



Multimic MDU-100X Display Unit Instrument Connecting Bluetooth Instruction Manual

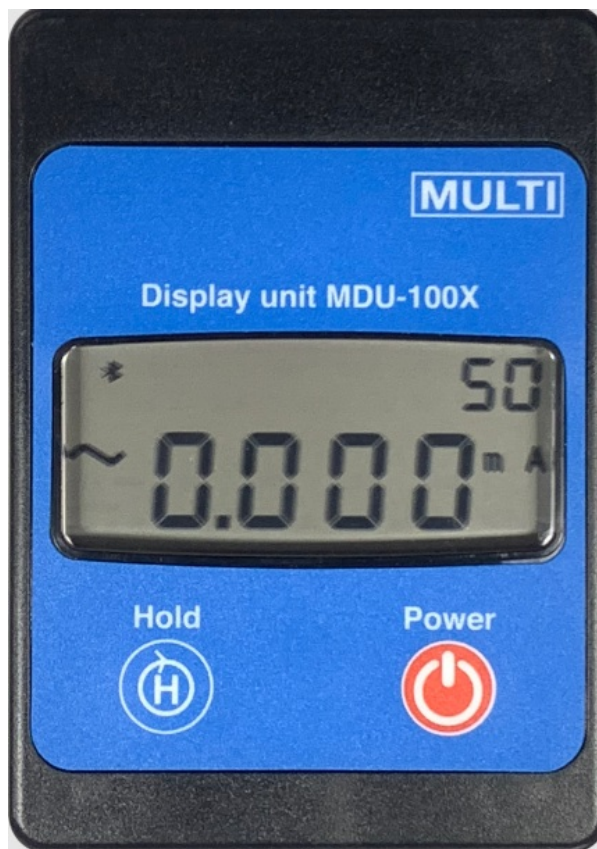
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Multimic

Multimic MDU-100X Display Unit Instrument Connecting Bluetooth



Product Information

Specifications

- **Bluetooth version:** Bluetooth 4.2 class
- **Receiving interval:** Approx. 0.5s intervals
- **Power Supply:** AAA alkali Battery x 3
- **Communication standby:** Approx.12mA
- **Communication connection:** Approx.6mA
- **Display specification:** LCD with symbol and unit
- **Displayable max:** 9999 count

Product Usage Instructions

Cautions

- Pay extra attention when using the device to avoid serious injury or danger to the life of the end-user.
- If the unit becomes dirty, use a soft cloth with moistened water or a neutral detergent in a small amount and wipe lightly. Do not use abrasives or organic solvents.
- Do not use the device in direct contact with power lines to avoid the risk of electric shock and accidents.
- Avoid water contact or exposure to liquid. Do not wash or dry the device in a microwave oven or similar heaters.
- Avoid prolonged exposure to direct sunlight as it may cause deterioration of the device's cover.
- Do not use or store the device in environments with harmful smoke or gas containing salts, sulfur, ammonia components, or ultraviolet light, as it may cause malfunction.

- Some kinds of oil may deteriorate the cover part, wipe the oil away lightly with a soft cloth moistened with water or a neutral detergent.
- Avoid storing the device in environments with mold or exceeding the specified operating temperature and humidity.
- Avoid giving a strong shock to the unit and using it as a lightning rod or hammer.
- Before measurement, make sure to pair the device with a measuring instrument to enable proper functionality.

Display Specification

The display shows the measurement contents with units, functions, and symbols. The specific units, functions, and symbols displayed depend on the connected measuring instrument. When the battery voltage drops below 3.5V, the battery mark on the display lights up. If the battery voltage drops below 3.3V, the LCD will fade.

FAQ

Q: Can I use this device underwater?

- **A:** No, this device cannot be used underwater.

Q: What should I do if the battery voltage drops below 3.3V?

- **A:** If the battery voltage drops below 3.3V, the LCD will fade. In this case, replace the batteries with new ones.

Q: Can I clean the device with organic solvents?

- **A:** No, do not use organic solvents to clean the device. Use a soft cloth with moistened water or a neutral detergent in a small amount.

Thank you very much for purchasing the MDU series. Before using, read this instruction manual carefully and use it correctly.

To refer to the instruction manual anytime, keep it always in a safe and available place.

Warranty Sheet

- Warranty
- **[User Information]**
- **Street Address:** _____
- **Full Name:** _____
- **Model:** MDU-100X/200X **Serial number:** _____ **Warranty period:** 15 months after shipment by factory **Distributor/ shop name:** _____

Note

- This warranty sheet is required for after-sales service.
- This warranty sheet is not to be reissued. For your convenience, fill in the above information and keep it with the end user of the instrument. **Warranty Policy**

1. In cases of a malfunction that occurs during normal use, within the warranty period, it is to be repaired free of charge, based on the warranty provisions.
2. The warranty sheet is not to be reissued.
3. Even during the warranty period, under the following circumstances, items are not to be repaired free of charge.
 - A) Failure due to improper handling
 - **B) Failure due to handling and use, of outside design specifications**
 - **C) Failure due to modifications or repairs other than our company or those commissioned by our company**
 - **D) Other failures not considered to be manufacturing defects**

For Safe Use

- To use this instrument safely, follow this instruction manual strictly and attention to the following cautions and warnings described below.

Warning

- In cases of misuse, it causes serious injury to the body or danger to the life of the end-user.
- Pay extra attention when used.

Cautions

- If it is misused, it causes damage to the instrument. Or it disturbs the function of the instrument as specified.
- Please note that this device cannot be used in an environment where it is not available to connect with the measuring instrument by Bluetooth connection.
- The measuring instrument cannot pair with a smartphone while using this device. Please note that it cannot be used with “Multi-Tracer” at the same time.
- Please note that it is not possible to connect two measuring instruments with this device at the same time.
- Do not use a measuring instrument made by another company by connecting it to this instrument.
- The correct value will not be displayed and may cause an accident.
- Do not pair with the measuring instrument made by another company. The correct value will not be displayed and it may cause an accident.

Warning

- There is a risk of electric shock.
- Never use it in direct contact with the power lines.
- It may cause an accident.
- When using a measuring instrument to connect this device to a high-voltage circuit, be sure to equip this device with the insulating rod that secures enough insulation distance according to each specified live-working safety regulation.
- When mounting this device on the insulating rod, secure it firmly with a fastener to prevent it from falling off.
- If dropped, the shock may cause damage to workers or the surrounding facility.

- Never hit it to the ground after use. It may cause malfunction.
- Check whether the surrounding environment and work are safe before use.
- High-voltage circuits are extremely dangerous.
- For users without specialized knowledge, avoid using the measuring instrument connecting with this device near high voltage circuits.
- Even while operating a smartphone or this device, keep the safety work sufficiently. If the insulation rod tumbles, it may lead to an unexpected accident.
- Avoid using this device in a near-electric circuit that exceeds the voltage range specified by each connected measuring instrument.
- Due to safety reasons, do not use it under abnormal conditions, such as rain, lightning, eruptions, storms, earthquakes, or tsunamis.
- Do not use uninsulated conductors or bus bars
- Do not push into a covered electric wire, larger than the inner diameter of the unit.
- Do not use the instrument or the insulating rod with damage.

Caution


- If the unit becomes dirty, use a soft cloth with moistened water or a neutral detergent in a small amount and wipe lightly. Do not use abrasives or organic solvents.
- Do not use it if water gets inside or its surface is wet.
- Do not wash by immersing it in water or a similar liquid.
- Do not dry it in a microwave oven or similar heaters.
- Do not be exposed to direct sunlight for a long time.
- It may cause deterioration of its cover.
- It is NOT a dustproof or waterproof structure. Do not use or store in an environment with harmful smoke or gas containing salts, sulfur, ammonia components in ultraviolet light, etc. It may cause malfunction.
- Some kinds of oil may deteriorate the cover part, and it may cause malfunction. Wipe oil away lightly with a soft cloth, moistened with water or a neutral detergent, a small amount.
- Refrain from storing it in an environment where it has mold etc.
- Do not store it in an environment that exceeds the specified operating temperature and humidity.
- Do not roast this unit with a firearm such as a lighter
- Cannot be used underwater.
- Do not give a strong shock to the unit.
- Do not use it as a lightning rod.
- Do not use it as a hammer etc.
- Before measurement, be sure to pair with a measuring instrument. Without the pairing, it does not show the reading values.
- Safety work is ensured by an insulating rod when used in a high-voltage circuit., it is recommended to wear insulation gloves. Perform the work, according to each operation rule.

The symbol marks are shown below:



- In order to protect the human body and the unit, refer to the instruction manual and pay close attention.

Cautions

- To avoid accidents or malfunctions caused by incorrect use, refer to the instruction manual
-  The symbol indicates that Bluetooth wireless technologies are employed.
- Trademarks (TM, (R) mark, etc. are not specified in this manual.)
- Bluetooth is a trademark of Bluetooth SIG, Inc.
- Multi Measuring Instruments Co., Ltd. uses it under a license agreement with the company.
- Android and Google Play are trademarks of Google LLC
- The iOS trademark is used under a license agreement with Cisco Systems, Inc.USA.
- iPhone, iPad, iPad mini, and iPod Touch are trademarks of Apple Inc., registered in the US and other countries.
- App Store is a service mark of Apple Inc.

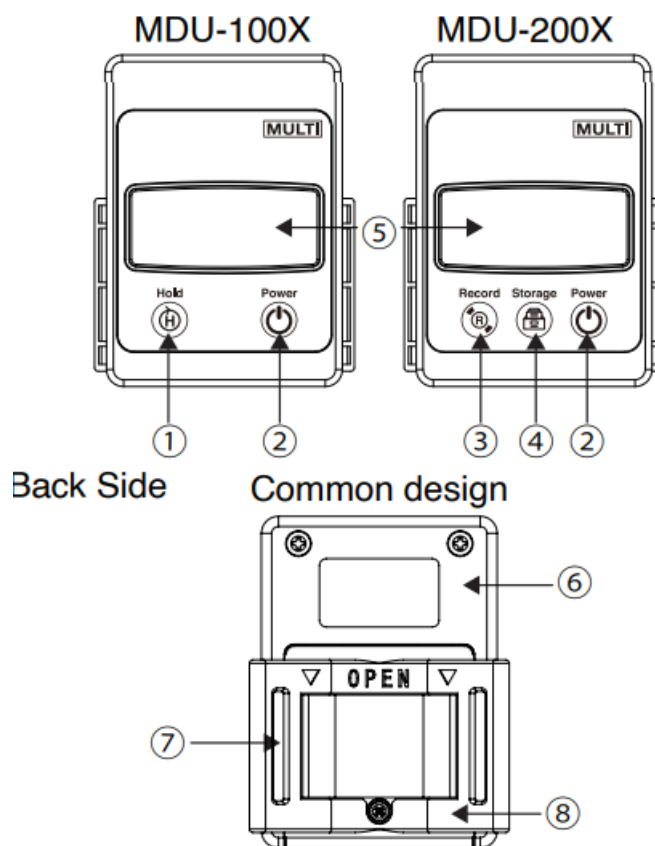
Specification

Contents	Specification
Bluetooth version	Bluetooth4.2 class2
Receiving interval	Approx. 0.5s intervals
Power Supply	AAA alkali Battery x 3
Power consumption	<ul style="list-style-type: none"> • Communication standby: Approx.12mA • Communication connection: Approx.6mA
Display specification	<ul style="list-style-type: none"> • LCD • Displayable max 9999 count display with symbol and unit <p>* Units and functions and symbol display to measurement contents differ depending on the connected measuring instrument.</p> <ul style="list-style-type: none"> • When the battery voltage drops below 3.5V, the “battery” mark on the display lights up. <p>* If the battery voltage drops below 3.3V, the LCD will fade.</p>
Data hold function	<ul style="list-style-type: none"> • 100X=Hold/200X=Record switches are pressed for holding value. • To release the data hold, press the same switch again.
Max hold function (MDU-200X, for HCL-36UX and ALCL-80X)	<ul style="list-style-type: none"> • To press the Record switch again under data holding, the MAX hold function is available. • Press again to release the hold.

Record function (MDU-200X)	<ul style="list-style-type: none"> • Press the Record switch during 2s at each hold. • Max 4 data can be recorded. Recorded data can be saved onto the 4 dat a spaces every time pressing the Storage switch. • Data can be retained even when the power is off. • To delete data, hold down the Storage switch and press Power after power off.
Harmonics current display function (MDU-200X, for ALCL-80X)	<ul style="list-style-type: none"> • Each time the Storage switch is pressed, the RMS→fundamental third harmonic measurement value is displayed.
Auto power off function	<ul style="list-style-type: none"> • When the APO mark is lighting, the power is automatically turned off approx.30min after the last switch operation. • This function is disabled during communication connection (when the APO mark is off).
Weight	180g(with batteries inside)
Size	76*97*50.4mm

Name of parts and function

Front Side

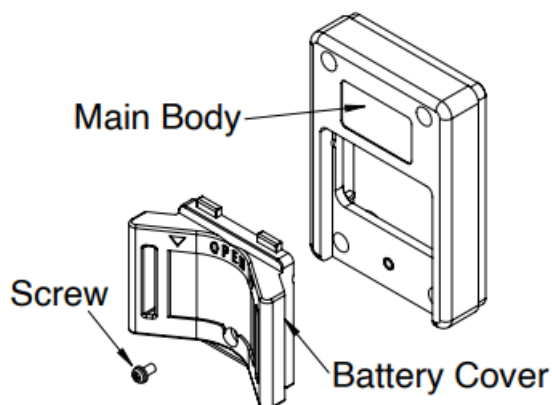


Name of parts	Function
①Hold switch	Holds the measured value
②Power switch	Power On/ Off. MDU-200X is also used to delete all recorded values
③Record switch	Used to hold and record measured values
④Storage switch	Used to select 4 storage spaces and also used to delete all recorded values
⑤LCD	Displays the symbol and the battery status with measured value sent from the connected measuring instrument
⑥Main Body	To store PCB etc
⑦Fastener hole for fixing	Passing the velcro fastener for fixing the insulating rod
⑧Battery Cover	Open when replacing batteries. Equipped with non-slip rubber for fixing to the insulating rod

Handling Instruction

Replacing Batteries



- Be sure to power off and take off the battery cover on the back side and place batteries in the right direction.
- Place the battery cover and secure the cover screws with (+) screw driver.





Warning

- Possible electrical shock
- If opening the battery cover, return to the original position.
- Do not apply to conductors with the battery cover open. Low Battery Indication; when low battery, the battery mark lights up.

Connection with “Multi-Tracer” measuring instruments

1. Turn on the power of the “Multi-Tracer” measuring instrument. If the instruments have the “” switch, press this switch. If not, move to <2>.
 2. Press the Power switch of these units to turn on the power.
 3. Pairing is complete when the “” mark lights up on the LCD of these units. In the case of connecting with “Multi-Tracer”, register the measuring instrument to “Multi-Tracer” at first. After registration, select the measurement point on the map and start to measure.
- You can record and keep measurement data on the server through “Multi-Tracer”. If you do not need to record data, you can also choose a mode that just measures.
 - These Units and “Multi-Tracer” cannot be connected with the Multi-Tracer measurement instruments together at the same time. This connection takes priority the one that was quickly paired with the Multi-Tracer measurement instruments.
 - Please close “Multi-Tracer” when using this unit.
 - **Attention:** Some “Multi-Tracer” compatible measuring instruments cannot be connected with this unit.

Usage instructions

- Press the power switch while the measuring instrument to be connected is waiting for the connection. Then the APO mark lights up. When the connection is completed, the “ ” mark lights up on the LCD and the
- APO mark lights out, the LCD will be able to display measurement value.
- If the connection is not completed, the “” mark will blink on the LCD, and the APO mark still light up, and the measured value display part will be displayed as “—”, then please try to connect again.
- If the measured value exceeds the measurement range of the connected measurement instrument, it will be displayed as “OL”.
- Data hold function(Common to MDU-100X/200X) MDU-100X presses the Hold switch, and MDU-200X presses the Record switch. The DH mark lights up on the LCD and holds the measured value when pressed. To release it, press the same switch again.
- MAX hold function(Only MDU-200X for HCL-36UX and ALCL-80X)
- By pressing the Record switch during data hold, MAX hold is enabled and only the max value is displayed.
- Press the same switch again to unlock.
- Harmonics current display function(Only MDU-200X for ALCL-80X)
- Each time the Storage switch is pressed, the RMS →fundamental →third harmonic measurement value is displayed(The first digit of the upper right two digits 1: RMS, 2: fundamental, 3: third harmonic current).
- Record function (applicable only to MDU-200X) Presses the Record switch for 2s under holding data, you can record the measured value in each space of the No.1~4. When it is recorded normally, the “M” mark lights up. By pressing the Storage switch, change the recording spaces No.1~4 in order. Press again the Record switch to return to the measuring state.
- Changes the storage space number by pressing the Storage switch unless the data were not deleted, the measured values data in each space can be displayed.
- If communication is disconnected while operating the record function, the “” mark blinks and the APO mark lights up.
- To delete the data, press the Power switch while pressing the Storage switch when the power is off, and the

CLR mark will be displayed. When the CLR mark appears, all the measured value data recorded in No.1~4 will be deleted. After finishing the measurement work, move the measurement instrument away from the measurement target, ensure the safety of the surroundings, and then press the power switch on the measurement instrument to turn off the power.

- Furthermore, checks whether these units still is connected or disconnected pairing on these unit LCDs.

Caution

- When an overcurrent and/or over-voltage are applied on these units, then it may cause damage to these units.
- This instrument is a precision mechanical equipment.
- When handling, be careful not to apply shock, vibration, or excessive stress.

Bluetooth® function

- These Units require Bluetooth communication.
- For the dedicated application “Multi-Tracer” to display, record, or store measurements, download and install Multi-Tracer at the APP Store or Google Play.
- To download Multi-Tracer, because it requires each ID, obtain the necessary ID in advance.
- For communication costs related to the download, it is not our responsibility.
- Proceed with the download as it is necessary.
- To obtain the necessary ID, communicate with the customer center of a dedicated mobile phone company.
- In addition, we are not responsible for any problems or costs related to downloading.
- Proceed download and install based on the responsibility of its user.

Caution

- This product has a low-power data communication system based on the Radio Law.
- (Built-in equipment; EYSHCN: 001-A10745)
- The communication range depends on the surrounding environment such as other radio waves and devices. This product uses communication frequencies of the 2.4 GHz band. If other wireless devices are using similar communication frequencies near this product, it may disturb the wireless communication of both devices. Radio-wave interference may occur.
- In this case, stop other wireless devices or change the place where this product is used to avoid radio wave interference.
- Multi-Tracer” is free of charge. However, the internet connection fee is on the user’s payment.
- The Bluetooth communication function may not work on all mobile terminals. Multi-Tracer” may not work on all mobile devices.
- Use of devices with radio communication requires approval in the country of use, and use of the instrument in a country or a region may be subject to penalty as a violation of related laws.

After Sales Service


- In the unlikely event of failure, please contact your distributor or our agent where you have purchased.
- If you contact a distributor or agent which are different from the one you have purchased, it may be difficult to

provide our after-sales service.

Please note

- When you are sending the item for repair, put it in a dedicated packaging box enclosed for this delivery, wrap it sufficiently not to be opened or damaged easily, along with the warranty card including information.
 - Describe the address, name, and details of the failure, and return it to the designated retailer/agent where you have purchased the item.
 - **MULTI MEASURING INSTRUMENTS CO., LTD.**
 - **Address; Akihabara Murai Building 7-F, 1-26 Kanda Sakuma-cho, Chiyoda-ku, Tokyo,101-0025, JAPAN**
 - **Tel; +81-3-3251-7016 Fax; +81-3-3253-4278 Webpage; www.multimic.com/e**
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Documents / Resources

	Multimic MDU-100X Display Unit Instrument Connecting Bluetooth [pdf] Instruction Manual MDU-100X, MDU-200X, MDU-100X Display Unit Instrument Connecting Bluetooth, MDU-100X, Display Unit Instrument Connecting Bluetooth, Unit Instrument Connecting Bluetooth, Instrument Connecting Bluetooth, Connecting Bluetooth, Bluetooth
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References

- [M \[CT \]](#)
- [User Manual](#)