CASIO ®

Motion Sensor

CMT-S20R-AS

User's Guide

Thank you for purchasing this Motion Sensor (sensor unit).
Before use, be sure to read the "Safety Precautions" in this manual. Use this sensor unit correctly.

Note the following to ensure proper use.

● **Recommended ages: 14 and above**
  • Correct measurements may not be possible for individuals whose height and/or frame is significantly different from average.
● **Applicable activity: Outdoor long-distance running**
  • Correct measurements may not be possible in the case of short-distance running or similar types of running. This sensor unit is not suitable for running on rough terrain, on hills, or on other uneven surfaces.
● **Attachment:**
  See step 6 under "Starting Measurement".
  • Be sure to wear the sensor unit with its clip (logo side) facing **outwards**. Lock the sensor unit in place so it is **vertically upright** and at the **center** of the small of your back.
  • **If you are wearing a pouch or other accessories, take care that they do not come into contact with the sensor unit.**
  Subjecting the sensor unit to impact can make correct measurement impossible.


Unpackaging

When unpackaging, check to make sure that all of the items below are included. If something is missing, contact your original retailer.
- Sensor unit (CMT-S20R-AS)
- USB cable
- Sensor unit cover

Read this first!

- To use this sensor unit, you need to install the Runmetrix app on your smartphone. For information about the Runmetrix app, visit the CASIO website.
- Use this sensor unit and its accessories only as directed.
- The contents of this User's Guide are subject to change without notice.
- Every effort is made to ensure that the contents of this manual are accurate and up to date. Should you notice something that requires our attention, please contact us.
- Any reproduction of the contents of this manual, either in part or its entirety, is prohibited. You are allowed to use this manual for your own personal use. Any other use without the permission of CASIO COMPUTER CO., LTD. is forbidden under copyright laws.
- CASIO COMPUTER CO., LTD. shall be held in no way liable for any lost profits or claims from third parties arising out of the use or malfunction of this product.
- CASIO COMPUTER CO., LTD. shall be held in no way liable for any lost profits or claims from third parties arising out of the use of the Runmetrix app.
- CASIO COMPUTER CO., LTD. shall be held in no way liable for any loss or lost profits due to loss of memory contents caused by malfunction or maintenance of this product or any other reason.
- The illustrations in this manual may differ from the actual sensor unit.

General Guide
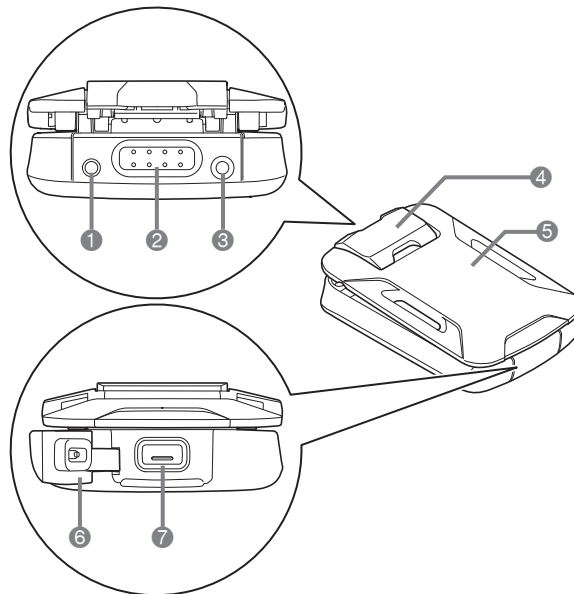
1 [⚡] lamp   2 Button   3 LED
4 Slide lock (2-step lock mechanism)   5 Clip   6 [USB] cover
7 USB port

- Remove all instructional stickers from the sensor unit before using it.

Charging

This sensor unit is powered by a built-in rechargeable lithium-ion battery. Note that the built-in battery is not charged when the sensor unit is shipped from the factory.

After purchase, you need to charge the sensor unit using its USB port.

● **Charging from a computer's USB port**
  With sensor unit power turned off, connect ① and ②.
  Charging time: Approximately three hours
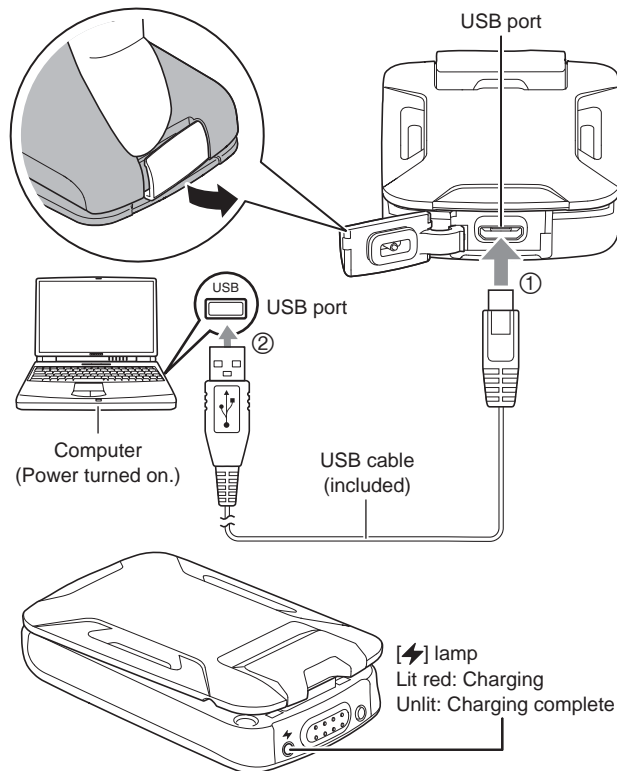
● **Charging from a non-computer device's USB port**
  You can charge the sensor unit from a USB port (Type-A) that complies with USB standards.

☀ IMPORTANT!

- The following conditions can cause charging to take longer than expected: Not charging the battery for a long time or using certain types of computers or connection environments.
- Make sure the USB cable connectors are correctly oriented when plugging them in. Do not try to force connectors into ports.
- There are prescribed specifications required for devices and power supply devices that can be used for USB charging. Do not use an inferior adaptor or device that does not meet the required specifications. Doing so creates the risk of malfunction and failure of the sensor unit.
- Note that use of a USB-AC adaptor may be subject to local standards imposed by the country where you are using it.
- CASIO COMPUTER CO., LTD. shall be held in no way liable for any malfunction or failure of the sensor unit caused by use of an inferior adaptor or an adaptor that does not meet required specifications.

Configuring Initial Settings

To use this sensor unit for run data measurement, you need to install the Runmetrix app on your smartphone.

After installing the Runmetrix app on your smartphone, you should input your user name, gender, and other personal data with the app and register your sensor unit. For information about the Runmetrix app, visit the CASIO website.

Installing the Runmetrix App on Your Phone

Go to Google Play or the App Store, search for the Runmetrix app, and then install it on your phone.

On Google Play or the App Store, check the required OS version (Android or iOS) for the Runmetrix app.

App Operation Guarantee

CASIO COMPUTER CO., LTD. makes no guarantees as to the ability of the Runmetrix app to run on any particular smartphone or tablet.

☀ IMPORTANT!

- The functions and required operating environment of the Runmetrix app are subject to change without notice.

Registering the Runmetrix App (Pairing)

☀ IMPORTANT!

- This sensor unit must be paired with a smartphone in order to use it. Be sure to pair the sensor unit with a smartphone before trying to use it.
- Turning on the sensor unit after purchasing it will cause its LED to flash red, indicating that the sensor unit is not paired with a phone.
- Only one phone at a time can be connected with this sensor unit.
- Some phone models may not work with this sensor unit.
- If the sensor unit is already registered to the app, attempting to re-register the sensor unit will cause the app to temporarily delete the existing registration and then re-register the sensor unit.
- Use the Runmetrix app to configure sensor unit settings.
- Turn on the Bluetooth setting of your phone and then perform the following operations.

1. **On your phone, start up the Runmetrix app.**

2. **In Runmetrix, tap "Create new account" and create a new account.**
   - If you have already obtained a CASIO ID with another CASIO product, log in and configure your profile settings.

3. **Use Runmetrix to input your user name and other basic information, and then tap "Register".**

4. **Check to make sure that the sensor unit is turned off.**
   - If the sensor unit is turned on, press and hold the sensor unit button for about two seconds to turn it off.

5. **Hold down the sensor unit button for about five seconds, and then release it.**

Holding down the button will cause the sensor unit to beep twice as power turns on. Keep the button depressed until the sensor unit's LED flashes between orange and green. Release the button once the flashing starts. Note that if you keep the button depressed too long after the flashing starts, the sensor unit will beep again and the LED will flash between orange and green at high speed. This is the watch pairing mode. If you enter the watch pairing mode by mistake, release the sensor unit button and then hold it down again to turn off power. Next, perform step 5 again.

Pairing with a Watch

- Only one watch at a time can be connected with this sensor unit.
- Pairing the sensor unit with a compatible watch makes it possible to use the watch to perform sensor unit operations and monitor measurements in real-time.

To pair the sensor unit with a watch

1. Put the watch into its sensor pairing mode.
2. Hold down the button of the sensor unit for about seven seconds to enter its pairing mode.
   - Holding down the button of the sensor unit will cause the sensor unit to beep twice as power turns on.
3. Keep the button depressed, and the sensor unit's LED will start to flash between orange and green.
4. Keep the button depressed until the sensor unit beeps again and the LED flashes between orange and green at high speed.
5. Release the button.
   - For more information on pairing with your watch, see your watch's user's guide.

6. **In the Runmetrix app, tap "Start registration".**

When the registration of the sensor unit is complete and the sensor unit is Bluetooth paired with a phone, the top Runmetrix screen will appear on the phone.

- Turning off the sensor unit will terminate its connection with your phone.

Sensor Unit Measurements

☀ IMPORTANT!

- If you do not start measurement within about 60 minutes after turning on the sensor unit, it will turn off automatically. The "Automatically turn off (auto power off)" setting can be changed with the Runmetrix app.
- You can use the Runmetrix app to check the remaining battery charge and the remaining recording capacity.
- Remove the instructional sticker from the sensor unit before using it.
- Leaving the sensor unit on a hot surface or leaving it exposed to direct sunlight for long periods can cause the sensor unit to turn off automatically.
- Do not use the sensor unit while it is being charged using a mobile battery. Doing so can cause incorrect measurement results.
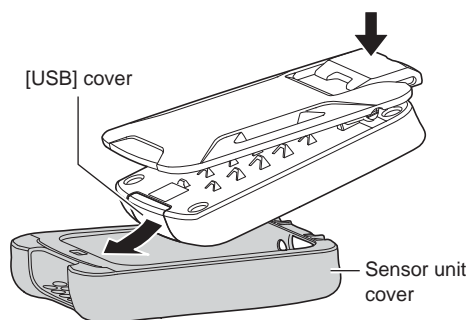
Attaching the Sensor Unit Cover

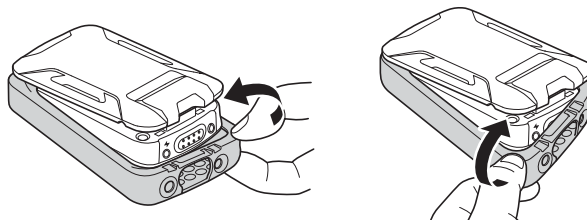***1.*** **Attach the sensor unit cover.**

① Unlock the slide lock of the sensor unit by sliding it upwards.

Slide lock
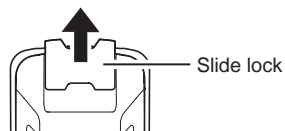
② With the clip open, insert the sensor unit into the sensor unit cover, [USB] cover end first.

[USB] cover

Sensor unit cover

③ Insert the button side of the sensor unit into the sensor unit cover.
  - Wrap the sensor unit cover over one corner of the sensor unit and then over the other corner.

④ Make sure that the [USB] cover, [⚡] lamp, button, and LED of the sensor unit are not covered.
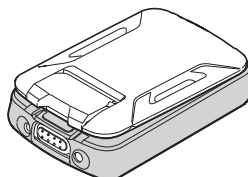
☀ IMPORTANT!

- Attaching the sensor unit without the sensor unit cover can result in skin irritation due to friction. Attach the sensor unit cover before use.

Turning On Power

2. **Hold down the sensor unit button for about two seconds.**

Holding down the button will cause the sensor unit to beep twice. Next, the sensor unit's LED will light either green or orange. Release the button at this time. Release the button at this time. This turns on power.

- If the LED lights red for about two seconds, it means that remaining battery power is low. Charge the sensor unit. Use the Runmetrix app to check the remaining battery charge.

Receiving GPS Signals

3. **To receive GPS signals, you should be outdoors in a location where the sky is visible and not blocked by buildings, trees, or other objects. Stop moving and hold the sensor unit with its clip side facing upwards. The sensor unit LED will light green when signal reception is complete.**
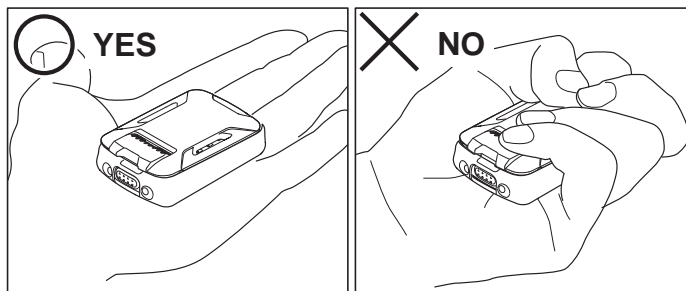
- The receive operation may take longer if you try to receive GPS signals while in motion.
- You can check the status of GPS reception by checking the sensor unit's LED.
    - Lit orange: Receiving
    - Lit green: Reception complete
- You can shorten the time required for GPS reception by sending GPS assist data to the sensor unit from the Runmetrix app in advance. For details about how to do this, visit the CASIO website.

✷ IMPORTANT!

- The sensor unit stores location information in its memory. To protect your data, take care not to lose the sensor unit.

NOTE

- Under some reception conditions, it may take several minutes to receive GPS signals.
- Atmospheric conditions and your usage environment can affect location measurement.
- The following conditions can reduce the accuracy of GPS measurements or make measurement impossible.
    - Indoors or in other locations where the sky is not visible
    - Near equipment that emits strong radio waves
    - The following locations, where signals are being blocked: near trees or buildings, in crowds
- Measurement can be started even if GPS signals cannot be received for some reason. In such a case, certain reception environments may result in location information not being recorded or large error.
- This sensor unit is compatible with GPS (United States), QZSS (Japan), and GLONASS (Russia). In this manual, "GPS" refers to all supported positioning systems.

Starting Measurement

4. **Press the sensor unit button once.**

Release the button when you hear a beep. The LED will flash green or orange, and measurement will start.

- Be sure to check for flashing of the LED before mounting.

5. **Slide the clip slide lock upwards to unlock it.**
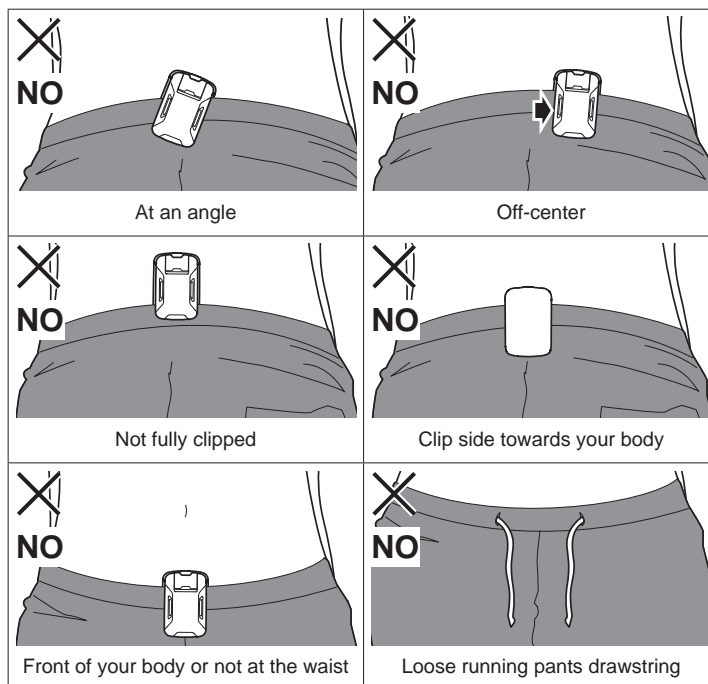

Slide lock

6. Clip the sensor unit to your running pants.

☀ IMPORTANT!

- To keep the sensor unit from shaking while running, wear your running pants with the upper part of the waistband above your hipbone. Sufficiently tighten the drawstring of your running pants or wear pants with a tight waist.
- Be sure to **wear the sensor unit with its clip (logo side) facing outwards**. Lock the sensor unit in place so it is straight vertical and at the center of the small of your back.
- Attach the sensor unit at the height that is in line with your hip bone.

Clip facing outwards

Hip line

Waist center line
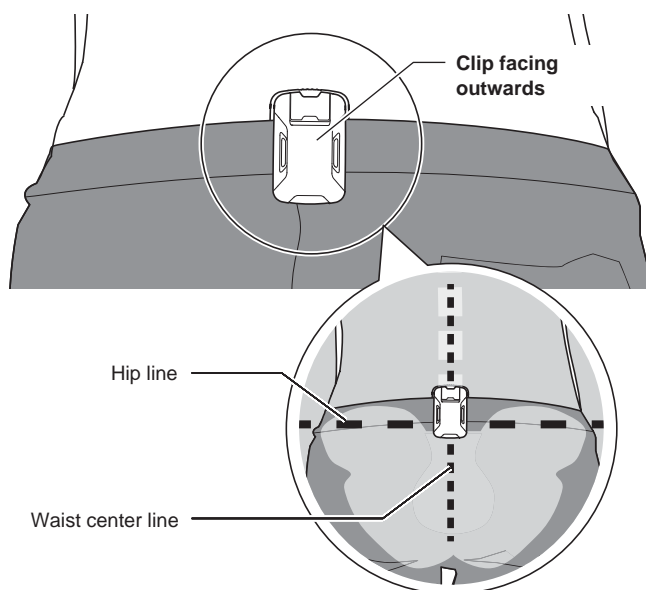
- To keep the sensor unit from slipping while running, clip it firmly onto the elastic or drawstring of your running pants. Do not use the sensor unit with running pants that have a wide distance between their rubber waistband or drawstring and top edge.
- Take care not to pinch your fingers with the clip.
- If you are wearing a pouch or other accessories, take care that they do not come into contact with the sensor unit. Subjecting the sensor unit to impact can make correct measurement impossible.
- Do not attach the sensor unit as shown below. Doing so will result in inaccurate measurement.


NO	NO
At an angle	Off-center
Not fully clipped	Clip side towards your body
Front of your body or not at the waist	Loose running pants drawstring

8

7. Slide the clip slide lock downwards to lock it.

The slide lock uses a 2-step lock mechanism. If your running pants are too thick to push the slide lock all the way in, stop the slide lock when you feel the first click (1-step lock).

IMPORTANT!

- When locking the clip, do not use excessive force to press the slide lock in. Doing so creates the risk of damage to the sensor unit and your running pants.
- The sensor unit can fall off of your running pants if it cannot be secure using the slide lock for some reason. Be sure to wear running pants that allow you to lock the slide lock.

2-step lock   1-step lock
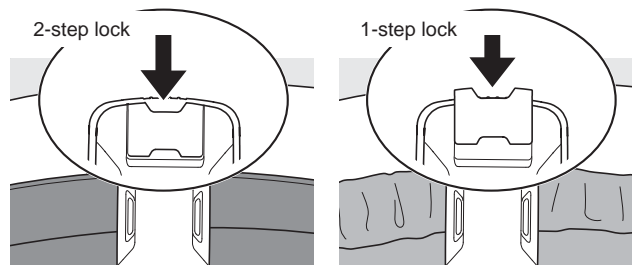
8. Start running.

IMPORTANT!

- Ongoing measurement will stop if the battery goes dead.
  Before starting measurement, use the Runmetrix app to check the battery level, and charge the battery if necessary.
- If the memory becomes full during measurement, the oldest data will be deleted to make room for the new data. Before starting a measurements, you can use the Runmetrix app to check the remaining recording capacity and transfer data to the app if necessary.
- You can use the Runmetrix app to enable or disable the "Auto Pause" setting. (Initial Default: Disabled)
- You can use the Runmetrix app to change the "Auto Lap" setting. (Initial Default: 1 km)
- The sensor unit will turn off automatically if it becomes hot.

Stopping Measurement

9. Slide the clip slide lock upwards to unlock it.

10. Remove the sensor unit from your running pants.

IMPORTANT!

- Do not attempt to remove the sensor unit from your running pants while the clip is locked with the slide lock. Doing so creates the risk of damage to the sensor unit and your running pants. Release the slide lock before removing the sensor unit from your running pants.

11. Press the sensor unit button twice in succession (double-click).

Release the button when you hear a beep, and the LED changes from flashing to lit. This indicates that measurement is stopped.

- Measurement data is transferred to your phone and then automatically uploaded to the server. Depending on contract conditions with your service provider, this operation may cause normal communication charges to be incurred by you.
- To restart measurement, perform steps 4 through 8 of the above procedure.

Turning Off Power

12. Hold down the sensor unit button for about two seconds.

Keep the button depressed until you hear one beep, and then, two seconds later, two more beeps. This indicates that power is turned off.

- If the LED lights red for about two seconds, it means that remaining battery power is low. Charge the sensor unit. Use the Runmetrix app to check the remaining battery charge.

Status Indication Table

The current status of the sensor unit is indicated by whether the LED and the [⚡] lamp are lit or flashing.

		Power On	Pairing	Charging	GPS Receive	Measuring	Measuring Paused	Power Off
LED								
Orange								
	Lit	—	—	—	Receiving GPS	—	—	—
	Fast flashing	—	—	—	—	Measuring and receiving GPS	—	—
	Slow flashing	—	—	—	—	—	Measuring paused and receiving GPS	—
Green								
	Lit	—	—	—	GPS receive complete	—	—	—
	Fast flashing	—	—	—	—	Measuring and GPS receive complete	—	—
	Slow flashing	—	—	—	—	—	Measuring paused, and GPS receive complete	—
Red								
	Lit	Battery level 25% or less	—	—	—	—	—	Battery level 25% or less
	Unlit	—	—	—	—	—	—	—
	Fast flashing	Internal error	—	—	—	—	—	—
	Slow flashing	Unpaired	—	—	—	Memory full error	Memory full error	—
Orange/green								
	Fast flashing	—	Pairing with watch mode	—	—	—	—	—
	Slow flashing	—	Pairing with phone mode	—	—	—	—	—
[⚡] lamp								
Red								
	Lit	—	—	Charging	—	—	—	—
	Unlit	—	—	Charging complete	—	—	—	—
	Flashing	—	—	Charging error	—	—	—	—

Troubleshooting

- If the sensor unit operation becomes abnormal during use, hold down its button for about 15 seconds to reset it. This will initialize the sensor unit without affecting measurement data.
  - During the 15 seconds you are holding down the sensor unit button, the sensor unit may beep, and the LED will turn on and off. Keep the button depressed.
  - There is no sound to let you know that the reset operation is complete.
- If you cannot receive GPS signals even though you are in an open area, hold down the sensor unit button for about 15 seconds to reset and then try again. If you still cannot receive signals, contact your local CASIO Service Center.
- If the LED flashes red at high speed when you turn on the sensor unit, it may mean there is some internal problem. Contact your local CASIO Service Center. Note that the current status of the sensor unit is indicated by the flashing speed (fast or slow) of the LED.

Main Specifications

Notification Functions	Bluetooth® 5.0 (Low Energy)
External Connection Port	Micro USB port (USB charging)
Built-in Sensors	9-Axis sensor (acceleration, gyro, magnetic), barometric pressure
GPS	GPS, GLONASS, QZSS
Recording Capacity	Approximately 200 km (depending on usage conditions)
Power Supply	Rechargeable lithium-ion battery (built-in)
Battery Life	Approximately 20 hours (continuous use at 25°C)
Sensor Unit Dimensions	39.9 (W) × 62.1 (H) × 18.2 (D) mm 43.7 (W) × 63.6 (H) × 19.6 (D) mm (Including sensor unit cover)
Weight	Approximately 37 g Approximately 44 g (Including sensor unit cover)

Safety Precautions

Before use, be sure to read the "Safety Precautions" sections of this User's Guide. Use this device as instructed.

⚠ **DANGER**	Indicates something that creates the major risk of death or serious personal injury.
⚠ **WARNING**	Indicates something that creates the risk of death or serious personal injury.
⚠ **CAUTION**	Indicates something that creates the risk of minor personal injury or physical damage.

Symbol Examples

The △ symbol indicates something that requires caution. (Symbol to the left means "electrical shock caution.")

The ⊘ symbol indicates something you should not do. (Symbol to the left means "Do not disassemble.")

The ● symbol indicates something you must do. (Symbol to the left means "Unplug the power plug.")

⚠ DANGER

Rechargeable Battery

⊘ **Charge the battery using only the method specifically described in user documentation.**
Use of another method creates the risk of battery overheating, fire, and rupture.

⊘ **Do not expose this product to fire or heat.**
Doing so creates the risk of explosion resulting in fire and personal injury.

⚠ WARNING

Abnormalities (Smoke, Odor, Heat Generation, etc.)

⊘ **Do not use the product if it is emitting smoke, odor, heat, or exhibiting any other abnormality. Do not use the product after it has been dropped or otherwise damaged.**
Doing so creates the risk of fire and electric shock. Immediately perform the steps below.
1. Turn off power. If you are unable to turn off power, reset the sensor unit.
2. Contact your original retailer or a CASIO Service Center.

Charging from a Computer

To protect against fire and electric shock, be sure to observe the following precautions.
- Do not plug into an overloaded extension cord or power outlet.
- Do not cover the USB cable with a blanket or other material during use, and keep it away from heating devices.
- Use only the specified type of USB cable.
- Use the included cables with this product only.
- Do not place heavy objects on the USB cable and do not bundled it with cables.
- Do not subject a USB cable to heat or attempt to modify it, and avoid damaging it.
- Do not subject the USB cable to excessive bending, twisting, or pulling.
- Take care not to trip over or to kick cords.
- Do not touch the plug with wet hands.
  Doing so creates the risk of electric shock.
- Should the cable become damaged, contact your original retailer or a CASIO Service Center.
  Continued use creates the risk of fire and electric shock.
- Use in an area where there is no risk of being splashed by liquids.*
  Liquids create the risk of fire and electric shock.
  * Avoid water, sports drinks, seawater, animal or pet urine, and other liquid.
- Do not place vases or other containers of liquid on top of cables.
  Water creates the risk of fire and electric shock.
- In the case of a lightning storm, do not touch the device plugged into the power outlet.
  Lightning creates the risk of electric shock.
- Before going out, disconnect cables from devices and locate the product in a place away from animals and pets.
  Pet chewing or urine can cause shorting, which creates the risk of fire.

Avoid Foreign Matter

Take care to keep metal filings and other foreign matter from getting into the product. Should any foreign matter get into the product, immediately take the following steps.
Continued use creates the risk of fire and electric shock.
1. Turn off power. If you are unable to turn off power, reset the sensor unit.
2. Contact your original retailer or a CASIO Service Center.

Disassembly and Modification

Do not attempt any disassembly or modification.
For any internal inspection, adjustment, or repair, contact your original retailer or a CASIO Service Center.
Doing so creates the risk of electric shock, burn injury, and personal injury.

Do not drop the product or subject it to impact.

Do not use the product after it has been dropped or damaged. Should the product become damaged, immediately take the following steps.
Continued use creates the risk of fire and electric shock.
1. Turn off power. If you are unable to turn off power, reset the product.
2. Contact your original retailer or a CASIO Service Center.

Effect on Other Electronic Devices

🚫 **Should you notice radio interference or other problems on other devices is being caused while using this product, do not use the wireless function.**
Radio waves can affect the product and create the risk of accident due to malfunction.

🚫 **When using the product in a medical facility or aircraft, follow the instructions of local personnel and crew concerning use of such devices.**
Do not use the product in an area where use of such devices is prohibited.
Electromagnetic waves and other signals emitted by this product may affect measuring instruments and create the risk of accident.

🚫 **Do not use the product in the vicinity of high-precision electronic equipment or any electronic equipment that handles weak signals.**
Doing so can cause misoperation and other problems in the electronic equipment, and creates the risk of accident.

❗ **Keep this product away from the chest area of any individual fitted with a cardiac pacemaker.**
Cardiac pacemakers and similar devices can be affected by electromagnetism. Should anyone fitted with a cardiac pacemaker or other medical device ever experience any abnormality, move the product away and contact a physician.

❗ **Turn off this product when on a train or in any other crowded location.**
When near a person wearing a cardiac pacemaker or other medical devices, radio waves may affect such devices and cause them to malfunction, creating the risk of accident.

Locations for Use and Storage

🚫 **Do not place the product on an unsteady platform, on a high shelf, or in any other unstable location.**
Dropping and tipping over creates the risk of personal injury.

🚫 **Do not store or use the product in any of the locations described below.**
Doing so creates the risk of fire and electric shock.
 • Areas subjected to large amounts of moisture and dust
 • Food preparation areas, near a humidifier, or in areas where the product is exposed to oil smoke or water vapor
 • Near a heating device, on an electric carpet, in a location exposed to direct sunlight, in a car parked outside, or any other area where the product is subjected to high temperatures.

Using this Sensor Unit

🚫 **Do not look at your phone while you are in motion.**
Doing so creates the risk of falling over and traffic accident.

Built-in Rechargeable Battery

❗ **If a battery is not charged even if the specified charging time is exceeded, stop charging.**
Failure to do so creates the risk of battery overheating, fire, and rupture.

⚠ CAUTION

USB Cable

To protect against fire and electric shock, be sure to observe the following precautions.

- Do not use detergent to clean the cable (especially around the jack).
- If you do not plan to use the product for a long period, disconnect the cable.

Connections

Connect only specified devices and items to connectors.
Connecting to other devices and items creates the risk of fire and electric shock.

Using this Product

Keep within the limitations of your physical condition and strength when exercising.
Over-exercising may cause you to feel unwell, and creates the risk of accident or personal injury.

Wearing This Product

Be sure to attach the sensor unit cover before wearing the sensor unit.
Sensitive skin, your current physical condition, or how you are wearing the product can results in pain, rash, or some other abnormality. If this happens, it is recommended that you wear a shirt, use tape, or use some other countermeasure to keep the product from coming into direct contact with your skin. Should you ever notice any skin abnormality, immediately stop using the product and consult with a physician.

USB Cover

Do not use this product with the [USB] cover open.
Doing so can allow sweat and other moisture to get into the product and cause the battery to ignite.

Handling Precautions

- This product is a precision device. Apply excessive force to this product can cause malfunction or damage. Note the following points.
  - When carrying the product in a travel bag, take care that other items in the bag do not apply excessive force on the product.
  - Note the following points when sitting down while wearing this product.
    – Do not allow the product to come into contact with nearby objects.
    – Do not put weight on the product.
  - Do subject the product to dropping or other strong impact.
- Do not use the product with the sensor unit cover attached inside out. Also, do not store the product with the sensor unit cover attached inside out.

Water Resistance

- Water Resistance
  The waterproof performance of this product is compliant with JIS / IEC Waterproof Protection Class 7 (IPX7).

✴ IMPORTANT!

- The waterproof performance of this product is based on CASIO test methods. No guarantees are made concerning damages, o product failure or performance.

■ Water Resistance Precautions

The waterproof performance of this product is compliant with IPX7. Note the following points.
- Check to make sure that there is no dust, sand or other foreign matter on the waterproof seal of the [USB] cover and the seal contact surface. If necessary, remove all foreign matter with a clean, dry, soft cloth. Even a single hair, grain of sand, or other minute object creates the risk of leaking.
- Check to make sure that the waterproof seal of the [USB] cover is not cracked or scratched.
- Close the [USB] cover tightly.
- Do not open or close the [USB] cover while near water or in a place exposed to sea winds. Do not open or close the [USB] cover with wet hands.
- Do not leave the product for long periods in a location subjected to low temperatures to temperatures of 40°C or higher. In particular, avoid locations exposed to strong direct sunlight, the inside of an automobile parked in the sun, etc. Such conditions will deteriorate water resistance performance.

■ Moisture Precautions

- Use a clean, dry, soft cloth to wipe all water droplets and dirt from the product before opening the [USB] cover.
- When the [USB] cover is open, water droplets can form on its inner surface. If there are water droplets on the product, be sure to wipe it dry before use.

■ User Maintenance After Use

If sand or mud gets on the product or its sensor unit cover, or if they become wet with water or sweat, keep the [USB] cover tightly closed and use the steps below to wipe the product.
- To clean the product, remove the sensor unit cover and then wipe the product with a clean, dry, soft cloth. Some moisture may remain on the [USB] cover even after you wipe it, so leave the product with the [USB] cover open in a shaded, well-ventilated location to dry completely.
- To clean the sensor unit cover, remove it from the product and then wash it with water. Next, wipe the cover with a clean, dry, soft cloth, and leave the product with the [USB] cover open in a shaded, well-ventilated location to dry completely. Note that forcibly pulling on the [USB] cover can damage it.

✴ IMPORTANT!

- Do not swing the product around to remove water or try to speed up drying with a dryer or other device.
- Do not wash the product in a washing machine.

■ Precautions After Use

- Do not leave the product in locations subjected to high temperature (40°C or higher) or low temperatures (less than −10°C). Doing so may deteriorate water resistance performance.
- Do not use chemicals for cleaning, rust prevention, anti-fogging, etc. Doing so may deteriorate water resistance performance.
- To maintain resistance performance, it is recommended that you have the waterproof seals at least once a year. Note that you will be charged for seal replacement. To have waterproof seals replaced, contact a local authorized CASIO Service Center or your original retailer.

■ Other Precautions

- The USB cable that comes with this product is not water-resistant.
- Subjecting the product to extreme impact creates the risk of deterioration of water resistance performance.
- In cold regions, water droplets on the product may freeze. Using the product with frozen water on it may cause malfunction. Do not leave the product with water droplets on it.
- CASIO COMPUTER CO., LTD. shall be held in no way liable for damage to internal components of the sensor unit (rechargeable battery, etc.) due to exposure to moisture caused by improper handling.
- CASIO COMPUTER CO., LTD. shall not be held responsible for any problems arising out of the submersion of this product in water.

Operating Precautions

■ Chemicals

Note that any of the following coming into contact with the product can cause discoloration or damage: thinner, gasoline, solvents, fats, oils, or cleaners containing these agents; adhesives, paints, chemicals, insect repellent, sunscreens, cosmetics, or other similar agents,

■ Communication Environment

This product can be used after connecting to a smartphone using Bluetooth wireless technology. The product may not connect with a phone if it is gripped in your hand or covered.

■ Usage Environment

- Ambient temperature: −10 to 40°C
  Do not use this product in environments outside the ambient temperature range. Attempting to do so will cause the product to malfunction.
- Due to battery characteristics, use in a cold location will shorten the battery life, even if the battery is fully charged.
- Ambient humidity: 10 to 85% RH (no condensation)
- Do not leave the product in the following locations.
  - Locations exposed to direct sunlight, or high humidity, dust or sand
  - Locations subjected to temperature and humidity extremes, such as near air conditioning equipment
  - Inside an automobile during the day, or in a location subjected to strong vibration
- Do not use or store this product near equipment that generates strong electromagnetism or radiation, or a magnetic field.

■ Condensation

Coming into a heated room from the cold outdoors or moving to a location with a large temperature difference may cause water droplets (condensation) to form inside or outside of the product, causing malfunction. To prevent condensation, seal the product in a plastic bag and allow it to acclimatize to the current ambient temperature. Next, remove it from the plastic bag and leave it unused for several hours.

■ User Maintenance

If the product becomes dirty, wipe it with a soft, dry cloth.

■ Opening the [USB] Cover

[USB] cover

Attempting to close the [USB] cover with one hand, can cause it to float up. Use both thumbs to press the [USB] cover evenly on the left and right to close it.
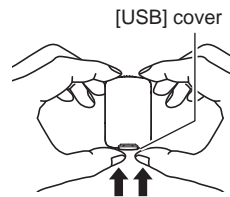
■ Wireless Function (Bluetooth) Precautions

• Since this product uses wireless communication, it may affect or be affected by nearby devices.
• This product is subject to the Export Administration Regulations (EAR) of the United States, and so it cannot be exported to or brought into countries that fall under U.S. Embargoes and Other Special Controls.

Frequency

This product uses the 2.4GHz frequency band, which can be used by other wireless devices.
Note the following information to prevent radio wave interference with other wireless devices.

This product has a built-in wireless low-power data communication system. In addition to microwave ovens and other industrial, scientific, and medical equipment, the frequency band used by this product is also used for operation of other similar wireless stations, factory production lines and other in-plant wireless stations for mobile unit identification that require licensing, specific low-power wireless stations that do not require licensing, and wireless stations ("other wireless stations").

• Before using this product, make sure that there is no other radio station in operation nearby.
• Should radio interference occur between this product and some other radio station, immediately change the location where you are using this product or stop using the other wireless station.
• If you have any other radio interference or other problem, contact CASIO using the contact information under "Inquiries regarding functions and operations, and where to purchase" in this User's Guide.

Wireless Eavesdropping

Information being wirelessly sent and received is subject to being intercepted.

Unauthorized Access

CASIO COMPUTER CO., LTD. shall be held in no way liable for any loss or damage caused by unauthorized access or use of this product's access point gained through loss or theft of the product.

Use as a Wireless Device

Use the wireless function of this product only as described in this User's Guide. CASIO COMPUTER CO., LTD. shall not be held in any way liable for any use outside of this scope.

Magnetic Fields, Static Electricity, and Radio Interference

Do not use this product near a microwave oven or any other location where magnetic fields, static electricity, or radio interference are generated. Certain environments may make radio waves unreceivable. Using the product in the vicinity of a device that also uses the 2.4 GHz band may slow down the processing speed of this product and the other device.

■ Use in Another Country

Use of this product in areas where it is not in compliance or has not been approved may be punishable under local laws. For details, visit the website below. https://world.casio.com/r-law/ms/
Note that some countries and regions may regulate the use of GPS and the collection of location logs. This product has a built-in GPS function. If you plan to use it in another country (a country or region other than the one where you purchased this product), you should ask the embassy of your destination or your travel agency if you are allowed to bring a product with a GPS function into the destination, or if there are prohibitions, restrictions or other regulations regarding the collection of location logs.

■ Other Precautions

- This product becomes warm during use. This is normal and does not indicate malfunction.

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■ IGRF (International Geomagnetic Reference Field) Model

This product uses the IGRF (International Geomagnetic Reference Field) model and related software, the Geomag 7.0 software, (collectively, "IGRF") released by the International Association of Geomagnetism and Aeronomy (IAGA). The IGRF is in the public domain and not licensed or under copyright. However, any and all copyright or other intellectual property rights with respect to all other software used and contained in this product shall remain the sole property of Casio or Casio's licensor.

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nRF5 SDK

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Charging

■ If the [⚡] lamp flashes red while charging

This indicates that charging is not possible due to the reasons below. Follow the instructions provided and try charging again.

Ambient temperature or battery temperature is too high or low.

Unplug the USB cable, leave it at room temperature for a while, and then try charging again when ambient temperature is in the range of 10°C to 35°C.

Charging Timer

Depending on the model of computer you are using for charging, the connection environment, and non-charging of the battery for a very long period, charging may take a long time. If charging continues for longer than about five hours, a timer will cause charging to stop even if the battery is not fully charged.
In addition, if a battery has not been used for a very long time, charging may stop after about 60 minutes.

1) Battery is not charged after a long time.
   Unplug the USB cable and plug it back in to resume charging.
2) When charging with a computer, if sufficient power is not supplied because of the connection environment.
   Charging of this product is possible only from a USB 2.0 port. Plug directly into a USB port that can supply a current of about 500mA.

If you still get an error after taking the above steps or if charging does not end after more than five hours, it probably means that the battery is defective. Please contact a local authorized CASIO Service Center or your original retailer.

Battery Use Precautions

- Due to battery characteristics, use in a cold location will shorten the battery operating time, even if the battery is fully charged.
- Charge the battery in an environment with an ambient temperature of 10°C to 35°C. If the ambient temperature is out of this range, charging may take longer or full charging may not be possible.
- If battery operating time is significantly shortened or even ends immediately after charging, it probably means that the battery has reached the end of its service life and needs to be replaced with a new one. Always request battery replacement from a local authorized CASIO Service Center or your original retailer. You cannot replace the battery yourself.
- If you do not use the product for a long time, fully charge the battery about once every three months to prevent over-discharging.

Manufacturer:
CASIO COMPUTER CO., LTD.
6-2, Hon-machi 1-chome, Shibuya-ku, Tokyo 151-8543, Japan

Frequency band and maximum output power
- CMT-S20R-AS
  - Bluetooth LE(2.4GHz)≤10dBm

To comply with the relevant European RF exposure compliance requirements, this CMT-S20R-AS must not be co-located or operating In conjunction with other transmitters.

Note: This equipment is intended to be used in all EU and EFTA countries, and UK.

Outdoor use may be restricted to certain frequencies and/or may require a license for operation.
For more details, contact your customer service representative.

For Europe and UK

Declaration of Conformity According to EU Directive

CE
Responsible within the European Union:
Casio Europe GmbH
Casio-Platz 1, 22848 Norderstedt, Germany
www.casio-europe.com

Hereby, CASIO COMPUTER CO., LTD. declares that this Motion Sensor Model CMT-S20R-AS is in compliance with Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address:
https://doc.casio.co.jp

Declaration of Conformity According to UK Legislation

UKCA
Responsible within the United Kingdom:
Casio Electronics Co. Ltd.
10 Norwich Street, London, EC4A 1BD, U.K.
www.casio.co.uk

Hereby, CASIO COMPUTER CO., LTD. declares that this Motion Sensor Model CMT-S20R-AS is in compliance with the relevant statutory requirements.
The full text of the declaration of conformity is available at the following internet address:
https://doc.casio.co.jp

CAUTION

- Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

- Do not leave the battery and CMT-S20R-AS in a high or low temperature environment while using, storing or transporting the battery. Explosion, flammable liquid, gas may leak.

- Battery and CMT-S20R-AS subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.

- Be sure to observe the points below when using this motion sensor. Failure to do so creates the risk of heat generation, fire, and explosion.
  - Do not throw the motion sensor into fire or expose it to heat.
  - Do not try to take the motion sensor apart, modify it, step on it or otherwise subject it to strong impact.
  - Do not place the motion sensor inside a microwave oven, drier, pressurized container, etc.

Supplier's Declaration of Conformity of FCC

Model Name: CMT-S20R-SA
Responsible Party: Casio America Inc.
Address: 570 Mt. Pleasant Avenue, Dover, New Jersey 07801, USA
Telephone number: 973-361-5400
https://www.casio.com/
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.

FC

U.S.A./CANADA

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

Note: 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.

This device complies with part 15 of FCC Rules and Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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.

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure of low-level RF that does not produce heating effects causes no known adverse health effects. Many studies of low-level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. CMT-S20R-AS has been tested and found to comply with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.