

## 6. LCD Error Display

If an abnormality arises, an error is displayed on the LCD and the alarm sounds; if charging is in progress, charging is interrupted. Afterwards, pressing any button returns the display to the normal screen and charging can be restarted. However, if the cause of the original error is not resolved, the same error will recur.

LCD display	Description of problem and action to be taken	Alarm sound
Error 01	The source supply voltage is 10V or less.	Three beeps
Error 02	The source supply voltage is 25.6V or more.	Three beeps
Error 03	The charging current is 10 A or more. Disconnect the nicad battery immediately.	One long beep
Error 04	There is a problem with the electronic circuitry. Send the unit in for repairs.	One long beep
Error 05	The nicad battery is not connected or the connections are reversed.	No sound
Error 06	The charging capacity has been exceeded.	Four short beeps
Error 07	The nicad battery voltage is 19.9V or more.	Four short beeps

## 7. Warranty Limitations

- No warranty is made regarding the capacity or service life of batteries charged by this charger, or regarding the operation or operation time of equipment powered by a battery charged by this charger. The customer is responsible for monitoring the charge remaining in the battery and the service life of the battery.
- The display on this unit is not intended for use as a measuring tool. The accuracy of the values displayed is not guaranteed.
- The circuitry in this charger may generate electromagnetic waves. As a result, this unit may interfere with the operation of radios, cordless telephones, etc., in the vicinity. (This unit will not affect signals at the frequencies used by radio controlled vehicles.)
- This charger was designed and manufactured for Sanyo and Panasonic nicad batteries. Kondo can bear no responsibility for any consequences that arise if this charger is used to charge a battery that does not satisfy the necessary requirements, or if the instructions and warnings described in this manual are not heeded.

## 8. Requesting Repair Services

- If a problem arises with the charger, either as a result of accident or as a result of natural wear, and you send it in for repairs, describe the problem in as much detail as possible.

Doing so will allow our technicians to pinpoint the cause of the problem faster, reducing the length of time that we will have to hold the unit for repairs.

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## 9. Q & A

Question	Answer
Does rapid charging shorten the service life of a nicad battery?	As long as the charging current is set properly, the service life of the battery will not be shortened.
What do "v" and "mAh" on the nicad battery stand for?	"v" denotes voltage, and "mAh" (milli-ampere hours) denotes capacity.
How long does charging normally take?	Varies according to battery capacity and charging current. For a 1000mAh battery is about 1 hour. Time is 30 minutes if the charging current is 2A. However, faster charging will reduce operating time per charge.
What does it mean when charging is completed but the displayed charge is less than the capacity indicated on the nicad battery?	When a nicad battery is charged while it still has some charge remaining, the amount of charge that was added as indicated on the charger will differ from the capacity shown on the battery. If you leave the nicad battery alone until charging is finished, it will be fully charged.
Why does charging sometimes stop before it is completed?	If no error message was displayed, then charging has basically been completed. If the charged capacity and the indicated capacity do not agree, it is possible that the battery still had some charge remaining before it was charged, or else, after a battery was fully charged, the charging process was started again. In addition, if the battery is old and the cell capacity fluctuates, the delta peak may be generated for some of the cells before all of the cells are fully charged, which would cause the charger to terminate the charging process.
What does the "?" on the display mean?	It could mean a poor contact in the connectors, a damaged lead wire, or a problem with the nicad battery. The question mark appears when the internal resistance of the nicad battery is high.
Why do strange characters sometimes appear on the screen?	This happens when the internal computer is not operating properly. Disconnect the power source, wait one minute, and then connect the power supply again.
What is the flickering on the LCD that occurs during charging?	This is not a symptom of a problem. The flickering can be diminished by reducing the LCD contrast.
Is it possible to operate the charger off of a 24V battery?	It is possible, but not if the voltage is 25V or more.
Should I use a discharger?	If a nicad battery is repeatedly charged before it is fully discharged, the "memory effect" occurs, which results in reduced capacity. Use of a recharger is recommended in order to prevent this phenomenon from occurring.
What should I do if charging is interrupted and an error message appears?	Check the meaning of the error and then take the appropriate action.
Is there a problem if sparks appear when I connect the power supply or a battery?	This does not indicate a problem.
What should I do if the charger doesn't work?	Make sure that the power supply is connected properly, make sure that the fuse has not been blown, and check the supply voltage.
What causes the fuse to blow?	The fuse blows if the power supply connections are reversed.
Is it possible to turn off the charging monitor timer?	Hold down both of the buttons on the charger while connecting the power supply. Wait several seconds until the display appears; the charging monitor timer is now off.

## 10. Specifications

(Due to our continuing efforts to improve our products, these specifications are subject to change without notice.)

Type:  
Constant current method:  
Charging current cutoff method:  
LCD display:  
Batteries that can be charged:  
Charging current:  
Input power supply:  
Dimensions/weight:

Nicad rapid charger using the DC/DC converter and step up and down method.  
High-frequency FET control and linear pulse method.  
Microcomputer controlled intelligent fuzzy delta peak cutoff.  
8 characters x 2 lines; dot matrix.  
Nicad and Hydpack batteries, 50 to 5000mAh, 1 to 10 cells, (1.2V to 12V packs)  
0.2 to 5.0A  
10 to 24V (DC), 10A or greater stabilized power supply, or 35Ah or higher battery  
149 x 82 x 35 mm (excluding projections), 470g