteries are inserted, the display shows the battery voltage (eg 1.27 V) for 4 seconds, then the charger switches to the setting Function for the charging current and the display will show 200 mA for 4 seconds. If no change made in this time, the Charger will start the charging process after a short blinking of the Display.

When the display show the word "Full", so the charging process is finished.

		
<p>Sobald die Akkus eingelegt wurden erscheint die Akkuspannung für ca. 4 Sekunden Once the batteries have been inserted. shows the battery voltage for about 4 seconds</p>	<p>Danach wechselt das Ladegerät auf den Ladestrom und am Display wird 200 mA für 4 Sekunden angezeigt (Zeit für Einstellung von Modus und oder Ladestrom) Then the charger switches to the charging Current is 200 mA and the display shown for 4 seconds (the time for setting mode or charging Current)</p>	<p>Wenn die Akkus voll geladen sind, dann zeigt das Display „Full“ an When the batteries are fully charged, the display shows "Full "</p>

During the charging you can use the DISPLAY button to see the following modes:

- Charge Current (mA)
- Voltage (V)
- Elapsed time (hh: mm)
- The charged capacity (mAh or Ah)

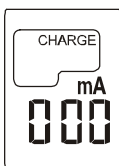
Note:

- Always follow the battery manufacturer's directions and pay attention to the recommended maximum charging current. Basically a charge current of 200 mA is recommended, this is a safe and optimal value for each battery, when rapid charging is not necessary.
- When you buy new batteries, it is possible that they have to be formatted first in order to reach optimal performance. You can do this by the REFRESH function (see page 7).
- The charging current can not be changed during the charging process. This will prevent accidental setting change.
- When the power supply was connected to the socket before a battery is inserted, then all the segments will shown for a short time and it will be "null ". If a low discharged battery or defective battery is inserted, will be also "null " on the LCD display.



"null" wird angezeigt – Es ist entweder kein Akku oder ein defekter Akku eingelegt.
"null" displayed - No battery or damaged battery is placed to the charging unit

- If there is any overheating (temperatures above 55 ° C, usually triggered by a too high charge current), the charging process is stopped and the display shows "000 mA ". Only after the temperature dropped to a safe level, the charging process continues. In case are repeated the overheating, the batteries must be removed to cool down and then restart with an new lower current.



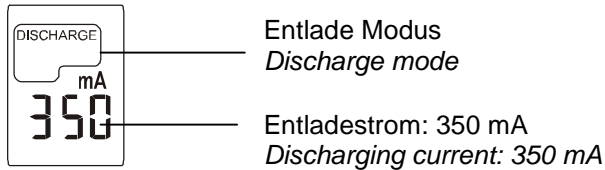
Wenn der Akku eine Temperatur über 55°C hat und der Ladevorgang stoppt, es wird "000 mA" angezeigt.
When the battery is overheated over about 55°C the charging will ceases automatically. It will be shown "000 mA"

DISCHARGING "DISCHARGE"

When you Select the discharge function (DISCHARGE), the inserted batteries are first discharged, then charged. So the memory effect is avoided. To select such Function, after inserting the battery, hold down the MODE button for about three seconds. The discharge current, you can select by using the CURRENT button. (see table below)

Entlade- und Ladestrom Tabelle / Charging and Discharging chart

Strom im Entlademodus / DISCHARGE MODE Current				
Gewählter Entladestrom <i>User-selected discharging current</i>	100 mA	250 mA	350 mA	500 mA
Anschließendes Ladestrom <i>Thereafter charging current</i>	200 mA	500 mA	700 mA	1000 mA



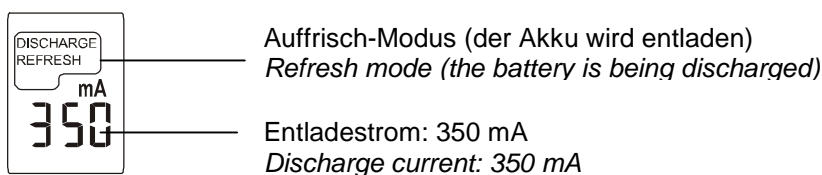
Once the batteries have been discharged the charging process will start automatically. The charging Current is always the double of the adjusted discharge current. For example, select a discharge current of 350 mA, the charging current 700 mA. Therefore, make sure to select a not too high discharge current.

The display shows "Full " when the Charging is completet. As soon as "Full" is displayed, you can switch by the DISPLAY button, between charging time, voltage and capacity.

Note: The MODE button must be hold about three seconds. Only than you can select the functions CHARGE, DISCHARGE, TEST and REFRESH by pressing the MODE button again.

REFRESHING "REFRESH DISCHARGE"

The DISCHARGE-REFRESH function can provide for older or a long time unused batteries, the optimum capacity back. This function can only select by by press and hold the MODE button. After the Function has been selected DISCHARGE-REFRESH ". You can select the discharge current, by the CURRENT button. (see table at EMPTY) As soon as this mode is selected and started, the charger will start to discharge the inserted batteries, then to load. This process will be automatically repeated until the battery charger detects no increase in capacity more. The batteries have reached their maximum capacity.



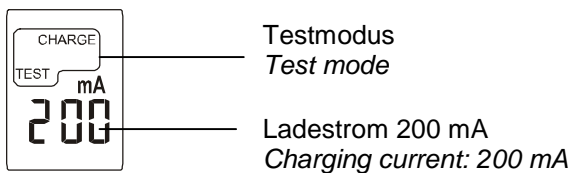
Note: It can take several days to complete this process. It always depends to the selected discharge current. The maximum discharge current is 500mA.

TEST MODE "TEST"

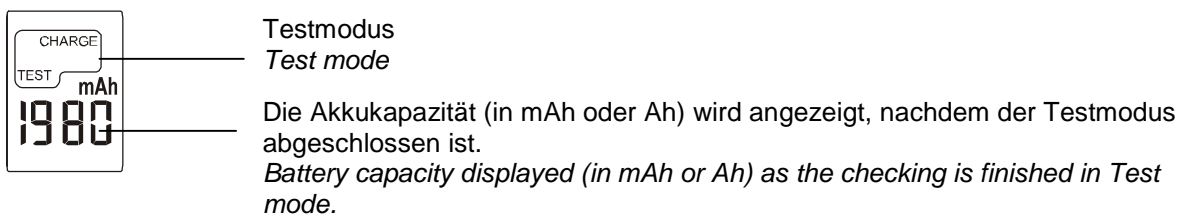
With this mode, you can check, analyze the present capacity of your batteries. The battery charger will fully charge the batteries at first, then the batteries are fully discharged and charged again finally. The display will show the capacity of the battery. By long hold the MODE button, then select the "TEST ". Then set the CURRENT button the charging current. (see table below)

Discharge and charging Current chart

Ladestrom im Testmodus / Charging Current TEST MODE				
Gewählter Ladestrom <i>User-selected Charging current</i>	200 mA	500 mA	700 mA	1000 mA
Anschließendes Entladestrom <i>Thereafter Discharging current</i>	100 mA	250 mA	350 mA	500 mA



Note: Once the test mode is completed, the display shows "Full" and the battery capacity in mAh or Ah. By pressing the DISPLAY button to shown other data. The maximum charging Current is 1000mA. The discharge current is always half of the set charging current.



SERVICE & MAINTENANCE:

The battery charger is maintenance free, but should be cleaned occasionally. When cleaning the unit must be disconnected from power. Only dry and soft cloth. Under no circumstances use abrasive cleaners or solvents.

Technical data:

Input voltage for AC / DC adapter: 100-240 VAC 50-60 Hz
 charging current range: 200mA - 1800mA
 Maximum charging capacity (capacity of battery): ≤ 3500 mAh
 Dimensions (L x W x H) of the charger approx: 130 x 83 x 35 mm

DISCLAIMER:

- The manufacturer and supplier is not responsible for incorrect or improper use and the resulting consequences.
- Any repair or modification that will not be performed by the original supplier will void the warranty.
- The device may be used only by people who have read and understood such instructions.
- The specifications are subject to change without previously pointing out.
- This product is not a toy. Keep out of reach of children.
- The reproduction of this manual or parts of it is permitted only with written permission of the manufacturer.

SAFETY INSTRUCTIONS:

Please observe the following safety instructions:

- Use as described in the instructions, only NiCd or NiMH batteries!
- The device is not approved for outdoor use. Protect it from high humidity, water, rain or snow. Keep the device away from excessive heat and direct sunlight.
- Do not dispose of batteries in a fire!
- Do not use other than the supplied accessories. In particular, attention is drawn to use the supplied original power adapter for the battery charger.
- Unplug the power cord from the outlet when not in use.
- The device should not be used if it has received a blow or damaged in any other form.
- Don't use the charger for any other purposes than described in the instruction.
- Do not open or disassemble the unit, otherwise there is a risk of electric shock or fire.

Notes on disposal:

Please inform yourself about the local collection points for electronic devices.

Please check local environmental standards and do not dispose of your old products with normal household waste. The charging unit may only be disposed of in waste management authorities set up collection points. The proper disposal of your old product will help the environment and health.

Rechargeable batteries must not be disposed of in domestic waste. Return used batteries to your dealer or to an authorized battery collecting point.

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