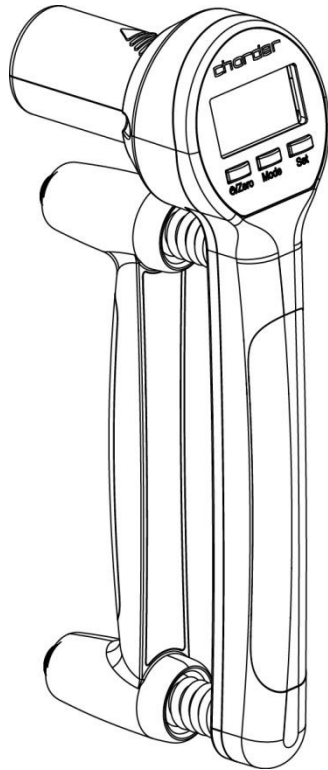
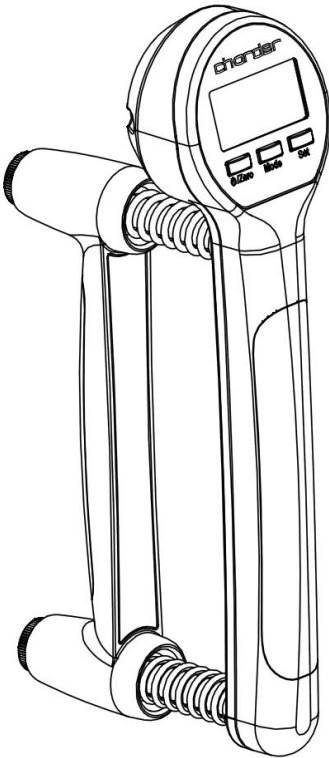




USER MANUAL








MG4800/MG4800BT

Hand Dynamometer



Please keep the instruction manual at hand all the time for future reference.

Explanation of Graphic Symbols on Label/Packaging

	Caution, consult accompanying documents before use		Separate collection for waste of electrical and electronic equipment, in accordance with Directive 2002/96/EC
	Manufacturer of medical device		Manufacturing year of medical device
	Carefully read user manual before installation and usage, and follow instructions for use.		Medical electrical equipment with Type B applied part
	Device has been approved by Taiwan FCC		

Copyright Notice

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Charder Electronic Co., Ltd.
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I. Safety Notes

Thank you for choosing this Charder Medical device. It is designed to be easy and straightforward to operate, but if you encounter any problems not addressed in this manual, please contact your local Charder service partner.

Before beginning operation of the device, please read this user manual carefully, and keep it in a safe place for reference. It contains important instructions regarding installation, proper usage, and maintenance.

Intended Use

This device is intended to measure the handgrip of subjects, for diagnosis of strength-related issues by professionals.

General Handling

- Ensure the correct spring is installed before usage.
- Make sure the display shows zero before use. The device is designed to detect when a stable force has been achieved, and the indicator will beep to indicate that the reading can be taken.

Safety Instructions

- Batteries should be kept away from children. If swallowed, promptly seek medical assistance.
- Expected service life: 5 years.
- Always comply with appropriate regulations when using electrical components under increased safety requirements.
- Observe permissible ambient temperatures for use

Environmental

- All batteries contain toxic compounds; batteries should be disposed of via designated competent organizations. Batteries should not be incinerated.

Cleaning

- Device surface should be cleaned using alcohol-based wipes.
- Do not use large amounts of water when cleaning the device, as it may cause damage to the internal electronics.

Maintenance

- Device does not require routine maintenance. However, regular

checking of accuracy is recommended; frequency to be determined by level of use and state of device. If results are inaccurate, please contact local distributor.

Warranty/Liability

- The period of warranty shall be eighteen (18) months, beginning on the date of purchase. Please retain your receipt as proof of purchase.
- No responsibility shall be accepted for damage caused through any of the following reasons: unsuitable or improper storage or use, incorrect installation or commissioning by the owner or third parties, natural wear and tear, changes or modifications, incorrect or negligent handling, chemical, electrochemical, or electrical interference.
- All maintenance, technical inspections, and repairs should be conducted by an authorized Charder service partner, using original Charder accessories and spare parts. Charder is not liable for any damages arising from improper maintenance or usage.

Disposal

- This product is not to be treated as regular household waste, but should be taken to a designated collection points for electronics. Further information should be provided by local waste disposal authorities.



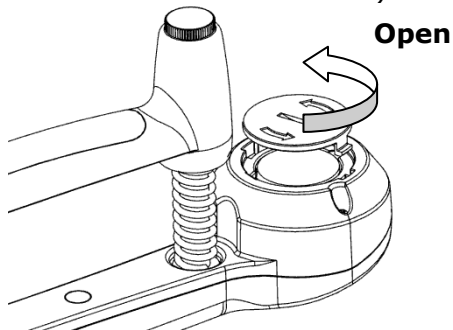
Warning

- Do not under any circumstances dismantle or alter the device, as this could result in electric shock or injury as well as adversely affect the precision of measurements.
- Do not place the device in direct sunlight, or in close proximity to an intense heat source. Excessively high temperatures may damage the internal electronics.

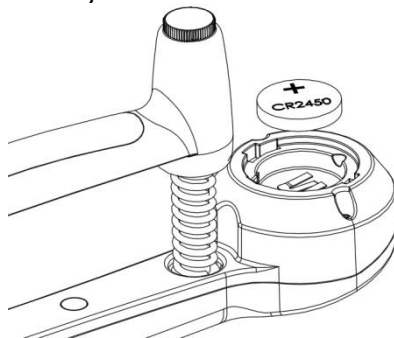
II. Installing Batteries

MG4800

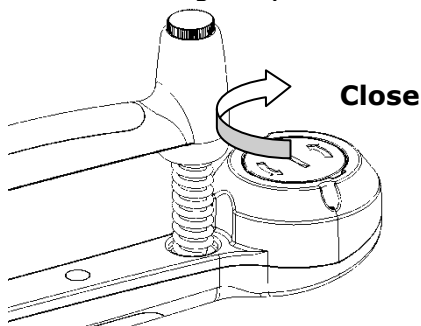
1. Remove battery cover (rotate counter-clockwise to loosen)



2. Insert new CR-2450 lithium battery



3. Secure battery cover (rotate clockwise to tighten)

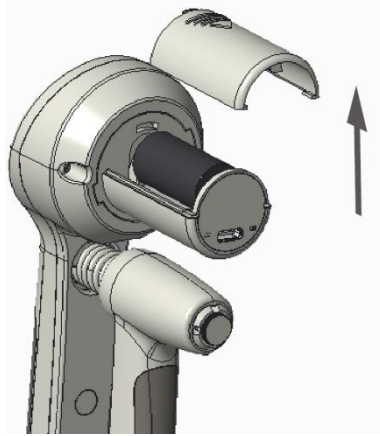
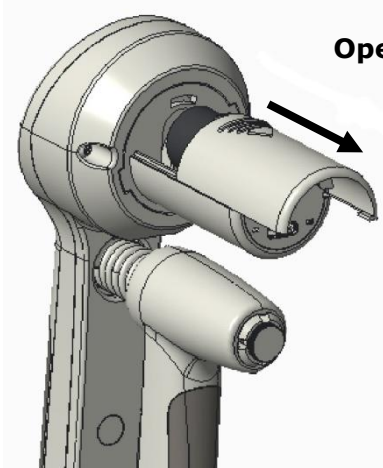


NOTE: If device is to be placed in storage for extended period of time (e.g. >3 months), please remove battery to avoid damage to device.

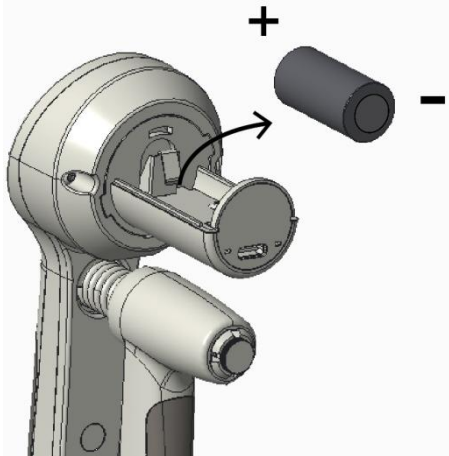
MG4800BT

Replacing rechargeable battery

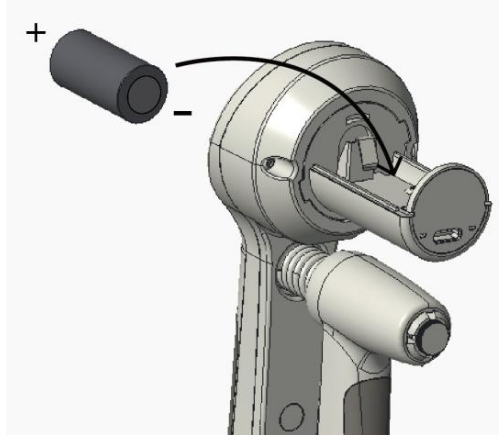
1. Remove battery cover (slide off)



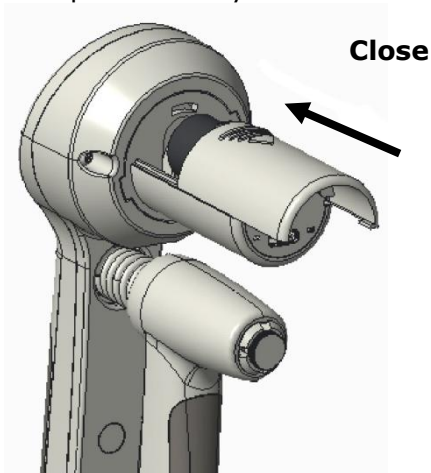
2. Remove old RCR123A rechargeable lithium battery



3. Insert new RCR123A rechargeable lithium battery

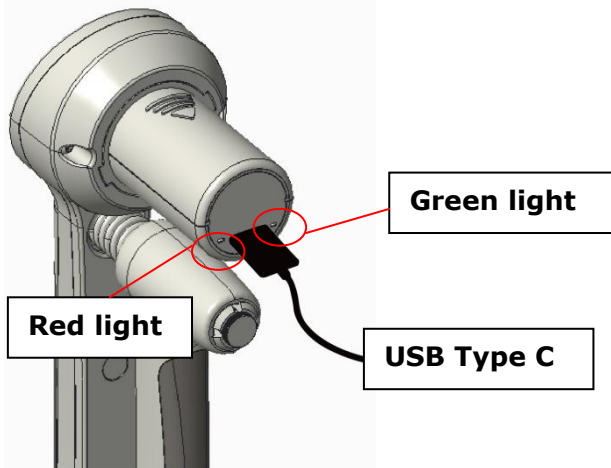


4. Replace battery cover



Charging device

Charge device battery using USB Type C cable

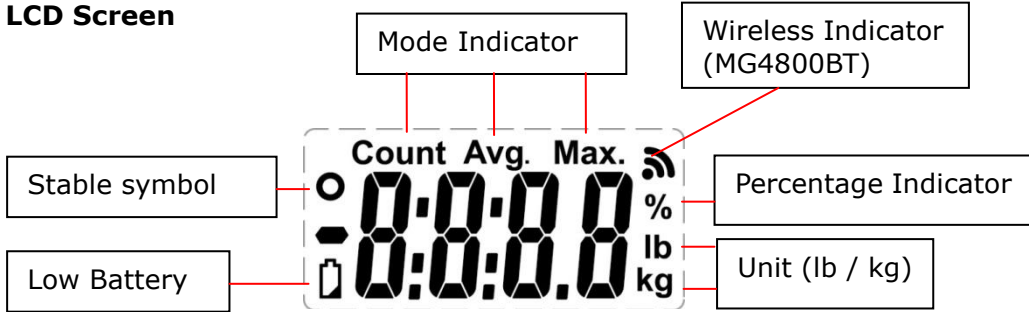


Red light: device charging
Green light: device fully charged

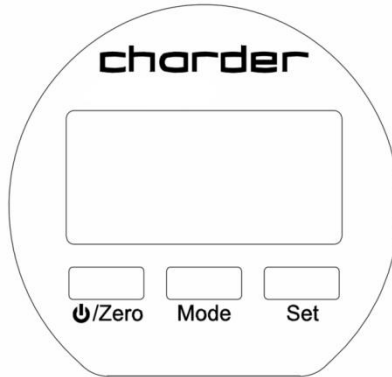
NOTE: before using the device for the first time, please charge the battery fully.

III. Display and Key Functions

LCD Screen



Key Function



Power/Zero: Power on/Power off/Zero. When device is off, press to power on. Press to zero value. Press and hold for 3 seconds to turn off.

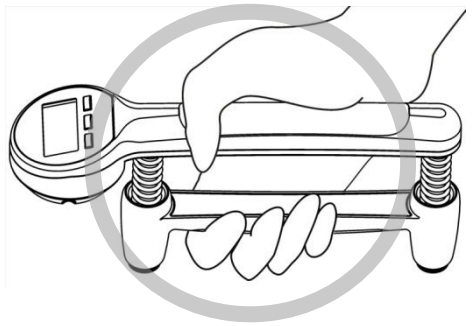
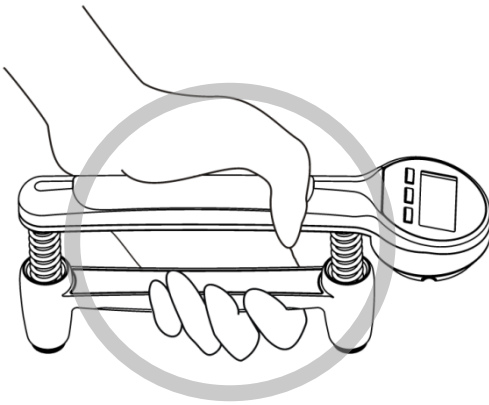
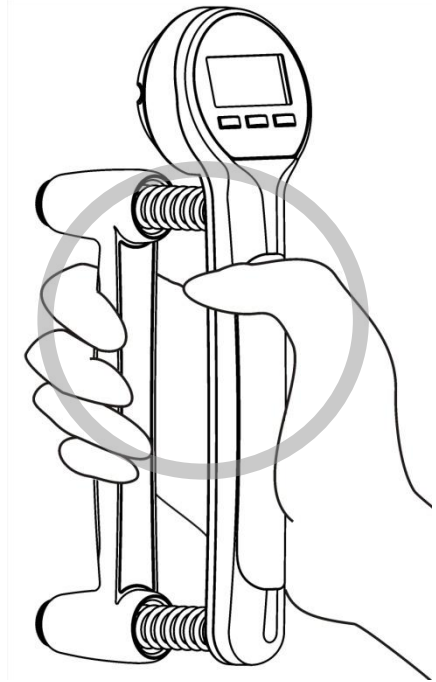
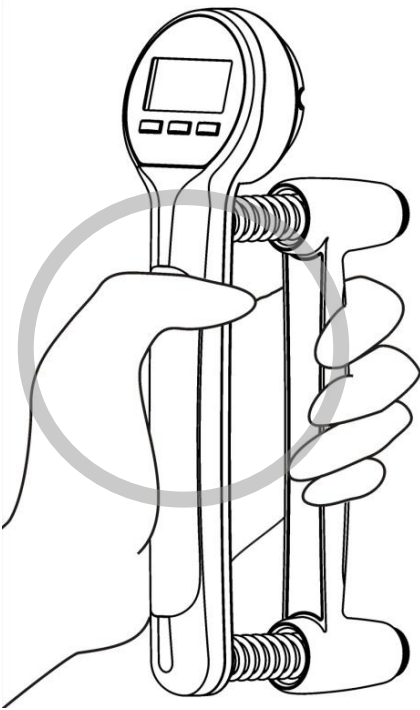
(**NOTE:** please release device (do not squeeze) before zeroing value.)

Mode: press to toggle between different modes

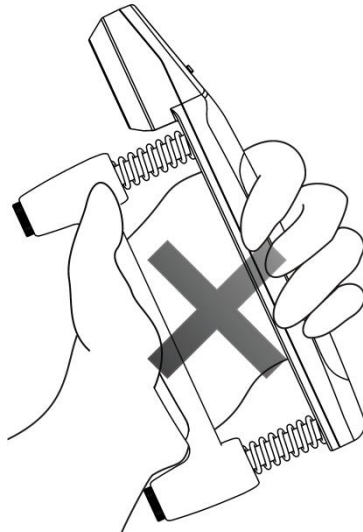
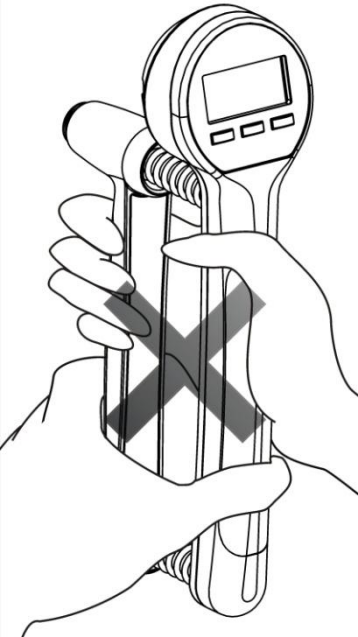
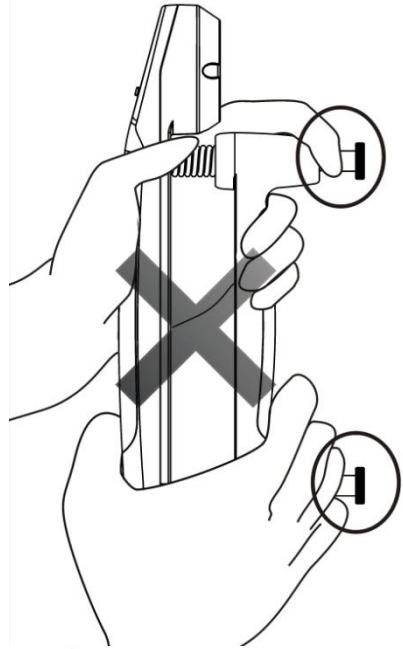
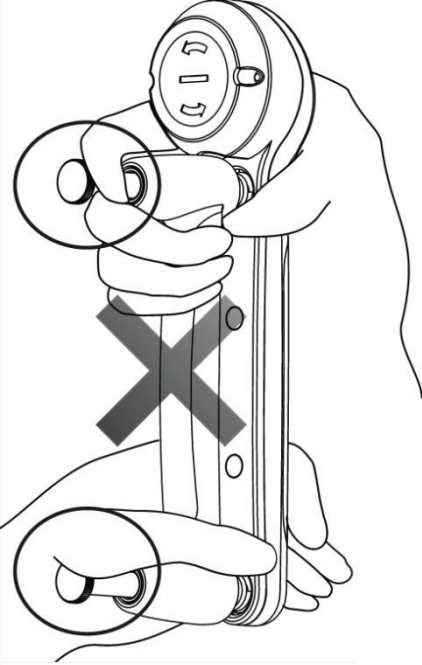
Set: In real mode, this will switch between units. In other modes, this will adjust digits.

IV. Using Device

A. Correct Grip

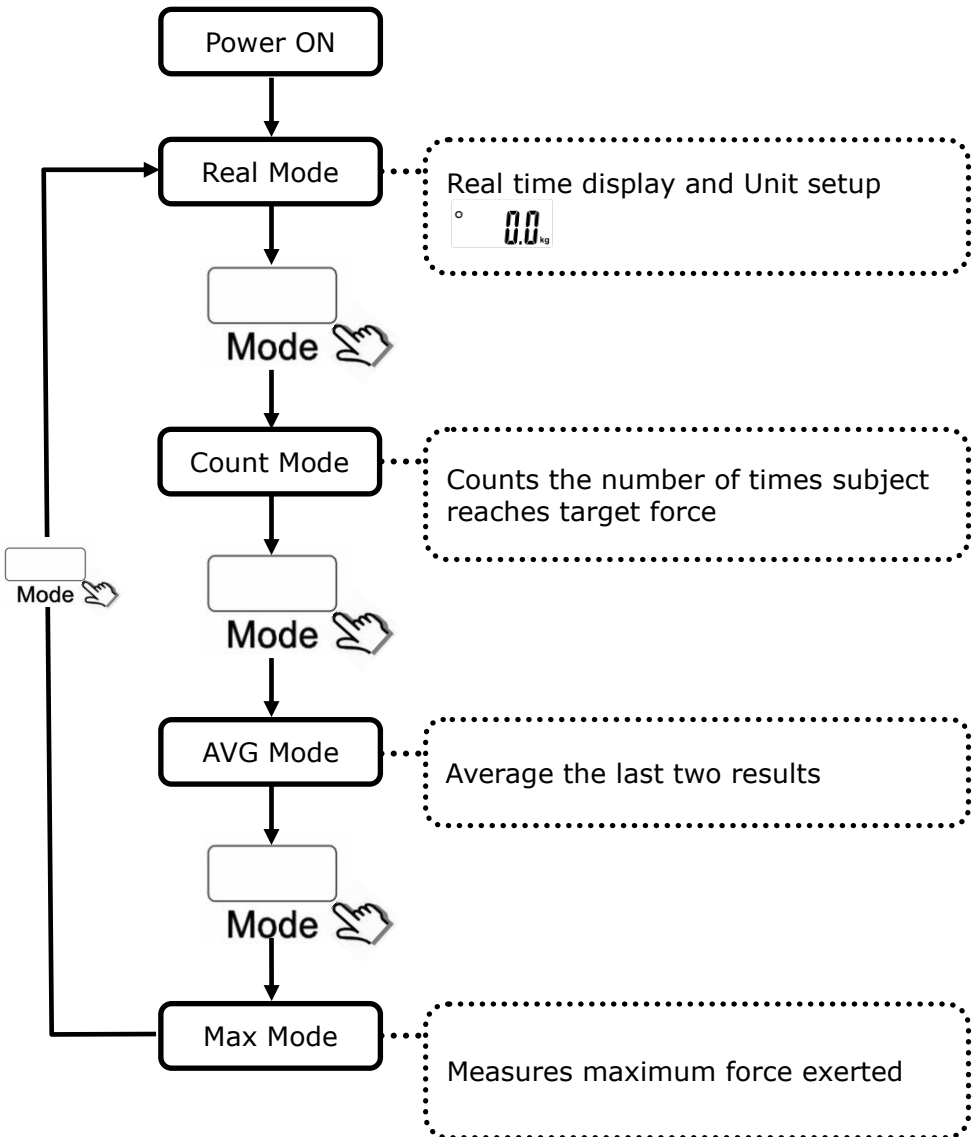


B. Incorrect Grip



C. Mode Switching

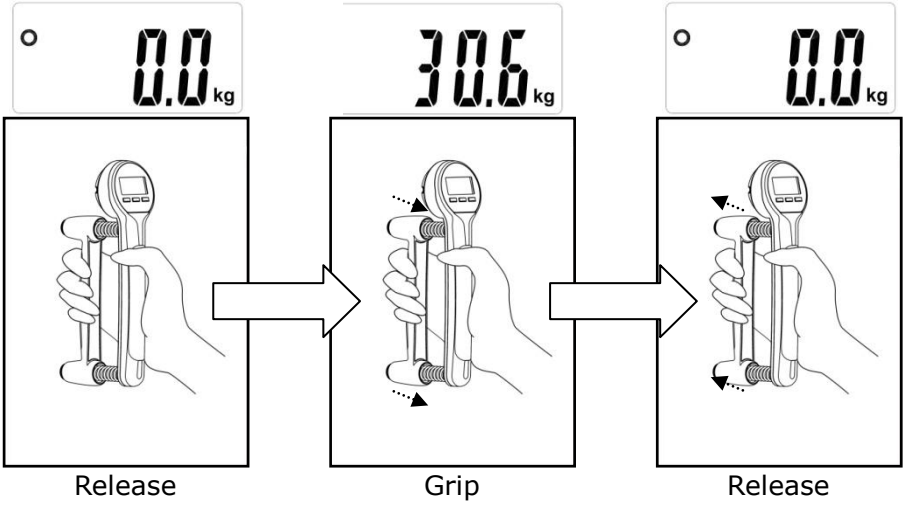
NOTE: Real Mode is the default mode. If the device is powered off in any other mode, it will start in that mode the next time it is powered on.



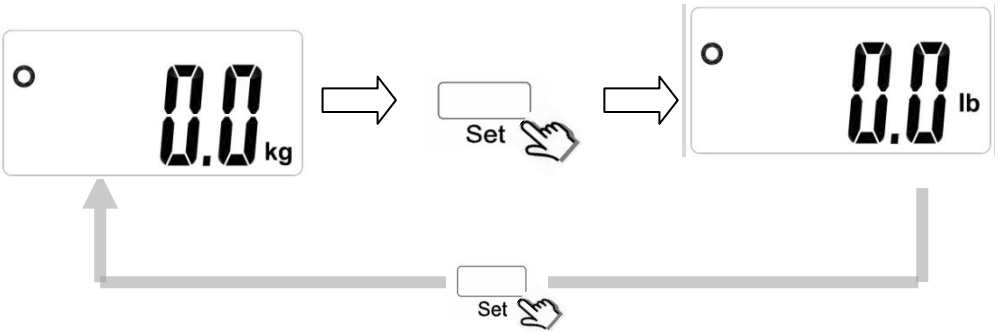
D. Real Mode

Real Mode is a dynamic mode. The force value will fluctuate according to force exerted during usage.

Real Time Display:



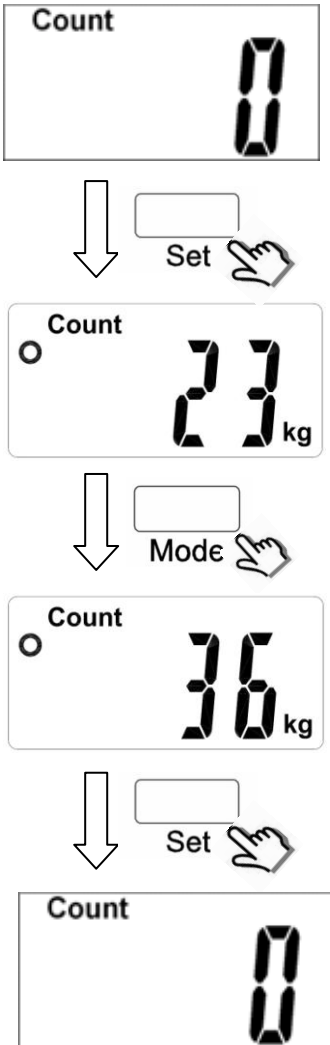
kg / lb setup:



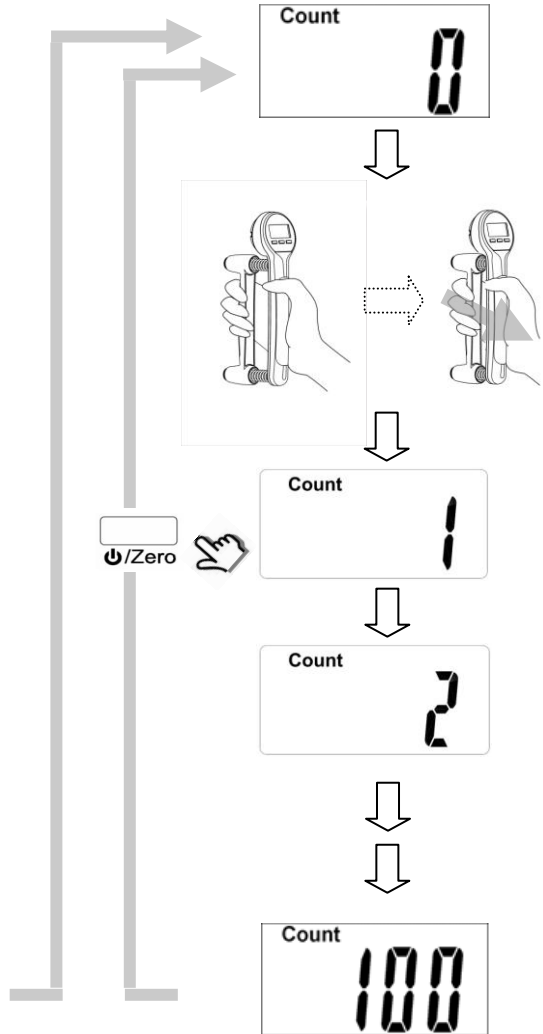
E. Count Mode

Count Mode sets a target grip force to be achieved by the subject. Grip force must reach target goal in order to be counted.

SETUP TARGET GRIP FORCE



COUNTING OPERATION

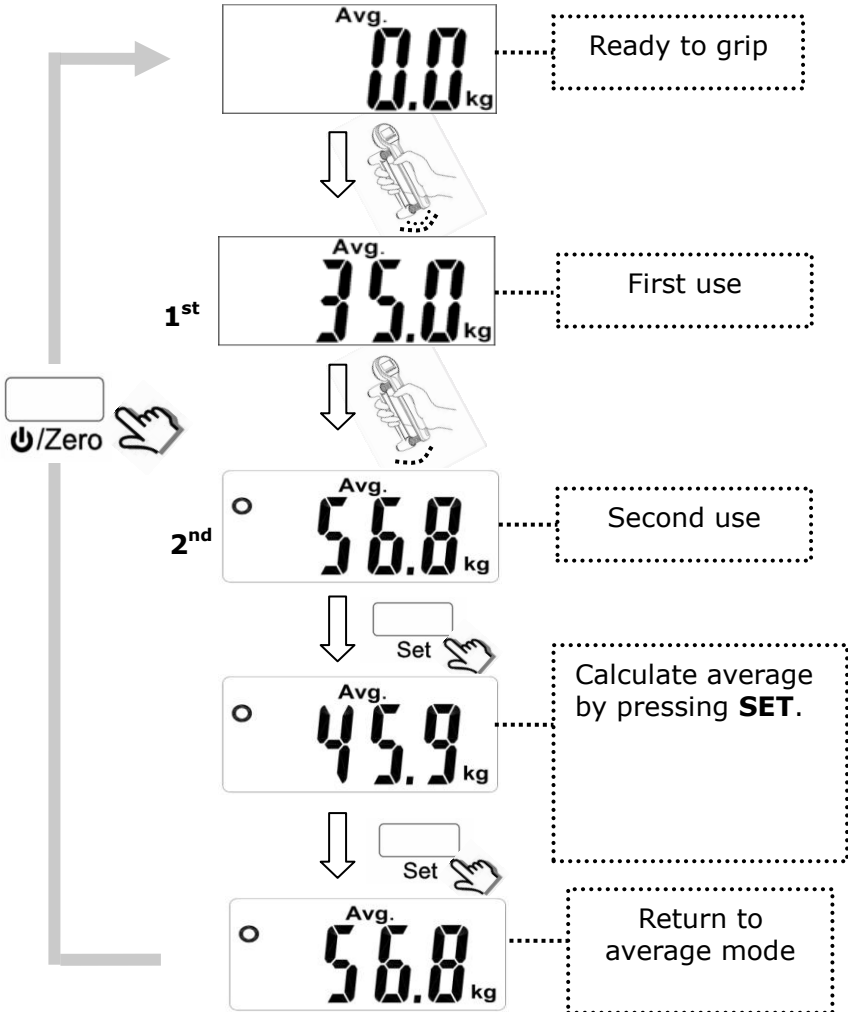


F. AVG Mode

AVG mode is designed to help average the grip strength of both hands.

Ex: Subject grips device with left and right hand. Physician presses **SET** to calculate the average value of the last two usages.

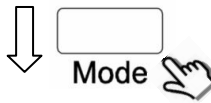
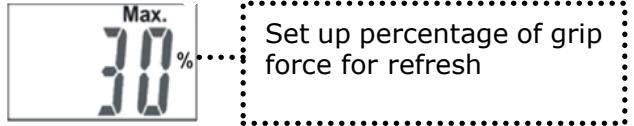
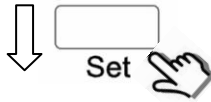
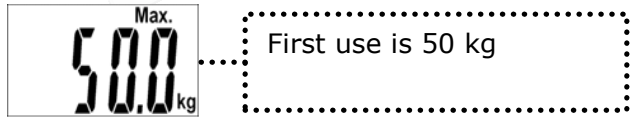
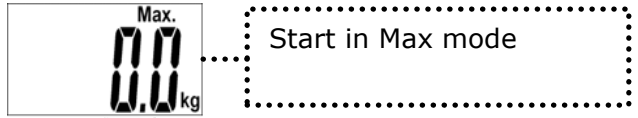
NOTE: force must exceed 2 kg to be registered



G. Max Mode

Max mode is designed to compare the force of an impaired hand with a healthy hand.

Ex: Subject has impaired left hand. Subject measures grip strength of healthy right hand. Percentage goal is set. Subject then grips using left hand, and device will evaluate if grip strength exceeds defined percentage of last measurement.





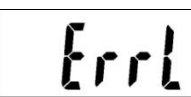


If gripping force is less than 31% of last use, result will not refresh on LCD.

If gripping force exceeds 31% of last use, new result appears on LCD.



Error Messages

Error Message	Reason	Action
	Low battery warning Voltage of battery is too low to operate device	Replace batteries (or charge batteries, for MG4800BT)
	Force under zero Force is under zero when device is powered on	Press ZERO key and try again
	Force over zero Force is over limit when device is powered on	Ensure nothing is pushing on device and power on again. If problem persists, please contact distributor
	Counting Error (too low) Force is under limit when device is powered on	Ensure nothing is pulling on device and power on again. If problem persists, please contact distributor
	Program Error Fault with device software	If problem persists, please contact distributor

V. Product Specifications

Model		MG4800 / MG4800BT		
Weight Measurement	Capacity	80 kg (blue)	40 kg (green)	20 kg (red)
	Graduation	0.1 kg / 0.2 lb		
	Accuracy	±0.2kg / ±0.4lb		
	Unit	kg / lb		
	LCD Screen	0.5-inch LCD screen (4 digits)		
Dimensions	Overall	212(W) x 55(D) x 101(H) mm		
	Grip Span	64 mm		
Device Weight		0.4 kg	0.33 kg	
Key Functions		On/Off/Zero, Mode, Set		
Data Transmission		N/A	Wireless	
Power Supply		CR-2450 Lithium Battery	RCR123A Rechargeable Lithium-Ion Battery	
Operation Temperature & Humidity		5°C~35°C		
Standard Accessories		Carry case*1, Battery*1, Spring Set (80 kg)*1, Spring Set (40 kg)*1, Spring Set (20 kg)*1 MG4800BT only: Battery Charger Adapter*1, Charging Cable*1		

VI. Declaration of Conformity

This product has been manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives:

Electro Magnetic Compatibility Directive 2014/30/EU
Low Voltage Directive 2014/35/EU



FCC Class B Declaration of Conformity

This device complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules



Manufactured by:
Charder Electronic Co., Ltd.
No.103, Guozhong Rd., Dali Dist.,
Taichung City, 41262 Taiwan (R.O.C.)

Patent number list

Japan Patent: 1314405
RCD Patent: 000702592-0001
US Patent: D564382

CD-IN-1035 7031M 04/2021