PENTAX®

INSTRUCTION MANUAL

MODEL MC04

AC / DC Ni-Cd BATTERY
CHARGER / DISCHARGER

(Approved by UL, CSA and TÜV/GS)

ASAHI PRECISION CO., LTD.

Contents

IMPORTANT SAFETY INSTRUCTIONS

1. **SAVE THESE INSTRUCTIONS !** This operating manual refers to important safety instructions for the battery charger Model MC04.

2. Before using the battery charger, read through instructions and cautionary labels on (1) the battery charger. (2) the battery and (3) the product containing the battery.

3. **CAUTION** Charge only Ni-Cd type rechargeable batteries to minimize the risk of injury. Use of other type of batteries may cause physical injury and damage.

4. Do not expose the charger to rain or snow.

5. Use of an attachment not recommended or sold by any party other than the battery charger manufacturer may result in risk of fire, electric shock, or personal injury.

6. To minimize the damage to electric plug and cord, hold the plug, not cord, when disconnecting the charger.

7. Make sure the cord is placed so as not to get stepped on or tripped over to prevent any possible damage.

8. An extension cord should not be used.

9. Do not operate the charger with a damaged cord or plug.

10. Do not operate the charger if it has been short-circuited, dropped or otherwise damaged in any way. Take it to a qualified service shop for repair.

11. Do not try to disassemble the charger by yourself. Take it to a qualified service shop when service or repair is required. Improper reassembly may result in causing electric shock or fire.

12. To minimize risk of electric shock, unplug the charger from an outlet before attempting any maintenance or cleaning. Turning off the controls will not serve to reduce this risk.

13. Refer to DC input ratings on the battery charger label when you use the DC input jack.

WICHTIGE SICHERHEITSHINWEISE

1. **BEACHTEN SIE BITTE DIESE ANLEITUNG !** Diese Anleitung beinhaltet wichtige cherheitshinweise zum Gebrauch des Batterieladegerätes Modell MC04.

2. Bevor Sie das Batterie-Ladegerät in Betrieb nehmen, lesen Sie bitte die entsprechenden Anleitunen von (1.) diesem Ladegerät, (2.) der aufladbaren Batterie und (3.) dem Produkt in dem die Batterien eingesetzt werden sollen.

3. **ACHTUNG** laden Sie nur wiederaufladbare Nikel-Cadmium-Batterien. Laden Sir keine Trockenbatterien, es besteht erhöhte Verletzungsgefahr durch Explosion.

4. Benutzen Sie das Ladegerät nicht im Freien bei Regon oder Schnee.

5. Benutzen Sie nur dir vom Hersteller empfohlenen Ladegeräte und keine Fremdprodukte um einer Verletzungsgefahr durch Feuer oder elektrischem Schlag an Personen zu vermeiden.

6. Um Beschädigungen am Gerät zu vermeiden, ziehen Sie das Gerät nicht am Kabel, sondern am Netzstecker aus der Steckdose.

7. Plazieren Sie das Ladegerät beim Ladevorgang so, daßman nicht auf das Kabel tritt und versehentlich das Kabel aus der Steckdose gerissen wird.

8. Benutzen Sie kein Verlängerungskabel.

9. Benutzen Sie das Ladegerät nicht wenn das Kabel oder Stecker bechadigt ist.

10. Benutzen Sie das Ladegerat nicht mehr wenn ein Kurzschluß ensteht, oder das Gerät in irgendeiner Form beschadigt wurde. Geben Sie das Gerät zur nächsten qualifizierten Servicestation.

11. Versuchen Sie nicht das Gerät selbst auseinanderzunehmen Geben Sie es zu einer qualifizierten Servicewerkstatt, wenn eine Reparatur nötig ist. Unqualifizierte Reparatur kann zu elektrischem Schlag oder Feuer führen.

12. Bevor Sie das Gerät reinigen ziehen Sie den Netzstecker um einen elektrischen Schlag zu vermeiden.

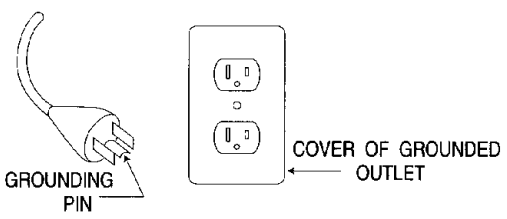
13. Das externe Gleichstromkabel sollte nur an eine Autobatterie angeschlossen werden.

GROUNDING AND AC POWER CORD CONNECTION INSTRUCTIONS

The charger should be grounded to minimize the risk of electric shock. The charger is equipped with an electric cord having a device to which a grounding conductor and grounding plug are attached. The plug must be plugged into an outlet that is properly installed and grounded in accordance with local standards.

DANGER ! Never alter the AC cord or plug if it does not fit the outlet. Have a proper outlet installed by a qualified electrician. Improper connection can result in risk of an electric shock.

Grounding method



1. Features

1.1 Works in the range between AC100V - 120V with frequencies of 50Hz or 60Hz for USA.

1.2 Works in the range between AC100V - 240V with frequencies of 50Hz or 60Hz for Canada and Europe.

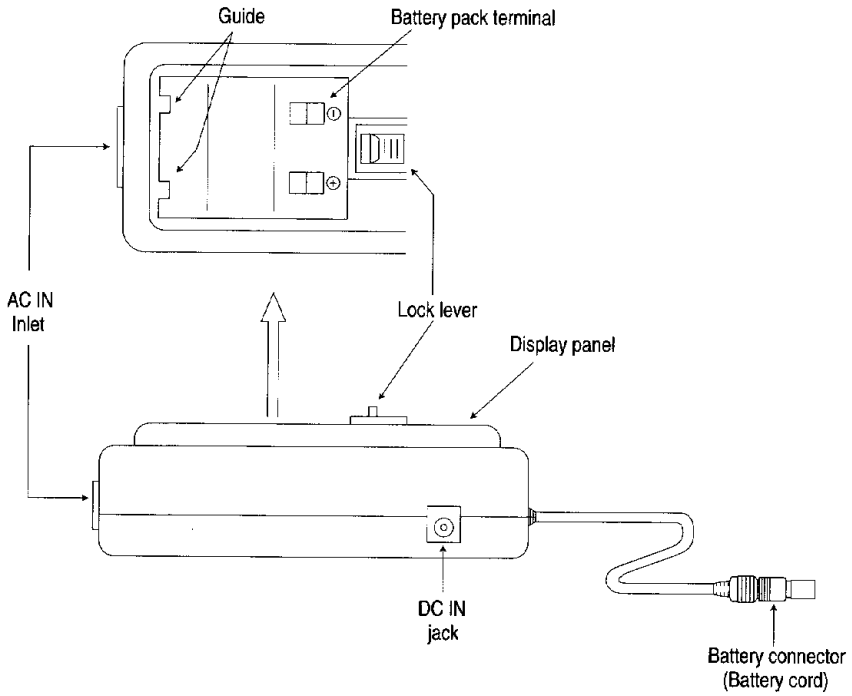
1.3 Works in the range between DC 12 - 24V (Negative ground ⊖-C-⊕).

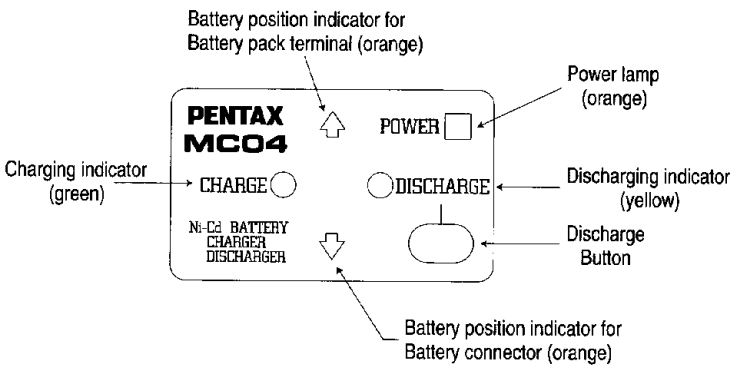
1.4 Besides charging the Ni-Cd batteries, it works as a discharger by use of the discharging button.

1.5 It charges or discharges a battery having a voltage of either 6V or 7.2V.

1.6 The cause of a charger malfunction can be easily determined.

1. Nomenclature of parts

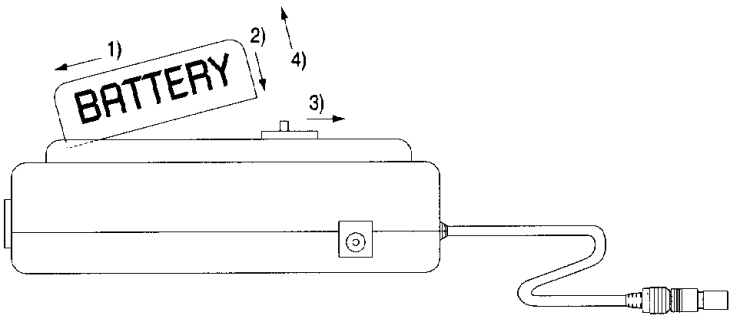




Display panel

3. Attachment and Detachment of the battery

3.1 Receptacle for battery pack



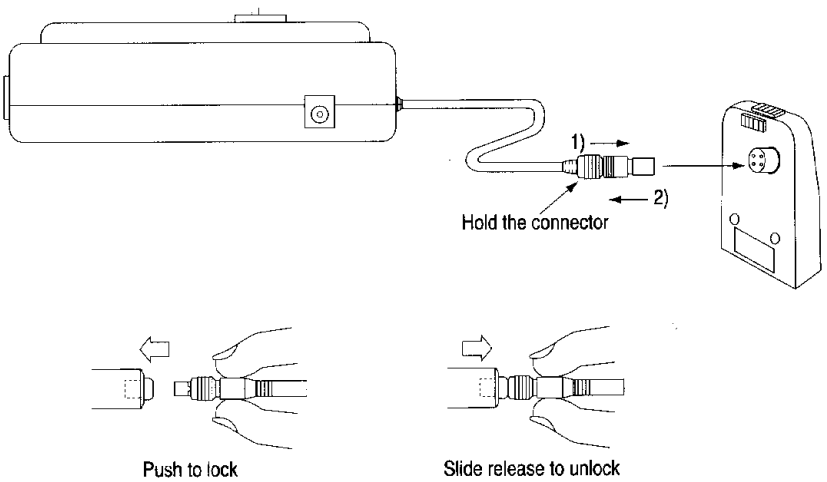
*Attachment

1) Align the battery pack with the guide.
2) Press battery pack down as indicated by arrow.

*Detachment

3) Move the lock lever in the direction indicated by arrow.
4) Lift the battery pack up as indicated by arrow

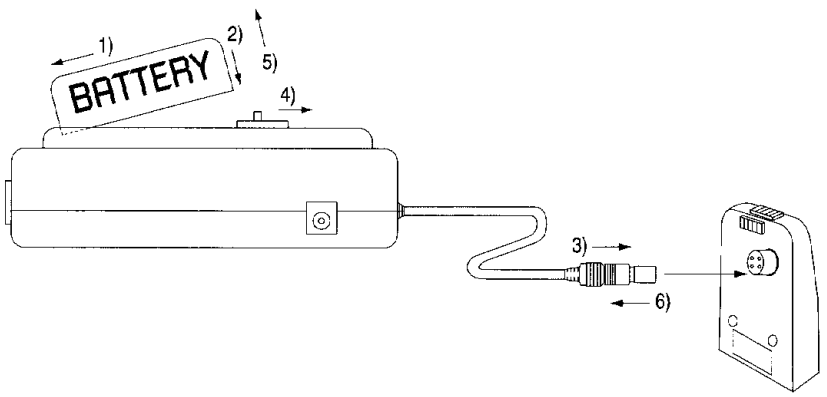
3.2 Battery cord connection



1) Hold the cord connector and insert into the battery connector.
2) Hold the cord connector and pull from the battery connector.

3.3 Connection of a battery pack and the battery cord

* Either a battery pack or the battery cord can be attached or detached first.
  1) Charging or discharging is executed in the order of attaching the battery pack and battery cord and therefore remove the one first which is attached first.
  2) Following drawing indicates an example to attach a battery pack first.
     (Procedure 1) ~ 3))
     In this case, the battery pack is attached first and so it must be removed first.
     (Procedure 4) ~ 6))



4. Storage

4.1 Avoid storing the charger in the places listed below.
- 4.1.1 The place subject to vibration.
- 4.1.2 The place subject to dust.
- 4.1.3 The place subject to extreme temperatures.
- 4.1.4 The place likely to cause moisture condensation.
- 4.1.5 The place exposed to rain.

5. Precautions on charging

5.1 Be sure to use the battery provided or one recommended by PENTAX.

5.2 Make sure the battery is properly attached.

5.3 Charge the battery in a well ventilated place at a temperature between 0°C (+32°F) to +40°C (+104°F).

5.4 Contact of the output terminals (+,-) of the charger with metal or conductive material may cause a short-circuit, resulting in damage to the charger.

5.5 Avoid using the charger at the places listed below.
- 5.5.1 The place subject to vibration.
- 5.5.2 The place subject to dust.
- 5.5.3 The place likely to cause moisture condensation.
- 5.5.4 The place exposed to rain.
- 5.5.5 The place having flammable items.
- 5.5.6 The place where flame or sparks are present.

5.6 The charger generates heat during normal operation therefore this does not mean the charger is out of order.

5.7 Be sure not to place the charger close to a radio in operation (especially when receiving AM frequency) because it may cause radio noise.

5.8 Be sure not to use the charger in the vicinity of electronic devices such as a computer. When using it very close to such devices. it may be affected by electronic noise from them.

5.9 Be sure not to touch any of the metal parts, of the charger, during operation.

(Precautions)

1. Do not use both AC and DC input at the same time. It may cause damage to the charger.
2. The ground is negative and the center wire on the plug is (+) for the DC power supply.

6. Precautions on discharging

6.1 Refer to "5. Precautions on charging" for those on discharging.

6.2 Pushing the discharging button starts the discharging sequence.

6.3 Discharging alone is not possible. Charging automatically starts when discharging finishes.
This sequence of operation completes when charging is finished.

(Precautions)

1. Do not use both AC and DC at the same time. It may cause damage to the charger.
2. The ground is negative and the center wire on the plug is (+) for DC power supply.

7. Others

7.1 A car battery can be used as the power supply.

7.1.1 Be sure to keep the engine operating during charging.

7.1.2 The voltage should be in the range between 12V - 24V DC.

7.2 Refer to 5 and 6 for other precautions.

8. Charging (Basic operation)

8.1 Charging with AC power supply.

1. Insert the connector, on the AC power cord, into the AC inlet on the charger.
2. Insert the AC plug, on the power cord, into the wall outlet.
   The power lamp on the charger (▣ orange) lights up.
3. Attach the battery to the charger. Refer to "3. Attachment of the battery".
   The battery position indicator (⇧or⇩ orange) flashes .
   Charging indicator (◍ green) lights up.
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging is complete. The charging indicator turns off to indicate the completion of charging.
4. Detach the battery from the charger.

(Precautions)

1. The basic operation, previously described, is based on the condition that either a battery pack is inserted into the battery pack receptacle or connected to the battery cord.
2. Removing the battery, to interrupt charging, causes both the battery position indicator (⇧or⇩ orange) and the charging indicator (◍ green) to turn off .
3. When the battery is left connected to the power supply, trickle charging starts.

8.2 Charging with DC power supply.

1. The voltage, of the DC power supply, should be in the range between 12V - 24V DC.
2. Insert the plug on the DC power cord to the DC.IN jack on the side of the charger. Be careful about the polarity.
3. The power lamp on the charger (▣ orange) lights up.
4. Attach the battery to the charger. Refer to "3. Attachment of battery".
   The battery position indicator (⇧or⇩ orange) flashes.
   The charging indicator (◍ green) lights up.
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging is complete. The charging indicator (◍ green) turns off to indicate the completion of charging.
5. Detach the battery from the charger.

(Precautions)

1. The basic operation, previously described, is based on the condition that either a battery pack is inserted into the battery pack receptacle or connected to the battery cord.

2. Removing the battery, to interrupt charging, causes both the battery position indicator (⇧or⇩ orange) and the charging indicator (● green) to turn off .
3. When the battery is left connected to the power supply, trickle charging starts.

9. Discharging (Basic operation)

9.1 Discharging with AC power supply.

1. Insert the connector, on the AC power cord, into the AC inlet on the charger.
2. Insert the AC plug on the power cord to the wall outlet.
   The power lamp on the charger (■ orange) light up.
3. Attach the battery to the charger. Refer to "3. Attachment of battery".
   Battery position indicator (⇧or⇩ orange) flashes.
   Charging indicator (● green) lights up.
4. Push the discharge button. The charging indicator (● green) turns off; and the discharging indicator (○ yellow) lights up.
   The discharging indicator (○ yellow) turns off when discharging finishes and the charging indicator (● green) lights up to indicate the start of charging.
   The battery position indicator (⇧or⇩ orange) turns from flashing to continuous when charging finishes.
   The charging indicator (● green) turns off to indicate the completion of charging.
5. Detach the battery from the charger.

(Precautions)

1. The basic operation, previously described, is based on the condition that either a battery pack is inserted into the battery pack receptacle or connected to the battery cord.
2. Removing the battery, to interrupt discharging, causes both the battery position indicator (⇧or⇩ orange) and the discharging indicator (○ yellow) to turn off.
3. Pushing the discharge button causes discharging to begin even during charging.
4. Discharging alone is impossible. Charging automatically starts when discharging finishes.
   This sequence of operation completes when charging is finished.

9.2 Discharging with DC power supply.

1. The voltage, of the DC power supply, should be in the range between 12V - 24V DC.
2. Insert the plug on the DC power cord to the DC.IN jack on the side of the charger. Be careful about the polarity.
   The power lamp (■ orange) on the charger lights up.
3. Attach the battery to the charger. Refer to "3. Attachment of battery".
   The battery position indicator (⇧or⇩ orange) flashes.
   The charging indicator (● green) lights up.

4. Push the discharge button. The charging indicator (● green) turns off, and the discharging indicator (○ yellow) lights up.
   The discharging indicator(○ yellow) turns off when discharging finishes, and the charging indicator (● green) lights up to indicate the start of charging.
   The battery position indicator (⇧or⇩ orange) turns from flashing to continuous when charging finishes.
   The charging indicator (● green) turns off to indicate the completion of charging.
5. Detach the battery from the charger.

(Precautions)

1. The basic operation, previously described, is based on the condition that either a battery pack is inserted into the battery pack receptacle or connected to the Battery cord.
2. Removing the battery, to interrupt discharging, causes both the battery position indicator (⇧or⇩ orange) and the discharging indicator (○ yellow) turn off.
3. Pushing the discharging button starts discharging even during charging.
4. Discharging alone is impossible. Charging automatically starts when discharging finishes.
   This sequence of operation completes when charging is finished.

10. Continuous charging (optional operation)

10.1 Charging with the receptacle for battery pack.

1. Select either AC or DC power supply. Refer to "8. Charging (basic operation)".
2. Insert the battery pack into the receptacle for the battery pack. Refer to "3. Attachment of battery pack".
   The battery position indicator (⇧ orange) on the charger flashes .
   The charging indicator (● green) lights up.
   The battery position indicator (⇧ orange) changes from flashing to continuous when charging is complete.
   The charging indicator (● green) turn off to indicate the completion of charging.
3. Detach the battery from the charger.
4. Repeat from 2 for charging the second and successive units.

(Precautions)

1. The number of batteries which can be successively charged depends on the surrounding temperature.
   As the temperature inside the charger increases due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (■ orange) flashes.

10.2 Charging with the battery connector.

1. Select either AC or DC power supply. Refer to "8. Charging (basic operation)".
2. Attach the battery to the connector on the battery cord. Refer to "3. Attachment of the battery".
   The battery position indicator (⇩ orange) flashes.
   The charging indicator (● green) lights up.

The battery position indicator (⇩ orange) changes from flashing to continuous when charging is complete.
The charging indicator (● green) turns off to indicate the completion of charging.

3. Disconnect the battery from a terminal on the battery cord.
4. Repeat from 2 to charge the second and successive units.

(Precautions)

1. The number of batteries which can be successively charged depends on the surrounding temperature. As the temperature inside the charger increases due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (■ orange) flashes.

10.3 Charging with both battery pack receptacle and the battery connector.

1. Select either AC or DC power supply. Refer to "8. Charging (basic operation)".
2. Insert the battery pack into the receptacle and connect another to the battery connector. Refer to "3. Attachment of battery".
   One of the battery position indicators (⇧or⇩ orange) on the charger flashes.
   The battery first attached takes priority.
   The receptacle for the battery pack takes priority when both are simultaneously occupied.
   The charging indicator (● green) lights up.
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging finishes .
   The charging indicator (● green) turns off to indicate the completion of charging.
   The other battery position indicator (⇧or⇩ orange) starts flashing to indicate charging.
   The charging indicator (● green) lights up.
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging finishes.
   The charging indicator (● green) turns off to indicate the completion of charging.
3. Detach the battery from the charger.
4. Repeat from 2 for charging another unit in the same way.

(Precautions)

1. When both units are left connected to the power supply after charging finishes, trickle charging starts just for the one inserted into the battery pack receptacle.
2. The number of batteries which can be successively charged depends on the surrounding temperature.
   As the temperature inside the charger increases due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (■ orange) flashes.

11. Continuous discharging (optional operation)

11.1 Discharging with the battery pack receptacle.

1. Select either AC or DC power supply. Refer to "9. Discharging (basic operation)".
2. Insert the battery pack into the receptacle. Refer to "3. Attachment of battery".
   The battery position indicator (⇧ orange) flashes.
   The charging indicator (◍ green) lights up.
3. Push the discharging button. The charging indicator (◍ green) turns off, and the discharging indicator (○ yellow) lights up.
   The discharging indicator (○ yellow) turns off when discharging finishes.
   The charging indicator (◍ green) lights up to indicate the start of charging.
   The battery position indicator (⇧ orange) changes from flashing to continuous when charging finishes.
   The charging indicator (◍ green) turns off to indicate the completion of charging.
4. Detach the battery from the charger.
5. Repeat from 2 for charging the second and successive units.

(Precautions)

1. The number of batteries which can be successively charged depends on the surrounding temperature.
   As the temperature inside the charger increases, due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (▦ orange) flashes.
2. Pushing the discharging button starts discharging even during charging.
3. Discharging alone is impossible. Charging automatically starts when discharging finishes. This sequence of operation completes when charging finishes.
4. When discharging only, remove the battery when discharging finishes and charging is about to start. Then, attach another battery and repeat from 2.

11.2 Discharging with the battery connector.

1. Select either AC or DC power supply. Refer to "9. Discharging (basic operation)".
2. Attach the battery to the battery connector. Refer to "3. Attachment of the battery".
   The battery position indicator (⇩ orange) on the charger flashes.
   The charging indicator (◍ green) lights up.
3. Push the discharging button. The charging indicator (◍ green) turns off, and the discharging indicator (○ yellow) lights up.
   The discharging indicator (○ yellow) turns off when discharging finishes. The charging indicator (◍ green) lights up to indicate the start of charging.
   The battery position indicator (⇩ orange) changes from flashing to continuous when charging is complete .
   The charging indicator (◍ green) turns off to indicate the completion of charging.

4. Detach the battery from a terminal on battery cord.
5. Repeat from 2 for the second and successive units.

(Precautions)

1. The number of units which can be successively discharged depends on the surrounding temperature.
   As the temperature inside the charger increases due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (▣ orange) flashes.
2. Pushing the discharge button causes discharging to begin even during charging.
3. Discharging alone is impossible. charging automatically starts when discharging finishes. This sequence of operation completes when charging is finished.
4. When discharging only is needed, remove the battery when discharging finishes and charging is about to start. Attach another unit, and repeat from 2.

11.3 Discharging with both the battery pack receptacle and the battery connector.

1. Select either AC or DC power supply. Refer to "9. Discharging (basic operation)".
2. Insert a battery pack into the receptacle and attach another battery to the battery connector. Refer to "3. Attachment of the battery".
   One of the battery position indicators (⇧or⇩ orange) flashes.
   The battery first attached takes priority. The receptacle for the battery pack takes priority when both are simultaneously occupied.
3. The charging indicator (◍ green) lights up to indicate charging is under way.
4. Push the discharging button. The charging indicator (◍ green) turns off, and the discharging indicator (○ yellow) lights up.
   The discharging indicator (○ yellow) turns off and the charging indicator (◍ green) lights up to indicate the start of charging .
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging is complete .
   The charging indicator (◍ green) turns off to indicate the completion of charging.
   The other battery position indicator (⇧or⇩ orange) flashes to indicate charging is under way.
5. Push the discharging button. The charging indicator (◍ green) turns off and the discharging indicator (○ yellow) lights up .
   The discharging indicator (○ yellow) turns off, and the charging indicator (◍ green) lights up to indicate the start of charging.
   The battery position indicator (⇧or⇩ orange) changes from flashing to continuous when charging is complete .
   The charging indicator (◍ green) turns off to indicate the completion of charging.
6. Detach the battery from the charger.
7. Repeat from 2. for discharging the second and successive units.

(Precautions)

1. The number of units which can be successively discharged depends on the surrounding temperature.

As the temperature inside the charger increases due to successive use and high atmospheric temperature, the safety function starts working which interrupts charging. The power lamp (▦ orange) flashes.

2. Pushing the discharging button at any time starts discharging.
3. Discharging alone is impossible. Charging automatically starts when discharging finishes.
   This sequence of operation completes when charging is finished.
4. When discharging only is required, remove the battery when discharging finishes and charging is about to start. Pushing the discharging button restarts discharging.

12. Error indication (flashing lamp)

(Precautions)

1. The flashing battery position indicator (⇧or⇩ orange) shows which battery is active. It does not indicate any malfunction

12.1 The power lamp (▦ orange) turns off.

1. Possible cause would be low input voltage. Check the voltage.
2. The charger may be out of order if the specified voltage is correct. Contact your local dealer.

12.2 The power lamp (▦ orange) flashes.
(When using DC power supply)

1. Input voltage would be out of range. Check the voltage.

(Precautions)

1. Be sure not to apply charging or discharging.
2. Neither charging nor discharging is possible until the indication of malfunction is canceled.
3. Turn the power on to start after the indication is canceled.
4. Contact a qualified electrician for checking of AC power supply.

12.3 The power lamp (▦ orange) flashes during charging or discharging.
12.3.1 When using AC power supply

1. Possible cause would be lowering input voltage. Check the voltage.
2. Use DC power supply.

12.3.2 When using DC power supply

1. The possible cause would be low or high input voltage. Check the voltage.
2. Use AC power supply.

12.3.3 When no problem with AC or DC power supply is found.

1. Possible cause would be high temperature inside the charger.
   Suspend charging or discharging to adjust the temperature.

(Precautions)

1. Be sure not to continue charging or discharging.
2. Neither charging nor discharging is possible until the indication is canceled.
3. Turn the power on to start after the indication is canceled.
4. Contact a qualified electrician for checking of AC power supply.

12.4 The charging indicator (◍ green) flashes during charging.

12.4.1 When it flashes immediately after the battery is attached.

1. Possible cause would be improper attachment of the battery. Properly attach it.
2. Possible cause would be malfunction of the battery. Use a working battery for checking.

12.4.2 It flashes within 5 minutes after charging started.

1. Possible cause would be malfunction of the battery. Check if the number of batteries is correct or if specified voltage is proper, in reference to the battery position.
2. Use a working battery for checking.
3. Output terminals (+, -) on the charger seems to have an electrical short circuit.
   Check the output terminals (+, -).

12.4.3 It flashes 5, or more, minutes after charging started.

1. Possible cause would be malfunction of battery. Check if the number of batteries is correct, or if the specified voltage is proper, in reference to the battery position.
2. Use a working battery for checking.

12.5 The discharging indicator (○ yellow) flashes during discharging.

12.5.1 It flashes many minutes after discharging started.

1. The possible cause would be malfunction of the battery. Use a working battery for checking.

12.5.2 When charging starts immediately after the discharging indicator (○ yellow) lights up, and the charging indicator (◍ green) flashes.

1. The possible cause would be malfunction of the battery. Check if the number of batteries are correct,or if the specified voltage is proper, in reference to the battery position.
2. Use a working battery for checking.

12.5.3 When charging starts immediately after the discharging indicator (○ yellow) lights up and the charging indicator (◍ green) flashes several minutes later.

1. Possible cause would be malfunction of the battery. Use a working battery for checking.

(Precautions)

1. Be sure not to continue charging or discharging.
2. Neither charging nor discharging is possible until the indication is canceled.
3. Turn the power on to start after the indication is canceled.
4. Pushing the discharging button is required to start discharging after the indication is canceled.

13. Charging / Discharging time

(Precaution)

1. The charging/discharging time is proportional to the amount of power left in the battery.
2. The charging/discharging time is governed by the ambient environment and the condition of the battery.

3. The table below shows the time required to charge a completely discharged battery, and to discharge a completely charged battery.(The values are calculated based on the capacity of a typical 6V, 7.2V battery.)

Battery Type (Capacity)	Charging Time	Discharging Time
(1100 mAh)	Approx. 55 min.	Approx. 130 min.
(1300 mAh)	Approx. 65 min.	Approx. 160 min.
(1700 mAh)	Approx. 80 min.	Approx. 210 min.
(2200 mAh)	Approx. 100 min.	Approx. 270 min.
(5000 mAh)	Approx. 235 min.	Approx. 605 min.

14. Electrical Rating

1. Input

1.1 AC input (for USA)

1. Rated voltage	100 V - 120 V ~
2. Rated current	0.43 A - 0.40 A
3. Rated frequency	50 Hz/60 Hz

1.2 AC input (for Canada and Europe)

1. Rated voltage	100 V - 240 V ~
2. Rated current	0.43 A - 0.23 A
3. Rated frequency	50 Hz/60 Hz

1.3 DC input

1. Rated voltage	12 V - 24 V ⎓
2. Rated current	1.8 A - 0.9 A
3. DC ground	Negative ground
4. DC jack shape	EIAJ RC-5320A standard (for Type A Mate Plug) Center electrode (+) (Negative ground ⊖-◎-⊕)

2. Environment

2.1 Operating range

1. Temperature range	0°C to + 40°C (32°F to +104°F) (excluding battery)
2. Humidity range	10% to 90% (with no condensation)

2.2 Storage range

1. Temperature range	-20°C to + 80°C (-4°F to +176°F) (excluding battery)
2. Humidity range	10% to 95%

(with no condensation)

3. Charging / Discharging Functions

3.1 Charging

1. Rechargeable batteries
   MB02, MB03, MB05, MB06, MB07, MB08, MB09
   (made by Asahi Precision Co., Ltd.)
2. Charging current 1.3 A 7.5 V - 9 V ⎓
3. Control method - △ V detection
4. Trickle charging Automatic shift after charging is finished.
5. Battery type recognition
   Automatic recognition only of battery cord

3.2 Discharging

1. Batteries which can be discharged
   MB02, MB03, MB05, MB06, MB07, MB08, MB09
   (made by Asahi Precision Co., Ltd.)
2. Discharging current
   0.5 A 6 V - 7.2 V ⎓
   (rated discharge current)
3. Control method
   Voltage detection
4. End voltage 1 V/ cell
5. Battery type recognition
   Automatic recognition only of battery cord

4. Indicator Functions

4.1 Operation indicator

1. Connection indicator
   Power lamp (▩ orange) lights
2. Charging indicator
   Charging lamp (◍ green) lights.
3. Discharging indicator
   Discharging lamp (○ yellow) lights.
4. Battery position indicator
   Battery position lamp (⇧or⇩ orange) lights when charging /discharging is finished.

4.2 Warning indicators

1. Power warning
   Power lamp (▩ orange) flashes.
2. Internal temperature warning.
   Power lamp (▩ orange) flashes.
3. Charging error
   Charging lamp (◍ green) flashes.
   Battery position lamp (⇧or⇩ orange) lights.
4. Discharging error
   Discharging lamp (○ yellow) flashes.
   Battery position lamp (⇧or⇩ orange0) lights.

5. Authorization Ratings

5.1 UL 1012	File No. E162740 (power unit other than Class 2)
5.2 CSA - C22.2 No 223	File No. LR 103507-1
5.3 TÜV/GS (IEC-950)	License No. 94 12 22090 002

15. Dimensions/Weight

1. Main unit dimensions

   100 mm (W) x 200 mm (D) x 70 mm (H)
   3.9 in (W) x 7.87 in (D) x 2.76 in (H)
   Excluding projecting section and Battery cord

2. Main unit weight

   Approx. 800 g (28.2 oz)
   (excluding cord with AC power supply plug)

3. Battery cord dimensions

   Approx. 500 mm (19.7 in)

PENTAX®

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CE

The CE marking assures that this product complies with the requirements of the EC directive for safety.

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