

MCSU-III

Mobile Charging Station

User Manual

NANJING MINDRAY  
BIO-MEDICAL ELECTRONICS CO., LTD.





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Release time: 2024-07

Revision: 1.0

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- the electrical installation of the relevant room complies with the applicable national and local requirements;
- the product is used in accordance with the instructions for use.

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### **WARNING**

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- This equipment must be operated by skilled/trained clinical professionals.
- It is important for the hospital or organization that employs this equipment to carry out a reasonable service/maintenance plan. Neglect of this may result in machine breakdown or personal injury.

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- Malfunction of the instrument or part whose serial number is not legible enough.
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# Preface

## Manual Purpose

This manual contains the instructions necessary to operate the product safely and in accordance with its function and intended use. Observance of this manual is a prerequisite for proper product performance and correct operation and ensures patient and operator safety.

This manual is based on the maximum configuration and therefore some contents may not apply to your product. If you have any question, please contact us.

This manual is an integral part of the product. It should always be kept close to the equipment so that it can be obtained conveniently when needed.

## Intended Audience

This manual is geared for clinical professionals who are expected to perform daily operations of the product, maintain and troubleshoot the product and learn how to use the product.

## Illustrations

All illustrations in this manual serve as examples only. They may not necessarily reflect the setup or data displayed on your equipment.

## Conventions

- Italic text is used in this manual to quote the referenced chapters or sections.
- Bold text is used to indicate the screen texts.
- → is used to indicate operational procedures.

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# MCSU-III Mobile Charging Station

## Intended Use

The mobile charging station is intended to charge the wireless hand control.

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### WARNING

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- The mobile charging station is a part of the operating table system. Familiarize yourself with how to use the operating table before installing and using it.
- Before installing and using the mobile charging station, be sure to read and fully understand this manual. To use the mobile charging station safely and effectively, be sure to install and use it strictly as instructed in the manual.
- The mobile charging station is to be used for its intended purposes only. Do not use it for other purposes.
- Be sure to keep the manual at a place nearby the operating table.
- Be sure to use the accessories on the operating table provided by Nanjing Mindray only. Do not use them on other devices. Otherwise, it may result in personal injury.

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**CAUTION**

- When adjusting the operating table, make sure that the suspended parts (such as arm boards, leg plates) do not collide with other things in the operating room.
- When adjusting the operating table, make sure that disturbing objects (such accessories, drapes) are not jammed in the movement parts of the operating table.
- When adjusting the leg plate down or reverse Trendelenburg, keep a close eye on table top movement and around condition. Otherwise, the table top may collide with the base, ground or other object.

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## Specifications

1. Mobile charging station (except the adaptor): IPX5
2. AC power: 100-240V~ 50/60Hz 0.3-0.13A
3. Wireless specifications:

Operating frequency (certified sample)	110.6KHz -114 .4KHz, 176 .6KHz -206 .9KHz
Operating frequency (declared range)	110 .1KHz -227 .6KHz
Modulation mode	AM
Transmission power	<20dBm

■ FCC Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help important announcement.

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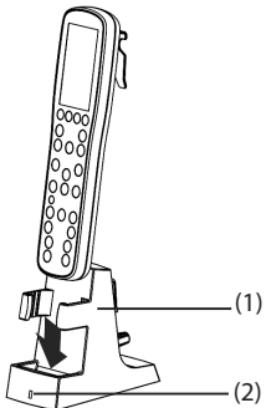
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## **Inspection before Use**

The mobile charging station is maintenance-free. However, wear due to use and aging can compromise its functionality and safety. Check it carefully each time before use. Do not use it if you find any sign of wear and/or damage.

## **Use**

Observe the current battery capacity of the wireless hand control by the battery indicator in the status bar. Follow the steps below to charge the battery if it is low. It takes about 10 hours to fully charge an automatically switched-off wireless hand control. The run-time of the battery depends on the equipment operation. The fully charged wireless hand control is sufficient for four hours of continuous operation under normal use.



(1) Mobile charging station (2) Indicator of mobile charging station

1. Connect the mobile charging station to the mains power.
2. Switch off the wireless hand control and insert it into the mobile charging station (1) and the wireless hand control is automatically charged. Observe the charging status by the indicator (2):

Indicator	Status	Description
Indicator of mobile charging station	Red	As soon as the mobile charging station is connected to AC power, it is dangerous to let the metal get close.
	Green	The wireless hand control is being charged.

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**NOTE**

- In order to avoid empty battery of the wireless hand control during the surgery, we recommend you store the wireless hand control in the mobile charging station when it is not in use.
- Be sure to use the mobile charging station to charge the wireless hand control.
- Ensure the wireless hand control is reliably placed into the mobile charging station, which means the indicator of mobile charging station is green.
- Do not place the objects such as metal to the charging area.
- Do not use the wireless hand control during charging to adjust the operating table.
- Ensure the battery power is sufficient if the wireless hand control is to be used. Charge the battery if necessary.
- Use the battery in the wireless hand control at least once every month to extend battery life. Charge the battery before its capacity is depleted.
- Inspect and replace the battery at regular service intervals. Life expectancy of a battery depends on how frequent and how long it is used. For a properly maintained and stored lithium-ion battery, its life expectancy is approximately three years. More aggressive usage will shorten the life expectancy. Replacing the lithium-ion battery every three years is recommended.
- In case of a battery failure, contact Mindray service personnel for battery replacement.

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# Cleaning and Disinfection

The product must be cleaned and disinfected after every use.

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## **WARNING**

- Use only Mindray approved cleaners and disinfectants and methods listed in this chapter to clean or disinfect your accessory. Warranty does not cover damage caused by unapproved substances or methods.
- Do not mix disinfecting solutions as hazardous gases may be generated.
- We make no claims regarding the efficacy of the listed chemicals or methods as a means for controlling infection. For the method to control infection, consult your hospital's infection control officer or epidemiologist.
- Agents containing alcohol can form explosive vapor mixtures and ignite where high-frequency equipment is being used. Do not use the cleaners or disinfectants containing alcohol where high-frequency surgical equipment may be used.
- Always wear gloves for cleaning and disinfection. Neglect of this may cause infection.
- Be sure to disconnect the power supply before cleaning and disinfection.
- The responsible hospital or institution shall carry out all cleaning and disinfection procedures specified in this manual.

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**CAUTION**

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- Do not clean/disinfect the accessory mechanically.
- Never immerse any part of the accessory in liquids.
- Particles of grime may become encapsulated and lead to the product not reaching the desired germ-reduction after disinfection. Before disinfection, the product must be cleaned thoroughly of contamination and encapsulated particles of grime and then be dried.
- Any contact of cleaners or disinfectants with connectors may cause corrosion.
- If you spill liquid on the accessory, dry the product.
- Improper cleaning/disinfection can damage the product. Do not spray the cleaner/disinfectant directly into the joints or gaps. Do not use high pressure to clean/disinfect components.
- Never use abrasive materials (such as steel wool or silver polish), or strong solvent (such as acetone or acetone-based cleaners) for cleaning.
- Do not use polish or steel cleaner to clean or disinfect stainless steel surfaces.
- Dilute and use the cleaners or disinfectants according to the manufacturer's instructions.

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**NOTE**

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- Be sure to follow the related national hygiene and disinfection regulations to carry out cleaning and disinfection procedures.
- Check the accessory after cleaning and disinfecting. Stop use if there is any sign of wear or damage.

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## **Cleaning**

1. Use a piece of lint-free clean cloth to wipe off the dust gently and thoroughly.
2. Use a piece of lint-free cloth moistened with cleaner (clean water or soap solution) to wipe the surface.
3. Use a piece of disposable lint-free cloth moistened with water to clean the surface.
4. Use a piece of dry lint-free cloth to wipe the surface dry.

### **NOTE**

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- Use proper amount of the cleaner to clean the product, and remove any excessive agent by the dry cloth.
- Be sure to disinfect the product after cleaning.

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## **Disinfection**

Disinfect the accessory as required in your hospital's servicing schedule. Cleaning the accessory before disinfection is recommended. Always dilute and use disinfectants according to the manufacturer's instructions. The following table lists approved disinfectants:

Product name	Product type	Manufacturer
Alpet® D2 Surface Sanitizing Wipes	Wipes	BEST SANITIZERS INC™.
CIDEX® OPA	Liquid	Gilag GmbH International Advanced Sterilization products
Clorox Dispatch® Hospital Cleaner Disinfectant Towels with Bleach	Wipes	Clorox professional products company
Clorox Healthcare® Bleach Germicidal Wipes	Wipes	Clorox professional products company
Metrex CaviCide1™	Liquid, spray	METERX® RESEARCH
Metrex CaviWipes™	Wipes	METERX® RESEARCH
PDI Sani-Cloth® AF3 Germicidal Disposable Wipe	Wipes	PDI Inc.
PDI Sani-Cloth® HB Germicidal Disposable Wipe	Wipes	PDI Inc.
PDI Sani-Cloth® Plus Germicidal Disposable Cloth	Wipes	PDI Inc.
PDI Super Sani-Cloth® Germicidal Disposable Wipe	Wipes	PDI Inc.
Virex® II 256 (1:256)	Liquid	Diversey Inc
Rely+On™ Virkon® High Level surface Disinfectant, 1%	Powder	Antec International Ltd
Clinell® Universal Wipes	Wipes	GAMA Healthcare Ltd
Clinell® Sporicidal Wipes	Wipes	GAMA Healthcare Ltd
Tristel Duo™	Liquid, foam	Tristel solutions Limited
Tristel Jet	Liquid, spray	Tristel solutions Limited
Surfanios Premium, 0.25%	Liquid	ANIOS LABORATORIES

Product name	Product type	Manufacturer
Surfa 'safe	Liquid, spray	ANIOS LABORATORIES
Aniosurf ND premium, 0.25%	Liquid	ANIOS LABORATORIES
mikrozid® Sensentive Wipes	Wipes	Schülke & Mayr GmbH
mikrozid® AF Wipes	Wipes	Schülke & Mayr GmbH
Terralin® Liquid	Liquid	Schülke & Mayr GmbH
JIAN ZHI SU Disinfectant Tablets	Tablet	Beijing ChangJiangMai Medical Science Technology Co. Ltd
JIAN ZHI SU Surface Disinfectant Spray	Liquid, spray	Beijing ChangJiangMai Medical Science Technology Co. Ltd
DIAN'ERKANG Surface Disinfectant	Liquid	Shanghai Likang Disinfec- tant Hi-Tech Co., Ltd
DIAN'ERKANG Surface Wipes	Wipes	Shanghai Likang Disinfec- tant Hi-Tech Co., Ltd
DIAN'ERKANG Disinfectant Spray	Liquid, spray	Shanghai Likang Disinfec- tant Hi-Tech Co., Ltd
Glutaraldehyde, 2%	Liquid	/
Ethanol, 70%	Liquid	/
Isopropanol, 70%	Liquid	/
Hydrogen peroxide, 3%	Liquid	/
1-Propanol, 50%	Liquid	/
Domiphen, 2000mg/L	Liquid	/

### Disinfection procedure:

1. Use a piece of lint-free clean cloth dipped into the chosen disinfectant to disinfect the surface of the accessory.
2. Use a piece of disposable lint-free cloth moistened with water to clean the surface.
3. Use a piece of dry lint-free cloth to wipe the surface dry.

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### **CAUTION**

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- Do not disinfect the accessory by fumigation methods. Otherwise, the accessory may be damaged.
- Do not use the disinfectants containing chlorine or compounds which can release chlorine to disinfect the metal parts. Long-term use of these disinfectants may corrode the metal parts, hence compromising safety and effectiveness of the device. It is recommended that metal parts be disinfected by 2% alkaline glutaraldehyde.

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## **Operating Condition**

1. Temperature: 5°C to 40°C
2. Humidity: 15% to 95%, non-condensing
3. Atmospheric pressure: 70kPa to 106kPa

## **Storage Condition**

1. Temperature: -40°C to 60°C
2. Humidity: 10% to 95%, non-condensing
3. Atmospheric pressure: 50kPa to 106kPa

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# Symbol

Some symbols may not appear on your accessory.

**Table 1 Symbol definition**

Symbol	Meaning	Symbol	Meaning
	Refer to instruction manual/ booklet		Serial number
	Date of manufacture		Manufacturer
	Temperature limit		Humidity limitation
	Atmospheric pressure limitation		Catalogue number
	This product is provided with a CE marking in accordance with the regulations stated in Regulation(EU) 2017/745 concerning Medical Devices.		Authorized representative in the European Community
	This way up		Fragile, handle with care
	Keep dry		Stacking limit by number
	Recovery/recyclable		Class II equipment

**Table 2 Definitions of safety notes**

<b>Safety Notes</b>	<b>Meaning</b>
<b>WARNING</b>	Indicates a potential hazard or unsafe practice that, if not avoided, could result in death or serious injury.
<b>CAUTION</b>	Indicates a potential hazard or unsafe practice that, if not avoided, could result in minor personal injury or product/property damage.
<b>NOTE</b>	Provides application tips or other useful information to ensure that you get the most from your product.

P/N: 046-029786-00(1.0)

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