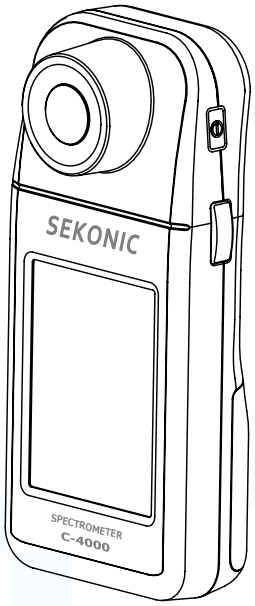
SEKONIC Spectrometer

C-4000

Operating Manual



Please read the "Operating Manual" and "Safety Precaution" so that you will fully understand the features and operation of this product.
Keep this "Operating Manual" and the "Safety Precaution" and "Safety Requirement and Precaution" in a safe place.
Please see the Startup Guide for information about the basic operations.

The C-4000 is a portable spectrometer equipped with a CMOS linear image sensor. It features a color touch panel to enable immediate on-site viewing of illuminance, correlated color temperature, color rendering properties, chromaticity coordinates, and other measurements of various light sources.

The C-4000's capabilities make it suitable for not only lighting design and measuring lighting at construction sites but also checking light sources in art museums and manufacturing/inspection processes, as well as measurements by printing companies or for photography purposes.

* The C-4000 cannot be used as a legally certified illuminometer for transactions and certifications.

The spectrometer firmware can be updated from the "C-4000 Utility" by connecting the spectrometer to a computer via USB.

The spectrometer can be remotely operated and graphs can be viewed from your smartphone or tablet by connecting to the smartphone app via Bluetooth. Furthermore, if you use the paid app, you can expect improved work efficiency through functions that allow registering data to lighting layout, linking with captured images, and creating simple reports.
* The paid app can be used by making an in-app purchase in the standard app (free version).

* Download the Utility from sekonicindustrial.com, and install it on your computer.
  URL: https://sekonicindustrial.com/downloads
  To use this Utility, connect your computer to the C-4000 using a USB cable (Type C, available commercially).
* A USB cable is not included in the package. Please obtain these separately.
* Download the app from App Store or Play Store.

■ Safety Precautions

Before using this product, please read the "Safety Precautions" for proper operation.

● Display classification

The levels of harm or damage that may occur as a result of misuse due to ignoring the displayed instructions are classified and explained using the following symbols.

⚠ WARNING	**The WARNING symbol indicates the possibility of death or serious injury if the product is not used properly.**
⚠ CAUTION	**The CAUTION symbol indicates the possibility of minor to moderate personal injury or product damage if the product is not used properly.**

NOTICE	**The NOTICE symbol indicates cautions or restrictions when using the product. Please read all notes to avoid errors in operation.**
NOTE	**The reference symbol indicates additional information about the controls or related functions. Reading these is recommended.**
➡	**The arrow indicates reference pages.**

● Symbols

The types of information to be observed are classified and explained using the following pictorial symbols.

	**Indicates a matter requiring a warning or caution.**
	**Indicates an act that must not be performed (prohibited act). The symbol may contain a picture to indicate a specific instruction.**
	**Indicates an act that must be performed (mandatory act).**

Safety Precaution

⚠ WARNING

- Infants or toddlers may accidentally wrap the neck strap around their neck, so please place it in a location out of their reach. There is a danger of suffocation.

- Keep the light receptor cap out of reach of infants and children to prevent them from accidentally putting it in their mouths or swallowing it. There is a danger of suffocation.
  ➡ In the event that it is swallowed, seek medical attention immediately.

- Do not use the product in a place containing flammable liquid (such as gasoline) or combustible vapors. Otherwise, it may cause a fire.

- Do not drop fluids on the product. Also, do not attempt to insert metals into it. Doing so may cause a fire or an electric shock. If any fluid drops on or a metal is inserted into the product, turn the power OFF immediately, and remove the battery (or unplug the USB cable). Then, consult our Support Center for assistance.

- Do not disassemble or modify this product. Doing so may cause a fire or an electric shock.

⚠ CAUTION

- Do not handle this product with wet hands, or leave it in the rain or in a location where water may splash on it, where the product may be submerged in water, or it may come in contact with moisture. There is a danger of electric shock. This may also result in damage to the product.

- Do not measure a bright object that emits light exceeding the measuring range (wavelength and illuminance). They may damage the optical components and result in inaccurate measurement.

⚠ CAUTION

- When controlling the meter with the LCD, gently touch with your finger. Using pointed pens or pencils may scratch the LCD screen or damage the product.

- Any significant impact to the meter housing or LCD screen can cause physical damage and failure of performance. Even when the meter is in the bag or pocket, damage is possible under severe impact or pressure conditions.

- Do not disassemble or modify this product. It may affect measurement results or damage the product.

- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

- Do not use or store the product in a place where it may be dropped and damaged by impacts or where it will be affected by constant vibration. This product contains precision optical components, and it may be damaged by these physical shocks. Also, do not subject the product to vibrations or impact when handling.

- Infants or toddlers may accidentally grab the neck strap and swing the product, so please place it in a location out of their reach, as the meter may be damaged by impacts.

- Be careful that the neck strap does not come loose when carrying the product, as the meter may be damaged if dropped.

- The neck strap is made of polyester fiber.
  Please refrain from using the product if synthetic fibers cause your skin to become irritated, inflamed or itchy in order to prevent worsening your symptoms.

- Do not use at an altitude of 2,000 m (6,562 feet) or above. Otherwise, the spectrometer may fail.

- Do not place the product on an unstable or tilted bench. Otherwise, it may drop and you may be injured.

⚠ CAUTION

- Before removing or replacing the battery or USB cable, always turn the power switch OFF. Removing the battery or USB cable while the power switch is still ON may cause a failure.

CA Prop 65

⚠ WARNING

This product can expose you to chemicals including lead,which is known to the State of California to cause cancer, and Di (2-ethylhexyl) phthalate (DEHP), which is known to the State of California to cause birth defects or other reproductive harm.
For more information, go to www.P65Warnings.ca.gov .

NOTICE

- A protective sheet is attached to the LCD. Peel it off before use.
- Although the LCD monitor is manufactured to very high standards, it is possible to observe a few dead pixels on the screen. This is normal and not a malfunction of the meter. The ratio for the number of effective dots for this product is set as 99.9% or higher in the quality standards. This ratio refers to"the percentage of displayable dots that Sekonic guarantees out of the total number of dots that the LCD can display".
- Please note that Sekonic assumes no liability, even if the stored data is lost due to a control error or other reason.
- The software can be installed and used only if you agree with all articles in the license agreement for this product.
- Be sure not to drop the meter or subject it to sudden impacts, as the meter will be damaged.
- Be careful not to transport the meter from cold to warm moist conditions as condensation will form on the meter and may damage it.
- If the meter is operated in temperatures below -10°C (14°F), the response of the LCD will greatly slow down and the display may be difficult to view and read. The response rate of the LCD may be slightly delayed at low temperatures, but this will not interfere with operation. Also, if the temperature exceeds 50°C (122°F), the liquid crystal display will darken and become difficult to read, but when it returns to room temperature it will return to its normal condition.

■ Information for Users on Collection and Disposal of Old Equipment

To protect environment, do not through this device and batteries away with the normal household waste at the end of those life, but bring them in at an official collection point of your country for recycling.

● Storage

⚠ CAUTION

- **Do not store the meter in areas of high temperature of high humidity, as the meter will be damaged.**

- **Do not leave the meter under direct sunlight or in a vehicle in midsummer, or near a heater or other heating appliance. The temperature of the product may rise and cause a failure. Please be careful when using the meter in these types of locations.**

- **Keep this product away from excessive dust, high humidity, and corrosive gases. Otherwise a product failure may occur.**

● Handling of Batteries

⚠ WARNING

- **Do not place batteries in open flames, attempt to short, disassemble or apply heat to them, or use unspecified batteries. They may burst and cause fires, serious injury, or damage to the environment.**

- **Do not disassemble the batteries. Fluid leakage, heat generation, or rupture may occur.**

- **If fluid leaking from the batteries gets on your skin or clothing, rinse it off with water immediately. If left as is, your skin may develop a rash.**

⚠ CAUTION

- **Insulate plus and minus terminals with tape or other insulation material. A short may occur due to the metal parts contacting other batteries or metal, resulting in heat generation, fluid leakage, fire, or other accident.**

- **Do not mix different battery brands or use different battery types. Also, do not mix old and new batteries.**
  Fluid leakage, heat generation, or rupture may occur.

- **Before removing or replacing the battery, always turn the power switch OFF. If the power switch is still ON, a failure may occur.**

NOTICE

- **Use manganese or alkaline batteries.**
  If other than the specified batteries are used, they may adversely affect this product.
- **Insert the batteries from the minus [-] end first. When removing the batteries, remove them from the plus [+] end first. There is a possibility of deforming or damaging the springs of the minus [-] terminals if you don't follow the procedure above.**
- **If the meter will not be used for an extended period of time, it is recommended to remove the batteries to avoid possible damage caused by battery leaking.**

NOTE

- If an abnormal indication appears on the LCD after battery replacement or during measurement, or if there is no response even though an operation button on the meter is pressed, remove the batteries, wait at least 10 seconds, and then reinstall them.

Information for Users on Collection and Disposal of Old Equipment

To protect environment, do not through this device and batteries away with the normal household waste at the end of those life, but bring them in at an official collection point of your country for recycling.

Maintenance Notes

NOTICE

- **Be careful not to let the Light Receptor become dusty, dirty, or scratched as this may affect the precision of the measurement.**
- **If the meter becomes dirty, wipe it with a dry, soft cloth.**
  Never use organic solvents such as thinner or benzine.

Notes on Using Radio Waves

NOTICE

- **Use the meter away from large metal objects, concrete, and objects containing water (such as the human body).**
- **There may be times when proper radio reception is not possible due to reasons such as interference with other radio waves or obstacles that block or absorb radio waves. Simply changing the position by even a slight amount may enable reception. If the issue persists, check that there are no obstacles such as concrete, metal, or slopes that may be blocking or absorbing the radio waves.**

■ Notes on Using the Bluetooth® Function

- **Carefully read the operating manual of your smartphone before using this product.**

- **In the bandwidth used by this product, in addition to home electric appliances such as a microwave oven and industrial/scientific/medical devices, in-plant radio stations used to identify mobile objects used in production lines of a factory that require a license, specified low power radio stations, or amateur radio stations that do not require a license (hereafter called "other radio stations") can be in operation.**
  1. **Before using this product, check whether "other radio stations" are in operation in your neighborhood.**
  2. **If radio wave interference occurs between this product and "other radio stations", "turn the power OFF" to avoid the radio wave interference.**

● Bluetooth Function

- **The Bluetooth function is technology that allows communicating wirelessly using the 2.4 GHz band which can be used without permission.**

- **The 2.4 GHz band used by Bluetooth-compatible devices is a radio band shared by many types of equipment. While Bluetooth-compatible devices use a technology to minimize the influence from other components using the same radio band, such influence may reduce the speed or distance of communications and in some cases interrupt communications.**

- **The speed or distance of communications differs according to the distance between the communicating devices, the presence of obstacles, radio wave conditions and the type of equipment.**

- **Sekonic does not guarantee that all wireless connections between this product and devices compatible with the Bluetooth function.**

- **Please note that Sekonic assumes no liability, even in the event of information leakage when connected using a Bluetooth compatible device.**

- **The radio waves generated by Bluetooth compatible devices may affect the operation of electronic medical devices and other equipment. In some cases, they could lead to an accident.**
  Turn off the power in the following locations.
  In hospitals, near priority seats on trains, inside aircrafts, in places where flammable gases may be present such as in gasoline stations, or near automatic doors and fire alarms

- **The built-in wireless device has received technical regulations conformity certification based on the Radio Act.**

- **Bluetooth compatible devices support security functions compliant with standards, but security may be insufficient depending on the operating environment. Be careful when connecting using a Bluetooth compatible device.**

- **Bluetooth compatible devices must comply with the Bluetooth standards set out by Bluetooth SIG, and acquire certification.**

- **Even if the device to be connected complies with the above Bluetooth standards, there may be cases where connecting is not possible or where phenomena such as differences in operation method, display, or behavior occur due to the characteristics and specifications of the device.**

■ Disclaimer

Sekonic assumes no liability for any failures of this product or any direct or indirect damages arising from its use.

■ Restrictions

There are some cautions and restrictions regarding the use of this product.
Please read and understand the following before using the meter.

NOTICE

- **The contents of this manual may be subject to change for the product's specification modifications and other reasons.**
  We recommend that you download the latest operating manual from our website and use this product.
  URL: https://sekonicindustrial.com/downloads//
- **The safety-related precautions such as «Safety Guide and Maintenance» and «Safety Precautions» conform to the legal and industry standards that were applicable at the time this operating manual was created. Therefore, this manual may not contain the latest information. Please download and refer to the latest operating manual.**
- **The product may contain printed materials such as cautions related to safety and/or printing errors as a supplement to the operating manual.**
- **The software can be installed and used only when you agree with all articles in the license agreement for this product.**
- **The contents of this operating manual may be reproduced for non-commercial purposes and for personal use only. However, the reproduced material must contain the copyright notice of our company.**
- **The drawings, screens, illustrations, etc. in this operating manual may differ from the actual displays of the meter. (Colors, letters, etc.)**
- **The screen display content may differ due to factors such as the meter settings or whether connected via USB.**
- **The reproduction of all or any part of this operating manual without permission is strictly forbidden.**

Terminology and Trademarks

- Windows is a registered trademark of Microsoft Corporation in the USA and/or other jurisdictions.
- The official name of Windows is "Microsoft® Windows® Operating System."
- Macintosh and Mac OS are registered trademarks of Apple Computer, Inc. in the United States and/or other countries.
- Android™ is trademark of Google LLC.
- App Store is a service mark of Apple Inc.
- The Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by SEKONIC CORPORATION is under license.

- All other company or product names are trademarks or registered trademarks of the respective companies.

Intended Usage

The meter is designed for:

- Measuring color deviation, color rendering properties (CRI and TM-30), illuminance, and chromaticity coordinates of various light sources including LEDs, fluorescent lamps, incandescent lamps, organic ELs, and projectors.
- Evaluating the illuminance, color temperature, and color rendering properties of indoor lighting, store lighting, and others.
- Checking the quality, illuminance, and color temperature of light sources in production management by light source manufacturers, etc.

Main features of the C-4000

Model name	Usage	Features
C-4000	Industrial applications	• The meter can be remotely operated and graphs can be viewed from your smartphone or tablet by connecting to the smartphone app via Bluetooth. • Compatible with CRI and TM-30 color rendering modes. • Color temperature (1,600 K to 40,000 K) • Measures illuminance (5 lx to 10,000 lx). (0.46 fc to 929 fc) • Displays the enhanced measurement units. (1) Illuminance (lx, fc) (2) Color temperature (K=Kelvin) (3) Color deviation (⊿ uv) (4) CIE1931 Chromaticity coordinates (x, y) (5) CRI (Ra) (6) TM-30 (Rf, Rg)

Intended Users

The intended users of this product are as follows.

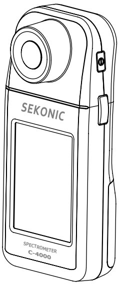
- Lighting designers, lighting installation contractors, and people controlling light sources in museums, restaurants, interior spaces, etc.
- People monitoring the quality control of LED, OLED, projector illumination, etc.
- People controlling light sources for photography and research.

Check Included Items

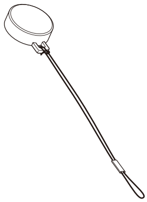
The following items are included with the meter in the package. Please be sure to check that all noted items are included.
If any items are missing, please contact the distributor or the reseller you purchased the meter from.

* Batteries (two AA) and USB cable (Type C) are not included in the package.
Please obtain these separately.

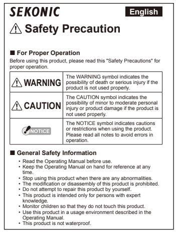
Meter



Light Receptor Cap (pre-attached to the meter)



Safety Precaution


SEKONIC English

⚠ Safety Precaution

■ For Proper Operation

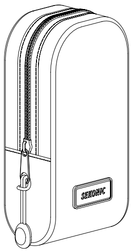
Before using this product, please read this "Safety Precautions" for proper operation.

⚠ WARNING	The WARNING symbol indicates the possibility of death or serious injury if the product is not used properly.
⚠ CAUTION	The CAUTION symbol indicates the possibility of minor to moderate personal injury or product damage if the product is not used properly.
NOTICE	The NOTICE symbol indicates cautions or restrictions when using the product. Please read all notes to avoid errors in operation.

■ General Safety Information

- Read the Operating Manual before use.
- Keep the Operating Manual on hand for reference at any time.
- Stop using this product when there are any abnormalities.
- The modification or disassembly of this product is prohibited.
- Do not attempt to repair this product by yourself.
- This product is intended only for persons with expert knowledge.
- Monitor children so that they do not touch this product.
- Use this product in a usage environment described in the Operating Manual.
- This product is not waterproof.

Soft Case



Safety Requirement and Precaution

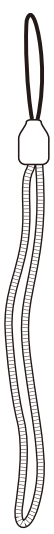

SEKONIC

C-4000

Spectrometer

English Safety Requirement and Precaution
Deutsch Sicherheitsanforderungen und-hinweise
Français Exigences en matière de sécurité et précautions
Español Requisitos de seguridad y precauciones
Italiano Misure di sicurezza e precauzioni
日本語 安全要求事項と安全上のご注意

Strap



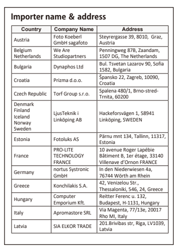
Startup Guide


SEKONIC

C-4000

English Spectrometer Startup Guide
Deutsch Spektrometer Startanleitung
Français Spectromètre Guide de démarrage
Español Espectrómetro Guía de inicio
Italiano Spettrometro Guida introduttiva
日本語 分光色彩照度計 スタートアップガイド

Importer name & address


Importer name & address

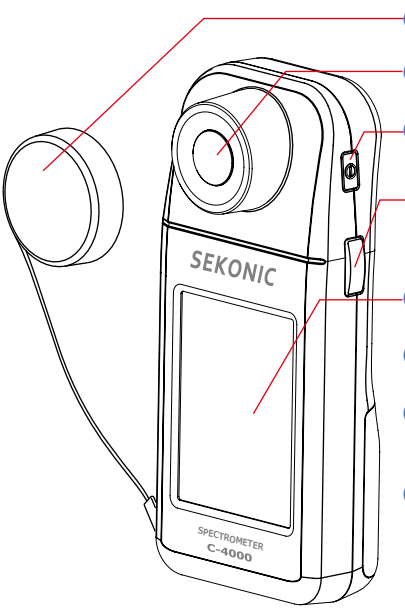
Country	Company Name	Address
Austria	Foto Koeberl GmbH sagafoto	Steyrergasse 39, 8010, Graz, Austria
Belgium Netherlands	We Are Studiopartners	Penningweg 87B, Zaandam, 1507 DG, The Netherlands
Bulgaria	Dynaphos Ltd	Bul. Tsvetan Lazarov 90, Sofia 1582, Bulgaria
Croatia	Prizma d.o.o.	Špansko 22, Zagreb, 10090, Croatia
Czech Republic	Torf Group s.r.o.	Spalena 480/1, Brno-stred-Trnita, 60200
Denmark Finland Iceland Norway Sweden	LjusTeknik i Linköping AB	Hackeforsvägen 1, 58941 Linköping, SWEDEN
Estonia	Fotoluks AS	Pärnu mnt 134, Tallinn, 11317, Estonia
France	PRO-LITE TECHNOLOGY FRANCE	10 avenue Roger Lapébie Bâtiment B, 1er étage, 33140 Villenave d'Ornon FRANCE
Germany	nortus Systronic GmbH	In den Niederwiesen 4a, 76744 Wörth am Rhein
Greece	Konchilakis S.A.	42, Venizelou Str., Thessaloniki, 546, 24, Greece
Hungary	Computer Emporium Kft.	Reitter Ferenc u. 132, Budapest, H-1131, Hungary
Italy	Apromastore SRL	Via Magenta, 77/13e, 20017 Rho MI, Italy
Latvia	SIA ELKOR TRADE	201.Brivibas str, Riga, LV1039, Latvia

Table of Contents

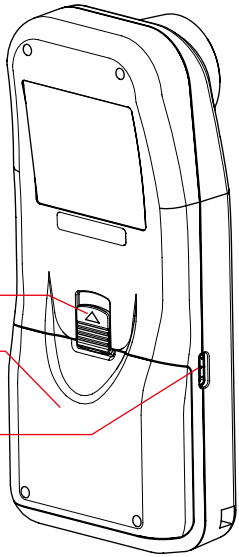
1. Names of Parts and Functions

1-1 Names of Parts

[Front View]

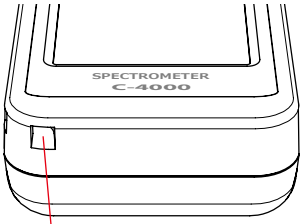


[Rear View]



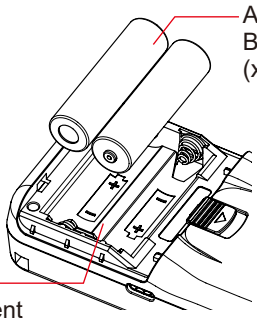
9 Light Receptor Cap
1 Light Receptor
2 Power Button
3 Measuring Button
4 Display Panel
5 Battery Cover Latch
6 Battery Cover
7 USB Connector (Type C)

[Bottom View]



8 Strap Eyelet

[Battery Compartment Section]



AA Batteries (x2)
10 Battery Compartment

1-2 Names of Parts and Functions

The following table lists the functions of each part.

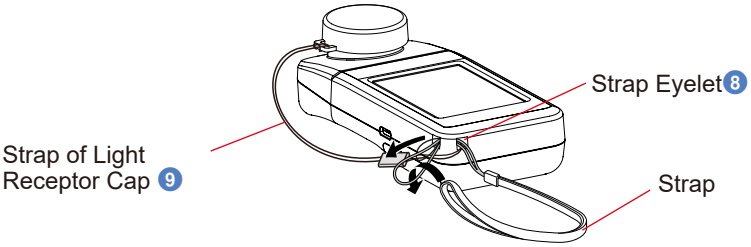
No.	Part Name	Functions
1	**Light Receptor**	Point the Light Receptor directly at light source during reading.
2	**Power Button**	Press to turn ON/OFF.
3	**Measuring Button**	Press for measurement.
4	**Display Panel**	Displays the setting screens and measurement screens. The built-in touch panel function enables setting, selection or operation by touching the displayed screens. (➡ P22)
5	**Battery Cover Latch**	Latch for the battery cover.
6	**Battery Cover**	Secures the batteries.
7	**USB Connector**	USB connector to connect to a PC with the app installed or supply power using a USB cable. USB Type C: 24-pin connector
8	**Strap Eyelet**	Used to attach the included strap. * The strap of the Light Receptor Cap is attached at shipment.
9	**Light Receptor Cap (pre-attached to the meter)**	This allows you to perform dark calibration by covering the Light Receptor. It also protects the Light Receptor of the meter. * When you will not use the meter, cover the Light Receptor with the cap.
10	**Battery Compartment**	Holds the batteries. Insert the batteries in the correct direction.

2. Before Use

2-1 Attaching the Strap

1. **Pass the strap (included) through the outer hole of the Strap Eyelet 8.**

2. **Pass the opposite end of the strap through the loop at the end of the strap.**



⚠ WARNING

- **Infants or toddlers may accidentally wrap the neck strap around their neck, so please place it in a location out of their reach. There is a danger of suffocation.**

⚠ CAUTION

- **Infants or toddlers may accidentally grab the neck strap and swing the product, so please place it in a location out of their reach, as the meter may be damaged by impacts.**

- **Be careful that the neck strap does not come loose when carrying the product, as the meter may be damaged if dropped.**

- **The neck strap is made of polyester fiber.**
  Please refrain from using the product if synthetic fibers cause your skin to become irritated, inflamed or itchy in order to prevent worsening your symptoms.

NOTE

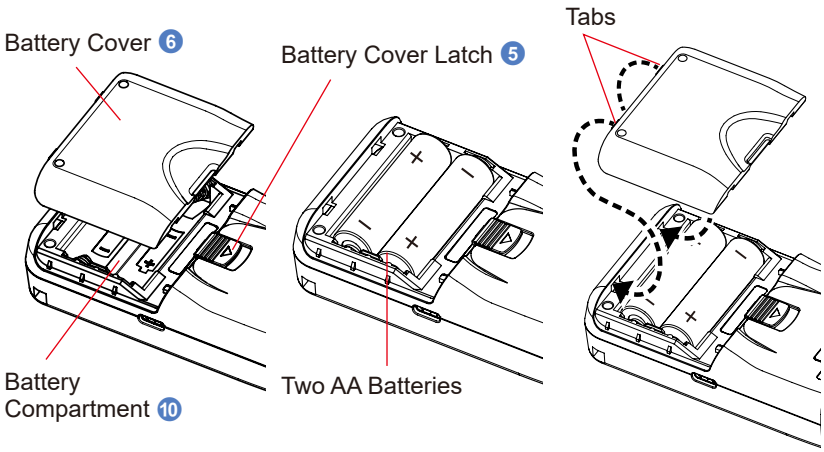
- The strap of the Light Receptor Cap 9 is attached at shipment. If passing the strap (included) through the outer hole of the Strap Eyelet 8 is difficult, first remove the strap of the Light Receptor Cap and then pass them both through together.

2-2 Installing the Batteries

1. **Prepare two AA batteries.**

2. **Slide the Battery Cover Latch 5 in the direction of the arrow and remove the Battery Cover 6. Insert the batteries according to the [+] and [–] symbols in the Battery Compartment 10.**

3. **While lining up the two tabs on the Battery Cover 6, press the Battery Cover 6 back into place from above.**



⚠ WARNING

- **Do not place batteries in open flames, attempt to short, disassemble or apply heat to them, or use unspecified batteries. They may burst and cause fires, serious injury, or damage to the environment.**

- **Do not disassemble the batteries. Fluid leakage, heat generation, or rupture may occur.**

- **If fluid leaking from the batteries gets on your skin or clothing, rinse it off with water immediately. If left as is, your skin may develop a rash.**

⚠CAUTION

- **Insulate plus and minus terminals with tape or other insulation material. A short may occur due to the metal parts contacting other batteries or metal, resulting in heat generation, fluid leakage, fire, or other accident.**

- **Do not mix different battery brands or use different battery types. Also, do not mix old and new batteries.**
  Fluid leakage, heat generation, or rupture may occur.

- **Before removing or replacing the battery, always turn the power switch OFF. If the power switch is still ON, a failure may occur.**

NOTICE

- **Use manganese or alkaline batteries.**
  If other than the specified batteries are used, they may adversely affect this product.
- **Insert the batteries from the minus [-] end first.**
  When removing the batteries, remove them from the plus [+] end first.
  There is a possibility of deforming or damaging the springs of the minus [-] terminals if you don't follow the procedure above.
- **If the meter will not be used for an extended period of time, it is recommended to remove the batteries to avoid possible damage caused by battery leaking.**

■ Information for Users on Collection and Disposal of Old Equipment

To protect environment, do not through this device and batteries away with the normal household waste at the end of those life, but bring them in at an official collection point of your country for recycling.

2-3 Power ON/OFF

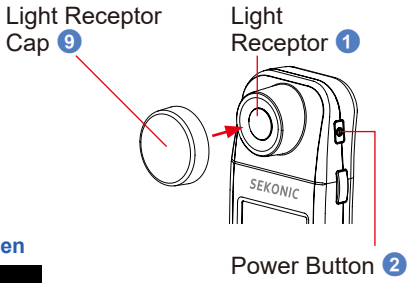
Power ON

1. Attach the Light Receptor Cap.

Cover the Light Receptor (1) with the Light Receptor Cap (9).

2. Press the Power Button (2).

The meter will turn on and the Opening Screen will be displayed for 2 seconds.

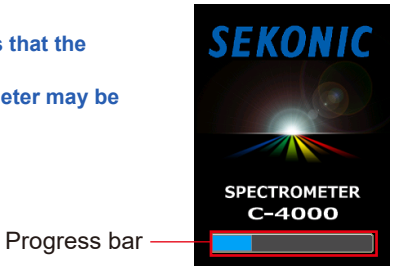


Opening Screen

NOTICE

- **The reboot startup screen is displayed after battery replacement and 24 hours after power OFF.**
- **Movement of the blue progress bar indicates that the meter firmware is being checked.**
  Do not turn the power OFF. Otherwise, the meter may be damaged.

Reboot Startup Screen



NOTE

- If nothing is displayed on the LCD, check if the batteries are installed properly (Pos/Neg positioning) and have enough capacity.
- You can reduce start up time by simply touching the LCD when the Opening Screen appears.

3. Select the language. (Appears only when turned ON for the first time)

The Language Selection Screen is displayed.

4. Touch the radio button for the language to be used or its surrounding area.

The radio button for the selected language lights in blue.

Language Selection Screen

Language Selection Confirmation Screen

[OK] Button

5. Touch the [OK] Button to confirm the selection.

NOTE

- The language can be switched at any time. (➡ P91)

6. Dark calibration is performed.

Dark calibration starts. However, dark calibration may be skipped due to internal conditions, and the Home Screen may be displayed. (➡ P76)

"Dark calibration in progress. Please wait." and the status bar will appear while calibrating. The progress can be determined from the progress bar indication. Do not remove the Light Receptor Cap 9 until dark calibration ends.

If the process ends properly, the Home Screen is displayed.

Dark Calibration Process Screen

Progress bar

NOTICE

- When the meter is in Dark calibration mode, the screen displays "Dark calibration. Please cover the light receptor with the cap." is displayed when dark calibration is started, cover the Light Receptor with the Light Receptor Cap ⑨ and then touch the [Yes] Button to perform dark calibration.

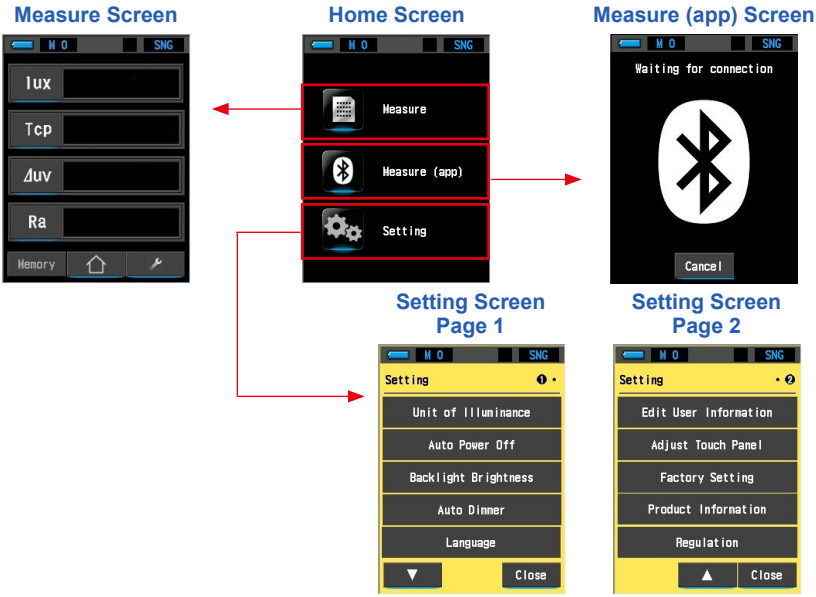
Dark Calibration Confirmation Screen

- If "No cap detected. Please cover the light receptor with the cap." is displayed when dark calibration is started, cover the Light Receptor with the Light Receptor Cap ⑨ and then touch the [Yes] Button to perform dark calibration.
  Do not remove the Light Receptor Cap ⑨ until dark calibration ends.

Dark Calibration Detection Confirmation Screen

7. Touch one of the icons on the Home Screen.

The corresponding screen appears.



Power OFF

1. Press and hold the Power Button ❷ for 1 second or longer.

The display turns off and then the meter is powered off.

NOTICE

- **Please wait at least 3 seconds between turning the power ON and OFF with the Power Button ❷.**

NOTE

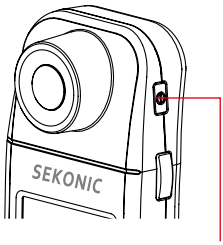
- All settings and measurement values made during use are saved in memory even after the meter is powered off.

2-4 Automatic Power OFF Function

To save battery power, all indications will turn off automatically and the meter will turn OFF approximately 5 minutes (factory setting) after use (after last meter button operation).

NOTE

- All measurement values, settings and indications are saved in memory even after the Automatic Power OFF Function is activated or the Power Button 2 is turned OFF. When the power is turned ON, they will be displayed again.
- The default setting of Auto Power Off is 5 minutes. Other settings or “No auto power off” can be selected in the Setting Screen. (➡ P85)
- If, while in transport, the Power Button 2 is inadvertently and continually pressed in, the meter will turn ON for about 1 minute and then turn automatically turn OFF to save battery power. 2



Power Button 2

2-5 Checking the Battery Capacity

When the power is turned ON, the LCD screen will show the battery capacity indicator.

Sufficient battery life remaining.

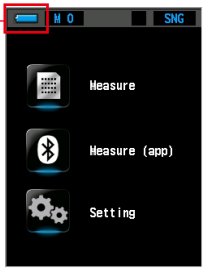
Adequate battery life remaining.

Have a spare battery ready.

Replace the battery immediately.

Battery capacity indicator

Home Screen



NOTE

- When battery power is low and the meter is turned ON, the LCD screen will appear and then turn off immediately. This is an indication that the batteries are depleted and should be replaced immediately.
  Having spare batteries on hand is recommended.
- If you continue using the meter without replacing the batteries when there is insufficient battery power, the message "The batteries are out of power. The meter will be shutdown soon." is displayed. When 5 minutes elapse, the power turns OFF.
- When the meter is continuously used at room temperature, the battery life should last 8 hours (based on Sekonic testing methods).

Low Battery Power Message Display Screen

2-6 Replace the Batteries

1. Press to turn OFF.

The meter will turn OFF.

NOTICE

- **Always turn off the power before replacing batteries. If you replace batteries while the power is turned on, the measurement values that are obtained during operations are not saved. Also, this may cause a failure.**

2. Replace the batteries.

Check that the meter is turned OFF before replacing the batteries. (➡ P5)

⚠ WARNING

- **Do not place batteries in open flames, attempt to short, disassemble or apply heat to them, or use unspecified batteries. They may burst and cause fires, serious injury, or damage to the environment.**

- **Do not disassemble the batteries. Fluid leakage, heat generation, or rupture may occur.**

- **If fluid leaking from the batteries gets on your skin or clothing, rinse it off with water immediately. If left as is, your skin may develop a rash.**

⚠ CAUTION

- **Insulate plus and minus terminals with tape or other insulation material. A short may occur due to the metal parts contacting other batteries or metal, resulting in heat generation, fluid leakage, fire, or other accident.**

- **Do not mix different battery brands or use different battery types. Also, do not mix old and new batteries.**
  Fluid leakage, heat generation, or rupture may occur.

- **Before removing or replacing the battery, always turn the power switch OFF. If the power switch is still ON, a failure may occur.**

NOTICE

- **Use manganese or alkaline batteries.**
  If other than the specified batteries are used, they may adversely affect this product.
- **Insert the batteries from the minus [-] end first.**
  When removing the batteries, remove them from the plus [+] end first.
  There is a possibility of deforming or damaging the springs of the minus [-] terminals if you don't follow the procedure above.
- **If the meter will not be used for an extended period of time, remove the batteries.**
  Otherwise, the batteries may leak and adversely affect the meter.

NOTE

- If an abnormal indication appears on the LCD after battery replacement or during measurement, or if there is no response even though an operation button on the meter is pressed, remove the batteries, wait at least 10 seconds, and then reinstall them.

■ Information for Users on Collection and Disposal of Old Equipment

To protect environment, do not through this device and batteries away with the normal household waste at the end of those life, but bring them in at an official collection point of your country for recycling.

3. Screen Operation

3-1 Screen and Operation

3-1-1 Basic Screen and Operation

The screen is a touch panel, allowing you to select the desired menus and items by touching icons and buttons with a fingertip.

⚠ CAUTION

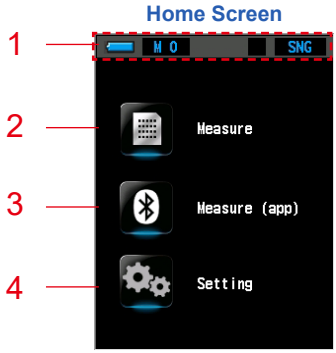
- **When controlling the meter with the LCD, gently touch with your finger. Using pointed pens or pencils may scratch the LCD screen or damage the product.**

NOTICE

- **A protective sheet is attached to the LCD. Peel it off before use.**
- **Although the LCD monitor is manufactured to very high standards, it is possible to observe a few dead pixels on the screen. This is normal and not a malfunction of the meter. The ratio for the number of effective dots for this product is set as 99.9% or higher in the quality standards. This ratio refers to"the percentage of displayable dots that Sekonic guarantees out of the total number of dots that the LCD can display".**

Home Screen

When the power is turned ON, the Opening Screen is displayed (for 2 seconds) and then dark calibration is performed.
When the dark calibration is complete, the Home Screen is displayed. To select the desired mode, select an icon with a blue lamp lit.



[Home Screen]

No.	Part Name	Description
1	**Status bar**	Displays the remaining battery power / memory count / measuring method.
2	**[Measure] Icon**	Displays the measurement result and allows you to save it. In addition, you can configure the settings of Tool Box ( ) from the Measure Screen. (➡ P34)
3	**[Measure (app)] Icon**	Displays the Measure (app) Screen. (➡ P40)
4	**[Setting] Icon**	Allows you to customize the meter settings. You can also view the product information and other information. (➡ P79)

Status Bar

* For this description, all icons and menus are displayed.

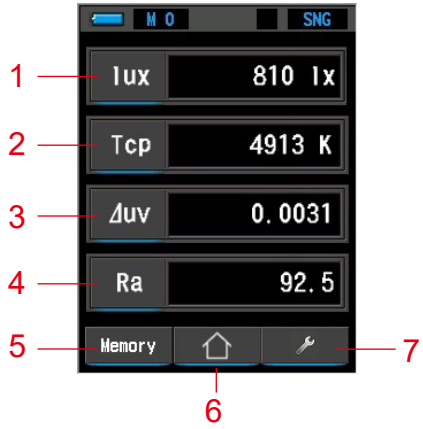
[Status Bar Item List]

No.	Part Name	Description	
1	**Battery capacity indicator**		Sufficient battery life remaining.
			Adequate battery life remaining.
			Have a spare battery ready.
			Replace the battery immediately.
			Displayed when communicating with a PC via USB.
2	**Memory count**		Displays the number of measured data saved. The total number of memories is displayed until 99 to the right of the mark.
3	**Temperature fluctuation warning**		When this icon lights, the temperature (air temperature) reference is fluctuating, and accurate measurement may not be possible. Perform dark calibration.
4	**Measuring method selection**		Displayed when single measuring is selected as the measuring method in Tool Box.
			Displayed when continuous measuring is selected as the measuring method in Tool Box.

Measure Screen

When you are in the Measure Screen, you have the option of selecting different display items (such as lux or Tcp), Tool Box (to select such functions as Memory Name) or go back to the Home Screen.
To change a display item or setting, touch the corresponding icon or button with a blue illuminated line.
To change the Display Items, refer to each explanation of Display Items. (➡P30)

Measure Screen



* The display varies depending on the set measuring method.
* For this description, all icons and menus are displayed.
(Including the screens displayed on other pages)

[Measure Item List]

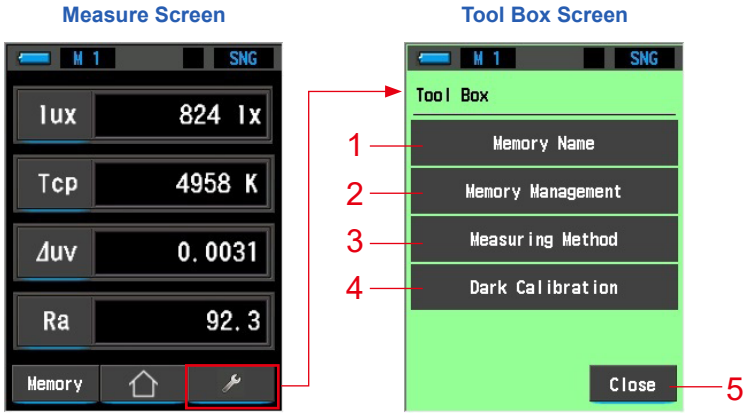
No.	Part Name	Description
1 to 4	**[Display Item]**	Touch this to switch to the item selection screen. (➡P30)
5	**[Memory] Button**	Touch this to save the measured values. (➡P36)
6	**[Home] Icon**	Touch this to switch to the Home Screen. (➡P15)
7	**[Tool Box] Icon**	Touch this to switch to the Tool Box Screen. (➡P45)

NOTE

- When values are out of display range or measurement range, [Under] or [Over] is displayed.
- Under: Displayed when the value is lower than the measurement range (too dark or color temperature is too low).
- Over: Displayed when the value is higher than the measurement range (too bright or color temperature is too high).

Tool Box Screen

The following settings and changes can be made by touching [ ] on the Measure Screen.



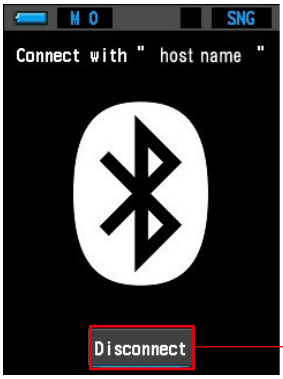
[Tool Box Item List]

No.	Part Name	Description
1	**Memory Name**	Switches to the Memory Name Input Screen. (➡ P47)
2	**Memory Management**	Switches to the Memory Management Screen. (➡ P55)
3	**Measuring Method**	Switches to the Measuring Method Screen. (➡ P73)
4	**Dark Calibration**	Switches to the Dark Calibration Screen. (➡ P76)
5	**[Close] Button**	Closes the Tool Box Screen and returns to the Measure Screen.

Measure (app) Screen (Bluetooth Connection)

The Measure (app) Screen allows you to connect the C-4000 with a smartphone or tablet via Bluetooth to perform measurement. (➡ P40)
Before using Bluetooth, carefully read "Notes on Using the Bluetooth® Function" and "Safety Precautions" to ensure proper operation.

Measure (app) Screen

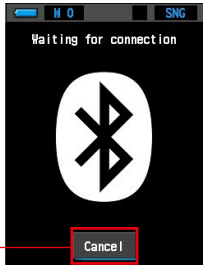


[Disconnect] Button

NOTE

- Bluetooth connection operation
  The message "Waiting for connection" is displayed during the connection operation. If you touch the [Cancel] Button, you can cancel the operation and return to the Home Screen.
  If a connection could not be established for 30 seconds during the connection operation, the message "Connection error" is displayed. Touch the [Close] Button to switch to the Home Screen. Try connecting again.

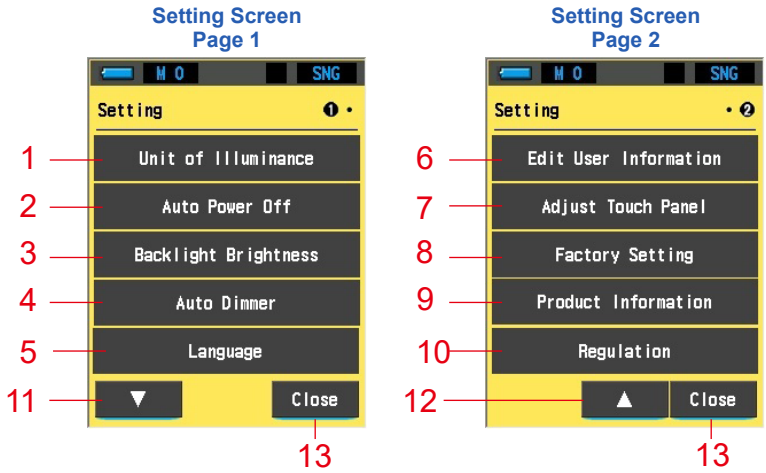
Remote Connection Operation in Progress Screen



[Cancel] Button

Setting Screen

The Setting Screen allows you to register and change various settings.
Refer to each explanation. (➡ P81)



[Setting Item List]

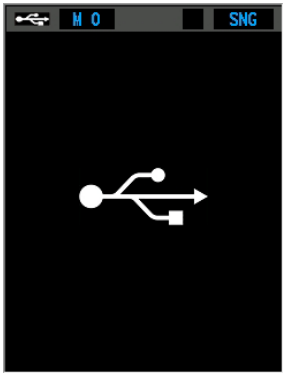
No.	Part Name	Description
1	Unit of illuminance	Select the unit from lx(lx·s), fc(fc·s) or both when measuring illuminance. (➡ P83)
2	Auto Power Off	Switches to the Auto Power Off Setting Screen. (➡ P85)
3	Backlight Brightness	Switches to the Backlight Brightness Setting Screen. (➡ P87)
4	Auto Dimmer	Switches to the Auto Dimmer Setting Screen. (➡ P89)
5	Language	Switches to the Language Screen. (➡ P91)
6	Edit User Information	Switches to the Edit User Information Screen. (➡ P93)
7	Adjust Touch Panel	Switches to the Adjust Touch Panel Screen. (➡ P95)
8	Factory Setting	Switches to the Factory Setting Screen. (➡ P99)
9	Product Information	Switches to the Product Information Screen. (➡ P102)
10	Regulation	Switches to the Regulation Screen. (➡ P104)
11	[Next page] Icon	Displays page 2.

No.	Part Name	Description
12	[Previous page] Icon	Displays page 1.
13	[Close] Button	Returns to the Home Screen.

USB Communication Screen

The USB icon is displayed on the screen during USB communication.
When the USB cable is connected only the Power ON/OFF Button is operational.

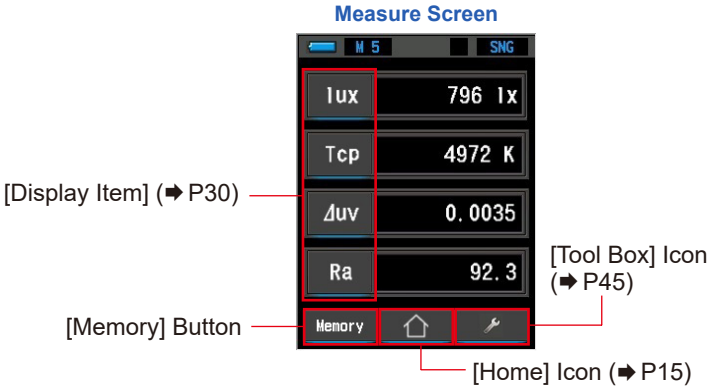
USB Communication Screen



3-1-2 Icon and Button Operation

Icon and Button Operation

You can switch to the desired screens by touching the corresponding icons and buttons.



Touch-enabled Icons

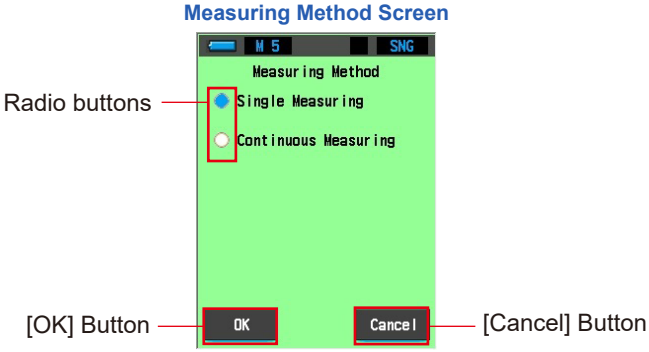
Icons with blue illuminated line indicate which icons are operational.

Icons and buttons that can be touched

Icons and buttons that cannot be touched

Radio Button Operation

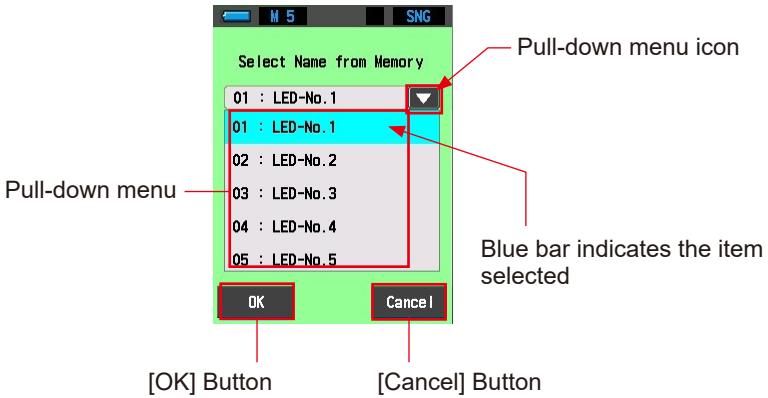
Radio buttons are displayed when there are multiple options.
You can select an item by touching the radio button or its surrounding area.
Selected radio button is lit in blue.
Only one item can be selected.



Pull-down Menu Operation

You can select data from a list created in advance.
A created pull-down menu is displayed by touching the pull-down [▼] Icon.

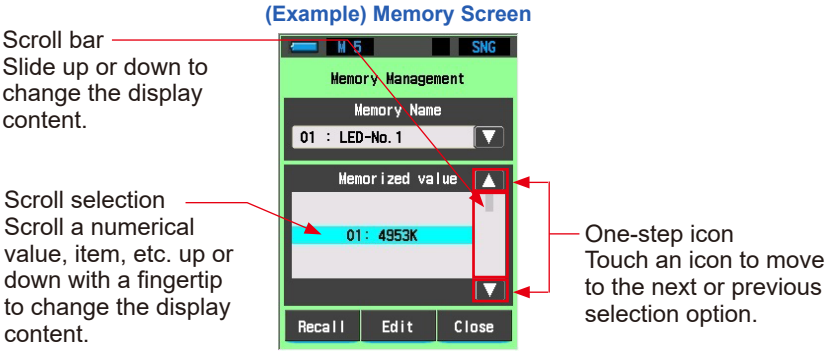
(Example) Memory Name Screen



Drum Operation

The desired menu or item can be selected by touching an icon with a fingertip.

(Example) Memory Screen

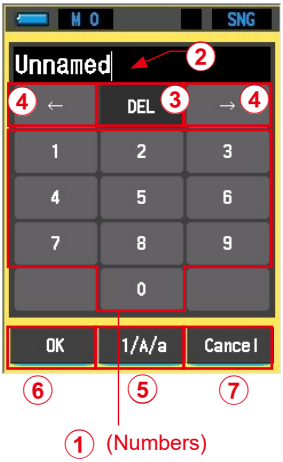


3-1-3 Input of Numbers/Characters

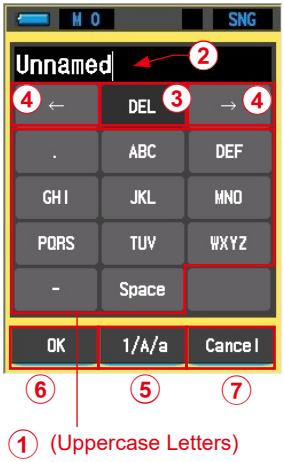
You can enter numbers and characters.

Number and Character Input Screens

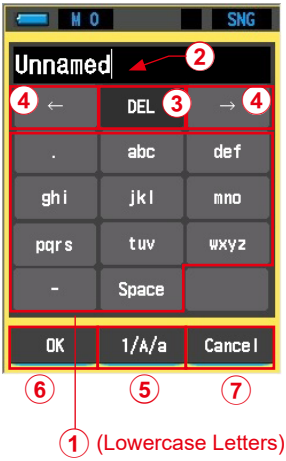
Numeric Value Input Screen



Uppercase Input Screen



Lowercase Input Screen



Number and character input methods

No.	Key	Description
①	0-9, ABC, abc, period, hyphen, space	Touch to display the input value at the top of the screen. For alphabet letters (such as ABC), you can change the input character by touching the same button multiple times.
②	|	Cursor to indicate the input position.
③	Delete	Deletes input value at cursor position.
④	← →	Moves input position.
⑤	1/A/a	Touch the 1/A/a button to switch the input screen.
⑥	OK	Confirms input value and returns to previous screen.
⑦	Cancel	Cancels input value and returns to previous screen.

3-2 Screen Transition

The basic screen transitions are as follows.
The meter measurement settings can be changed from the Measure Screen.

Power ON

Opening Screen

Language Selection Screen

Dark Calibration Screen

Home Screen

Measure (➡ P34)

Measure with the meter.
Select the display items depending on the application.
Save the measured data.
Set the measurement function depending on the application in Tool Box [ ].

[Measure Screen]

Measure (app) (➡ P40)

Measure by remote operation.

- Bluetooth connection (Measure (app)) (Disconnected / remote canceled / connection lost)
- Bluetooth connection in progress (disconnected)
- Connection with Bluetooth device failed

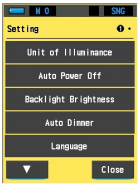
[Measure (app) Screen]

Setting (➡ P79)

Register/edit various settings.

- Unit of Illuminance
- Auto Power Off
- Backlight Brightness
- Auto Dimmer
- Language
- User Information
- Adjust Touch Panel
- Factory Setting

[Setting Screen] Page 1



Displays the information.

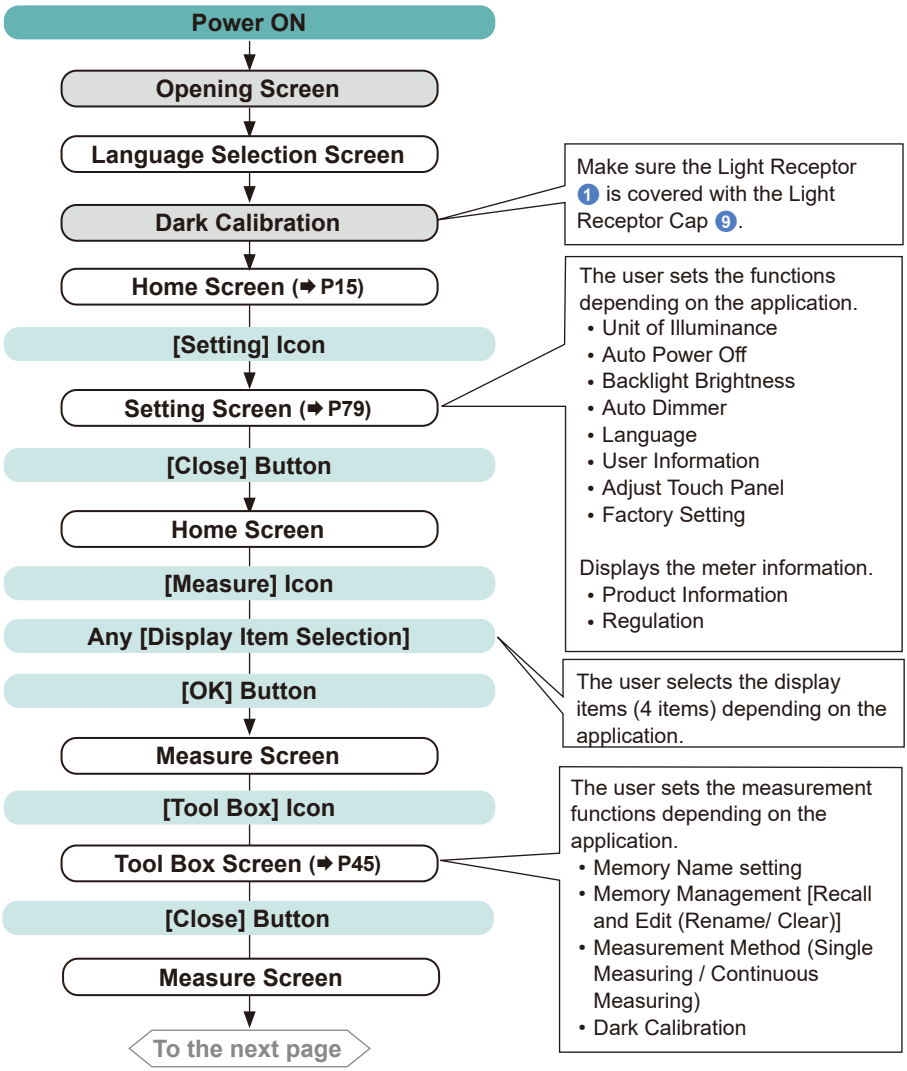
- Product Information
- Regulation

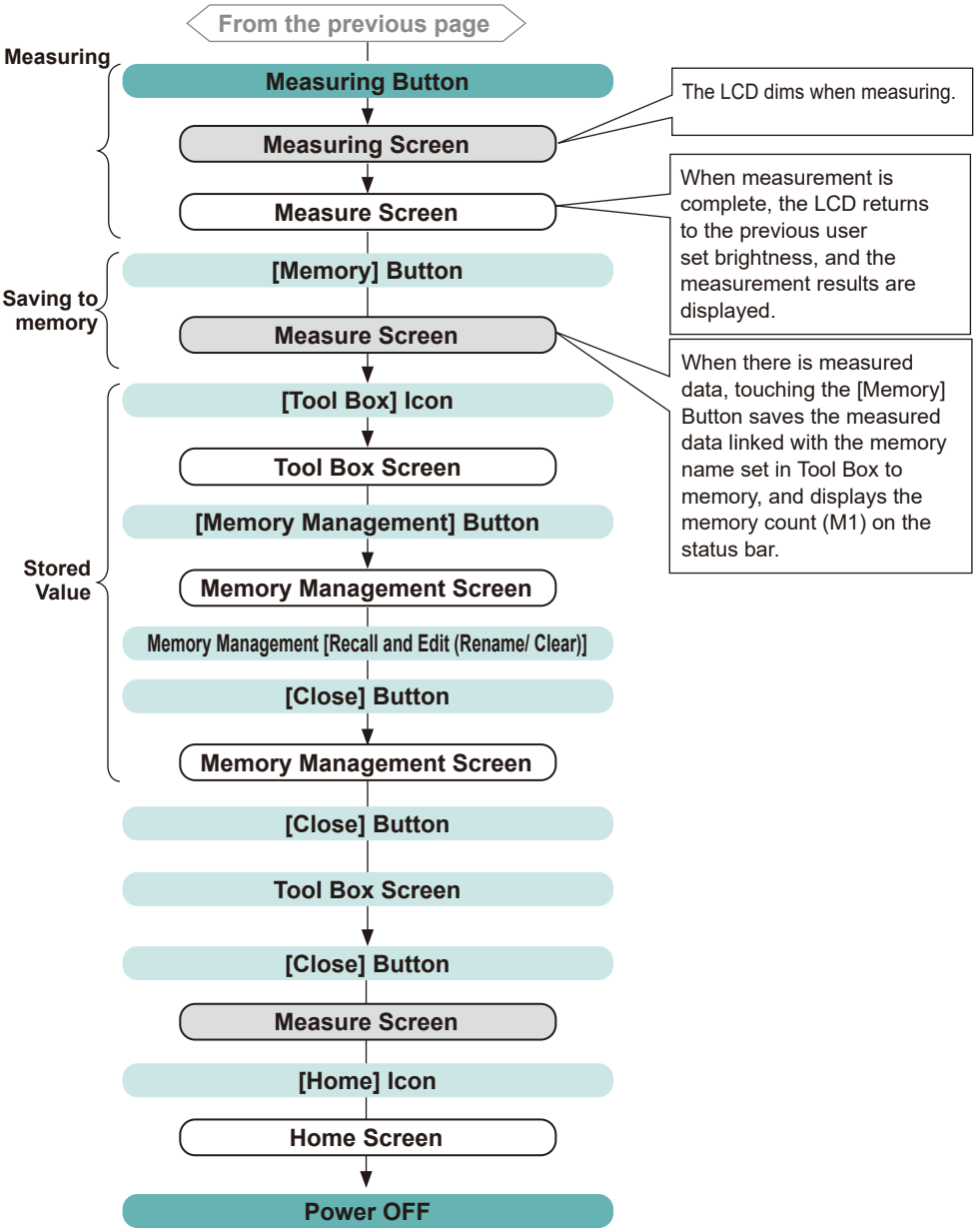
[Setting Screen] Page 2

4. Basic Operations

4-1 Basic Measurement Flow

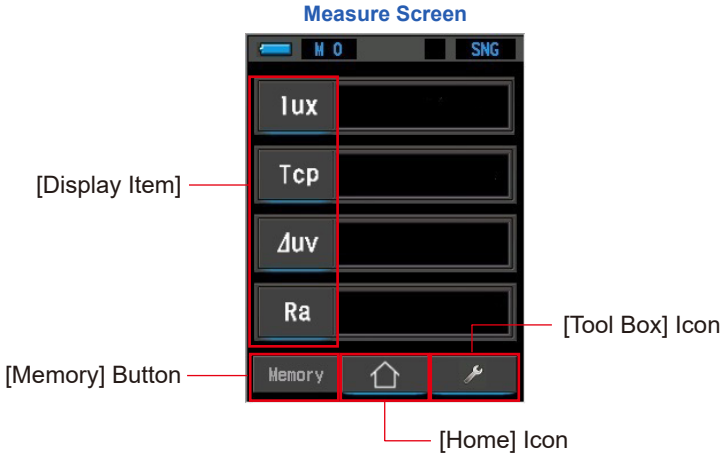
The basic operations and screens are as follows Measurements and measurement changes are operated from the Measure Screen.




From the previous page
Measuring
Measuring Button
Measuring Screen
Measure Screen
The LCD dims when measuring.
When measurement is complete, the LCD returns to the previous user set brightness, and the measurement results are displayed.
Saving to memory
[Memory] Button
Measure Screen
When there is measured data, touching the [Memory] Button saves the measured data linked with the memory name set in Tool Box to memory, and displays the memory count (M1) on the status bar.
Stored Value
[Tool Box] Icon
Tool Box Screen
[Memory Management] Button
Memory Management Screen
Memory Management [Recall and Edit (Rename/ Clear)]
[Close] Button
Memory Management Screen
[Close] Button
Tool Box Screen
[Close] Button
Measure Screen
[Home] Icon
Home Screen
Power OFF

4-2 Measure Screen

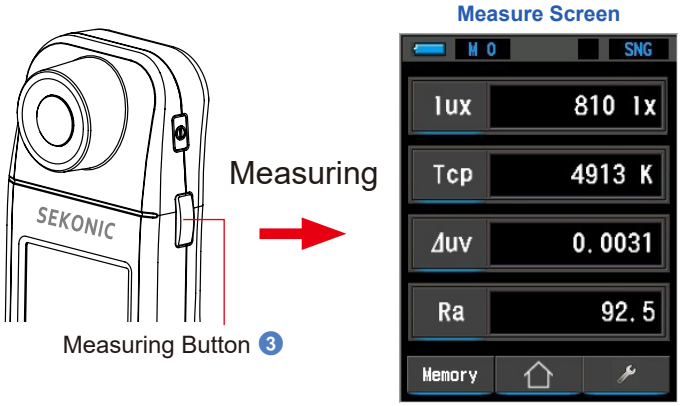
Displays four user-selected items in numeric value. (➡ P30)



Operation

1. From the Measure Screen, press the Measuring Button ❸ on the side of the meter to start measuring.

Measurements are now displayed.



NOTE

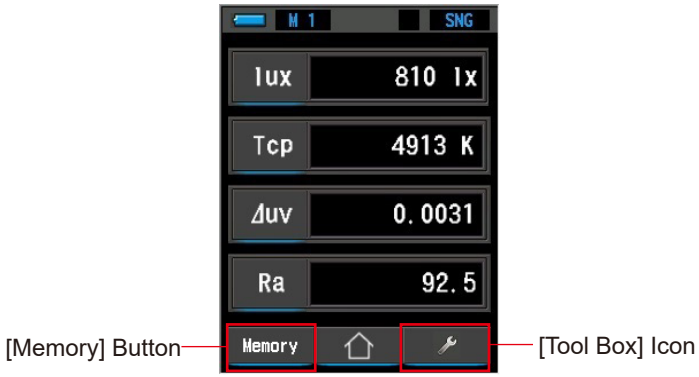
- To measure the color temperature of a light source properly, point Light Receptor 1 directly at light source during reading.
- Measurement and display will take longer in light levels below 30 lx (2.79 fc).
- The LCD backlight will dim while measuring to avoid influence to measurement. It is not a defect.

2. Save the measurement results.

To memorize the measurement values, touch the [Memory] Button.

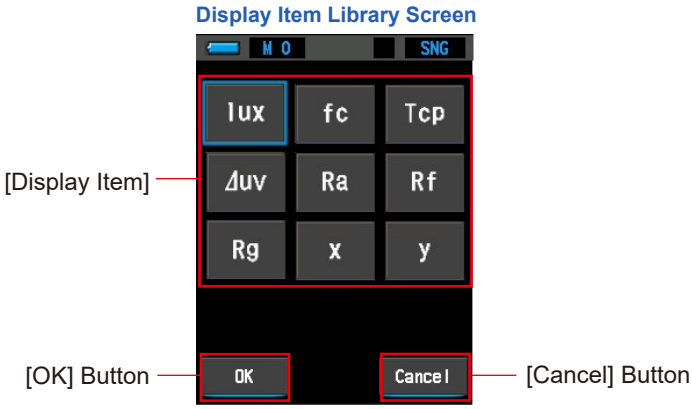
You can assign names and perform other tasks for the saved measurement values from [ ]. (➡ P45)

Measure Screen



4-3 Customizing Measuring Displays

You can customize displayed information to see exactly what you need in single view.

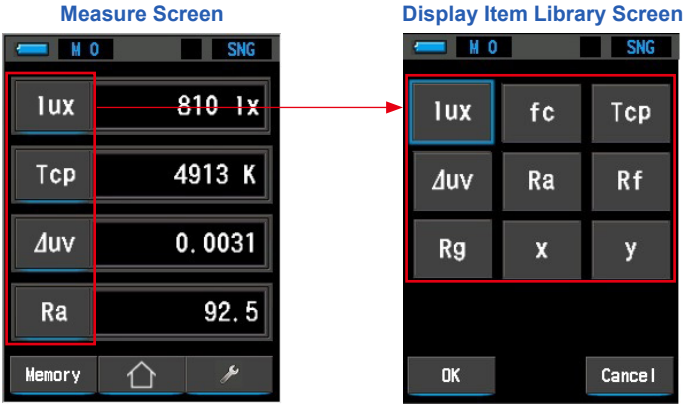


Operation

1. Touch the [Display Item] indication on the Measure Screen.

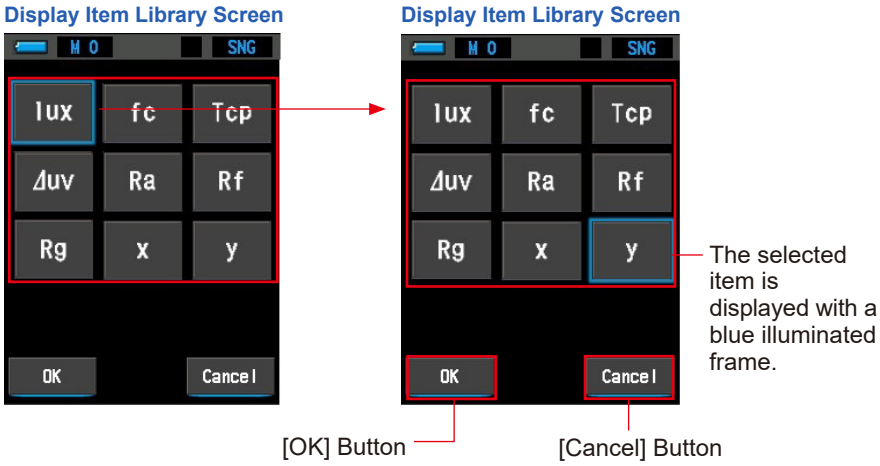
The Display Item Library Screen will be displayed.

The selected item is displayed with a blue illuminated frame.



2. Select the desired Display Item indication.

The selected item is displayed with a blue illuminated frame.

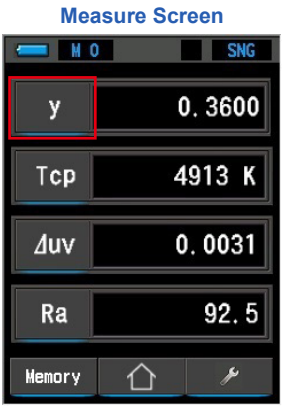


3. Touch the [OK] Button.

Selected items and the values will be displayed.

If you touch the [OK] Button, the setting is confirmed and the Measure Screen is redisplayed.

If you touch the [Cancel] Button, the setting is canceled and the Measure Screen is redisplayed.



Display Item List

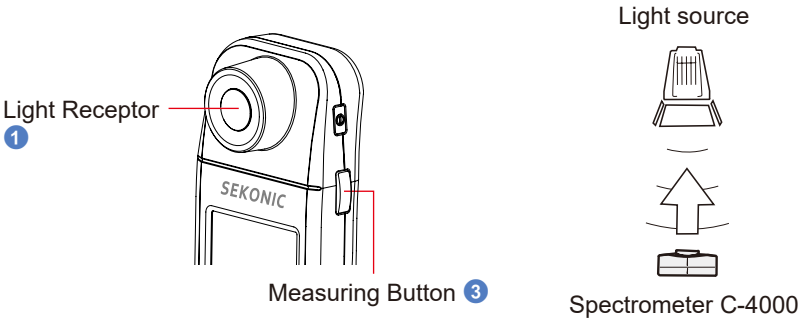
No.	Item	Name	Content
1	Tcp	Correlated Color temperature	Displays the correlated color temperature.
2	Δuv	Deviation	Displays a deviation from the black body radiation.
3	x	Chromaticity coordinates	Displays CIE1931 chromaticity coordinates x.
4	y		Displays CIE1931 chromaticity coordinates y.
5	lux	Illuminance	Displays the illuminance. It can be set on this spectrometer.*
6	fc		
7	Ra	Average Color Rendering Index	Displays the average CRI of R1 to R8.
8	Rf	Fidelity Index	Displays the fidelity index of TM-30-18 in the range of 0 to 100.
9	Rg	Gamut Index	Displays the gamut index of TM-30-18 in the range of 0 to 200.

* Models sold in some countries do not display "fc (fc•s)" due to legal restrictions.

5. Measuring Light Sources [Measure Screen]

5-1 Measuring Method

Take a measurement by facing the Light Receptor ❶ towards the light source to correctly measure the color temperature of the light source.



⚠ WARNING

- **Do not look directly into sunlight or other strong light when measuring. It may cause severe eye damage or even loss of vision.**

NOTICE

- **Damage and dirt on the Light Receptor ❶ can affect the precision of the measurement.**
- **If the Light Receptor ❶ becomes dirty, wipe it with a dry, soft cloth. Never use organic solvents such as thinner or benzene.**
- **When taking measurements, the C-4000 should be located at a distance that is approximately 10 times (10X) the diameter of the light source being measured.**
- **When measuring a light source, take the measurements in a situation where there is no reflections that could cause erroneous readings.**
  Light reflected from a ceiling, wall, or floor may influence with the measurement values.

5-2 Measure

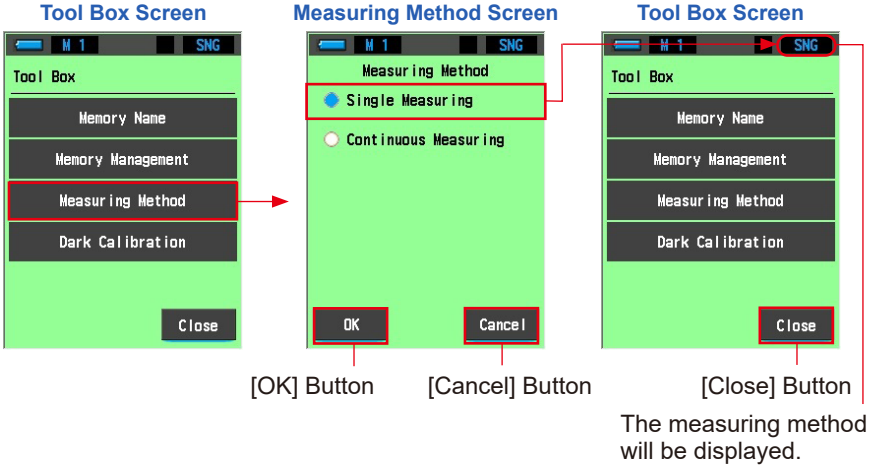
5-2-1 Single Measuring

Measure the brightness of a light source when the Measuring Button is pressed. This is effective when the brightness of the light source is constant.

Operation

1. Touch the [Measuring Method] Button in the Tool Box Screen.

The Measuring Method Screen will be displayed. (➡ P73)



2. Select [Single Measuring].

Selection is possible by touching the radio button of the item, or its surrounding area.

The selected radio button lights in blue.

(* This is set to single measuring (SNG) by factory default.)

3. Touch the [OK] Button.

If you touch the [OK] Button, the setting is confirmed and the Tool Box Screen is redisplayed.

If you touch the [Cancel] Button, the setting is canceled and the Tool Box Screen is redisplayed.

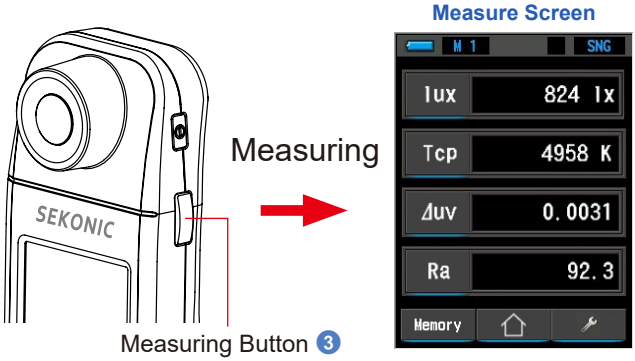
4. Touch the [Close] Button.

If you touch the [Close] Button, the setting is confirmed and the Measure Screen is redisplayed.

5. From the Measure Screen, press the Measuring Button ❸ on the side of the meter to start measuring.

Measurement value at the time when the Measuring Button ❸ is pressed is displayed.

While the button is held, the meter measures continuously. When the button is released, measurement ends and the measurement value at the time of release is displayed.



Single measuring has completed.

NOTICE

- **To get accurate color from a light source, make sure not to get bounced or reflected light from a colored surface, or another light to the Light Receptor ❶.**
- **Take a measurement by facing the Light Receptor towards the light source.**

NOTE

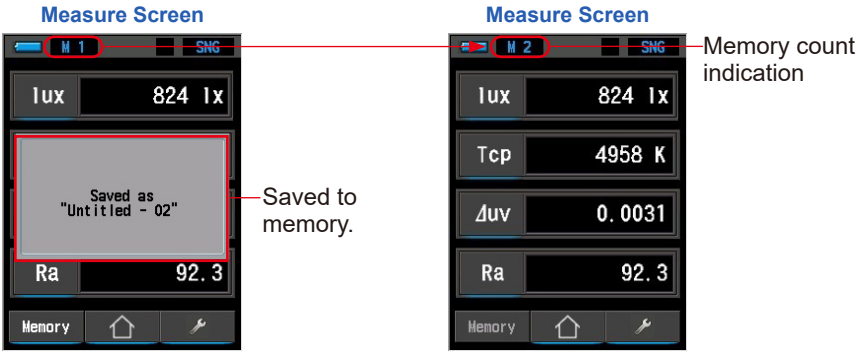
- If a measurement is made beyond the measurement range, [Over] (or [Under]) will be displayed to indicate that the measurement is outside the measurement range.
- Measurement and display will take longer in light levels below 30 lx (2.79 fc).
- The LCD backlight will dim while measuring to avoid influence to measurement. It is not a defect.

6. Touch the [Memory] Button in the Measure Screen.

Memorize the measurement values.

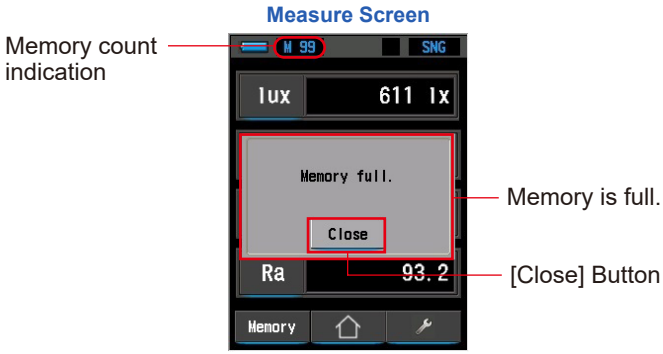
When they are saved, the message "Saved as" is displayed.

Then, the memory count is updated on the status bar.



NOTE

- Memory count warning
  Up to 99 memories can be stored in the meter. If you attempt to save a 100th measurement value, the warning message "Memory Full" is displayed on the screen and saving to memory is not possible.



Return to the Measure Screen by touching the [Close] Button.
To save measurements, delete the memory of measurement values using [Memory Clear] and then try saving again. (➡ P66)

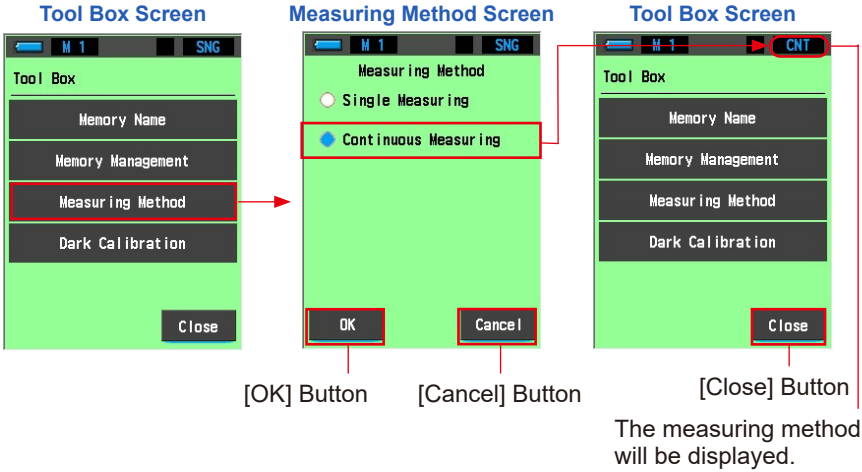
5-2-2 Continuous Measuring

Select continuous measuring when its necessary to measure a light source with variations in light output or uneven illumination.

Operation

1. Touch the [Measuring Method] Button in the Tool Box Screen.

The Measuring Method Screen will be displayed. (➡ P73)



2. Select continuous measuring.

Selection is possible by touching the radio button of the item, or its surrounding area.

The selected radio button lights in blue.

3. Touch the [OK] Button.

If you touch the [OK] Button, the setting is confirmed and the Tool Box Screen is redisplayed.

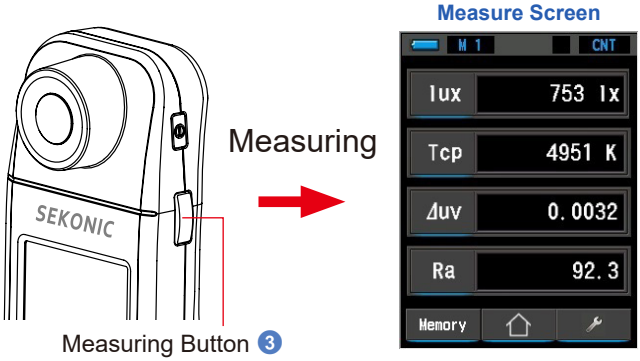
If you touch the [Cancel] Button, the setting is canceled and the Tool Box Screen is redisplayed.

4. Touch the [Close] Button.

If you touch the [Close] Button, the setting is confirmed and the Measure Screen is redisplayed.

5. From the Measure Screen, press the Measuring Button ❸ on the side of the meter to start measuring.

Press the Measuring Button ❸ again to stop measuring and the last measured value is displayed. Measurement repeats continuously until it is stopped.



Continuous measuring has completed.

NOTICE

- **To get accurate color from a light source, make sure not to get bounced or reflected light from a colored surface, or another light to the Light Receptor ❶.**
- **Take a measurement by facing the Light Receptor towards the light source.**
- **During continuous measuring, Automatic Power OFF Function is disabled.**

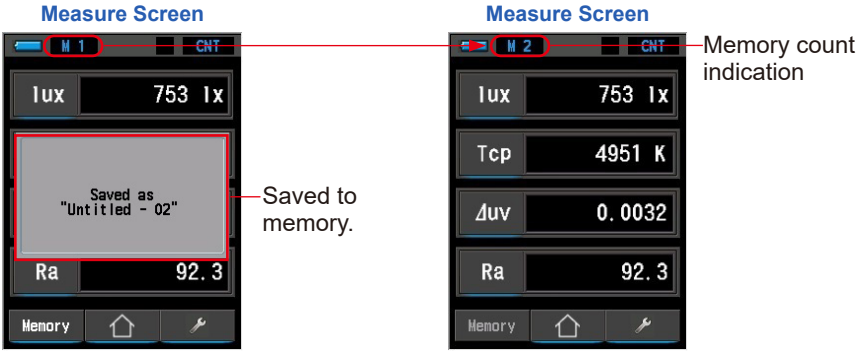
NOTE

- If a measurement is made beyond the measurement range, [Over] (or [Under]) will be displayed to indicate that the measurement is outside the measurement range.
- Measurement and display will take longer in light levels below 30 lx (2.79 fc).
- The LCD backlight will dim while measuring to avoid influence to measurement. It is not a defect.

6. Touch the [Memory] Button in the Measure Screen.

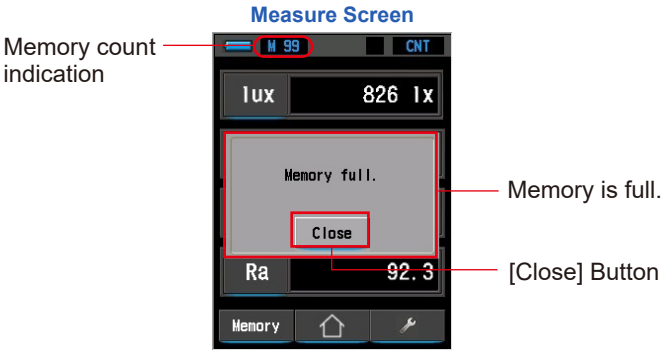
Memorize the measurement values.

When they are saved, the message "Saved as" is displayed. Then, the memory count is updated on the status bar.



NOTE

- Memory count warning
  Up to 99 memories can be stored in the meter. If you attempt to save a 100th measurement value, the warning message "Memory Full" is displayed on the screen and saving to memory is not possible.



Return to the Measure Screen by touching the [Close] Button.
To save the measurement value, delete the memory using [Memory Clear] and then try saving again. (➡ P66)

5-3 Measure (app)

You can operate the meter remotely and view graphs from your smartphone or tablet by connecting to the smartphone app (dedicated app SEKONIC LD, hereinafter referred to as "SEKONIC LD").
Before using Bluetooth, carefully read "Notes on Using the Bluetooth® Function" and "Safety Precautions" to ensure proper operation.
Download SEKONIC LD from App Store or Play Store.

Preparation

1. Install SEKONIC LD on your smartphone.

Download SEKONIC LD from App Store or Play Store.

Download on the App Store

GET IT ON Google Play

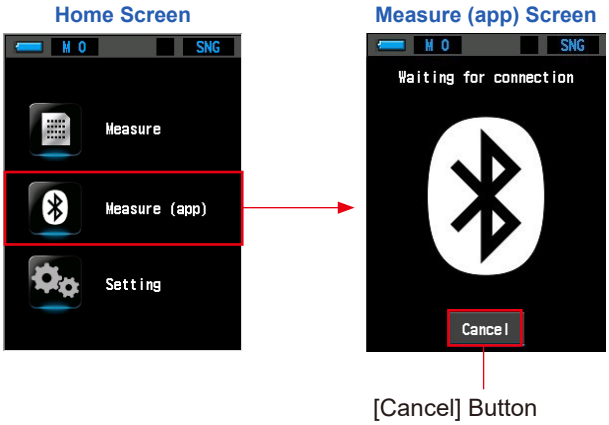
App Store

Play Store

Operation

1. Touch the [Measure (app)] Icon on the Home Screen.

The Measure (app) Screen appears.



2. "Waiting for connection" is displayed.

A search is made for a device to connect.

Touch the [Cancel] Button to return to the Home Screen if the search does not find a smartphone or tablet device.

3. Start SEKONIC LD.

If connecting succeeds, the screen switches to the [Connect with "(Host Name)"] Screen.

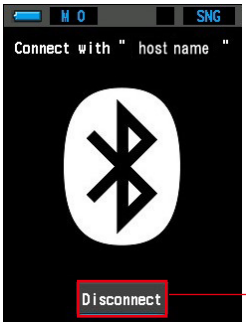
4. [Connect with "(Host Name)"] is displayed.

This is displayed when a connection has been established.

The name of the connection device is displayed for the host name.

To stop the connection, touch the [Disconnect] Button. Returns to the Home Screen.

Measure (app) Screen

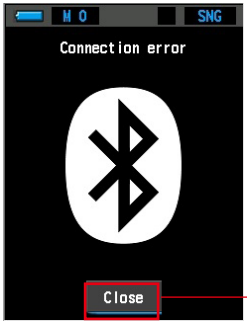


[Disconnect] Button

Connecting has completed.

When the Following Screen is Displayed

Measure (app) Screen



[Close] Button

1. "Connection error" is displayed.

The connection device could not be found.

2. Touch the [Close] Button.

Touch the [Close] Button to return to the Home Screen.

Check the Bluetooth settings on your smartphone and then try connecting again.

Functions of SEKONIC LD

When you use SEKONIC LD, the following functions are enabled.
For details on each function, refer to the app manual.

Item	Content	Free	Paid
Connect with the meter	Connect to the meter from the app via Bluetooth (Ver. 5.0).	○	○
Remote measurement	Instruct the meter connected via Bluetooth to perform measurement.	○	○
Save meter measurement results	Receive the measurement results from the meter and save it in the app.	○	○
Import memory data from the meter	Receive the memory data from the meter and save it in the app.	○	○
Measuring Method	Set the measuring method (single measuring or continuous measuring) of the meter from the app.	○	○
Set illuminance unit	Set the illuminance unit (lx or fc) to the meter * Models sold in some countries do not display illuminance in "fc" due to legal restrictions.	○	○
Display graphs	Display four graph types: spectrum, CRI, CIE1931, and TM-30.	○	○
Display measurement data list	Display a list of measurement results when remote measurement is executed.	○	○
Input character types	Single-byte alphanumeric characters and single-byte symbols (space, hyphen, period).	○	○
	Characters that can be entered on the smartphone in addition to single-byte alphanumeric characters and symbols except three symbols mentioned above.	×	○
Register additional information in measurement data	Link and register the following information in the measurement data. • Memo for measured data • Captured image • GPS location information (MAP image)	×	○
Plot measurement values	Plot measurement values on the lighting layout (image or PDF format) imported from the smartphone.	×	○
Report output	Create simple report in the app using measured data and linked images. (CSV format, PDF format)	×	○
Data sharing	Send and share measured data and PDF reports with the communication function of your smartphone.	×	○

5-4 When [Over] or [Under] is Displayed

When [Over] or [Under] is displayed, the light source is out of measuring range.

5-4-1 Display of [Over] or [Under]

When [Over] is displayed:
The value is higher than the measurement range (too bright or color temperature is too high) of the meter.

When [Under] is displayed:
The value is lower than the measurement range (too dark or color temperature is too low) of the meter.

- Measurement and display will take longer in light levels below 30 lx (2.79 fc).
- The LCD backlight will dim while measuring to avoid influence to measurement. It is not a defect.

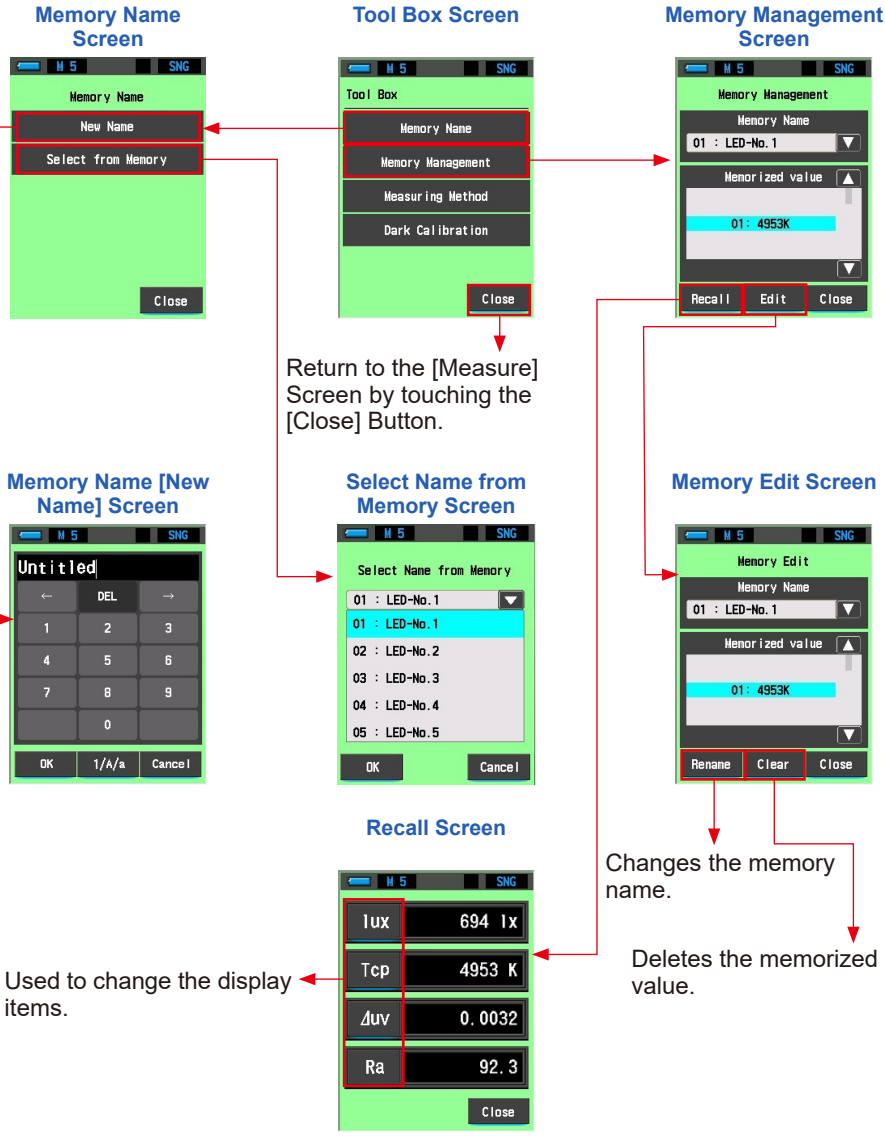
6. Measurement Tool [Tool Box]

Selecting Screens from the Tool Box

Touch the [ ] icon in the Measure Screen to display the Tool Box Screen. (➡ P18) You can select screens from the Tool Box as follows.

6-1 Using the Memory Function

The Memory Function enables storing light source data for single sources and groups of sources for recall at any time. Up to 99 measurement values can be stored. Memory function also enables naming or renaming the name of memory and clearing the stored value.



6-1-1 Naming the Measurement Values to Be Saved [Memory Name] Screen

You can name the measurement values to be saved.
Entering light source names, dates and times, or other information makes the management of saved measurement values easier.

To use this function, please follow the steps below:

- Create memory name
- Measure light source
- Touch the [Memory] Button

Memory Name Screen

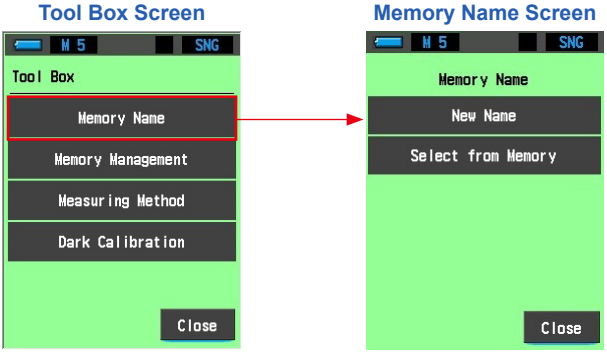
NOTE

- A name can be a maximum of 16 alphanumeric characters.
- More than one measurement can be stored under one name.
- Up to 99 new memory names can be created.

Operation

1. Touch the [Memory Name] Button in the Tool Box Screen.

The Memory Name Screen will be displayed.

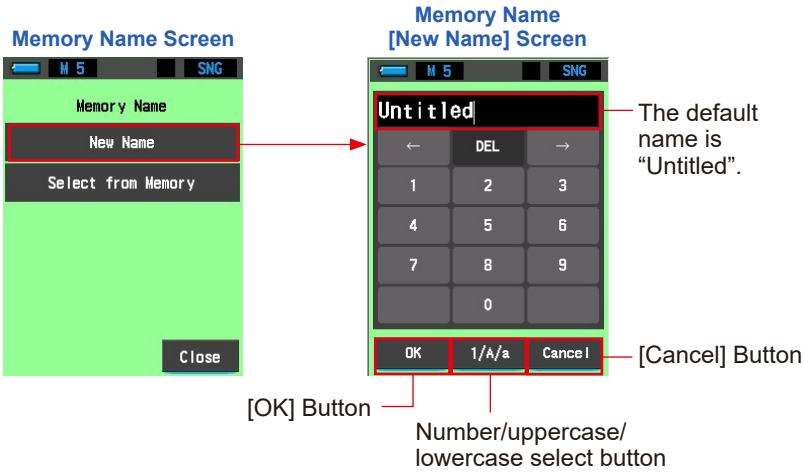


2. Touch either the [New Name] or [Select from Memory] Button on the Memory Name Screen.

When [New Name]

1. Touch the [New Name] Button on the Memory Name Screen.

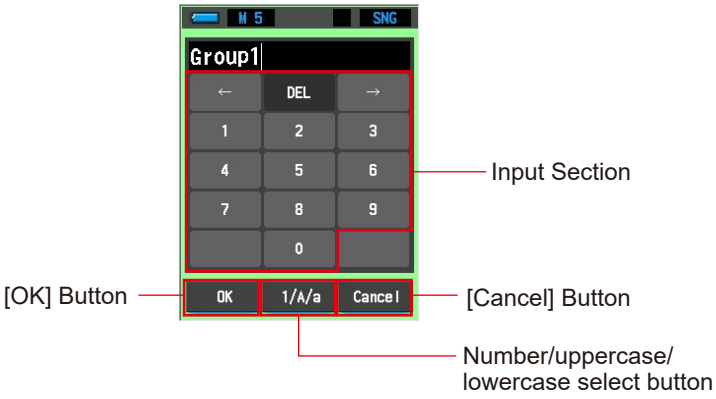
The New Name Screen is displayed.



2. Enter the memory name. (➡ P24)

Use the keyboard to create a name for the measured light.

Memory Name
[New Name] Screen

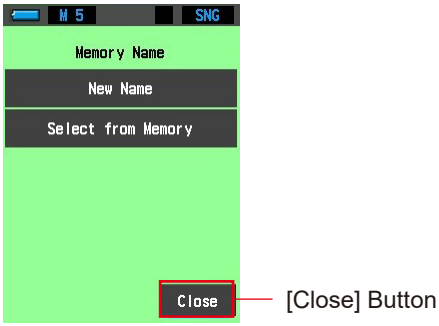


3. Touch the [OK] Button.

Confirms the settings and returns to the previous Memory Name Screen.

To return to the Memory Name Screen without confirming, touch the [Cancel] Button.

Memory Name Screen



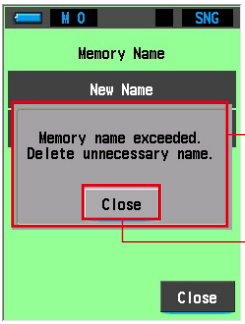
NOTICE

- **The memory name needs to be entered before memorizing the measurement values.**
- **The memory name can be changed after memorizing in Memory Management function. (➡ P62)**

NOTE

- Memory name count warning
  Up to 99 memory names can be created. If you attempt to create a new name from the 100th name, the warning message "Memory name exceeded. Delete unnecessary name." is displayed on the screen and the new name cannot be created.

Memory Name Screen



Memory name exceeded. Delete unnecessary name. (Only up to 99 memory names can be created.)

[Close] Button

Touch the [Close] Button to return to the Memory Name Screen.
To create a new memory name, delete unnecessary names from the Memory Management Screen and then try again. (➡ P68)

4. Touch the [Close] Button in the Memory Name Screen.

Confirm and return to the Tool Box Screen.

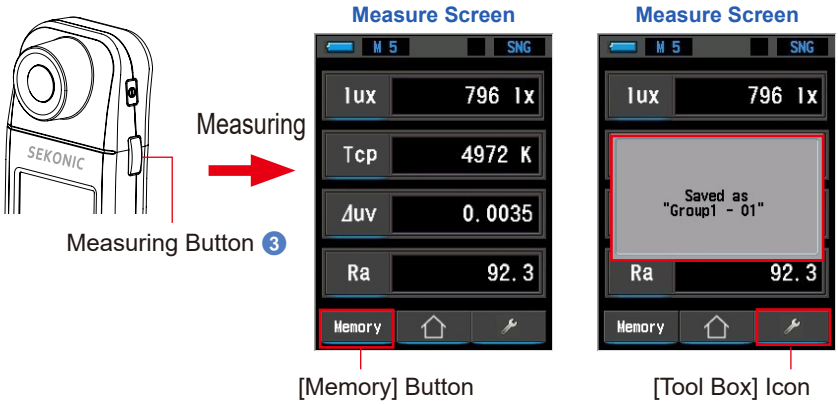
To return to the Tool Box Screen without confirming, touch the [Cancel] Button.

5. Touch the [Close] Button in the Tool Box Screen.

Returns to the Measure Screen.

6. Measure light.

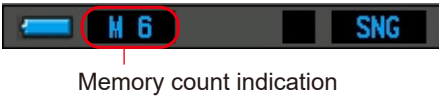
Press Measuring Button ③ to take a measurement.



7. If you touch the [Save] Button on the Measure Screen, “Saved as” is displayed. The measurement values are saved and linked to the entered memory name.

The memory count is reflected on the status bar.

Status Bar

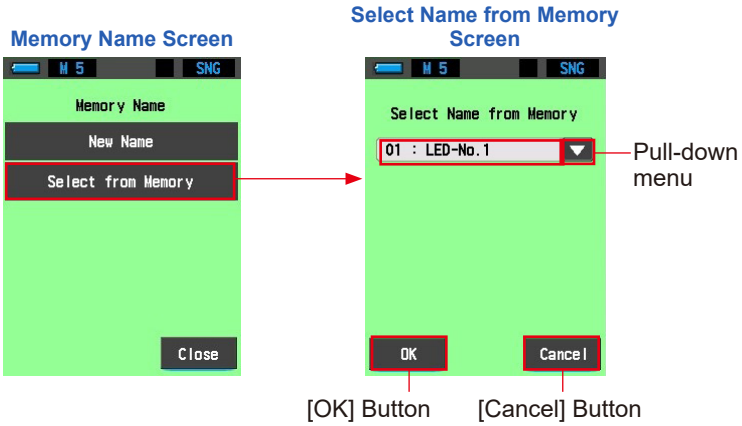


8. To check the measurement values, touch [ ] and select [Memory Management]. (➡ P55)

When [Select from Memory]

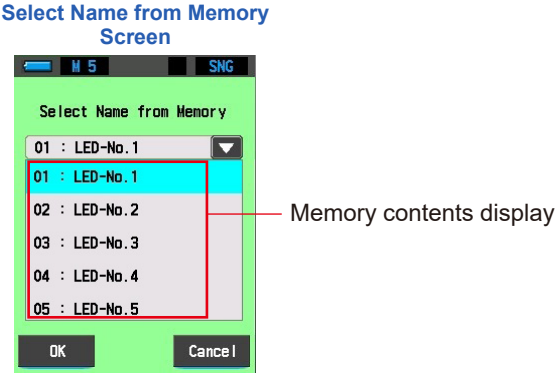
1. Touch the [Select from Memory] Button on the Memory Name Screen.

The Select Name from Memory Screen is displayed.



2. Select a memory name from the Select Name from Memory Screen.

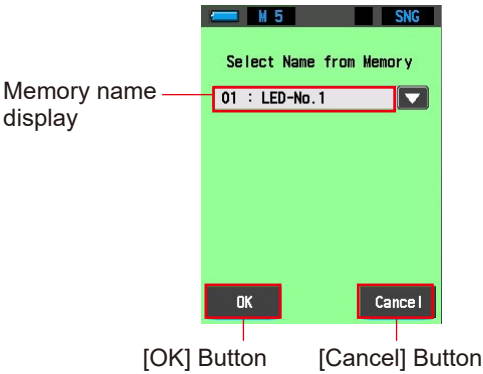
A memory name can be displayed and selected in the pull-down menu.



3. Touch the memory name to select.

The selected name is displayed in the name display area.

Select Name from Memory Screen

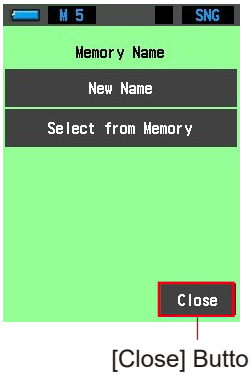


4. Touch the [OK] Button.

Confirms the settings and returns to the previous Memory Name Screen.

To return to the Memory Name Screen without selecting, touch the [Cancel] Button.

Memory Name Screen



NOTICE

- **The memory name can be changed after memorizing in Memory Management function. (➡ P62)**

5. Touch the [Close] Button in the Memory Name Screen.

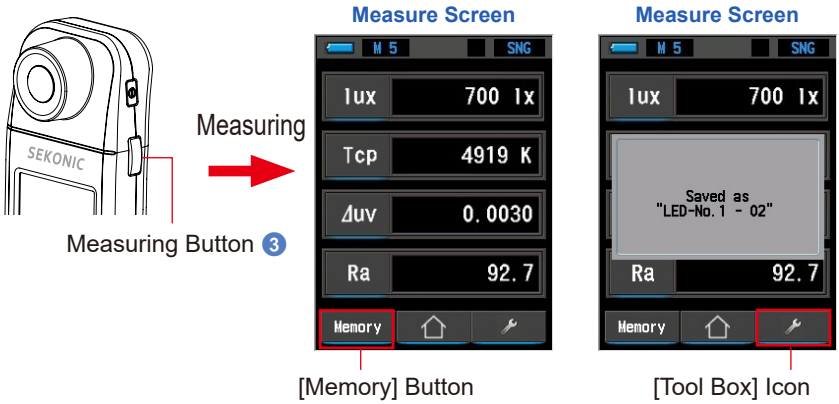
Confirm and return to the Tool Box Screen.

6. Touch the [Close] Button in the Tool Box Screen.

Returns to the Measure Screen.

7. Measure light.

Press Measuring Button ❸ to take a measurement.



8. If you touch the [Save] Button on the Measure Screen, “Saved as” is displayed. The measurement values are saved and linked to the entered memory name.

The memory count is reflected on the status bar.

Status Bar

9. To check the measurement values, touch [ ] and select [Memory Management]. (➡ P55)

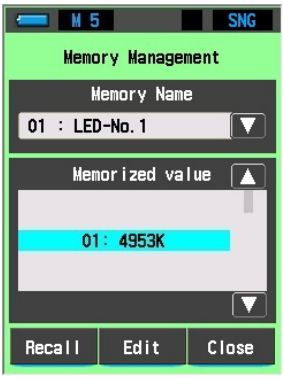
NOTE

- Memory count warning
  Up to 99 memories can be stored in the meter. If you attempt to save a 100th measurement value, the warning message "Memory Full" is displayed on the screen and saving to memory is not possible.

6-1-2 Managing Memory [Memory Management] Screen

Memorized measurement values can be recalled with [Recall] on the Memory Management Screen.
You can edit or delete a memorized name with [Edit].

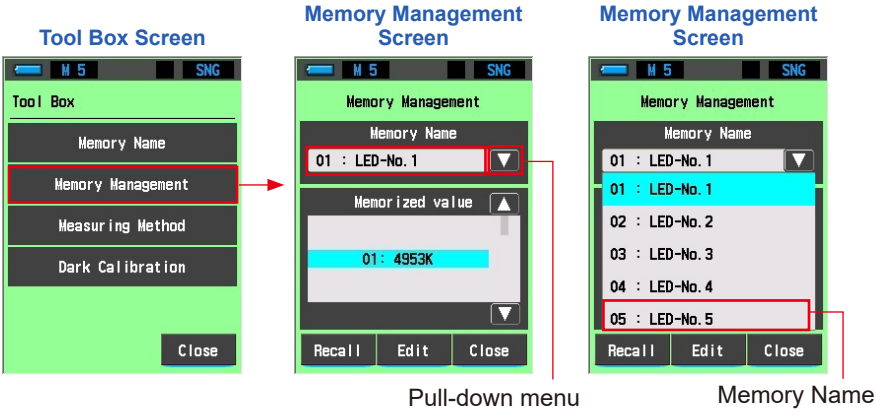
Memory Management Screen



Operation

1. Touch the [Memory Management] Button in the Tool Box Screen.

The Memory Management Screen will be displayed.

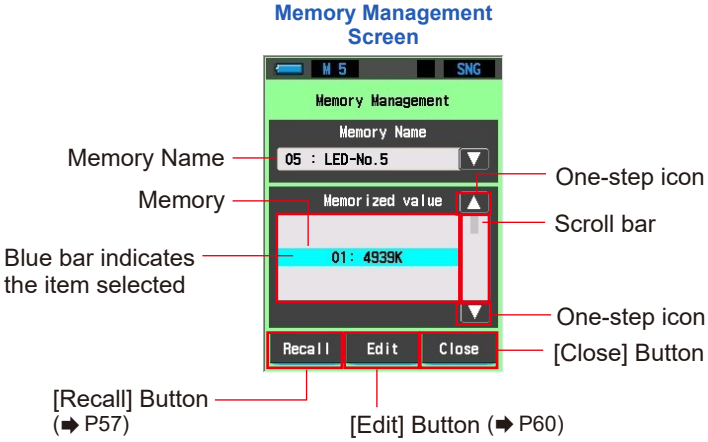


2. Select the memory name from the Memory Management Screen.

A memory name can be displayed and selected in the pull-down menu.

3. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The memory can be set.



4. Touch either the [Recall] or [Edit] Button.

6-1-3 Recalling Saved Measurement Results [Recall] Screen

The memorized measurement values can be recalled by touching the [Recall] Button on the Memory Management Screen. The memory values recalled by [Recall] during memory management are redisplayed in text mode.
* When using the smartphone app, you can change the display mode.

Recall Screen

Operation

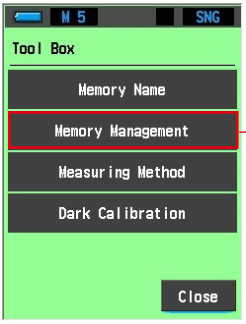
1. Touch the [Memory Management] Button in the Tool Box Screen.

The Memory Management Screen will be displayed.

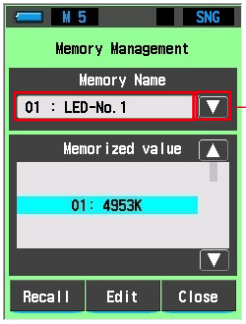
2. Select a memory name from the Select Name from Memory Screen.

A memory name can be displayed and selected in the pull-down menu.

Tool Box Screen

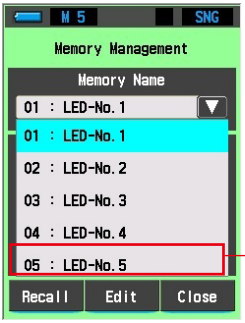


Memory Management Screen



Pull-down menu

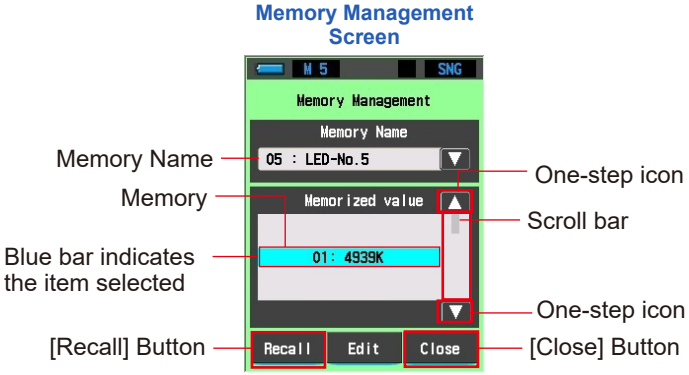
Memory Management Screen



Memory Name

3. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The memory to recall can be set.



4. Touch the [Recall] Button.

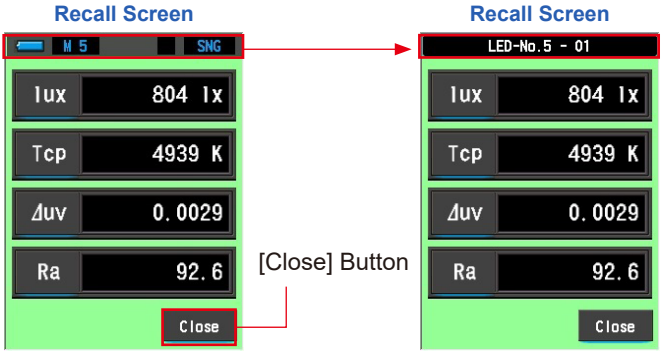
The contents are confirmed, and the screen switches to the Measure Screen in Recall Mode.

To return to the Tool Box Screen without confirming, touch the [Close] Button.

5. Confirm the memory contents.

In Recall Mode, the background color becomes green.

The display is switched between the status bar and memory name every two seconds while the Recall Screen is displayed.



NOTICE

- **In Recall Mode, measurement cannot be made.**

6. Touch the [Close] Button.

Returns to the Memory Management Screen.

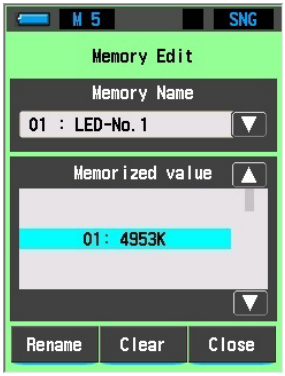
7. Touch the [Close] Button.

Return to the Tool Box Screen.

6-1-4 Changing the Memory Contents [Memory Edit] Screen

The name of memorized measurement values can be changed or deleted.

Memory Edit Screen



Operation

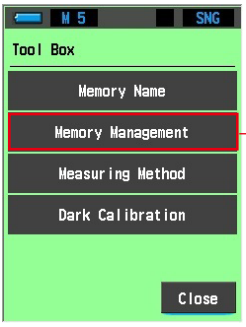
1. Touch the [Memory Management] Button in the Tool Box Screen.

The Memory Management Screen will be displayed.

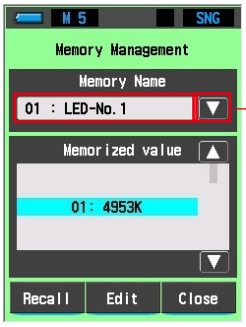
2. Select the memory name from the Memory Management Screen.

A memory name can be displayed and selected in the pull-down menu.

Tool Box Screen

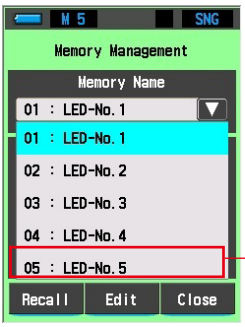


Memory Management Screen



Pull-down menu

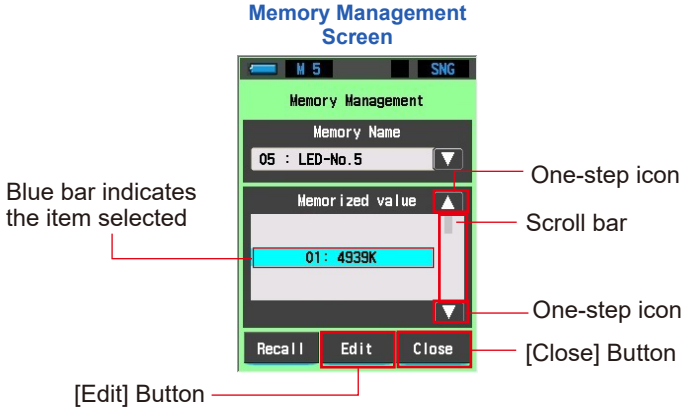
Memory Management Screen



Memory Name

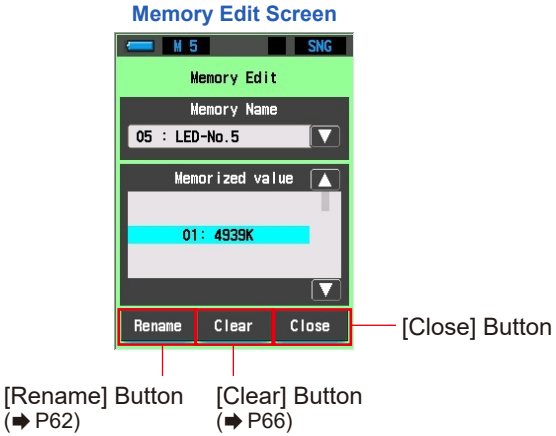
3. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The memory to edit can be set.



4. Touch the [Edit] Button.

Memory Edit Screen will be displayed.



6-1-5 Renaming Memory Name [Memory Rename] Screen

The name of measurement values of the memory can be changed.

Memory Rename Screen

Operation

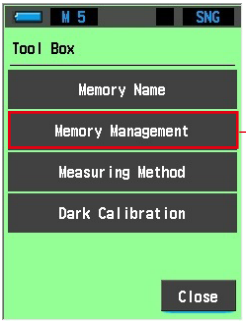
1. Touch the [Memory Management] Button in the Tool Box Screen.

The Memory Management Screen will be displayed.

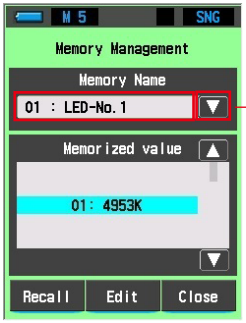
2. Select the memory name from the Memory Management Screen.

A memory name can be displayed and selected in the pull-down menu.

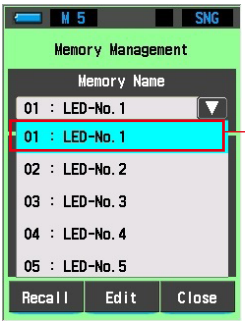
Tool Box Screen



Memory Management Screen



Memory Management Screen

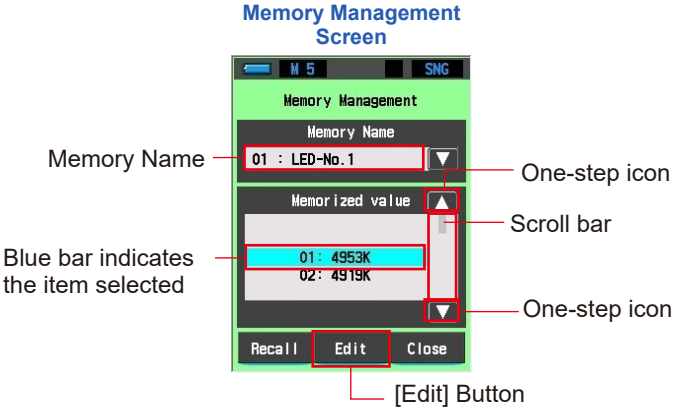


Pull-down menu

Memory Name

3. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The memory to change can be set.

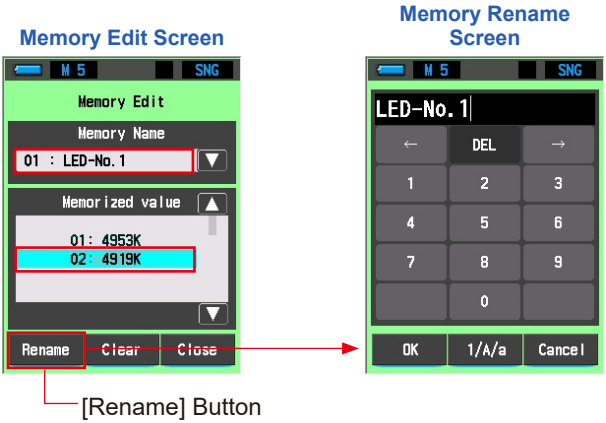


4. Touch the [Edit] Button.

Memory Edit Screen will be displayed.

5. Touch the [Rename] Button.

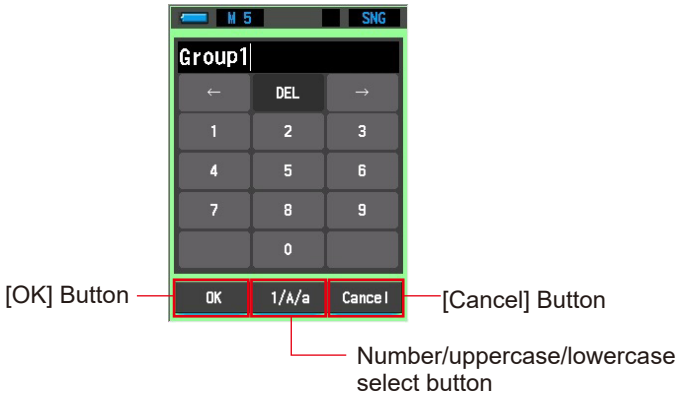
Memory Rename Screen will be displayed.



6. Enter the memory name to change. (➡ P24)

Use the keyboard to create a name for the measured light.

Memory Rename Screen

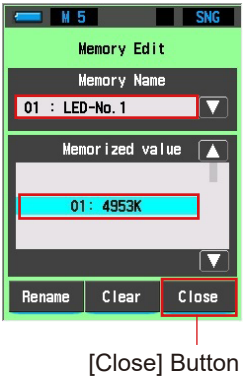


7. Touch the [OK] Button.

Confirm and return to the Memory Edit Screen.

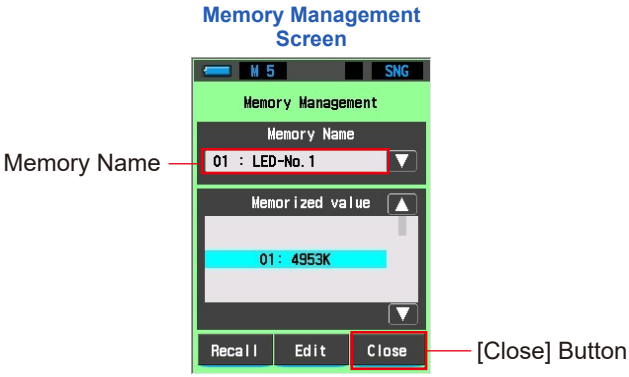
To return to the Memory Edit Screen without confirming, touch the [Cancel] Button.

Memory Edit Screen



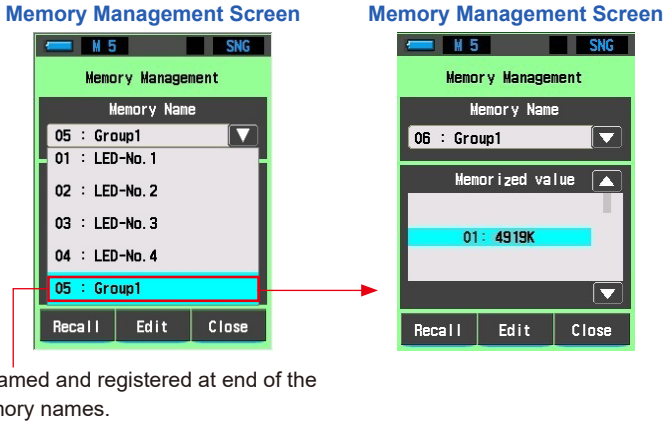
8. Touch the [Close] Button.

Returns to the Memory Management Screen.



NOTE

- The renamed screen is registered at the end of the memory names.



- Memory name count warning
  If you attempt to rename a memory when there are 99 names, the warning message "Memory name exceeded. Delete unnecessary name." is displayed. Delete unnecessary memory names. (➡ P70)

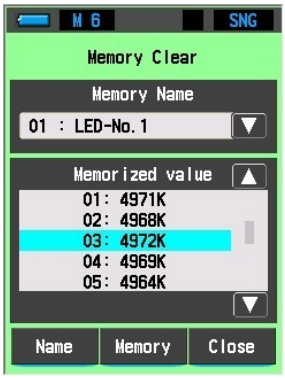
9. Touch the [Close] Button in the Memory Management Screen.

Return to the Tool Box Screen.

6-1-6 Deleting Saved Measurement Results [Memory Clear] Screen

You can delete individual or all (batch) memorized measurement values.
In Memory Clear, names and memory contents (memory numbers and measurement values) are displayed in the registered order.

Memory Clear Screen



Operation

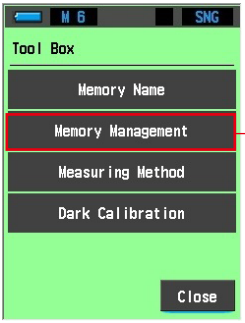
1. Touch the [Memory Management] Button in the Tool Box Screen.

The Memory Management Screen will be displayed.

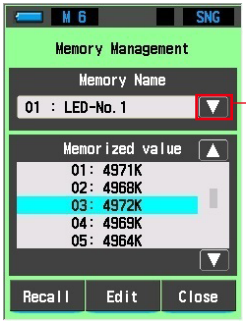
2. Select the memory name from the Memory Management Screen.

A memory name can be displayed and selected in the pull-down menu.

Tool Box Screen



Memory Management Screen



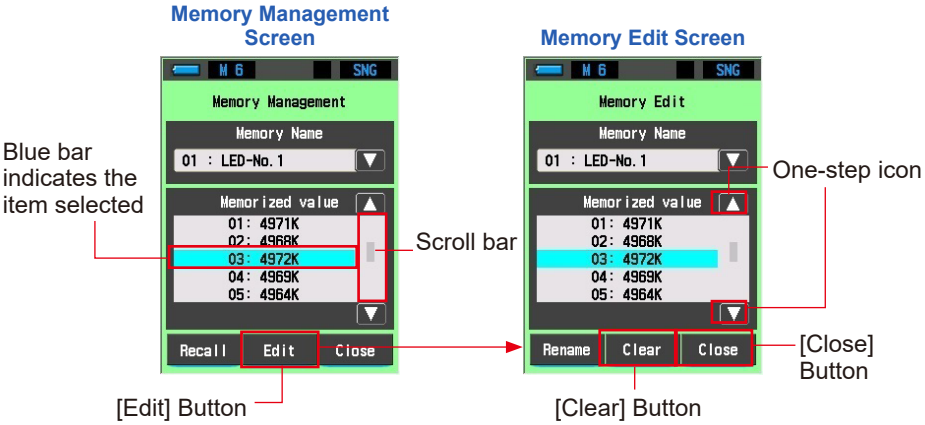
Pull-down menu

3. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The memory to clear can be set.

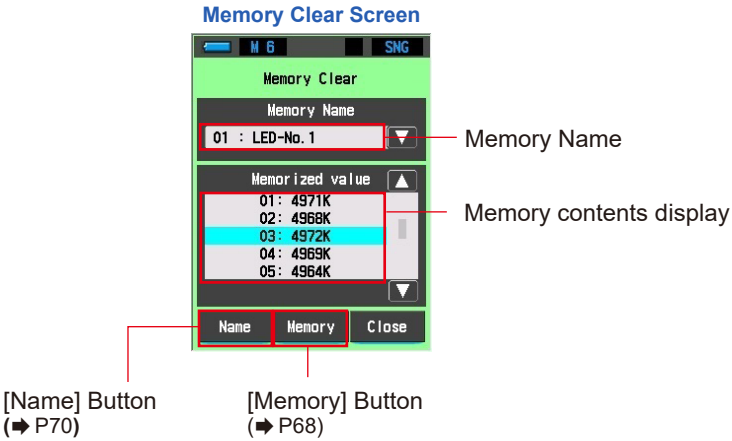
4. Touch the [Edit] Button.

Memory Edit Screen will be displayed.



5. Touch the [Clear] Button in the Memory Edit Screen.

Memory Clear Screen will be displayed.

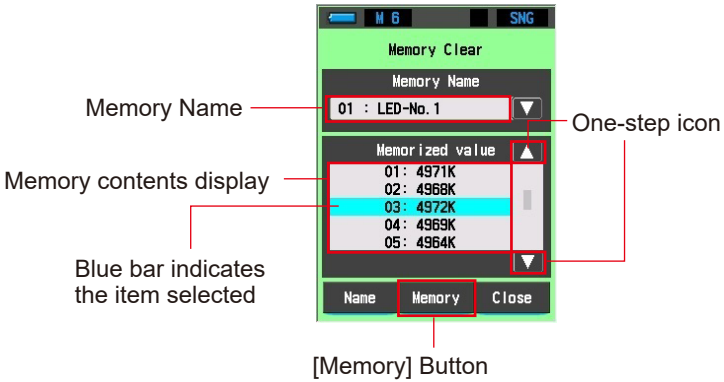


When clearing memories individually

1. Align a memory in the selected memory name with the background blue position using the one-step icon or scroll bar.

The individual memory to delete can be set.

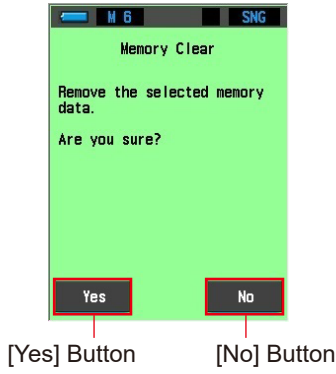
Memory Clear Screen



2. Touch the [Memory] Button.

This will display the Memory Clear Confirmation Screen. The message “Remove the selected memory data. Are you sure?” will be displayed.

Memory Clear Confirmation Screen

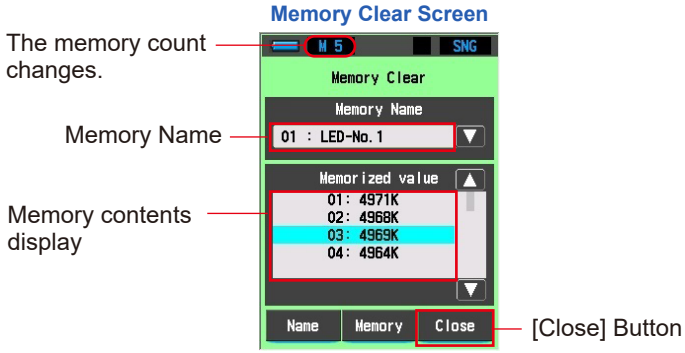


3. Touch the [Yes] Button.

After deletion is finished, the memory numbers are updated in sequence automatically and the Memory Clear Screen is redisplayed.

You can delete other memories by repeating steps 1 to 3.

If you do not want to delete the memorized values, touch the [No] Button. Returns to the Memory Clear Screen.

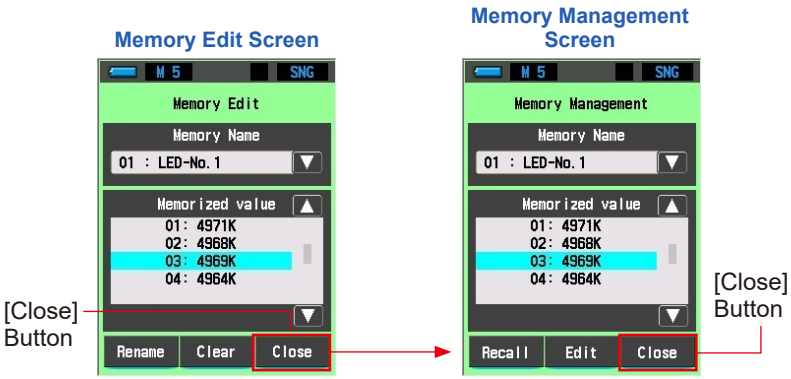


4. Touch the [Close] Button.

Returns to the Memory Edit Screen.

5. Touch the [Close] Button.

Returns to the Memory Management Screen.



6. Touch the [Close] Button.

Return to the Tool Box Screen.

If you will not delete other memories, touch the [Close] Button.

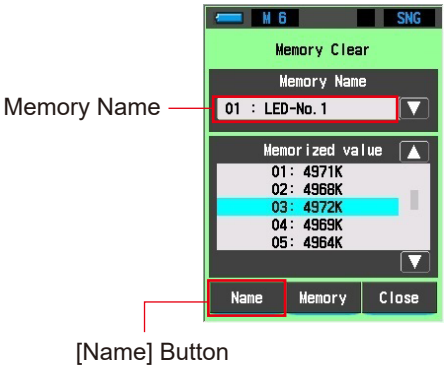
Return to the Tool Box Screen.

When clearing an entire memory name all at once

1. Select the memory name to be deleted and align it with the background blue position.

Select the “Memory Name” to be deleted.

Memory Clear Screen

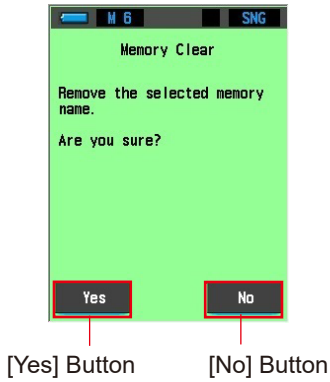


2. Touch the [Name] Button.

This will display the Memory Clear Confirmation Screen. The message “Remove the selected memory name. Are you sure?”will be displayed.

The memory name and all memories linked with it will be deleted.

Memory Clear Confirmation Screen

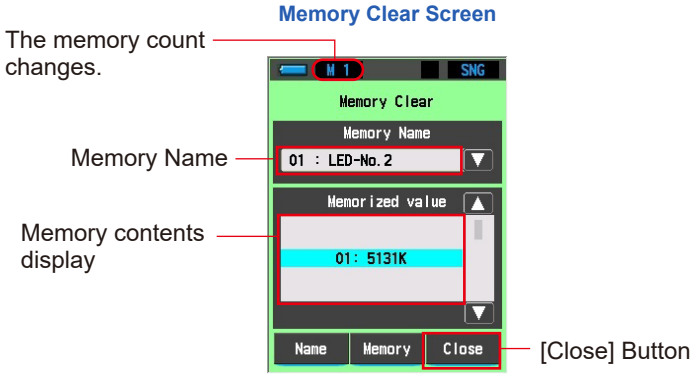


3. Touch the [Yes] Button.

Returns to the Memory Clear Screen after deletion.

The process may require time depending on the number of memories to be deleted.

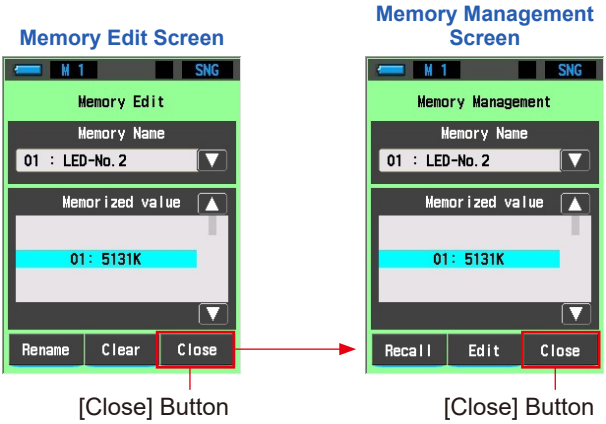
If you do not want to delete the memorized values, touch the [No] Button. Returns to the Memory Clear Screen.



4. Touch the [Close] Button.

Returns to the Memory Edit Screen.

5. Touch the [Close] Button.



6. Touch the [Close] Button.

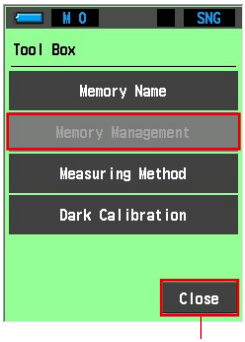
If you will not delete other memory names, touch the [Close] Button.

Return to the Tool Box Screen.

NOTE

- When the only memory name that was set is deleted
  Since all of the memories in the memory name will be deleted, the [Memory Management] Button on the Tool Box Screen is grayed out and cannot be selected. Also, the memory name is restored to the default setting of “Untitled”. To save it, preset the name.

Tool Box Screen

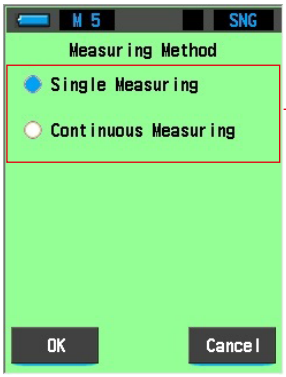


[Close] Button

6-2 Selecting Measuring Method [Measuring Method] Screen

Set a measuring method from single measuring or continuous measuring.

Measuring Method Screen



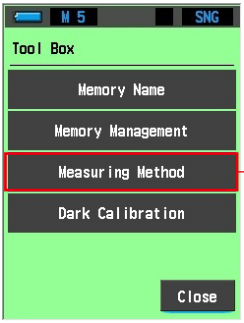
Select one of the radio buttons.

Operation

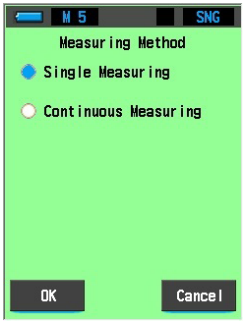
1. Touch the [Measuring Method] Button in the Tool Box Screen.

The Measuring Method Screen will be displayed.

Tool Box Screen



Measuring Method Screen



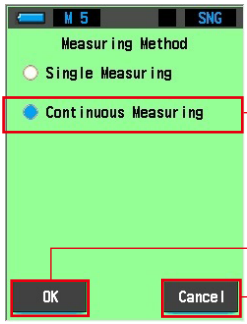
2. Select the desired measuring method.

Select Single Measuring (SNG) or Continuous Measuring (CNT).

Make the selection by touching one of the radio buttons. Selection is also possible by the touching the surrounding area.

The selected radio button is displayed in blue.

Measuring Method Screen



The selected radio button turns blue.

[OK] Button

[Cancel] Button

3. Touch the [OK] Button.

Confirm and return to the Tool Box Screen.

To return to the Tool Box Screen without confirming, touch the [Cancel] Button.

Tool Box Screen

The measuring method will be displayed.

[Close] Button

The setting is reflected on the status bar, and the measuring method is set.

4. Touch the [Close] Button.

Returns to the Measure Screen.

NOTE

[Single Measuring]

- Measurement value at the time when the Measuring Button 3 is pressed is displayed. Measuring continues while you keep the button pressed, and the measurement values are displayed when you release the button.
- It is useful to measure multiple light sources and memorize them.

[Continuous Measuring]

- Press the Measuring Button 3 to start measuring, and press the Measuring Button again to complete measuring to display the last measurement value.
- Use this method to measure the variations of light sources or the light distribution unevenness of lighting.

Single Measuring (SNG)

1. When single measuring is selected, [SNG] appears on the status bar.

Status Bar

Continuous Measuring (CNT)

1. When continuous measuring is selected, [CNT] appears on the status bar.

Status Bar

NOTICE

- **To get accurate color from a light source, make sure not to get bounced or reflected light from a colored surface, or another light to the Light Receptor 1.**
- **Take a measurement by facing the Light Receptor towards the light source.**
- **During continuous measuring, Automatic Power OFF Function is disabled.**

6-3 Performing Dark Calibration [Dark Calibration] Screen

Dark calibration is performed when new batteries are used, 24 hours have passed since the last use or there is a big change in temperature between the time the meter was turned OFF and ON. Except in the cases above, dark calibration is skipped when turning the meter ON. If you questions the measurement values you can perform a dark calibration manually.

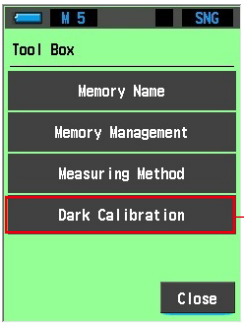
Dark Calibration Screen

Operation

1. Touch the [Dark Calibration] Button in the Tool Box Screen.

The message “Dark calibration. Please cover the light receptor with the cap.” is displayed.

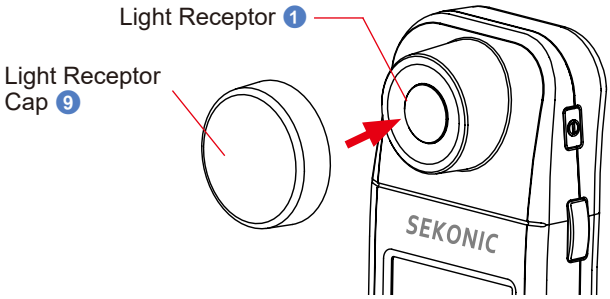
Tool Box Screen



Dark Calibration Screen

[Yes] Button [No] Button

2. Attach the Light Receptor Cap ⑨ to the Light Receptor ①.

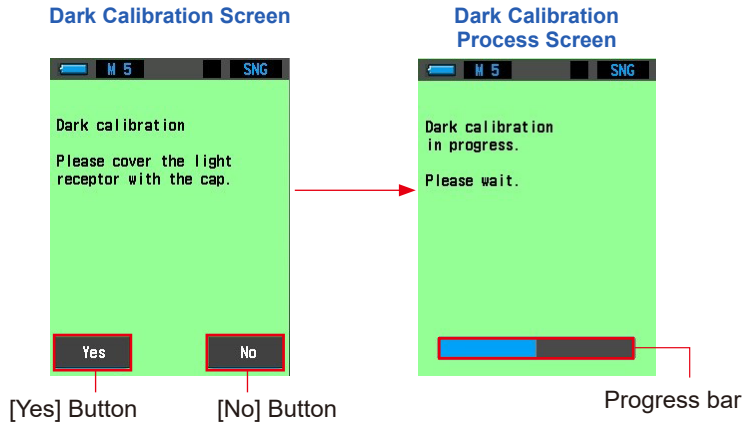


3. Touch the [Yes] Button.

Dark calibration starts, and the message "Dark calibration in progress. Please wait." is displayed on the screen during dark calibration.

When dark calibration finishes, the Tool Box Screen is redisplayed.

To return to the Tool Box Screen without performing dark calibration, touch the [No] Button.



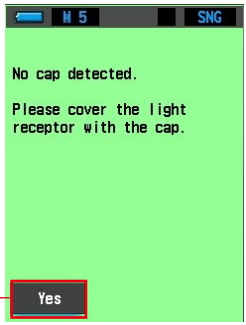
Dark calibration is completed.

NOTICE

- **While the message "Dark calibration in progress. Please wait." or the progress bar is displayed, do not turn the power OFF.**

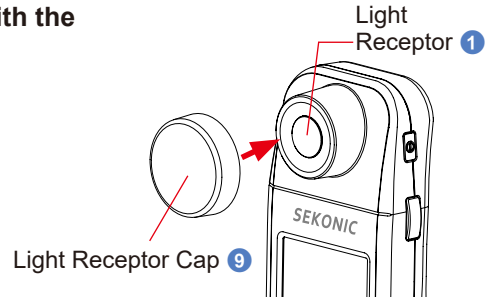
When the Following Screen is Displayed

Dark Calibration Screen



1. Cover the Light Receptor ❶ with the Light Receptor Cap ❾.

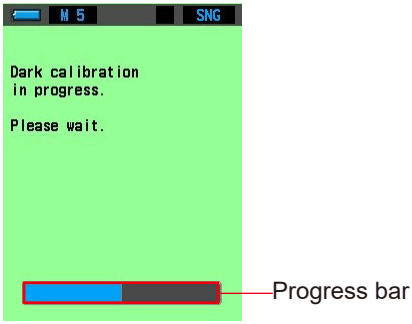
If the message “No cap detected. Please cover the light receptor with the cap.” is displayed, cover the Light Receptor ❶ with the Light Receptor Cap ❾.



2. Touch the [Yes] Button.

Dark calibration resumes.

Dark Calibration Process Screen

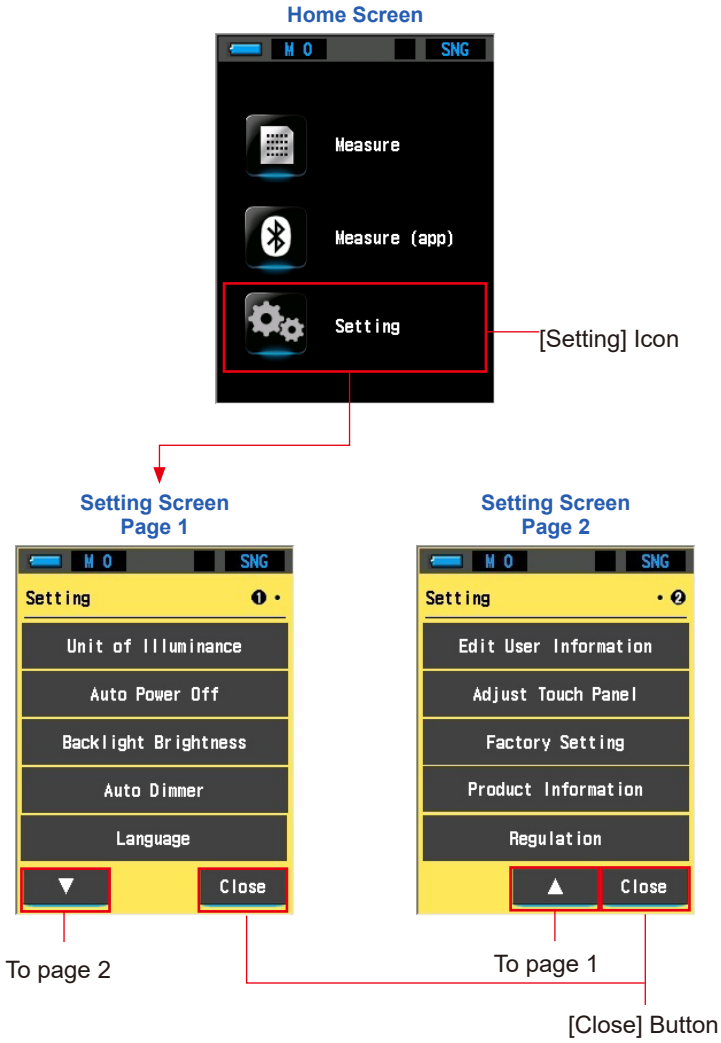


3. When dark calibration is finished, the Tool Box Screen is redisplayed.

7. Meter Settings [Setting] Screen

7-1 Setting Items

Here you can customize your meter for your preference in advance.



Operation

1. Touch to select the [Setting] Icon on the Home Screen.

The Setting Screen will be displayed.

2. Touch [▲][▼] to display the desired page.

3. Touch the desired setting name.

That setting screen will be displayed.

4. Touch the [Close] Button.

Touch the [Close] Button to return to the Home Screen.

7-1-1 Item List

The Setting Screen items are as follows.

Item Name	Description
Setting	
Unit of Illuminance	Select the unit from lx, fc or both when measuring illuminance. (➡ P83)
Auto Power Off	Select the time delay before the power automatically turns off after last use (5 min, 10 min, 20 min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated. (➡ P85)
Backlight Brightness	Select the LCD backlight brightness from dark, normal, or bright. (➡ P87)
Auto Dimmer	Select the time before the backlight dims after last use to save extra power. (20 sec, 40 sec, 60 sec, No Dimmer) (➡ P89)
Language	Select the language for display on the touch panel from six languages. (➡ P91)
Edit User Information	Edit user information can be entered in this screen. The user information is displayed on the Product Information Screen. (➡ P93)
Adjust Touch Panel	Adjust the position of touch panel display. (➡ P95)
Factory Setting	Returns all display and setting contents to the factory default. (➡ P99)
Product Information	Displays the product information such as the model name, serial number, firmware version, and user information. (➡ P102)
Regulation	Displays the regulations for which this meter has received approval or is in compliance. (➡ P104)

7-1-2 Item Specifications

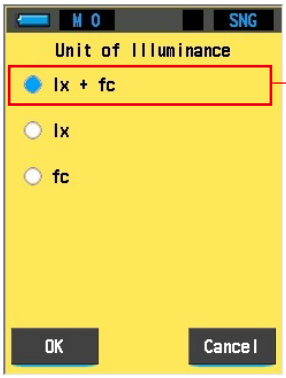
The specifications of each item are as follows.

No.	Setting Name	Item						(Default)
1	**Unit of Illuminance***	lx+fc	lx	fc	-	-	-	lx+fc
2	**Auto Power Off**	5 min	10 min	20 min	No Auto Power Off	-	-	5 min
3	**Backlight Brightness**	Dark	Normal	Bright	-	-	-	Normal
4	**Auto Dimmer**	20 sec	40 sec	60 sec	No Dimmer	-	-	20 sec
5	**Language**	Japanese	English	Spanish	German	French	Italian	Selected by default

7-1-3 Selecting the Unit of Illuminance

Select the unit when measuring illuminance.
* Models sold in some countries do not display illuminance "fc" due to legal restrictions. In this case, "Unit of Illuminance" Button will not appear in Setting screen.

Unit of Illuminance Screen

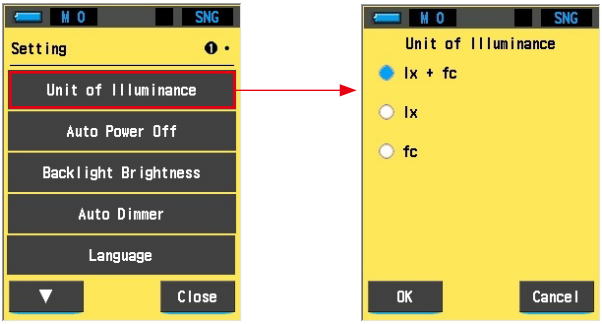


Operation

1. Touch the [Unit of Illuminance] Button on page 1 of Setting screen.

The unit of illuminance will be displayed.

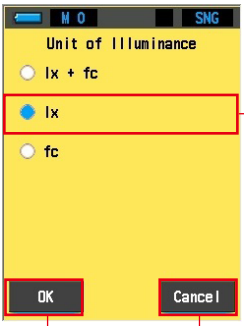
Setting Screen Page 1 → Unit of Illuminance Screen



2. Touch the [Unit of Illuminance] Button.

Select the unit of illuminance.

Unit of Illuminance Screen



The selected button will be displayed encircled in blue.

[OK] Button

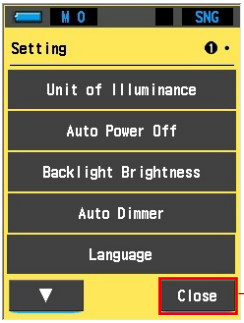
[Cancel] Button

3. Touch the [OK] Button.

Confirms the settings, and returns to Setting screen.

To return to the Setting screen without confirming, touch the [Cancel] Button.

Setting Screen Page 1



[Close] Button

The unit of illuminance is set.

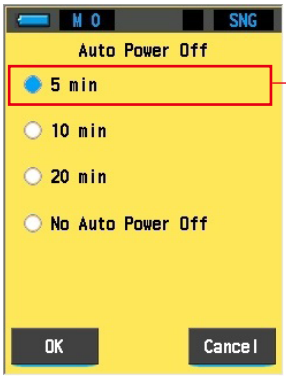
4. Touch the [Close] Button.

Returns to the Home Screen.

7-1-4 Selecting the Auto Power Off Time

Select the delay time for the automatic power shut down after the last meter usage. (5 min, 10 min, 20 min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated.

Auto Power Off Screen



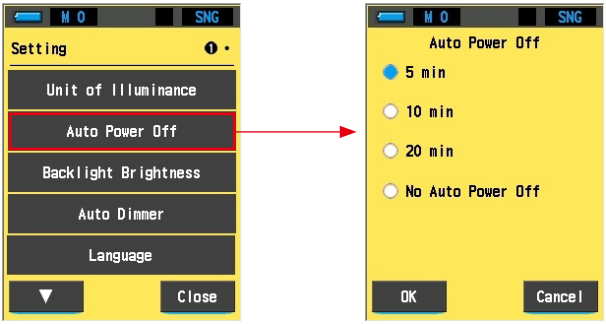
Operation

1. Touch the [Auto Power Off] Button on page 1 of the Setting screen.

The Auto Power Off Screen will be displayed.

Setting Screen Page 1

Auto Power Off Screen

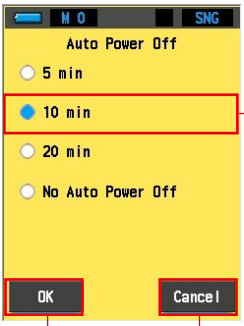


2. Select the time for auto power off by touching a radio button.

Selection is possible by the touching the surrounding area.

Select 5 min, 10 min, 20 min, or No Auto Power Off.

Auto Power Off Screen



The selected radio button turns blue.

[OK] Button

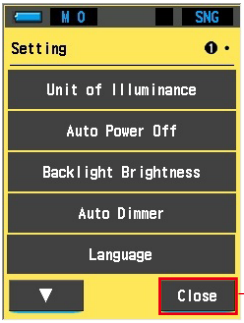
[Cancel] Button

3. Touch the [OK] Button.

Confirms the setting, and returns to Setting screen.

To return to the Setting screen without confirming, touch the [Cancel] Button.

Setting Screen Page 1



[Close] Button

The auto power off time delay is set.

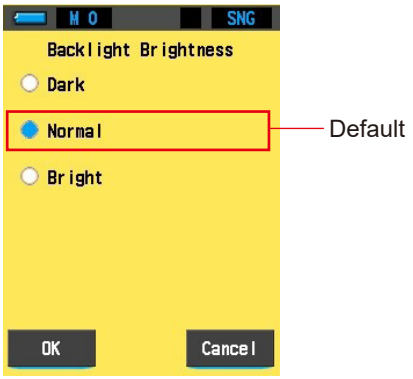
4. Touch the [Close] Button.

Returns to the Home Screen.

7-1-5 Selecting the Backlight Brightness

You can save power or adjust the visibility under the surrounding light conditions by selecting the brightness of the touch panel backlight from [Dark], [Normal], and [Bright].

Backlight Brightness Screen

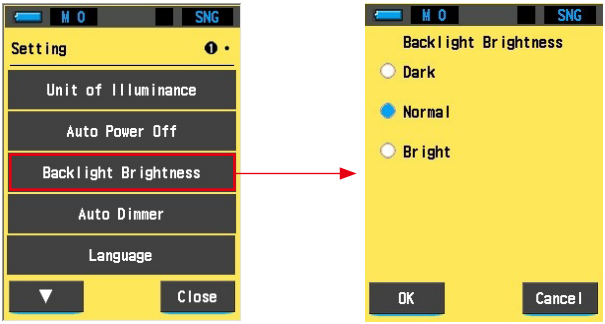


Operation

1. Touch the [Backlight Brightness] Button on page 1 of the Setting screen.

The Backlight Brightness Screen will be displayed.

Setting Screen Page 1 → **Backlight Brightness Screen**

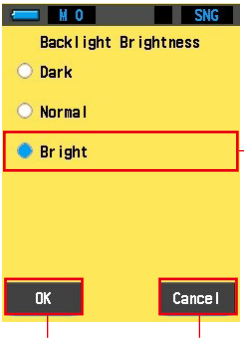


2. Select the brightness of the LCD backlight by touching a radio button.

Selection is possible by the touching the surrounding area.

Select Dark, Normal or Bright.

Backlight Brightness Screen



The selected radio button turns blue.

[OK] Button

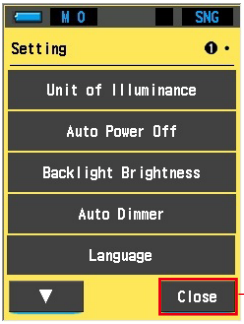
[Cancel] Button

3. Touch the [OK] Button.

Confirms the setting, and returns to Setting screen.

To return to the Setting screen without confirming, touch the [Cancel] Button.

Setting Screen Page 1



[Close] Button

The backlight brightness is set.

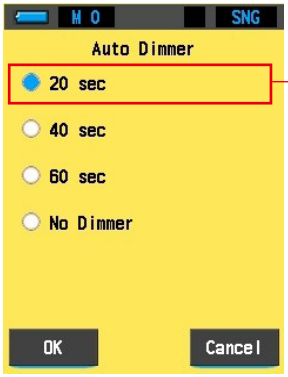
4. Touch the [Close] Button.

Returns to the Home Screen.

7-1-6 Selecting the Auto Dimmer Time

Select the time before the backlight dims after the last meter usage to save power. (20 sec, 40 sec, 60 sec, No Dimmer)

Auto Dimmer Screen

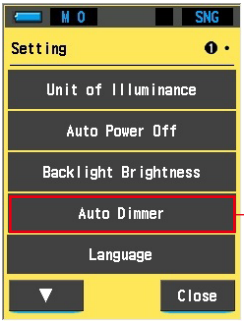


Operation

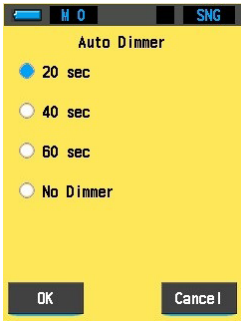
1. Touch the [Auto Dimmer] Button on page 1 of the Setting screen.

The Auto Dimmer Screen will be displayed.

Setting Screen Page 1



Auto Dimmer Screen

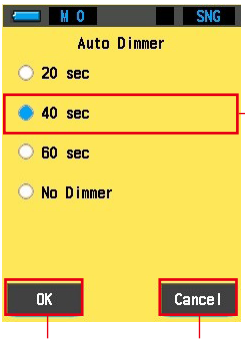


2. Select the dimmer time for the LCD backlight by touching a radio button.

Selection is possible by the touching the surrounding area.

Select 20 sec, 40 sec, 60 sec, or No Dimmer.

Auto Dimmer Screen



The selected radio button turns blue.

[OK] Button

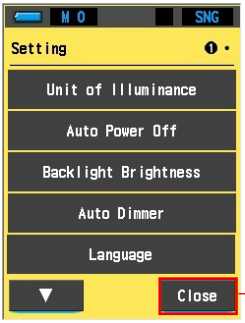
[Cancel] Button

3. Touch the [OK] Button.

Confirms the setting, and returns to Setting screen.

To return to the Setting screen without confirming, touch the [Cancel] Button.

Setting Screen Page 1



[Close] Button

The auto dimmer time is set.

4. Touch the [Close] Button.

Returns to the Home Screen.

7-1-7 Selecting the Language

You can select the language for display on the meter from 日本語 (Japanese), English, Español (Spanish), Deutsch (German), Français (French), and Italiano (Italian).
* You can change the language set when power is turned on for the first time.

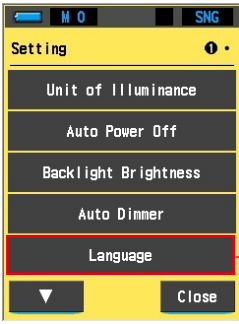
Language Screen

Operation

1. Touch the [Language] Button on page 1 of the Setting screen.

The Language Screen is displayed.

Setting Screen Page 1



Language Screen

2. Select the language for display by touching a radio button.

Selection is possible by the touching the surrounding area.

You can select from 日本語 (Japanese), English, Español (Spanish), Deutsch (German), Français (French), and Italiano (Italian).

Language Screen

The selected radio button turns blue.

[OK] Button

[Cancel] Button

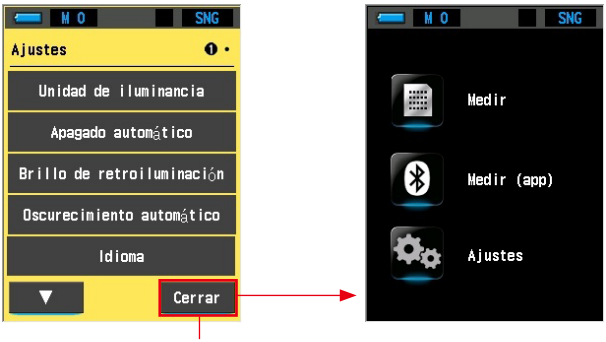
3. Touch the [OK] Button.

Confirms the setting, and returns to Setting screen.

To return to the Setting screen without confirming, touch the [Cancel] Button.

Setting Screen Page 1

Home Screen



[Cerrar] Button

The language is set.

4. Touch the [Cerrar] Button.

Returns to the Home Screen.

7-1-8 Edit User Information

You can set an administrator number, owner name, or other information as the user information.

Edit User Information Screen

NOTE

- Up to 16 alphanumeric characters can be entered.

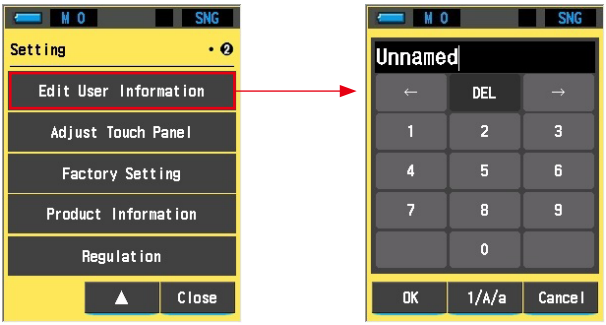
Operation

1. Touch the [Edit User Information] Button on page 2 of the Setting screen.

The text input screen for setting user information is displayed.

Setting Screen Page 2

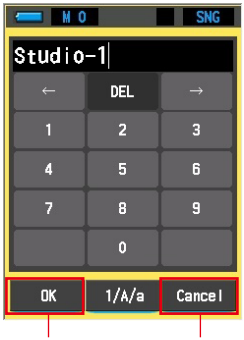
Edit User Information Screen



2. Edit the user information. (➡ P24)

Edit User Information Screen

Edit User Information Screen



[OK] Button

[Cancel] Button

Number/uppercase/lowercase select button

3. Touch the [OK] Button.

The user information is saved, and page 2 of the Setting Screen is redisplayed.

To return to the Setting Screen without registering user information, touch the [Cancel] Button.

Setting Screen Page 2

[Close] Button

The user information is input.

4. Touch the [Close] Button.

Returns to the Home Screen.

7-1-9 Adjust Touch Panel

Adjust the position of touch panel display.

Adjust Touch Panel Screen

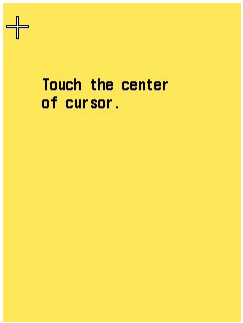
Operation

1. Touch the [Adjust Touch Panel] Button on page 2 of the Setting screen.

The message "Touch the center of the cursor." is displayed on the Adjust Touch Panel Screen.

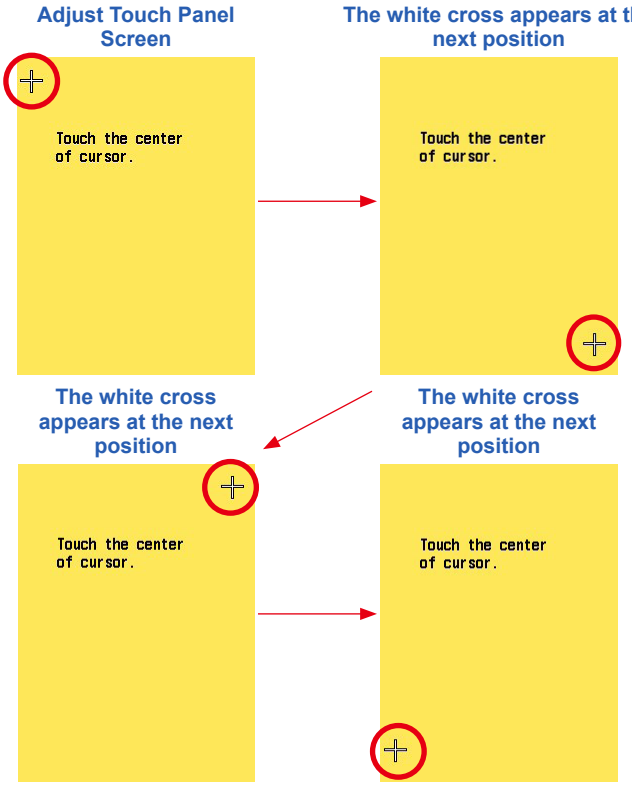
Setting Screen
Page 2

Adjust Touch Panel
Screen



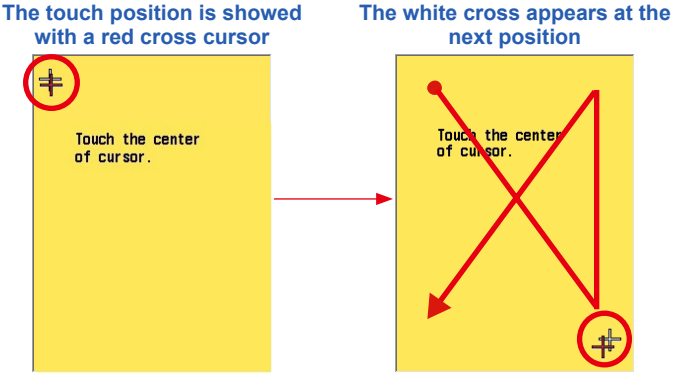
2. Touch the center of the white cross in the upper left corner of the screen.

The touch position moves. The white cross cursor position changes successively.



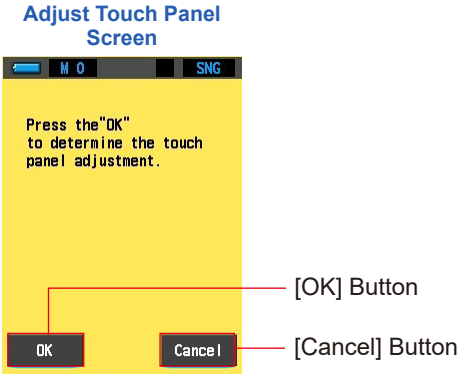
3. Continue the process of touching the center of the white cross cursor.

A red cross cursor is displayed at the touched positions. Repeat the process at four positions.



4. Confirm the adjustment.

The message "Press the "OK" to determine the touch panel adjustment." is displayed on the Adjust Touch Panel Screen.



5. Touch the [OK] Button.

Adjustment is set and page 2 of the Setting Screen is redisplayed.

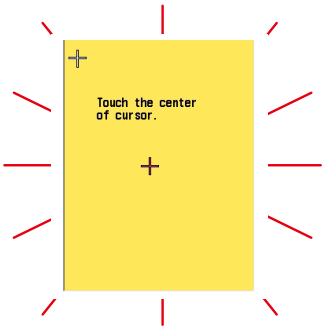
To return to page 2 of the Setting Screen without setting adjustment, touch the [Cancel] Button.

Touch panel adjustment is completed.

NOTE

- If you touch a location away from the white cross cursor when performing step 3, the red cross will be displayed but the screen will blink to indicate adjustment failure. Perform the adjustment again.

Adjust Touch Panel Screen



6. Touch the [Close] Button on page 2 of the Setting screen.

Returns to the Home Screen.

7-1-10 Factory Setting

Return all display and setting contents of the meter to the factory default.

Factory Setting Screen

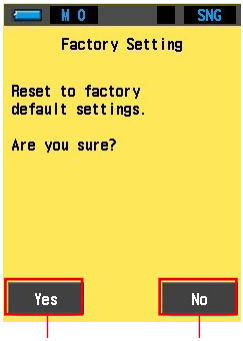
Operation

1. Touch the [Factory Setting] Button on page 2 of the Setting screen.

The message "Reset to factory default settings. Are you sure?" is displayed on the Factory Setting Screen.

Setting Screen
Page 2

Factory Setting Screen



[Yes] Button [No] Button

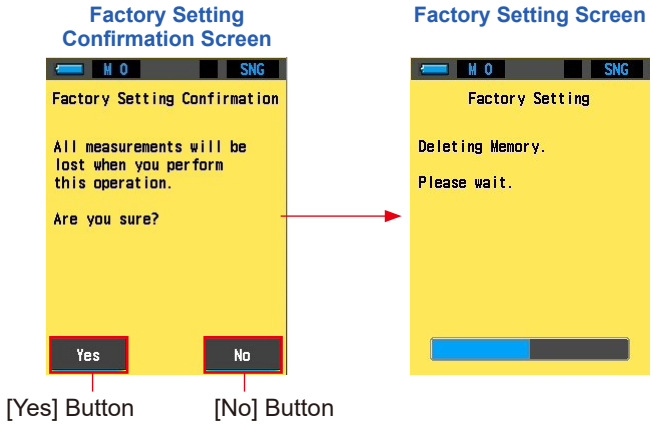
2. Touch the [Yes] Button.

To perform the reset, touch the [Yes] Button.

The message "All measurements will be lost when you perform this operation. Are you sure?" is displayed on the Factory Setting Confirmation Screen.

Confirm again.

To return to page 2 of the Setting screen without resetting to the factory default settings, touch the [No] Button.



3. Touch the [Yes] Button.

The message “Deleting Memory. Please wait.” is displayed on the Factory Setting Screen during the process.

All measurement values are deleted, and the screen switches to the Language Selection Screen.

NOTICE

- **While the message "Deleting Memory. Please wait." or the progress bar is displayed, do not turn the power OFF.**
- **The saved memories and measurement values are all cleared.**

4. Select the language.

The Language Selection Screen is displayed. Select the language to use.

Language Selection Screen

Language Selection Screen

The selected radio button turns blue.

[OK] Button

5. Touch the [OK] Button.

Confirm the language.

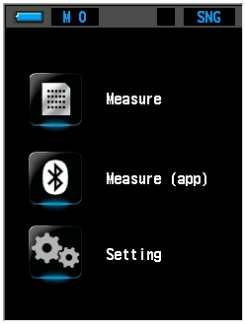
NOTE

- The language can be switched at any time. (➡ P91)

6. The Home Screen will be displayed.

If the process ends properly, the Home Screen is displayed.

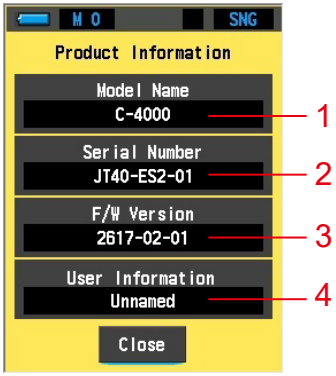
Home Screen



7-1-11 Product Information

The Product Information Screen displays detailed information not displayed in the Measure Screen.

Product Information Screen



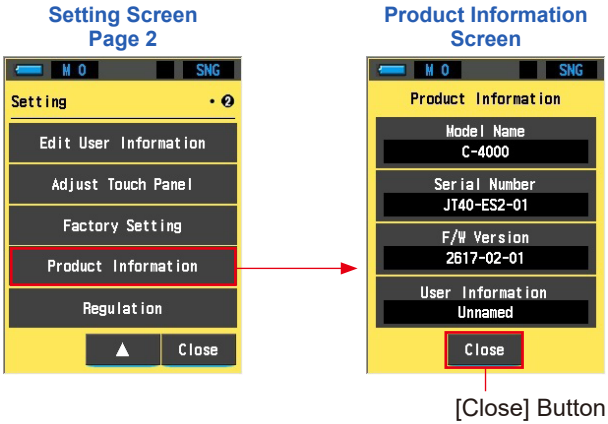
* The content displayed above may differ from the actual screen of the meter.

No.	Item Name	Description
1	**Model Name**	Displays the model number of the meter.
2	**Serial Number**	Displays the serial number of the meter.
3	**F/W Version**	Displays the firmware version.
4	**User Information**	Displays the user information. Any text can be entered as user information in the Setting screen. (➡ P93)

Operation

1. Touch the [Product Information] Button on page 2 of the Setting screen.

The Product Information Screen will be displayed.



2. Touch the [Close] Button.

The screen returns to page 2 of the Setting Screen.

3. Touch the [Close] Button on page 2 of the Setting screen.

Returns to the Home Screen.

7-1-12 Regulation Display

The Regulation Screen displays the symbols, approved number, regulation names, etc. which the meter is complaint with.

Regulation Screen

Operation

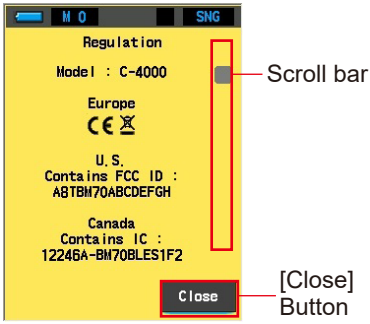
1. Touch the [Regulation] Button on page 2 of the Setting screen.

The Regulation Screen will be displayed.

The display contents will differ depending on the product you have purchased.

Setting Screen Page 2

Regulation Screen



2. Slide the scroll bar up/down to display the information.

3. Touch the [Close] Button.

The screen returns to page 2 of the Setting Screen.

4. Touch the [Close] Button on page 2 of the Setting screen.

Returns to the Home Screen.

8. Appendix

8-1 Glossary

Term	Description
Color Temperature	Color temperature refers to the chromaticity of a heated object (commonly refer to as a black body) that will vary according to its temperature. The color temperature is measured in units of Kelvin (K) and refers to the temperature of a heated object at a given color or chromaticity. The higher color temperature is, the bluer the light, and the larger the Kelvin value becomes. The lower the color temperature is, the redder the light, and the smaller the Kelvin value becomes. A figure that plots the changes of color temperatures on an xy chromaticity diagram is called the black body radiation locus.
Correlated Color temperature	Not all light sources match the black body radiation locus when measuring light sources. In this case, the correlated color temperature is used. Correlated Color Temperature refers to the temperature of a Planckian black body radiator whose perceived color most closely resembles that of a given light source at the same brightness and under specified viewing conditions.
Light	This refers to the electromagnetic wavelength ranging from 380nm to 780nm that can be detected by the human eye.
Black Body	Theoretically, this is an object that absorbs all wavelengths and when heated, emits light equivalent to the applied color temperature.
Black-body Radiation	This refers to the light emitted by a black body. The amount of energy released for each wavelength changes with the applied color temperature, resulting in visible color variations.
K	Expressed in absolute Kelvin temperature, with units of "K". 0 (zero) K is equivalent to -273.15 °C or -459.67 °F.
⊿uv	The deviation between the correlated color temperature and the black body radiation locus. When the correlated color temperature is above the black body radiation locus, a "+" sign is assigned; when below, a "-" sign is assigned.
CRI (Color Rendering Index)	Quantifies the faithfulness of color appearance under a measured light source as compared to the color appearance under a standard light source. Differences are expressed for individual hues, R1-R15, or as an average (Ra) of values R1 through R8.

Term	Description
TM-30	Technical Memorandum TM-30 is, published by Illuminating Engineering Society (IES), the method for evaluating light source color rendition including LED lights. The latest firmware shows TM-30-18 which Rf is identical with Rf of CIE 224:2017. The values are based on color appearance of objects with 99 color samples compared to their appearance under the defined reference illuminant. In the TM-30, there are Fiedelity Index (Rf) which is to express how the accurate rendition of color is, and Gamut Index (Rg) to express what the average level of saturation is.
CIE1931	This is the trichromatic system based on the color matching function, $\bar{x}$ (λ), $\bar{y}$ (λ), and $\bar{z}$ (λ) that has been adopted by the CIE in 1931. (This is also called the XYZ color system that has a 2° viewing angle.) It is applied when the field of view is 4° or less.

9. Specifications

Type		
• Spectrometer with CMOS linear image sensor		
Illuminance meter class		
• Corresponds to JIS C 1609-1:2006 for General Class A Illuminance Meters (excluding oblique incident light characteristics) • Corresponds to DIN 5032 Part 7 Class C (excluding oblique incident light characteristics)		
Light receiving method		
• Incident light		
Light receptor		
• White diffuser (fixed type)		
Light receptor element		
• CMOS linear image sensor 288 pixels		
Measurement system		
• Measuring mode	• Measure	Single Measuring
		Continuous Measuring
	• Measure (app)	Operation by smartphone app
Measuring item		
• Tcp		Correlated Color temperature
• ⊿uv		Color deviation
• x, y		CIE1931 Chromaticity coordinates
• Lux, fc		Illuminance
• Ra		Average Color Rendering Index
Measurement range		
• Illuminance		5 lx to 10,000 lx 0.46 fc to 929 fc
• Color rendering properties	• CRI	Ra -100.0 to 100.0
	• TM-30	Rf 0 to 100
		Rg 0 to 200
Accuracy		
• Illuminance		5 lx to 3,000 lx: ±5% ±1 digit of indicated value Over 3,000 lx: ±7.5 % ±1 digit of indicated value
• x y		±0.003 (Light source A, 800 lx)

Repeatability (2σ)		
• Illuminance		1% + 1digit (Light source A, 30 lx to 10,000 lx), 5% + 1digit (Light source A, 5 lx to 29.9 lx)
• x y		0.001 (Light source A, 500 lx to 10,000 lx)
		0.002 (Light source A, 100 lx to 499 lx)
		0.004 (Light source A, 30 lx to 99 lx)
		0.008 (Light source A, 5 lx to 29.9 lx)
Visible range relative spectral responsivity characteristics		
• f1'		9% or less
Oblique incident light characteristics		
• f2		12% or less
Temperature characteristics		
• Illuminance		±5% of indicated value
• x y		±0.006 (Light source A, 1000 lx)
Humidity characteristics		
• Illuminance		±3% of indicated value
• x y		±0.006 (Light source A, 1000 lx)
Display range		
• Color temperature		1,600 K to 40,000 K (5 lx to 10,000 lx)
• Illuminance		5 lx to 10,000 lx (3 significant digits) 0.46 fc to 929 fc (3 significant digits)
• Color rendering properties	• CRI	Ra -100.0 to 100.0
	• TM-30	Rf 0 to 100
		Rg 0 to 200
• **Chromaticity coordinates**	• x, y	0.0000 to 1.0000
Bluetooth		
• Version	• Bluetooth Ver. 5.0	
• Operating frequency band	• 2.4 GHz	
• Modulation system	• FH	
• Transmit power	• 1 mW	
• Expected interference distance	• Approx. 10 m (when there is no obstacle)	

• Carefully read the operating manual of your smartphone before using this product.

Other functions	
• Setting	• 8 item settings
• Memory Function	• Up to 99 measurements can be saved • Up to 99 memory names can be set
• Memory Clear/Recall Function	
• Out of measurement range or out of display range	• [Under]/[Over] warning display
• Battery Capacity Indicator Display	• With 4 level status icons
• Automatic Power OFF Function	• Time elapsed after last operation: selectable from 20 min, 10 min, 5 min, No Auto Power Off
• LCD Backlight	• Brightness can be selected from bright, normal, or dark • Dimmer time after last operation: selectable from 20 sec, 40 sec, 60 sec, No Dimmer
Display	
• LCD display resolution	• 2.7 inch QVGA 240×320 dots
Recommended battery	
• AA batteries	• 1.5 V × 2 alkaline, manganese
• USB bus-power	• 5 V/500 mA or less (via USB cable when connected to computer)
Operating temperature	
• 5°C to 35°C (without condensation) 41°F to 95°F (without condensation)	
Operating humidity	
• 85%RH or less (at 35°C) (without condensation)	
Transportation and storage conditions	
• -10°C to 60°C (without condensation) 14°F to 140°F (without condensation)	
Dimensions	
• Approx. 62 (width) × 140 (height) × 30 (depth) mm (excluding protruding part of light receiving) (max. thickness 40 mm)	
Weight	
• Approx. 140 g (without batteries)	
Standard Accessories	
• Meter, Light Receptor Cap, Soft case, Strap, Startup Guide, Safety Precaution, Safety Requirement and Precaution	

* Models sold in some countries do not display illuminance in "fc" due to legal restrictions. In this case, Unit of Illuminance is not displayed.
* Specifications and appearance described in this Operating Manual are subject to change for improvement.

Measurement Reference Plane

- Light receptor diffuser

Color correction factor of the general illuminating light source against the standard illuminant A: C-4000

Light source	Color correction factor	Light source	Color correction factor
B light source	0.984	Fluorescent lamp F10	0.983
C light source	0.978	High-pressure sodium lamp	1.022
D65 light source	0.977	Metal halide lamp H1	0.978
Fluorescent lamp F6	0.995	Metal halide lamp H2	0.992
Fluorescent lamp F8	0.983	High-pressure mercury lamp	0.990

In the relative spectral responsivity characteristics of C-4000, error value from the standard spectral luminous efficiency V (λ) is small (f_1': 9% or less). Therefore, when using for ordinary purposes, correction based on the color correction factor is not necessary.

Distance range in which the Inverse Square Law is in effect

- 50 cm or more from the measurement reference plane

Incident Uniformity

- This device is assumed to be used under the condition that the light receiving surface is completely covered by an almost uniform light in illuminance distribution.
  An error may occur in the case of highly directional light source or an uneven light distribution characteristic.

10. Legal Requirement

This product complies with the following legal requirements.

Destination	Standard		Details
Europe	CE	SAFETY	EN 61010-1
		EMC	EN IEC 61326-1
		Wireless	RE Directive, RED EN 300 328 EN 301 489-1 EN 301 489-17 EN 62479
		Environmental	WEEE
			RoHS
			REACH
North America	FCC (US)	EMC	FCC Part15 Subpart B Class A
		Wireless	FCC Part15 Subpart C
	IC (Canada)	EMC	ICES-003
		Wireless	RSS-247

11. Troubleshooting

The following meter status, does not imply there is a meter failure. Please check the possible trouble shooting remedies before requesting service. When the meter does not function normally after checking the following, it may be damaged. Remove the batteries, and ask your retailer or us to service the meter.

Status	Check item	Measure
It does not turn on (It does not display)	Are you pressing and holding the Power Button for one or more seconds?	Press and hold the Power Button for one or more seconds.
	Are [+] [–] of the batteries inserted properly?	Check the [+] [–] symbols. (➡ P5)
	Are the batteries exhausted?	Replace the batteries. (➡ P13)
	Are the battery terminals dirty?	Wipe them off with a dry cloth.
	Are you using the specified batteries?	Check the batteries. (➡ P5)
The measurement values are wrong	Is the Light Receptor Cap attached?	Remove the Light Receptor Cap.
The memory function cannot be used	Is "Memory Full" displayed when pressing the Memory Button?	The memory can store up to 99 values. Clear unnecessary memory values in advance, measure, and memorize it.
	Is "Memory name exceeded. Delete unnecessary name." displayed while creating a memory name?	Up to 99 memory names can be created. Clear unnecessary memory names before use.
Connecting with the app via Bluetooth is not possible.	Is there any obstruction between the smartphone and meter?	Remove the obstruction and then try connecting again.

12. After-sales Services

- Contact your local distributor or retailer that you purchased from for warranty and service.
- Even within the warranty period, repair services may be provided on a paid basis.

  Check the warranty provided by local distributor or retailer.
- The warranty is not valid unless a copy of proof of purchase with the date and the retailer name is provided. Be sure to store such information (bill of purchase or receipt) in a safe location.
- We will retain performance parts for repairs for approximately seven years after production is discontinued. Therefore, we may not be able to carry out repairs after this period has elapsed.
- When requesting repairs, please provide us with as much detail as possible about the failure or specific failure locations that you are able to identify. In certain cases, some products that are returned to us for repairs are not malfunctioning, and begin to operate normally again when we simply replace the batteries. Before requesting repairs, please confirm that the batteries are installed in the correct polarities, contain sufficient charge, and that they match the rating.
- Repair service will be refused if there is a breakdown or damage due to disassembly or modification (including software), or if there are traces of disassembly or modification, even for products for which repairs are accepted.

FCC & IC compliance information

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 instruction, 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 determine 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

FCC Warning

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.

For Canada CAN ICES-003(B) / NMB-003 (B)

IC Warning

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'encompromettre le fonctionnement.

SEKONIC CORPORATION

7-24-14,Oizumi-Gakuen-Cho,Nerima-Ku,Tokyo
178-8686 Japan
TEL +81-3-3978-2335 FAX +81-3-3978-5229
https://www.sekonic.com

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