

Magnescale

Digital Indicator

LU20 (F) Instruction Manual

For operation and battery replacement, refer to the LU20 Operating Manual available on our website.
www.magnescale.com Digital Gauge Products





Safety Precautions


Magnescale Co., Ltd. products are designed in full consideration of safety. However, improper handling during operation or installation is dangerous and may lead to fire, electric shock or other accidents resulting in serious injury or death. In addition, these actions may also worsen machine performance.

Therefore, be sure to observe the following safety precautions in order to prevent these types of accidents, and to read these "Safety Precautions" before operating, installing, maintaining, inspecting, repairing or otherwise working on this unit.

Warning Failing to follow the precaution items given below may lead to severe injury or death.

-  **RISK OF FIRE**
 - Be sure to use our dedicated batteries supplied with the product or our dedicated accessory DZ60 (sold separately) In no event will Magnescale Co., Ltd. be liable to you for any accident or malfunction arising out of use of batteries other than the dedicated batteries.
-  **FORCE**
 - When charging the batteries, do not remove them from the LU20. Be sure to charge the batteries via the LU20 main unit.
 - Be careful not to mistake the plus and minus when replacing the batteries.
 - Do not drop or apply strong shocks to the product. This could result in a malfunction or battery trouble.
 - Discontinue use of the product if there is any abnormality such as deformation, abnormal appearance, unusual odor, or heat generation.
 - Avoid storage in the status with the batteries fully charged or completely discharged. When storing for a long time, charge the unit once every 2 or 3 months to avoid accidents due to over-discharge.
 - Avoid use in an atmosphere charged with inflammable gases as this may result in fire.

Caution Failing to follow the precaution items given below may lead to injury or damage to surrounding objects.

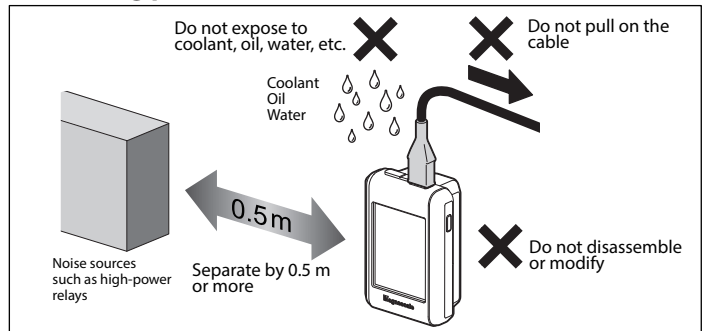
-  **CAUTION**
 - Provide adequate safety measures to prevent damages in case our products should develop malfunctions.
 - The accessory mounting stand uses a powerful magnet. Be careful as if electronic devices, magnetic recording media, or magnetic cards etc. are brought close to it, recorded contents may be destroyed or items may become magnetized, making them unusable.

■ Precautions

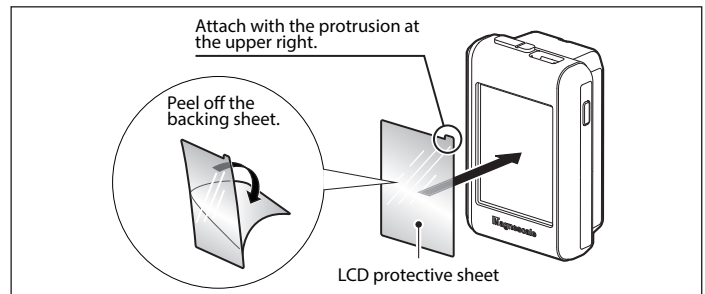
- A USB charger is not included. A 10W or more commercially available USB charger must be provided by the customer.
- This product is a wireless device, so it can be used only in countries where it is certified. Contact us if the product will be used outside the country of purchase.
- This product supports Bluetooth communication, but the Bluetooth function is set to OFF by default. When not using the Bluetooth function, leave it OFF.
- Check the frequencies used by surrounding devices before using the Bluetooth function. Communication may be affected if the frequencies are the same. The frequency band used by this product is used by industry, science, medical devices, factories, etc., and operated by private wireless stations and specified low-power wireless stations.
- The communication range with a connected Bluetooth device is approximately 20 m in clear line-of-sight, but will become shorter if there are obstacles or wireless interference.
- This product is equipped with lithium-ion rechargeable batteries. When transporting, be sure to observe the laws and regulations of each country and the transport company's instructions.
- This product is an industrial device and is not intended for general consumers. The user is responsible for disposal of this product and the batteries in accordance with laws and regulations.

- The batteries are consumables and the service life will vary according to the operating environment. The operating time from the fully charged status will gradually decrease with the number of charging times and the passage of time since the start of use. Replace the batteries when they become depleted due to prolonged use.
- Use under conditions or environments outside indicated specifications or purposes and modification of our products will void any warranty of the functions and performance as specified of our products.
- When using our products in combination with other equipment, the functions and performance as noted in this manual may not be attained, depending upon operating environmental conditions. Make full study of the compatibility in advance.

■ Handling precautions



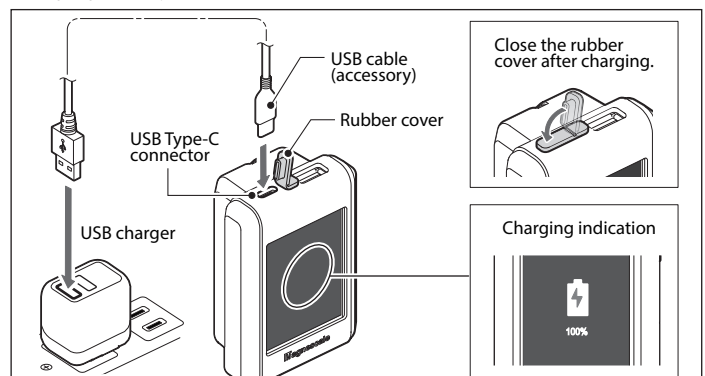
- The main unit, touch panel, mounting stand, USB charger, cables, and rubber items may deteriorate due to oil or organic solvents. If dirt adheres, moisten a soft cloth with diluted neutral detergent, etc. and wipe it off gently.
- After unpacking, wipe the screen with a soft, dry cloth and attach the LCD protective sheet (accessory).



- This product uses lithium-ion rechargeable batteries. Charge the batteries before use.

■ Charging

Open the rubber cover on the top of the main unit and connect the USB cable (accessory) to the main unit and to the USB charger. After charging, firmly close the rubber cover.

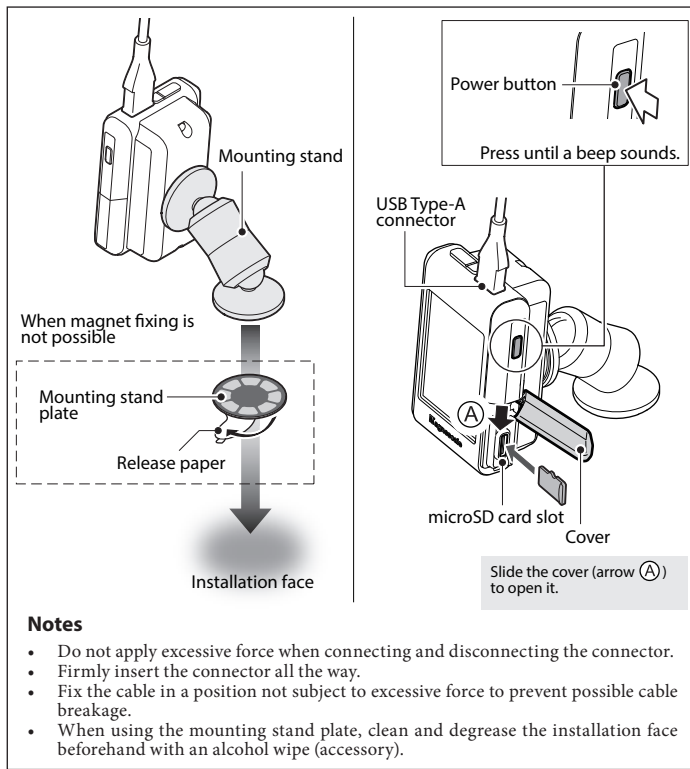


Notes

Do not apply excessive force when connecting and disconnecting the connector.

- Charge by supplying power to the USB Type-C connector of the main unit. (USB PD2.0)
- Power can also be supplied from a PC.
- The main unit also works while charging.

Installation



Specifications

Model	LU20
Display / Touch panel	TFT liquid crystal 2.7-inch QVGA 240 × RGB × 320 / Resistive film type
Compatible measuring units	DM series, DS series (USB2.0FS Type-A)
Input/output interface	USB2.0FS Type-C
Wireless	Bluetooth5.2 (Bluetooth Low Energy) Frequency band : 2402 to 2480 MHz Power Class : Class 1.5
Data storage media*1	microSDHC*2
Operating voltage / Charging voltage	DC+5 V±5%
Maximum power consumption*3	5W (with DM connected), 6W (with DS connected)
Batteries*4	Dedicated lithium-ion rechargeable batteries 3.6 V/3200 mAh × 2
Battery continuous operating time*5	Approx. 50 hours (with DM connected) Approx. 40 hours (with DS connected)
Battery charging time*5	6 to 8 hours (0 → Fully charged)
Vibration resistance	15 m/s ² (10 to 200 Hz)
Impact resistance	360 m/s ² (11 ms)
Operating temperature	0 to +40°C (No condensation)
Storage temperature	-10 to +60°C (No condensation)
Product mass	230 g (Main unit only)
Mounting stand mass	150 g
Dimensions	92.5 × 64.3 × 39.6 mm
Accessories	USB cable (Type-A ⇄ Type-C 1.2 m) *6 Mounting stand Mounting stand plate, 2 types of different thickness × 2 each LCD protective sheet × 2, alcohol wipe × 2

*1 The media is to be prepared by the user.

*2 Only the FAT32 file system can be used.

*3 When operating and charging the main unit at the same time

*4 Use our dedicated batteries supplied with the product. The batteries are replaceable. Use our dedicated accessory DZ60 (sold separately).

*5 Varies according to the method of use and the battery status.

*6 The structure is not bend resistant or oil resistant.

[For U.S.A.]

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.

- Contact details

Magnescape Americas Inc.

1 Technology Drive, Suite F217, Irvine, CA 92618, USA

TEL:+1(949)727-4017

FCC CAUTION

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

USB extension cable with ferrite core must be used for RF interference suppression.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines as this equipment has very low levels of RF energy.

[For Canada]

ICES-003(A)/NMB-003(A)

Data transmission is always initiated by software, which is passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

La transmission des données est toujours initiée par le logiciel, puis les données sont transmises par l'intermédiaire du MAC, par la bande de base numérique et analogique et, enfin, à la puce RF. Plusieurs paquets spéciaux sont initiés par le MAC. Ce sont les seuls moyens pour qu'une partie de la bande de base numérique active l'émetteur RF, puis désactive celui-ci à la fin du paquet. En conséquence, l'émetteur reste uniquement activé lors de la transmission d'un des paquets susmentionnés. En d'autres termes, ce dispositif interrompt automatiquement toute transmission en cas d'absence d'information à transmettre ou de défaillance.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment and meets RSS-102 of the ISED radio frequency (RF) Exposure rules as this equipment has very low levels of RF energy.

Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR-102 de l'ISDE puisque cet appareil a une niveau très bas d'énergie RF.

[For EU and EFTA countries]

This apparatus intended for use in industrial environments.

The apparatus shall not be used in the residential, commercial and light-industrial environment. It must not be connected to public power supply systems. It is only intended for use inside of an industrial power supply network. Electric power is supplied from power lines in a factory other than the motor power supply of large electric power.

The manufacture of this product is Magnescape Co., Ltd., 45 Suzukawa, Isehara-shi, Kanagawa 259-1146, Japan. The Authorized Representative for EMC and product safety is Magnescape Europe GmbH, Antoniusstrasse 14, 73249 Wernau, Germany.

CE Notice

Marking by the symbol CE indicates compliance with the EMC directive of the European Community.

警告

本装置を機械指令の適合を受ける機器にご使用の場合は、その規格に適合するように方策を講じてから、ご使用ください。

Warning

When using this device with equipment governed by Machine Directives, measures should be taken to ensure conformance with those directives.

Warnung

Wenn dieses Gerät mit Ausrüstungsteilen verwendet wird, die von den Maschinenrichtlinien geregelt werden, müssen Maßnahmen ergriffen werden, um eine Übereinstimmung mit diesen Normen zu gewährleisten.

日本からの輸出時における注意

本製品(および技術)は輸出令列表第1の16の項(外為令列表16の項)に該当します。キャッチオール規制による経済産業省の許可要否につきましては、輸出者様にてご確認ください。

For foreign customers

Note: This product (or technology) may be restricted by the government in your country. Please make sure that end-use, end user and country of destination of this product do not violate your local government regulation.

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