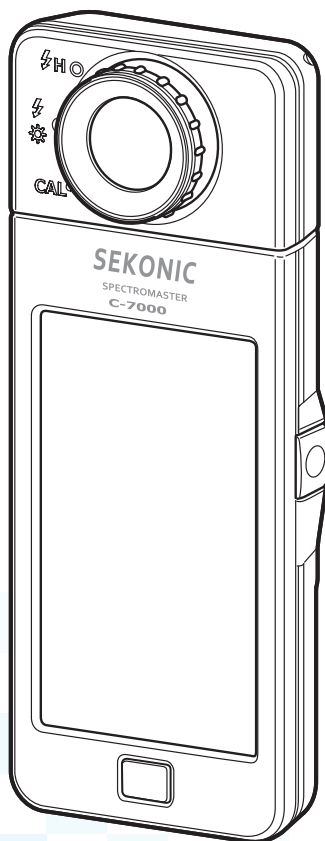


SEKONIC Spektrometer

SPECTROMASTER C-7000

Operačný manuál



Pred použitím si pozorne prečítajte návod na obsluhu, aby ste úplne pochopili vlastnosti tohto produktu a uchovali si ho pre ďalšie použitie. Návod na obsluhu uschovajte na bezpečnom mieste. Informácie o základných operáciách nájdete v Sprievodcovi spustením.

Blahoželáme vám k zakúpeniu Sekonic SPECTROMASTER C-7000. Pozorne si prečítajte návod na obsluhu, aby ste správne využili množstvo funkcií a výhod tohto presného prístroja.

Sekonic SPECTROMASTER C-7000 je prenosný spektrometer vybavený lineárnym obrazovým snímačom CMOS, ktorý dokáže merať od 380 nm do 780 nm. Jeho veľký farebný LCD displej pohodlne zobrazuje korelovanú teplotu farieb, index podania farieb (CRI), diagramy farebnosti a farebné spektrum rôznych svetelných zdrojov.

Meranie osvetlenia Sekonic C-7000 je v súlade s normami JIS triedy A a DIN 5032 časť 7 triedy C, čo z neho robí spoľahlivý osvetľovač. Vďaka svojim schopnostiam je vhodný na kontrolu kvality svetelného zdroja počas výrobných a kontrolných procesov, ako aj na meranie kvality svetla pre rôzne oblasti, ako sú kancelárske prostredia, staveniská, cestné osvetlenie a výrobné priestory.

Aplikačný softvér „C-7000 Utility“ možno použiť na uloženie merania a grafického displeja, zmenu nastavenia glukometra a aktualizáciu firmvéru, keď je glukomer pripojený k počítaču alebo tabletu pomocou kábla USB.

* Stiahnite si obslužný program z www.sekonic.com a nainštalujte ho do počítača. URL: www.sekonic.com/su





Ak chcete použiť tento nástroj, pripojte počítač k C-7000 pomocou kábla USB (typ Mini-B, komerčne dostupný).

Terminológia a ochranné známky

- Windows je registrovaná ochranná známka spoločnosti Microsoft Corporation v USA a / alebo iných jurisdikciách.
- Oficiálny názov systému Windows je „Microsoft® Windows® Operačný systém.“
- Macintosh a Mac OS sú registrované ochranné známky spoločnosti Apple Computer, Inc. v USA a / alebo iných krajinách.
- X-Rite a ColorChecker sú ochranné známky alebo registrované ochranné známky spoločnosti X-Rite, Incorporated v USA a / alebo iných krajinách. Všetky práva vyhradené.
- Všetky ostatné názvy spoločností alebo produktov sú ochranné známky alebo registrované ochranné známky príslušných spoločností.

Bezpečnostné opatrenia

Pred použitím tohto produktu si prečítajte toto "Bezpečnostné opatrenia" pre správnu funkciu.

 POZOR	Symbol POZOR označuje vážne nebezpečenstvo alebo vážneho poškodenia.
 POZOR	Symbol POZORNENIE označuje možnosť mierneho až stredného stupňa zranenia alebo poškodenia produktu, ak sa produkt neobslužuje správne.
 OZNAM	Symbol UPOZORNENIE označuje upozornenia alebo obmedzenia pri používaní produktu. Prečítajte si všetky poznámky, aby ste sa vyhli chybám v prevádzke.
 POZNÁMKA	Referenčný symbol označuje ďalšie informácie o ovládacích prvkoch alebo súvisiacich funkciách. Odporúča sa prečítať si ich.
•	Šípka označuje referenčné stránky.

POZOR

- Dojčatá alebo batolátá môžu náhodne ovinúť remienok okolo krku, preto ho umiestnite na miesto, ktoré je mimo ich dosah. Hrozí nebezpečenstvo udusenía.
- Nevkladajte batérie do otvoreného ohňa, neskúšajte ich skratovať, rozoberať alebo na ne pôsobiť teplo alebo nepoužívať nešpecifikované batérie. Môžu prasknúť a spôsobiť požiar, vážne zranenie alebo poškodenie životného prostredia.
- Nepoužívajte spektrometer na mieste obsahujúcom horľavé alebo horľavé výpary. V opačnom prípade môže dôjsť k požiaru.
- Dajte pozor, aby vám na spektrometer nekapali tekutiny. Tiež sa nepokúšajte do nej vkladať kovy. Môže to spôsobiť požiar alebo úraz elektrickým prúdom. Ak kvapka tekutina alebo sa do spektrometra vloží kov, okamžite vypnite napájanie a vyberte batériu (alebo odpojte napájací kábel USB). Potom požiadajte o pomoc naše Centrum podpory.
- Tento spektrometer nerozoberajte ani neupravujte. Môže to spôsobiť požiar alebo úraz elektrickým prúdom.

POZOR

- Nemanipulujte s týmto výrobkom mokrými rukami, ani ho nenechajte na daždi alebo na miestach, kde môže byť postriekaný vodou, ponorený alebo prichádzať do styku s vlhkosťou. Pri použití režimu "Flash Light Cord (PC)" hrozí nebezpečenstvo úrazu elektrickým prúdom. Môže to mať za následok aj poškodenie produktu.
- **Nepokúšajte sa výrobok demontovať kvôli zmene alebo výmene dielov. Môže to ovplyvniť výsledky merania alebo poškodiť glukomer.**
- Akýkoľvek výrazný náraz na kryt meracieho prístroja alebo LCD obrazovku môže spôsobiť fyzické poškodenie a zlyhanie výkonu.
Aj keď je glukometer vo vrecku alebo vrecku, môže dôjsť k jeho poškodeniu pri silnom náraze alebo tlaku.
- Nepokúšajte sa prehrať priložený disk CD-ROM pomocou audioprehrávača CD. Môže to poškodiť sluch alebo poškodiť reproduktory a slúchadlá.
- Pri zmene režimu alebo výbere jemne klepnite na panel LED meracieho prístroja. Používanie špicatých pier alebo ceruziek môže spôsobiť poškrabanie obrazovky LCD alebo poškodenie produktu.
- Dojčatá alebo batoľatá môžu náhodne chytiť remienok a otočiť výrobok, preto ho umiestnite mimo dosahu, pretože by mohlo dôjsť k poškodeniu merača nárazmi.
- Pri prenášaní produktu dávajte pozor, aby sa popruh na krk neuvoľnil, pretože by mohlo dôjsť k poškodeniu glukometra pri páde.
- Tento remienok na krk je vyrobený z polyesterového vlákna.
Nepoužívajte výrobok, ak syntetické vlákna spôsobujú podráždenie, zápal alebo svrbenie pokožky, aby sa zabránilo zhoršeniu vašich príznakov.
- Nemerajte jasný predmet, ktorý vyžaruje svetlo presahujúce rozsah merania (vlnová dĺžka a intenzita osvetlenia). Môžu poškodiť optické komponenty a spôsobiť nepresné meranie.
- Pred vybratím alebo výmenou batérie alebo kábla USB vždy vypnite vypínač. V opačnom prípade môže spektrometer zlyhať.
- Neumiestňujte výrobok na nestabilnú alebo naklonenú lavicu. V opačnom prípade môže spadnúť a môžete sa zraniť.

CA Prop 65

POZOR

Tento výrobok vás môže vystaviť chemikáliám vrátane olova, o ktorom je známe, že spôsobuje rakovinu v štáte Kalifornia, a di (2-etylhexyl) ftalátu (DEHP), o ktorom je známe, že v štáte Kalifornia spôsobuje vrodené chyby alebo iné poškodenia reprodukcie. .

Viac informácií nájdete na www.P65Warnings.ca.gov.

OZNAM

- K LCD je pripevnená ochranná fólia. Pred použitím ho odlúpnite.
- Aj keď je LCD monitor vyrobený na veľmi vysokej úrovni, je možné na obrazovke pozorovať niekoľko mŕtvych pixelov. Toto je normálny jav, nejde o poruchu funkčnosti glukometra.
- Nepoužívajte glukomer v režime Cord Flash Mode v nadmorských výškach nad 2 000 m (6 561 stôp).
- Naša spoločnosť nebude zodpovedná za akékoľvek straty údajov spôsobené, ale nie výlučne, škodlivými činmi a kontrolnými chybami.
- Softvér môžete nainštalovať na priloženom disku CD-ROM, iba ak súhlasíte so všetkými článkami licenčnej zmluvy, ktorá sa dodáva s diskom CD-ROM.
- Dbajte na to, aby merač nespadol a nevystavoval ho nárazom, pretože by sa poškodil.
- Neskladujte glukomer na miestach s vysokou teplotou a vysokou vlhkosťou, pretože by sa poškodil.
- Dajte pozor, aby ste glukomer neprepravovali z chladného do teplého vlhkého prostredia, pretože na ňom bude kondenzovať voda a môže sa poškodiť.
- Ak je prístroj prevádzkovaný pri teplotách nižších ako -10°C , reakcia LCD sa výrazne spomalí a displej môže byť ťažko viditeľný a čitateľný. Toto nepoškodí meradlo. Ak teplota prekročí 50°C , displej z tekutých kryštálov stmavne a bude ťažko čitateľný, ale po návrate na izbovú teplotu sa vráti do normálneho stavu.
- Ak glukomer necháte na priamom slnečnom svetle, v automobile alebo v blízkosti kúrenia, teplota prístroja stúpne a môže dôjsť k poškodeniu. Pri používaní glukometra na týchto typoch miest buďte opatrní.
- Ak glukomer ponecháte na mieste, kde môžu vznikáť korozívne plyny, môžu tieto plyny ovplyvňovať produkt a spôsobiť poškodenie. Pri používaní glukometra na týchto typoch miest buďte opatrní.
- V prípade likvidácie počítadla sa riadte pravidlami likvidácie vo vašej oblasti.

Poznámky k údržbe

- Dávajte pozor, aby ste zabránili zaprášeniu, znečisteniu alebo poškriabaniu svetelného receptora, pretože to môže mať vplyv na presnosť merania.
 - Ak je merač znečistený, utrite ho suchou mäkkou handričkou. Nikdy nepoužívajte organické rozpúšťadlá, ako sú riedidlá alebo benzín.
-

POZNÁMKY

- Použité batérie zlikvidujte v súlade s predpismi vašej oblasti.
 - Izolujte kladné a záporné póly páskou alebo iným izolačným materiálom.
 - Batérie nerozoberajte.
-

Zamýšľané použitie

Merač je určený pre:

- Meranie korelovanej teploty farieb, odchýlok, vlastností vykresľovania farieb (CRI, TM-30, SSI, TLCI / TLMF), osvetlenosti, tristimulovej hodnoty, súradníc chromatičnosti, dominantnej vlnovej dĺžky a čistoty budenia rôznych svetelných zdrojov, ako sú LED diódy, organické EL a projektory.
- Meranie automobilových LED svetlometov a iných typov žiaroviek.
- Meranie osvetlenia optických bioreakcií.
- Riadenie osvetlenia a monitorovanie spektrálneho rozloženia zdroja svetla pre vnútorné poľnohospodárstvo.
- Vyhodnocovanie intenzity osvetlenia, teploty farieb a podania farieb cestného osvetlenia, vnútorného osvetlenia, osvetlenia obchodov a ďalších.
- Kontrola kvality, jas a farebnosť svetelného zdroja pri výrobe všetkých druhov výrobcov svetelných zdrojov.

Hlavné vlastnosti modelu C-7000

Meno modelu	Využitie	Vlastnosti
C-7000	Priemyselný aplikácie	<p>Monitorovanie a riadenie osvetlenia a farby svetelných zdrojov pre priemyselné a environmentálne aplikácie.</p> <ul style="list-style-type: none">● Zobrazte rôzne vlastnosti vykreslenia farieb, ako napríklad CRI, SSI, TLCI, TLMF a TM-30.● Zobrazte rozšírené jednotky merania. (1) Farebná teplota (K = Kelvin) (2) Farebná odchýlka (uv) (3) CIE1931 a CIE1964 (xy farebnosť diagramy) (4) CIE1976 (diagram chromatičnosti u'v ') (5) CRI (Ra, R1 až R15) (6) Intenzita osvetlenia / osvetlenia (okolité svetlo / svetlo blesku) (7) TM-30-18 (Rf, Rg) (8) SSI (porovnanie so známymi štandardmi alebo zapamätaná hodnota)● Rôzne režimy zobrazenia (1) Farebná teplota (K = Kelvin) (2) Textový režim (3) Spektrálny graf / režim porovnania (4) CRI / režim porovnania (5) Režim TM-30 (6) Režim SSI (7) Režim TLCI / TLMF (8) Zobrazuje sa v porovnaní CIE1931 (CIE1964) režim

Zamýšľanie používateľa

Zamýšľaní používatelia tohto produktu sú nasledovní.

- Ľudia monitorujúci kontrolu kvality LED, OLED, osvetlenia projektora atď.
- Ľudia riadiaci osvetlenie počas inštalácie a používania žiaroviek používaných v múzeách, reštauráciách, pracovných priestoroch atď.
- Ľudia ovládajúci farbu a jas osvetlenia používaného na vnútorné poľnohospodárstvo.

Obmedzenia

Existujú určité varovania a obmedzenia týkajúce sa používania tohto produktu. Pred použitím glukometra si prečítajte a pochopte nasledujúce.

OZNAM

- Obsah tejto príručky môže byť zmenený z dôvodu modifikácií špecifikácie produktu a ďalších dôvodov bez predchádzajúceho upozornenia. Odporúčame vám stiahnuť si z nášho webu najnovšiu prevádzkovú príručku a používať tento produkt.
URL: www.sekonic.com/support/instructionmanualuserguidedownload.aspx
 - Bezpečnostné preventívne opatrenia, ako napríklad «Bezpečnostný sprievodca a údržba» a «Bezpečnostné opatrenia», zodpovedajú právnym a priemyselným normám, ktoré boli platné v čase vytvorenia tohto návodu na obsluhu. Preto tento návod nemusí obsahovať najnovšie informácie. Ak používate predchádzajúci návod na použitie, stiahnite si ho a pozrite si najnovší návod na obsluhu.
 - Ako doplnok k návodu na obsluhu môže produkt obsahovať tlačové materiály, napríklad upozornenia týkajúce sa bezpečnosti a / alebo chyby pri tlači.
 - Obsah tohto návodu na obsluhu sa môže reprodukovat iba na nekomerčné účely a na osobné použitie. Reprodukovaný materiál však musí obsahovať upozornenie o autorských právach našej spoločnosti.
 - Reprodukcia celého alebo ktorejkoľvek časti tohto dokumentu bez súhlasu je prísne zakázaná.
 - Príslušný výrobok alebo táto príručka môžu byť predmetom budúcich zmien bez predchádzajúceho upozornenia.
 - Obrázky v tomto návode na obsluhu sa môžu líšiť od skutočných zobrazení meradla, ktoré používate. (Farby, písmená atď.)
-

Sprievodné príslušenstvo

Nasledujúce položky sú súčasťou glukomera v balení. Nezabudnite skontrolovať, či sú súčasťou všetky uvedené položky.

- * Ak niektoré položky chýbajú, obráťte sa na distribútora alebo predajcu, od ktorého ste prístroj kúpili.
- * Batérie (dve AA) nie sú súčasťou balenia. Tieto informácie získate osobitne.

Merač



Sprivodca spustením



Bezpečnostné opatrenie



POZOR

POZOR

Informácie pre používateľov o zbere a likvidácii zdravotníckych pomôcok

Bezpečnostné požiadavky a preventívne opatrenia

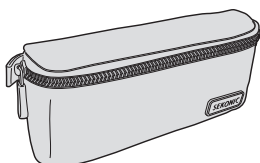


Bezpečnostné opatrenie

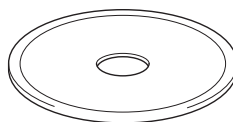
POZOR

POZOR

Mäkké puzdro



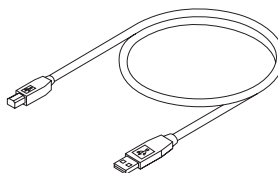
CD-ROM
(Operačný manuál,
Utilita série C-700 / C-7000)





Popruh na krk



USB kábel
(Konektor Mini-B)



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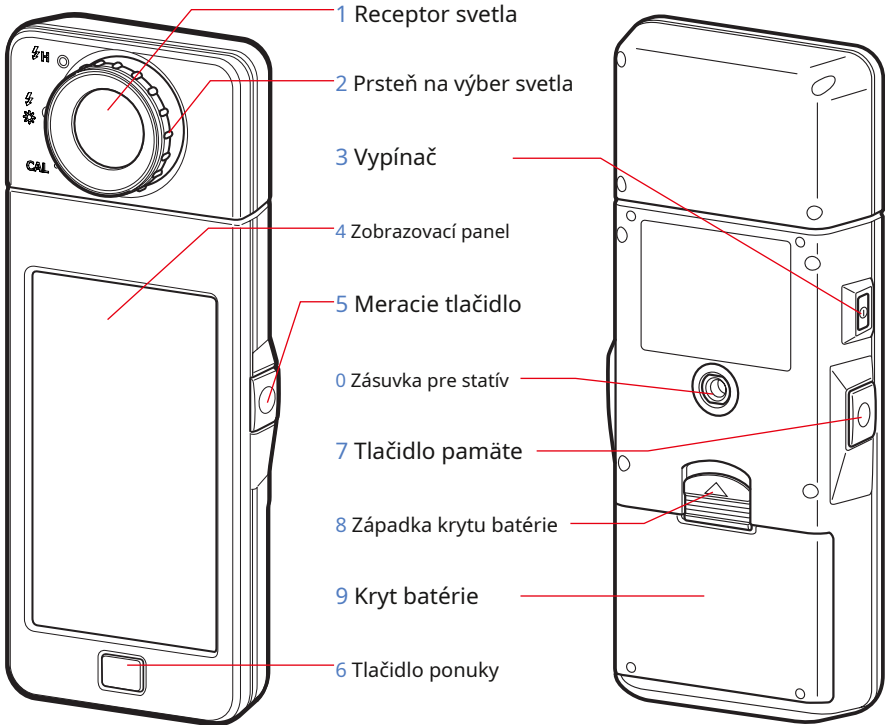
1. Označenie dielov a funkcie

1-1

Označenie dielov

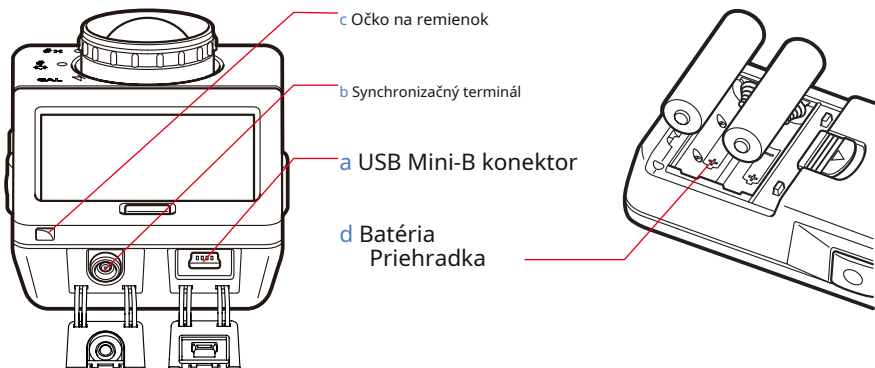
Čelný pohľad

Zadný pohľad



Pohľad zdola

Sekcia priehradky na batérie



1-2 Funkcie dielov

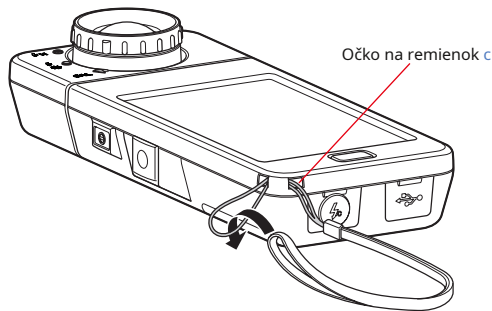
V nasledujúcej tabuľke sú uvedené funkcie jednotlivých častí.

Č.	Názov časti	Funkcie
1	Receptor svetla	Počas čítania namierte receptor svetla priamo na zdroj svetla. Hlava sa otáča o 270 stupňov, aby sa uľahčilo čítanie.
2	Výber svetla Prsteň	Otočením vyberte kalibráciu tmavého osvetlenia, normálny rozsah merania alebo vysoký rozsah blesku.
3	Vypínač	Stlačením zapnete / vypnete.
4	Zobrazovací panel	Zobrazí obrazovky nastavení a obrazovky merania. Zabudovaná funkcia dotykového panela umožňuje nastavenie, výber alebo obsluhu dotykovo na zobrazené obrazovky. (• P17)
5	Meracie tlačidlo	Stlačte pre meranie.
6	Tlačidlo ponuky	Stlačením posuniete zobrazenie na obrazovku Výber režimu zobrazenia.
7	Tlačidlo pamäte	Stlačením po ukončení merania uložte namerané údaje.
8	Kryt batérie Západka	Západka krytu batérie.
9	Kryt batérie	Zaistuje batérie.
0	Zásuvka pre statív	Vnútorne závit (1 / 4-20) na upevnenie na statív bez použitia rúk.
a	USB Mini-B Konektor	USB konektor na pripojenie k PC s nainštalovaným programom a napájaním z USB zbernice. USB konektor: Mini-B-5pin
b	Synchronizačný terminál	Pri použití meracieho prístroja v režime blesku Cord (PC) umožňuje použitie voliteľného synchro kábla.
c	Očko na remienok	Slúži na pripevnenie priloženého remienka.
d	Batéria Priehradka	Drží batérie. Vložte batérie správnym smerom.

2. Pred použitím

2-1 Pripevnenie remienka

1. Prevlečte remienok (súčasť balenia) cez vonkajší otvor remienka Očko c .
2. Opačný koniec remienka prevlečte cez očko na konci remienok.



POZOR

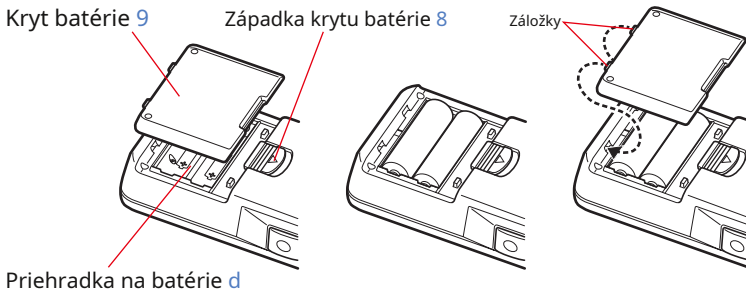
Dojčatá alebo batoľatá môžu náhodne ovinúť remienok okolo krku, preto ho umiestnite na miesto, ktoré je mimo ich dosah. Hrozí nebezpečenstvo udusenía.

POZOR

- Dojčatá alebo batoľatá môžu náhodne chytiť remienok a otočiť výrobok, preto ho umiestnite mimo dosahu, pretože by mohlo dôjsť k poškodeniu merača nárazmi.
- Pri prenášaní produktu dávajte pozor, aby sa popruh na krk neuvoľnil, pretože by mohlo dôjsť k poškodeniu glukometra pri páde.
- Tento remienok na krk je vyrobený z polyesterového vlákna.
Nepoužívajte výrobok, ak syntetické vlákna spôsobujú podráždenie, zápal alebo svrbenie pokožky, aby sa zabránilo zhoršeniu vašich príznakov.

2-2 Inštalácia batérií

1. Pripravte si dve batérie AA.
2. Posuňte západku krytu batérie 8 v smere šípky a odstráňte kryt batérie 9 .
3. Vložte batérie podľa symbolov „+“ a „-“ v Priehradka na batérie d .
* Ako je zrejmé z nižšie uvedeného diagramu, nezabudnite, že obe kladné strany batérií smerujú rovnakým smerom.
4. Zarovnajte dva výčnelky na kryte batérie 9 , stlačte Kryt batérie 9 späť na miesto zhora.



! POZOR

Batérie nevkladajte do otvoreného ohňa, neskúšajte ich skratovať, rozoberať, zahrievať alebo nabíjať (okrem nabíjateľných batérií). Môžu prasknúť a spôsobiť požiar, vážne zranenie alebo poškodenie životného prostredia.


! POZOR

- Používajte mangánové alebo alkalické batérie.
- Nepoužívajte batérie s iným hodnotením, ako je určené. Nekombinujte tiež staré a nové batérie.
- Vložte batérie najskôr mínus stranou „-“.
Pri vyberaní batérií ich najskôr vyberte plus (+).
- Ak sa merací prístroj nebude používať dlhšiu dobu, odporúča sa vybrať batérie, aby sa zabránilo možnému poškodeniu spôsobenému vytečením batérie.

2-3

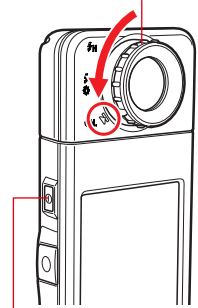
Zapnutie / vypnutie

Zapnutie

1. Otočte krúžok na výber svetla 2 nastaviť na tmavá kalibračná poloha **CAL** ().
2. Stlačte vypínač 3 .

Merací prístroj sa zapne a na 2 sekundy sa zobrazí úvodná obrazovka.

Prsteň na výber svetla 2



Vypínač 3

Úvodná obrazovka C-7000


 **OZNAM**

- Obrazovka s logom „SEKONIC“ s modrým písmom sa zobrazí po výmene batérie a 24 hodín po vypnutí.
- Pohyb modrého stavového riadku znamená, že glukomer kontroluje svoju pamäť a pripravuje sa na činnosť. Nevypínajte napájanie. V opačnom prípade môže dôjsť k poškodeniu meracieho prístroja.

Obrazovka s logom


 **POZNÁMK**

- Ak sa na LCD displeji nezobrazuje žiadny údaj, skontrolujte, či sú batérie vložené správne (poloha Poz / Neg) a či majú dostatočnú kapacitu.
- Čas spustenia môžete skrátiť jednoduchým klepnutím na obrazovku, keď sa zobrazí úvodná obrazovka.

3. Vyberte jazyk. (Zobrazí sa iba pri prvom zapnutí čas)

Zobrazí sa obrazovka výberu jazyka. Vyberte jazyk, ktorý chcete použiť.

Výber jazyka
Obrazovka



Výber jazyka
Potvrđzovacia obrazovka



Vybraté tlačidlo bude byť zobrazené obklopený v Modrá.

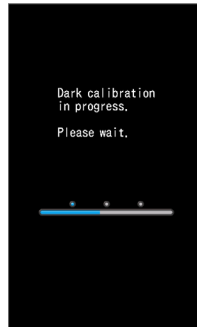
4. Stlačením [OK] vyberte jazyk.

Jazyk je možné kedykoľvek prepnúť. (• P149)

5. Tmavá kalibrácia.

Merací systém C-7000 musí byť pred použitím kalibrováný. Otočte krúžok na výber svetla na indikáciu kalibrácie. „Prebieha tmavá kalibrácia. Čakajte“ a počas kalibrácie sa zobrazí stavový riadok. Keď je funkcia v prevádzke, zobrazí sa obrazovka výberu režimu zobrazenia.

Tmavá kalibrácia
Obrazovka procesu




POZNÁMKY

- Tmavá kalibrácia sa vykoná, keď sa použijú nové batérie, uplynulo 24 hodín od posledného použitia alebo dôjde k veľkej zmene teploty medzi vypnutím a zapnutím napájania. S výnimkou vyššie uvedených prípadov je kalibrácia tmavej po zapnutí preskočená.

OZNAM

- Keď krúžok výberu svetla 2 nie je nastavená do polohy pre kalibráciu tmavých svetiel, zobrazí sa hlásenie „Prosím, nastavte krúžok výberu svetla pre kalibráciu tmavých svetiel.“ sa zobrazí. Nastaviť

Prsteň na výber svetla 2 do tmavej kalibračnej polohy
CAL () na kalibráciu systému.

Tmavá kalibračná pozícia Potvrzovacia obrazovka



- Ak kalibrácia tmavej farby nie je úspešná, zobrazí sa správa „Kalibrácia tmavej farby zlyhala. Skontrolujte polohu krúžku výberu svetla.“ sa zobrazí. Nastavte krúžok výberu svetla 2 do tmavej kalibračnej polohy

CAL () na kalibráciu systému.

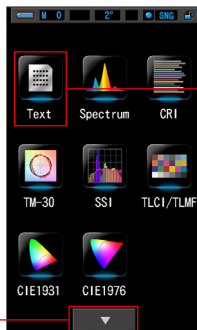
Tmavá kalibrácia Potvrzovacia obrazovka



6. Dotknite sa ikony, ktorá sa zobrazí vo výbere režimu zobrazenia obrazovka.

Displej sa prepne na zvolenú obrazovku merania.

Obrazovka výberu režimu displeja



Na stranu 2

Obrazovka merania



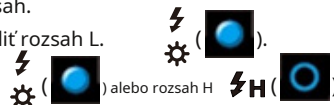
7. Stlačte meracie tlačidlo 5 merať.

Otočte krúžok na výber svetla 2 vyberte rozsah.

Pri meraní okolitého svetla nezabudnite zvoliť rozsah L.

Pri meraní jednotiek blesku zvoľte rozsah L.

v závislosti od jasnosti blesku. (• P102, • P103)



OZNAM

- Keď je tlačidlo merania 5 je stlačené v tmavej kalibračnej polohe, zobrazí sa správa „Meranie zlyhalo. Skontrolujte polohu výberového krúžku svetla.“ sa zobrazí. Nastavte výber svetla

Prsteň 2 do správnej polohy a zobrazí sa obrazovka Meranie.

**POZNÁMKY**

- Meranie a zobrazovanie bude trvať dlhšie pri úrovniach svetla nižších ako 30x. Osvetlenie LCD sa počas merania normálne vypne, aby sa zabránilo ovplyvneniu merania.

Vypnúť**1. Stlačte a podržte vypínač 3 na 1 sekundu alebo dlhšie.**

Merač sa vypne.

OZNAM

- Medzi opakovaným zapínaním a vypínaním počkajte 3 sekundy.

POZNÁMKY

- Všetky nastavenia a merania vykonané počas používania sa ukladajú do pamäte aj po vypnutí glukometra.

2-4

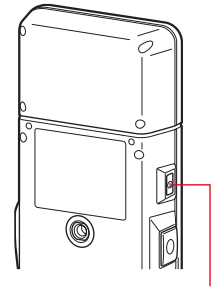
Funkcia automatického vypnutia

Z dôvodu úspory kapacity batérie sa glukomer automaticky vypne 5 minút (výrobné nastavenie) po stlačení posledného tlačidla.



POZNÁMKY

- Všetky merania, nastavenia a indikácie sa ukladajú do pamäte aj po automatickom vypnutí glukometra. Po zapnutí napájania sa znova zobrazia.
- Predvolené nastavenie automatického vypínania je 5 minút. Na obrazovke Prispôbiť nastavenie je možné zvoliť ďalšie nastavenia alebo „Žiadne automatické vypínanie“. (• P143)
- Ak je počas prepravy tlačidlo napájania 3 neúmyselne a nepretržite stlačené, glukometer sa zapne na asi 1 minútu a potom sa automaticky vypne, aby sa šetrila energia batérie.



Vypínač 3

2-5 Kontrola kapacity batérie

Keď je napájanie ZAPNUTÉ, na LCD displeji sa zobrazí indikátor kapacity batérie.



Zostáva dostatočná výdrž batérie.



Adekvátna zostávajúca výdrž batérie.



Pripravte si náhradnú batériu.



Batériu okamžite vymeňte.

Kapacita batérie
indikátor

Obrazovka merania



POZNÁMKY

- Ak je batéria takmer vybitá a glukometer je zapnutý, objaví sa LCD obrazovka, ktorá sa okamžite vypne. To znamená, že batérie sú vybité a mali by ste ich okamžite vymeniť.

Odporúča sa mať po ruke náhradné batérie.

- Ak je glukometer nepretržite používaný pri izbovej teplote, životnosť batérie by mala trvať 8 hodín (na základe testovacích metód spoločnosti Sekonic).

2-6**Funkcia automatického vypnutia**

- Pred výmenou batérií vždy vypnite napájanie.
Ak vymieňate batérie, keď je napájanie zapnuté, namerané hodnoty získané počas prevádzky sa neuložia. Môže to tiež spôsobiť zlyhanie.
- Ak sa na LCD displeji počas výmeny alebo merania batérie objaví neočakávané zobrazenie, tj. iné nastavenia ako vybrané, alebo ak glukometer nereaguje na stlačenie tlačidla, vyberte batérie, počkajte najmenej 10 sekúnd a potom ich znova nainštalujte.

3. Prevádzka obrazovky

3-1 Obrazovka a prevádzka

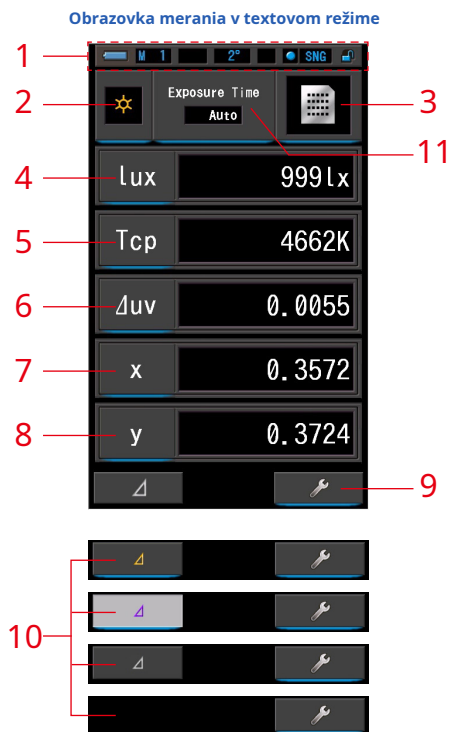
3-1-1 Základná obrazovka a obsluha

Dotykový displej umožňuje výber režimov a nastavení displeja dotykom prsta.

Obrazovka merania

Keď je kalibrácia tmavá dokončená, zobrazí sa obrazovka výberu režimu zobrazenia. Vyberte požadovaný režim zobrazenia a zobrazí sa obrazovka vybraného merania. Na obrazovke Meranie je možné zvoliť režim merania alebo zmeniť podmienky merania. Dotknite sa ikon s modrou podčiarkou, aby ste zmenili nastavenie. Ak chcete zmeniť režim zobrazenia, prečítajte si každé vysvetlenie režimov zobrazenia.

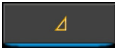
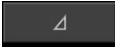



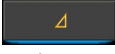
* Stlačenie tlačidla ponuky 6 na glukometri vráti glukomer na obrazovku Výber režimu zobrazenia.



* Displej sa mení v závislosti od nastaveného režimu merania.

* Pre tento popis sú zobrazené všetky ikony a ponuky.

Zoznam položiek

Č.	Názov časti	Popis
1	Stavový riadok	Zobrazí obsah nastavenia. (• P14)
2	Ikona [Merací režim]	Zobrazuje aktuálny režim merania. (• P23) Dotknutím sa ikony prepnete na obrazovku výberu režimu merania.
3	Ikona [Režim zobrazenia]	Zobrazí aktuálny režim zobrazenia. (• P30) Dotknutím sa ikony prepnete na obrazovku výberu režimu zobrazenia.
4 ~ 8	Zobrazená položka] Indikácia	Dotknutím sa ikony prepnete na obrazovku Zobraziť výber položky. (• P28)
9	Ikona [Box nástrojov]	Prepne na obrazovku Panel s nástrojmi. (• P104)
10	Ikona Delta (iba v režime okolitého svetla)	 Zobrazí sa, keď je možné vykonať porovnávacie meranie.
		 Ak nie je k dispozícii žiadna prednastavená hodnota, ikona je deaktivovaná.
		 Ak nie je možné vykonať porovnávacie meranie, ikona (Δ) sa nezobrazí.
		Kedy  je dotknuté, funkcia porovnania je aktivovaný. Prednastavená hodnota je zobrazená žltým písmenom, keď je zobrazená táto ikona delta. Keď držíte meranie Tlačidlo 5 , zobrazia sa rozdiely hodnôt prednastavenej hodnoty a aktuálneho meraného údaj. (The prednastavená hodnota je hodnota, ktorá bola prednastavená v ponuke Prispôbiť obrazovky nastavenia.) Keď je tlačidlo merania 5 Keď sa uvoľní, displej sa vráti na prednastavenú hodnotu. Kedy  sa dotknete, ikona sa vráti na  a zobrazia sa naposledy namerané hodnoty. Funkcia porovnania sa zruší po vypnutí napájania. Poznámka: Keď sa zobrazí ikona funkcie porovnania, tlačidlo Pamäť 7 je zakázané.
11	[Doba vystavenia] Indikácia	Prepne na obrazovku Výber času expozície. (• P25)

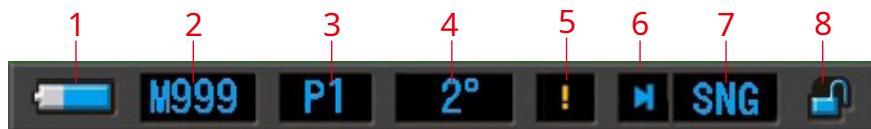


POZNÁMK

Ak sú hodnoty mimo displej alebo rozsah merania, zobrazí sa [Under] alebo [Over]. Pod: Zobrazí sa, ak je hodnota nižšia ako merací rozsah (príliš tmavý) alebo teplota farieb hodnota je príliš nízka.

Over: Zobrazí sa, ak je hodnota vyššia ako merací rozsah (príliš jasný) alebo farba hodnota teploty je príliš vysoká.

Stavový riadok




*Pre tento popis sú zobrazené všetky ikony a ponuky.

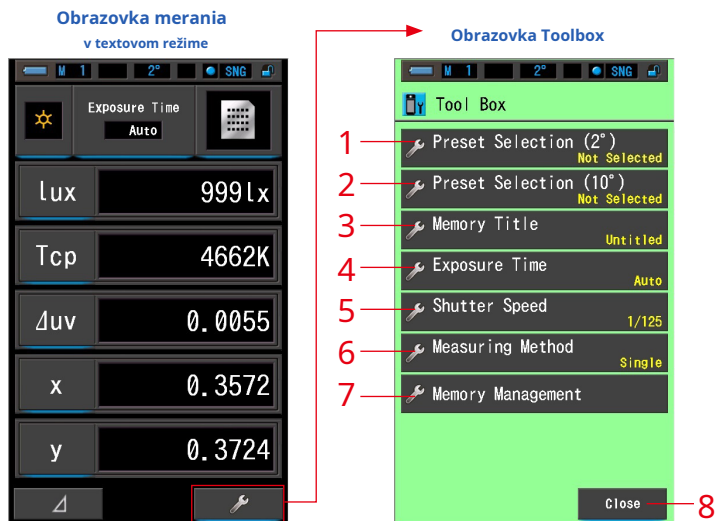
Č.	Názov časti	Popis	
1	Kapacita batérie Ukazovateľ		Zostáva dostatočná výdrž batérie.
			Adekvátne zostávajúca výdrž batérie.
			Pripravte si náhradnú batériu.
			Batériu okamžite vymeňte.
			Zobrazuje sa pri napájaní z USB.
2	Počet pamäte		Zobrazuje počet nameraných údajov uložených v pamäti. Číslo v pamäti sa zobrazuje až do 999 vpravo od značky.
3	Prednastavený výber		Zobrazí číslo predvoľby, keď je vybratá predvoľba.
4	Zorné pole		Zobrazuje uhol pohľadu (2 ° alebo 10 °), ktorý bol nastavený pri nastavení hardvéru.
5	Teplota Kolísanie Pozor		Keď sa objaví značka, je na ňu odkaz teplota prostredia kolíše a presné meranie nemusí byť možné. Vykonať kalibráciu tmavej.
6	Výber svetla Stav zvonenia Ukazovateľ		Zobrazí sa, keď sa objaví krúžok výberu svetla 2 je vybraný tmavou kalibračnou pozíciou.
			Zobrazí sa, keď sa objaví krúžok výberu svetla 2 má vybraný rozsah „L“.
			Zobrazí sa, keď sa objaví krúžok výberu svetla 2 má vybraný rozsah "H".

Č.	Názov časti	Popis	
7	Meranie Metóda		Zobrazí sa, keď je v nástrojovej skrinke vybraté jedno meranie.
			Zobrazí sa, keď je v nástrojovej skrinke vybraté nepretržité meranie (iba pri okolitom svetle).
8	Stav zámku kláves Ukazovateľ		Zobrazí sa, keď je obrazovka odomknutá.
			Zobrazí sa, keď je obrazovka uzamknutá. Keď je obrazovka uzamknutá, operácie s dotykovým panelom sú zakázané.

Obrazovka Toolbox

Nasledujúce nastavenie je možné vykonať po dotyku [Skrinka s nástrojmi ] ikona na (obrazovka merania).

* Všetky ikony sa zobrazujú z dôvodu vysvetlenia obrazovky nástroja Toolbox. Nie je to predvolené nastavenie.



[Skrinka s nástrojmi: Zoznam položiek]

Č.	Názov časti	Popis
1	Prednastavený výber (2°)	Prepne na obrazovku Predvoľba výberu. (• P105)
2	Prednastavený výber (10°)	Prepne na obrazovku Predvoľba výberu. (• P105) Prepne
3	Názov pamäte	na obrazovku zadávania názvu pamäte. (• P109) Prepne
4	Doba vystavenia	na obrazovku Expozičný čas. (• P126) Prepne na
5	Rýchlosť uzávierky	obrazovku času uzávierky. (• P128) Prepne na obrazovku
6	Metóda merania	Metóda merania. (• P130) Prepne na obrazovku Správa
7	Správa pamäte	pamäte. (• P113)
8	Tlačidlo [Zavriet]	Zatvorí obrazovku Tool Box a vráti sa na obrazovku Measurement.

3-1-2

Ikona Prevádzka

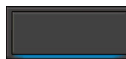
Dotknite sa položky Prevádzka

Dotykom na ikony na obrazovke môžete vykonávať rôzne operácie.

(Pr.) Obrazovka merania v textovom režime

Dotykové ikony

Ikony s modrou podčiarkou označujú, ktoré ikony sú funkčné.



Dotykové ikony



Dotykové ikony

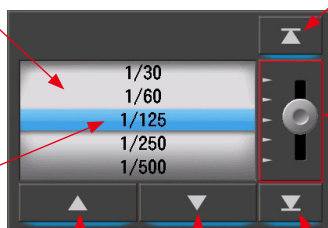
Posuvná prevádzka

Prejdením prsta hore alebo dole po hodnote zmeníte hodnotu. Posunutím prsta po posúvači získate rýchlu navigáciu vo veľkých ponukách.

(Pr.) Obrazovka výberu rýchlosti uzávierky

Posuňte výber

Posuňte prst hore alebo dole po stanovenie hodnotových oblastí zmeniť nastavenie hodnoty.

**Najlepšie ikona**

Dotykom prejdete na najnižšiu hodnotu.

Posuvník

Klepnutím a posunutím nahor alebo nadol posuňte nastavenie.

Ikona jedného kroku

Dotknite sa ikony Hore alebo Dole, aby ste sa posunuli o jednu pozíciu ďalej.

Dolná ikona

Dotykom prejdete na najvyššiu hodnotu.

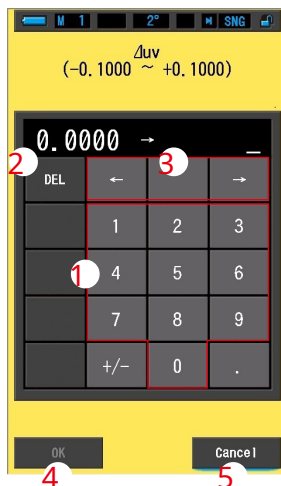
* Modrý pruh označuje zvolenú hodnotu.

3-1-3 Zadávanie čísel / znakov

Môžete zadávať čísla a znaky.

Obrazovka zadávania číselných čísel

(Pr.) Zobrazenie odchýlky Δ_{uv}

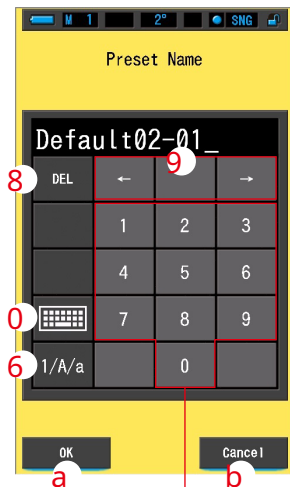


Metóda číselného čísla

Č.	Kľúč	Popis
1	0-9, +/-, bodka	Zadá číselnú hodnotu, znamienko plus alebo mínus a bodku. Po dotyku sa položka zobrazí v hornej časti obrazovky.
2	odstrániť	Vymaže vstupnú hodnotu na pozícii kurzora.
3	← →	Posunie vstupnú pozíciu.
4	Ok	Potvrdí vstupnú hodnotu a vráti sa na predchádzajúcu obrazovku.
5	Zrušiť	Zruší zadanú hodnotu a vráti sa na predchádzajúcu obrazovku.

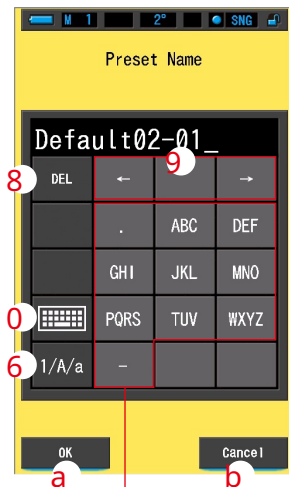
Obrazovka pre zadávanie znakov

Obrazovka vstupu



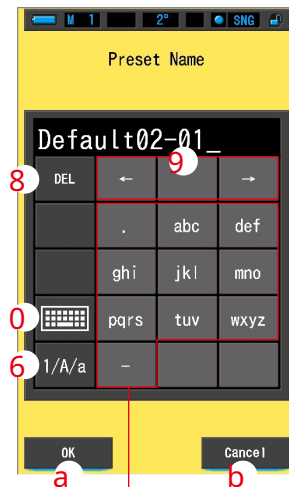
7 (Čísla)

Obrazovka pre zadávanie veľkých písmen



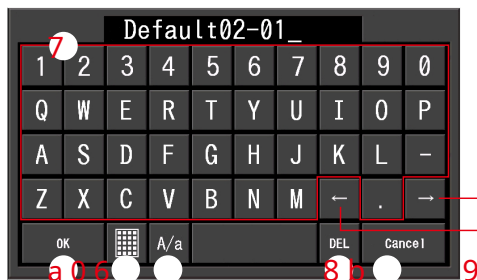
7 (Veľké písmená)

Obrazovka pre zadávanie malých písmen



7 (Malé písmená)

Klávesnica (vstupná obrazovka pre veľké písmená)



Klávesnica (vstupná obrazovka malých písmen)



Metóda vstupu znakov a čísel

Č.	Kľúč	Popis
6	1 / A / a	Prepína medzi číslami / veľkými a malými písmenami.
7	0-9, ABC, abc, pomlčka, obdobie	Hodnota zobrazená na obrazovke pri stlačení klávesu. Opakovaným dotykom na rovnaké tlačidlo pre abecedu (ABC / abc) sa abecedný znak zmení v poradí.
8	odstrániť	Vymaže znak na kurzorovom mieste. Posunie
9	← →	vstupnú pozíciu.
0	Klávesnica	Prepína medzi štandardnou klávesnicou a klávesnicou Qwerty.
a	Ok	Potvrdí vstupnú hodnotu a vráti sa na predchádzajúcu obrazovku.
b	Zrušiť	Zruší zadávanie a vráti sa na predchádzajúcu obrazovku.

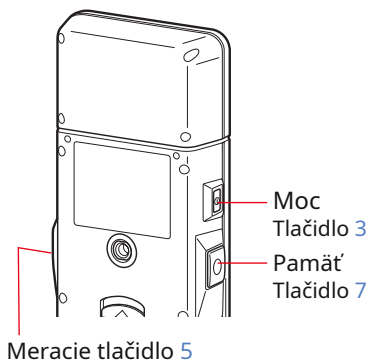
3-1-4 Zamykanie a odomykanie obrazovky

Obrazovku môžete uzamknúť, aby ste predišli nesprávnej funkcii.


Keď je obrazovka uzamknutá, dotykové ovládanie je zakázané.


Avšak tlačidlo Pamäť 7, Meranie Tlačidlo 5, a vypínač 3 sú stále funkčné.

Obrazovka zostane uzamknutá, aj keď je napájanie vypnuté a zapnuté.



Zamknúť

V ktoromkoľvek režime merania stlačte a podržte ponuku Tlačidlo 6 vidieť ikonu Zamknuté [] sa objavia na v pravom hornom rohu obrazovky LCD. Funkčné ikony nemožno ovládať, keď je obrazovka uzamknutá.

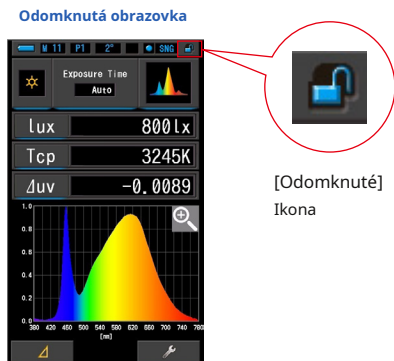
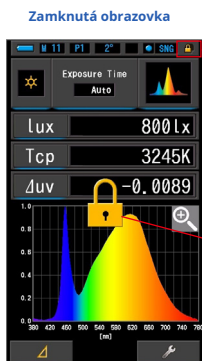
Ikona Zamknuté [] sa zobrazí pre približne 1 sekundu v strede obrazovky, keď sa dotknete funkčných ikon alebo tlačidla MENU 6 je stlačené.

* Túto funkciu blokovania je možné nastaviť iba na obrazovkách Meranie.



Odomknúť

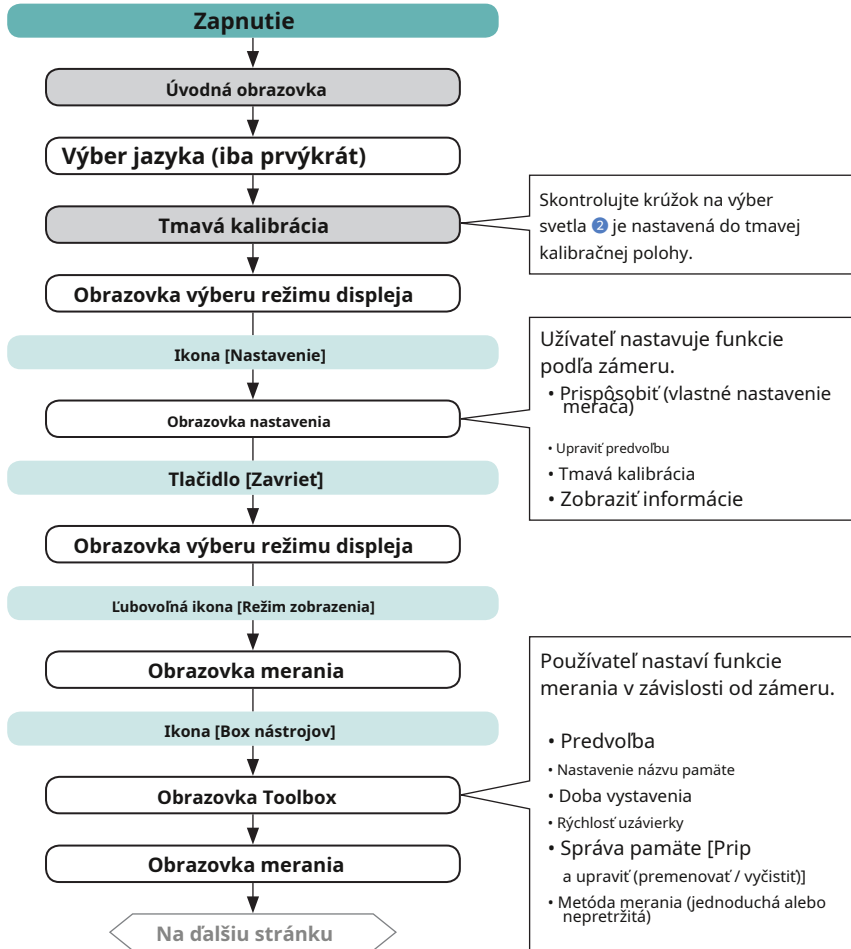
Keď je tlačidlo ponuky 6 opätovným stlačením a podržaním sa obrazovka odomkne.

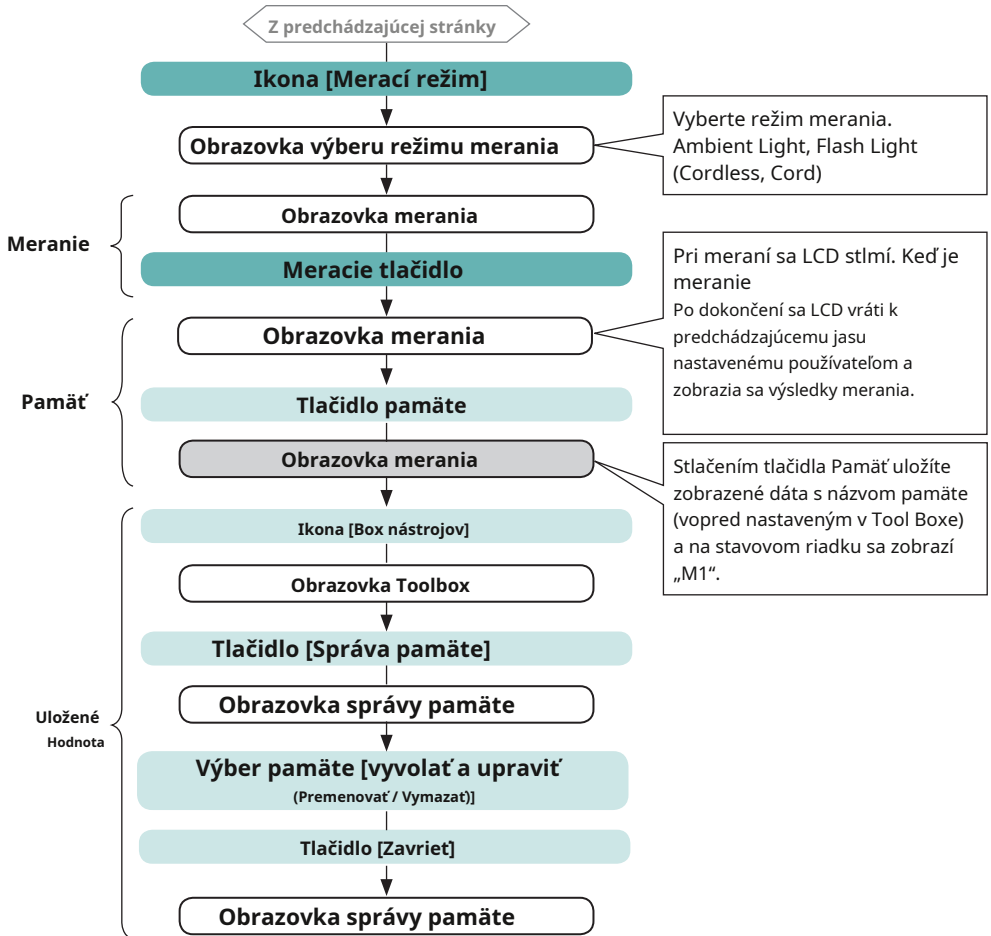


4. Základné operácie

4-1 Tok základného merania

Základné operácie a obrazovky sú nasledujúce. Merania a zmeny merania sa ovládajú z obrazovky Meranie.





4-2

Výber režimu merania

4-2-1

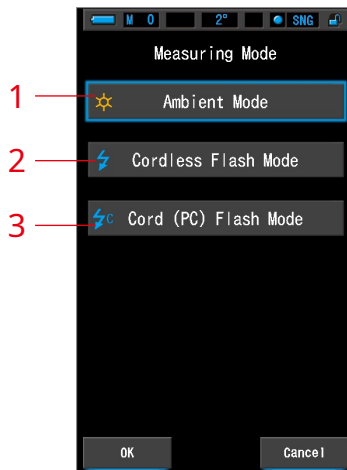
Zhoda režimu merania so zdrojmi svetla




Vyberte režim merania, ktorý chcete použiť.



- Ak zmeníte režim merania, aktuálne zobrazené meranie sa vymaže.

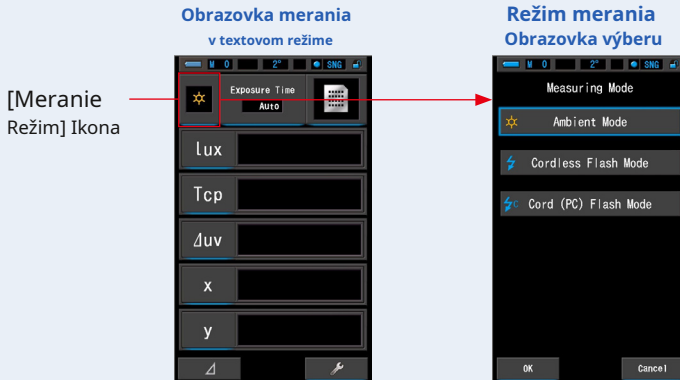
Obrazovka výberu režimu merania



Č.	Režim merania	Ikona	Popis
1	Režim okolitého svetla		Meria nepretržité svetlo ako slnečné svetlo, žiarovka, žiarovka a žiarovky LED. (• P86)
2	Režim bezdrôtového blesku		Detekuje svetlo blesku bez pripojenia merača a blesku po stlačení meracieho tlačidla k meraču ramena (na 90 sekúnd) a samostatnému odpáleniu blesku. (• P90)
3	Režim kábla (PC) Flash		Detekuje svetlo blesku pomocou kábla typu PC (synchro) pripojeného k metru a blesku. (• P94)

Prevádzka

1. Dotknite sa ikony [Režim merania] v ľavom hornom rohu obrazovky.
Zobrazí sa obrazovka výberu režimu merania.



2. Dotknutím sa ikony vyberte režim merania.

Vyberte požadovaný režim merania.

3. Dotknite sa tlačidla [OK].

Potvrdí nastavenia a vráti sa na predchádzajúcu obrazovku Meranie.

Dotknite sa [Zrušiť] pre návrat na predchádzajúcu obrazovku merania bez nastavenia.



Príklad.) Režim okolitého svetla → Bezdrôťový režim



POZNÁMK

- Medzi okolité svetlo patria nepretržité svetelné zdroje, ako je prirodzené svetlo (slnečné svetlo), žiarovky, žiarovky, žiarovky LED atď.
- Blesk obsahuje krátke a intenzívne záblesky svetelných zdrojov, ako sú elektronické blesky alebo žiarovky.

4-2-2

Volba expozičného času (iba režimy okolia)

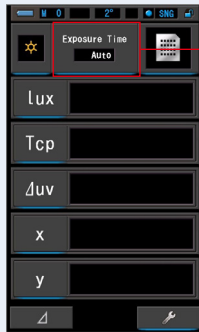
Nastavte čas expozície na meranie okolia.

Prevádзка

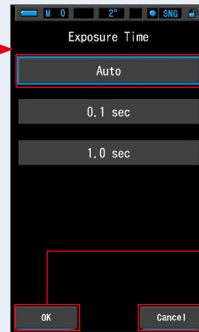
1. Dotknite sa indikácie [Exposure Time] na obrazovke merania.

Dotknite sa tlačidla [Auto], [0,1 s] alebo [1,0 s].

Obrazovka merania



Obrazovka expozičného času



Vybraté tlačidlo bude byť zobrazené obklopené v Modrá.

[OK]
Tlačidlo

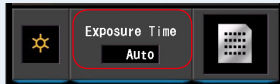
[Zrušiť]
Tlačidlo

2. Dotknite sa tlačidla [OK].

Potvrdí nastavenia a vráti sa na predchádzajúcu obrazovku Meranie.

Dotknite sa [Zrušiť] pre návrat na predchádzajúcu obrazovku merania bez nastavenia.

Je nastavený čas expozície.



POZNÁMK

- V automatickom režime C-7000 automaticky vyberá z 15 časov merania, ktoré sú určené dostupným osvetlením, aby pohodlným spôsobom dosiahol správny výsledok.

K dispozícii sú dva pevné časy čítania, ktoré umožňujú presné porovnanie viacerých meraní.

Pri meraní vysokých úrovní osvetlenia nastavte čas expozície na 0,1 s. Pri meraniach pri nízkej intenzite osvetlenia nastavte čas expozície na 1,0 s.



OZNAM

- 0,1 s a 1,0 s nemusia pokrývať určitý rozsah merania osvetlenia a objaviť sa [OVER] alebo [UNDER]. V takom prípade nastavte čas expozície na „Auto“.

4-2-3

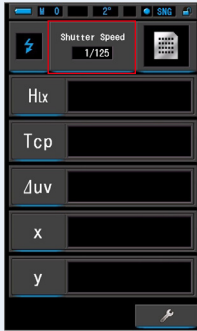
Volba rýchlosti uzávierky (iba režimy blesku)

Nastavte čas uzávierky vhodný pre zamýšľané meranie blesku.

Prevádzka

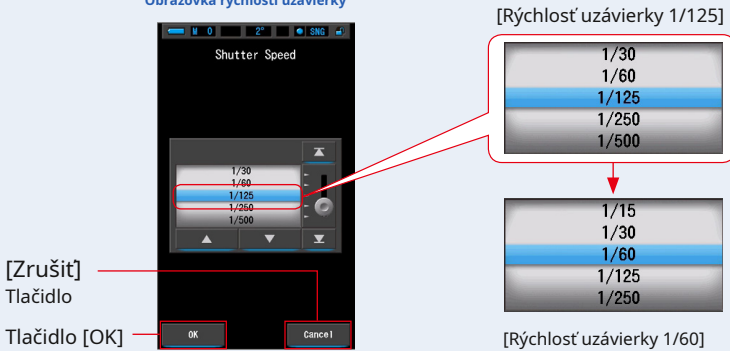
1. Dotknite sa indikácie [T (rýchlosť uzávierky)].

(Pr.) Obrazovka merania režimu bezdrôtového blesku v textovom režime



2. Vyberte požadovanú rýchlosť uzávierky.

Obrazovka rýchlosti uzávierky

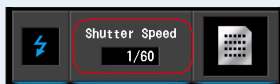


3. Dotknite sa tlačidla [OK].

Potvrdí nastavenia a vráti sa na predchádzajúcu obrazovku Meranie.

Ak chcete zrušiť nastavenie, dotknite sa tlačidla [Zrušiť].

Je nastavený čas uzávierky.





POZNÁMKY

Možnosti rýchlosti uzávierky

1 krok
1 s
1/2
1/4
1/8
1/15
1/30
1/60
1/125
1/250
1/500



OZNAM

- Merané údaje sa vymažú, keď sa zmení nastavenie času uzávierky.

4-3

Prispôsobenie meracích displejov

Zobrazované informácie môžete prispôbiť, aby ste v jednom zobrazení videli presne to, čo potrebujete.

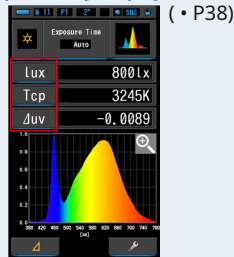
Prevádzka

1. Dotknite sa indikácie [Zobraziť položku] na obrazovke merania.
Zobrazí sa obrazovka Zobrazit' knižnicu položiek. (• P36)
2. Vyberte položky, ktoré sa majú zobraziť.
Zobrazia sa vybrané položky a hodnoty.

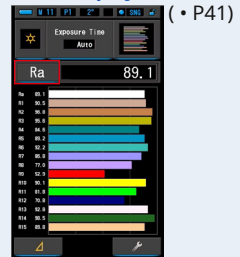
Obrazovka merania
Textový displej



Obrazovka merania
Spektrálny displej














Obrazovka merania
CRI displej



Zobrazit' zoznam položiek

vyhladávk C.	Ikona	názov	Popis
1	T _{cp}	Korelovaná teplota farieb	Zobrazuje farebnú teplotu.
2	Δuv	Odchýlka	Zobrazuje odchýlku od žiarenia čierneho telesa.
3	X	Hodnota Tristimulus	Zobrazí tristimulovú hodnotu X alebo X ₁₀ .
4	Y		Zobrazí tristimulovú hodnotu Y alebo Y ₁₀ .
5	Z		Zobrazí tristimulovú hodnotu Z alebo Z ₁₀ .
6	x	Chromatickosť súradnice	Zobrazí súradnice farby CIE1931 x alebo súradnice farby CIE1964 x ₁₀ .
7	y		Zobrazí súradnice farby CIE1931 y alebo súradnice farby CIE1964 y ₁₀ .
8	z		Zobrazí súradnice farebnosti CIE1931 z alebo súradnice farebnosti CIE1964 z ₁₀ .
9	u'		Zobrazí súradnice farebnosti CIE1976 u' alebo u' ₁₀ .
10	v'		Zobrazí súradnice farebnosti CIE1976 v' alebo v' ₁₀ .
11	λ _d	Dominantná vlnová dĺžka	Zobrazuje dominantnú vlnovú dĺžku alebo doplnkovú vlnovú dĺžku (ak je nameraná hodnota záporná).
12	Pe	Excitačná čistota	Zobrazuje čistotu budenia.
13	λ _p	Špičková vlnová dĺžka	Zobrazí maximálnu vlnovú dĺžku.
14	lux	Osvetlenie / svetelná expozícia	Zobrazuje intenzitu osvetlenia alebo osvetlenia. Môže byť nastavený na tomto spektrometri.
15	f _c		

* Modely predávané v niektorých krajinách z dôvodu zákonných obmedzení nezobrazujú osvetlenie a expozíciu v „f_c (f_c · s)“

Pole 2 ° 10 ° vyhládka		názov	Popis
Č.	Ikona		
16		Index vernosti	Zobrazí Fidelity index TM-30-18 v hodnote od 0 do 100.
17		Gamutový index	Zobrazí index Gamut TM-30-18 v hodnote od 0 do 200.
18		SSI Tungsten	Zobrazí index SSI v hodnote od 0 do 100 v porovnaní s CIE Tungsten (3200K).
19		SSI denné svetlo	Zobrazí index SSI v hodnote od 0 do 100 v porovnaní s CIE D55 (5500K).
20		SSI # 1	Zobrazí index SSI v hodnote od 0 do 100 v porovnaní s vybraným zdrojom svetla č. 1 (žltý graf) v režime SSI.
21		SSI # 2	Zobrazí index SSI v hodnote od 0 do 100 v porovnaní s vybraným zdrojom svetla č. 2 (červený graf) v režime SSI.
22		TLCI	Zobrazí index TLCI v hodnote od 0 do 100.
23		TLMF	Zobrazí index TLMF v hodnote od 0 do 100 v porovnaní s vybranou zapamätanou hodnotou.
24		Priemerný index podania farieb	Zobrazuje priemerné CRI R1 až R8.
25		Špeciálny index vykreslenia farieb	Zobrazuje CRI R1 až R15.
26		Fotosyntetický fotón hustota toku	Zobrazí PPFD.

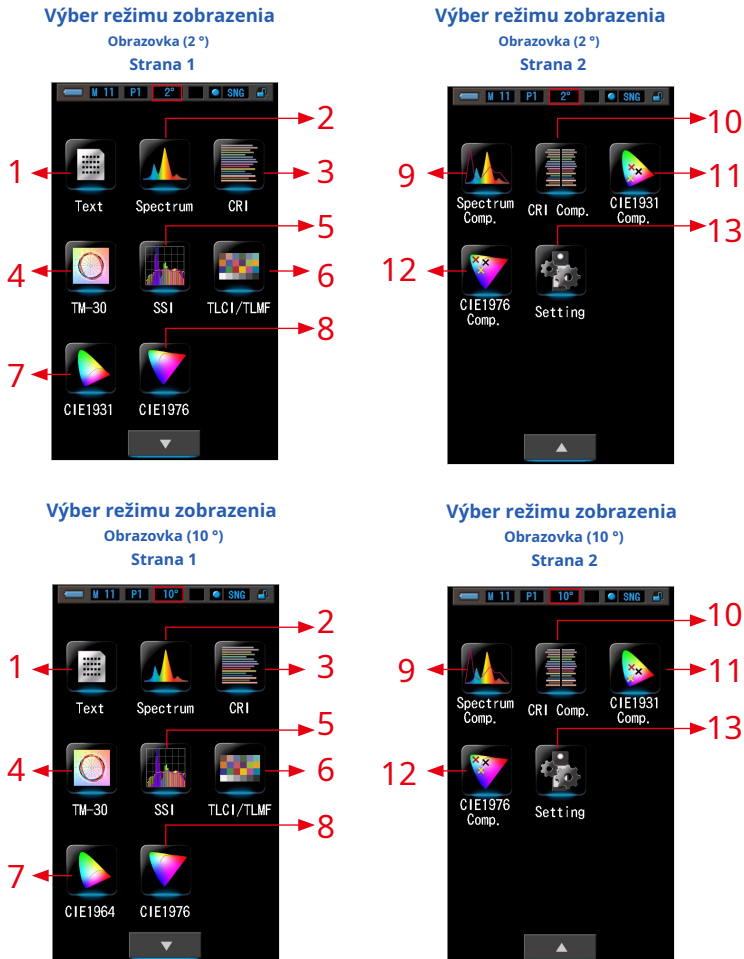
4-4

Výber režimu zobrazenia

Dotknutím sa ikony na obrazovke Výber režimu zobrazenia sa informácie o osvetlení zobrazujú rôznymi spôsobmi, ktoré vyhovujú vašim potrebám.

* Stlačenie tlačidla ponuky **6** na glukometri sa vráti na obrazovku Výber režimu zobrazenia.

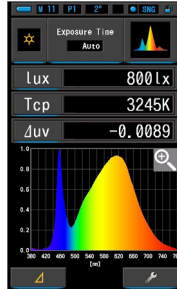
Zoznam ikon režimu zobrazenia



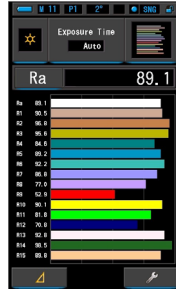
1 Text



2 Spektrum



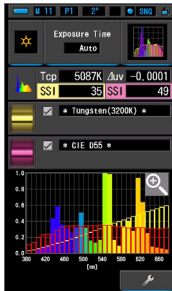
3 CRI



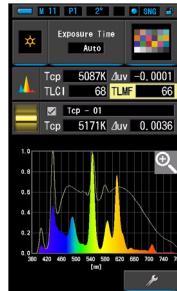
4 TM-30



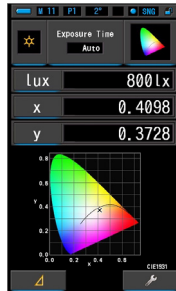
5 SSI



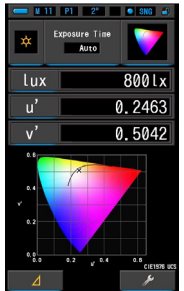
6 TLCI / TLMF



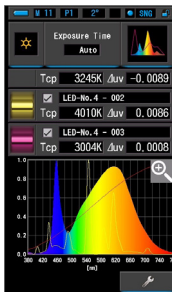
7 CIE1931 (CIE1964)



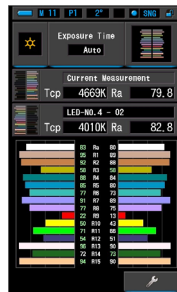
8 CIE1976



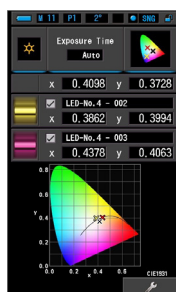
9 Spektrum Porovnanie



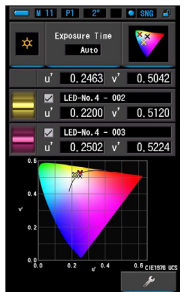
10 CRI Porovnanie



11 CIE1931 (CIE1964) Porovnanie
















12 CIE1976 Porovnanie



13 Nastavenie



Č.	Ikona	Názov režimu zobrazenia	Popis
1		Ikona [Text]	Zobrazí používateľom vybraných 5 položiek v číselných hodnotách. (• P35)
2		Ikona [Spectrum]	Zobrazuje 3 používateľom vybrané hodnoty a graf rozdelenia spektra. (• P38)
3		Ikona [CRI]	Zobrazí číselne vybraný priemerný CRI (Ra) alebo individuálny CRI (R1 ~ R15). Každý CRI sa zobrazuje v stĺpcovom grafe. (• P41)
4		Ikona [TM-30]	Zobrazuje štyri aktuálne namerané hodnoty (Rf, Rg, Tcp, Δuv) a farebná vektorová grafika. (• P44)
5		Ikona [SSI]	Porovnáva aktuálnu nameranú hodnotu a až 2 referenčné hodnoty (teplota farby a Δuv) a zobrazí index SSI s grafom spektra SSI. (• P46)
6		Ikona [TLCI / TLMF]	Zobrazuje aktuálne namerané hodnoty a uložené hodnoty (vo farebnej teplote a Δuv), TLCI a TLMF so spektrálnym grafom. (• P57)
7		[CIE1931 (CIE1964)] Ikona	Zobrazuje prednastavené údaje spolu s chromatickým diagramom CIE1931 (alebo chromatickým diagramom CIE1964 pre pozorovací uhol 10 °). (• P62)
8		[CIE1976] Ikona	Zobrazí výsledok merania spolu s chromatickým diagramom CIE1976. (• P64)
9		[Spektrum Porovnanie] Ikona	Porovnáva aktuálnu nameranú hodnotu a až 2 uložené hodnoty v grafe rozloženia spektra. (• P66)
10		[Porovnanie CRI] Ikona	Porovnáva aktuálnu nameranú hodnotu a zapamätanú hodnotu a zobrazuje farebnú teplotu a priemernú hodnotu CRI (Ra). Jednotlivé CRI (R1 až R15) sa tiež zobrazia v grafe. (• P71)
11		[CIE1931 (CIE1964) Porovnanie] Ikona	Zobrazí prednastavené údaje a uloženú nameranú hodnotu (až 2 typy údajov) spolu so súradnicami x a y v chromatickom diagrame CIE1931 (alebo chromatický diagram CIE1964 pre pozorovací uhol 10 °). (• P75)

Č.	Ikona	Názov režimu zobrazenia	Popis
12		[CIE1976 Porovnanie] Ikona	Zobrazí nameraný výsledok a uloženú nameranú hodnotu (až 2 typy údajov) spolu so súradnicami u 'a v' na diagrame chromatičnosti CIE1976. (• P79)
13		Ikona [Nastavenie]	Zobrazí obrazovku nastavení. (• P83)

* 1 až 12 je obrazovka merania.

Prevádzka

1. Dotknite sa ikony [Režim zobrazenia] na meracej obrazovke alebo stlačte Tlačidlo ponuky 6 na merači.

Zobrazí sa obrazovka výberu režimu zobrazenia. (• P30)

Režimy zobrazenia od č.1 do 12 slúžia na meranie. Režim zobrazenia č.13 slúži na nastavenie.

2. Dotknite sa požadovanej ikony režimu zobrazenia, aby sa zobrazila.

Na obrazovke sa zobrazí obrazovka Meranie vo vybranom režime zobrazenia.





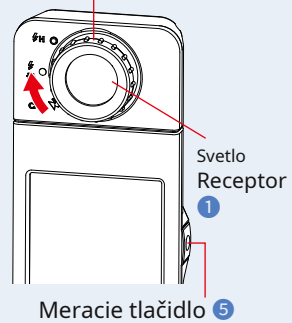
3. Dotknite sa indikácie [Expozičný čas] alebo [T (rýchlosť uzávierky)] indikácia na obrazovke Meranie.

Pre meranie okolitého svetla zvolte tlačidlo [Auto], [0,1 s] alebo [1,0 s]. (• P25) Pre meranie blesku vyberte požadovanú rýchlosť uzávierky. (• P26)

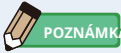
4. Stlačte meracie tlačidlo 5 merateľ. Prsteň na výber svetla 2

Svetelný výberový krúžok 2 by mala byť pri meraní okolitého svetla nastavená na L.

Pri meraní jednotiek blesku vyberte rozsah L alebo rozsah H.  H () v závislosti od jasů blesku. (• P102, • P103)



Merania sú teraz zobrazené.



POZNÁMKA

- Ak chcete správne merať teplotu farieb svetelného zdroja, namierte to Light Receptor 1 priamo pri zdroji svetla počas čítania.
- Merania a zobrazovanie budú trvať dlhšie pri úrovniach svetla nižších ako 30x. Osvetlenie LCD sa normálne počas meraní vypne, aby sa zabránilo ovplyvneniu meraní.

5. Výsledok merania sa objaví na obrazovke Meranie (Text Režim).

Obrazovka merania v textovom režime



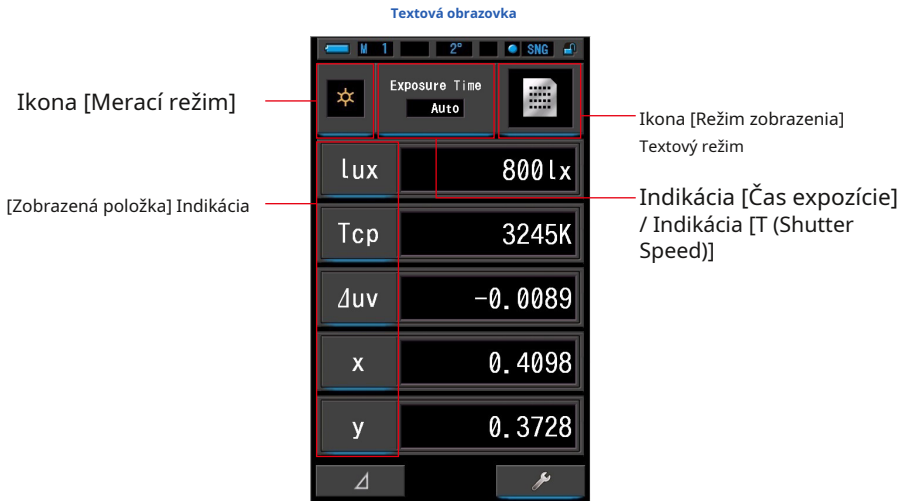
Výsledok merania

6. Výsledky merania si zapamätajte.

Ak chcete zaznamenať merania, stlačte pamäťové tlačidlo 7. (• P108)

4-4-1 Zobrazenie v režime Text [Text]

Zobrazí päť položiek vybraných používateľom v číselnej hodnote.



Prevádzka

1. Dotknite sa ikony [Text] na obrazovke Výber režimu zobrazenia.

Zobrazí sa textová obrazovka. (• P30)

2. Dotknite sa ikony [Režim merania].

Zobrazí sa obrazovka výberu režimu merania. Vyberte požadovaný režim merania, ktorý sa má použiť. (• P23)

3. Dotknite sa indikácie [Zobraziť položku] pre zmenu.

Zobrazí sa obrazovka Zobraziť knižnicu položiek.

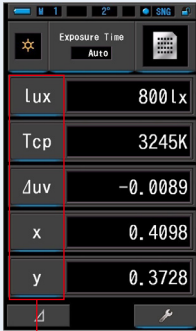
Aktuálne vybraná položka displeja bude obklopená modrou farbou.

4. Dotknite sa požadovanej indikácie zobrazenej položky a tlačidla [OK].

Aktuálne vybraná položka displeja bude obklopená modrou farbou.

Stlačením tlačidla [OK] potvrdíte nastavenie a vrátite sa na obrazovku Meranie. Ak chcete zrušiť nastavenie, dotknite sa tlačidla [Zrušiť].

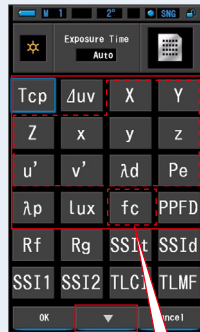
Textová obrazovka



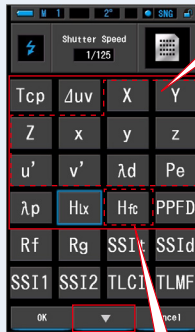
Dotknite sa [Displej Položka] označenie chceš zmeniť.

Zobraziť obrazovku Knížnica položiek

V okolítom svetle Režim Strana 1



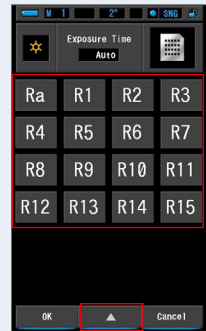
Vo svetle blesku Režim Strana 1



Pre 10° pozorovací uhol

		X ₁₀	Y ₁₀
Z ₁₀	x ₁₀	y ₁₀	Z ₁₀
u' ₁₀	v' ₁₀	λd ₁₀	Pe ₁₀

V obidvoch režimoch Strana 2



Keď je „fc“
vybraný

fc

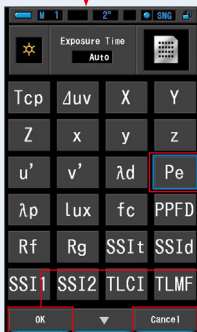
Keď je „fc · s“
vybraný

Hfc

Na stranu 2

Na stranu 1

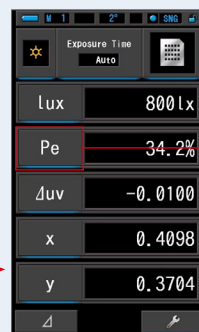
Dotknite sa požadovanej zobrazenej položky.



Indikácia bude
byť obklopený
Modrá.

Tlačidlo [OK]

Tlačidlo [Zrušiť]



Nový
Zobraziť položku
objaví sa.



* Modely predávané v niektorých krajinách nezobrazujú „fc (fc · s)“ z dôvodu zákonných obmedzení.

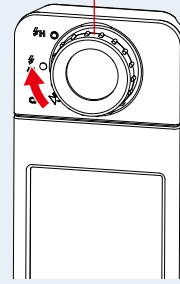
5. Dotknite sa indikácie [Expozičný čas] alebo [T (rýchlosť uzávierky)] indikácia na obrazovke Meranie.

Pre meranie okolitého svetla zvolte tlačidlo [Auto], [0,1 s] alebo [1,0 s]. (• P25) Pre meranie blesku vyberte požadovanú rýchlosť uzávierky. (• P26)

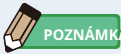
6. Stlačte meracie tlačidlo 5 merať. Prsteň na výber svetla 2

Svetelný výberový krúžok 2 by mala byť pri meraní okolitého svetla nastavená na L.

Pri meraní jednotiek blesku vyberte rozsah L alebo rozsah H.  H () v závislosti od jasů blesku. (• P102, • P103)



Meracie tlačidlo 5



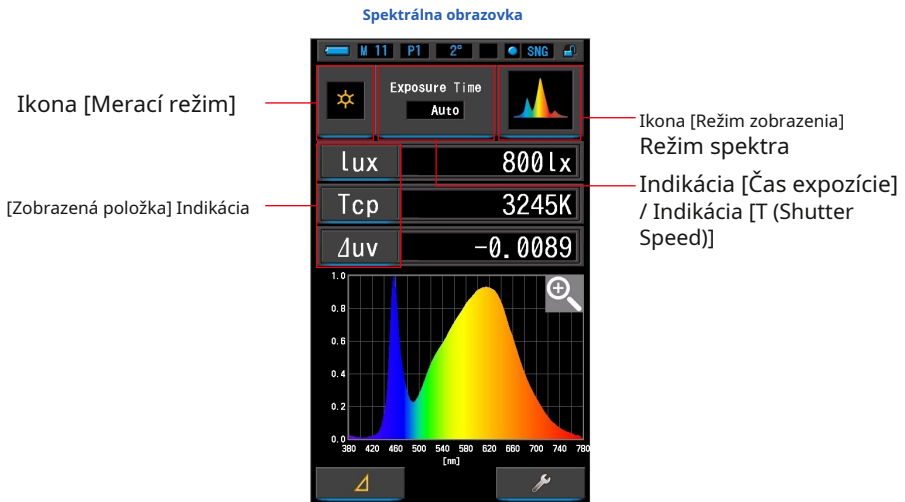
- Meranie a zobrazovanie bude trvať dlhšie pri úrovniach svetla nižších ako 30x. Osvetlenie LCD sa počas merania normálne vypne, aby sa zabránilo ovplyvneniu merania.

7. Výsledky merania si zapamätajte.

Ak chcete zaznamenať merania, stlačte pamäťové tlačidlo 7. (• P108)

4-4-2 Zobrazenie v režime spektra [Spectrum]

Zobrazí tri hodnoty vybrané používateľom a graf spektrálneho rozdelenia.



Prevádzka

1. Dotknite sa ikony [Spectrum] na obrazovke Výber režimu zobrazenia.

Zobrazí sa obrazovka s grafom rozloženia spektra. (• P30)

2. Dotknite sa ikony [Režim merania].

Zobrazí sa obrazovka výberu režimu merania. Vyberte požadovaný režim merania, ktorý sa má použiť. (• P23)

3. Dotknite sa indikácie [Zobraziť položku] pre zmenu.

Zobrazí sa obrazovka Zobraziť knižnicu položiek. (• P36)


Dotknite sa požadovanej zobrazenej položky a tlačidla [OK].

4. Dotknite sa indikácie [Expozičný čas] alebo [T (rýchlosť uzávierky)] indikácia na obrazovke Meranie.

Pre meranie okolitého svetla zvolte tlačidlo [Auto], [0,1 s] alebo [1,0 s]. (• P25) Pre meranie blesku vyberte požadovanú rýchlosť uzávierky. (• P26)

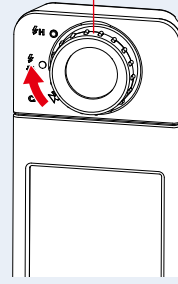
5. Stlačte meracie tlačidlo 5 merateľ.

Svetelný výberový krúžok 2 by mala byť pri meraní okolitého svetla nastavená na L.

Pri meraní jednotiek blesku vyberte rozsah L alebo rozsah H. LH () v závislosti od jasú blesk. (• P102, • P103)

Merania sú teraz zobrazené.

Prsteň na výber svetla 2



Meracie tlačidlo 5



POZNÁMKA

- Meranie a zobrazovanie bude trvať dlhšie pri úrovniach svetla nižších ako 30x. Osvetlenie LCD sa počas merania normálne vypne, aby sa zabránilo ovplyvneniu merania.

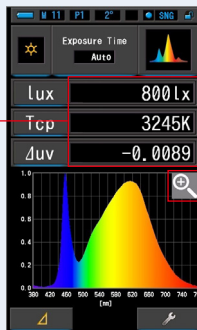
6. Dotknite sa ikony [Lupa (+)] na obrazovke.

Graf distribúcie spektra sa zväčší.

Zväčšený graf sa zobrazí na celej obrazovke (na šírku).

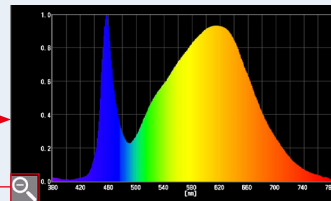
Ak sa chcete vrátiť na obrazovku Spectrum, dotknite sa ikony [Magnifying Glass (-)] na zväčšenom grafe rozloženia spektra.

Spektrálna obrazovka



Meranie výsledky sú zobrazené.

Graf distribúcie spektra
Zväčšený displej




OZNAM

- Keď sa zobrazí zväčšený graf, meranie nie je možné vykonať.

**POZNÁMKA**

- Maximálnu zobrazovanú hodnotu osi Y je možné zvoliť položkou [Spektrum Mierka osi Y] na strane 1 nastavenia. (• P140)

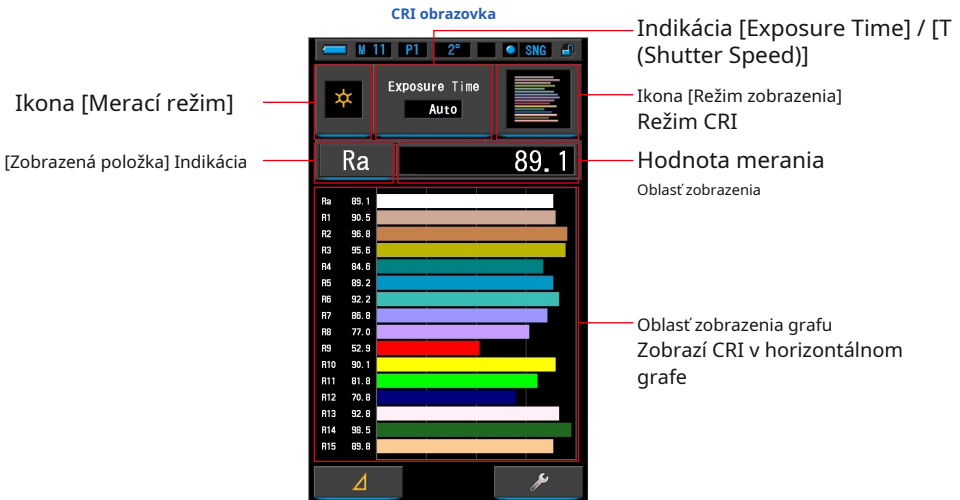
7. Výsledky merania si zapamätajte.

Ak chcete zaznamenať merania, stlačte pamäťové tlačidlo  . (• P108)

4-4-3

Zobrazenie v režime indexu farebného podania [CRI]

Zobrazí číselne vybraný priemerný CRI (Ra) alebo individuálny CRI (R1 ~ R15). Každý CRI je tiež zobrazený v grafe.



Prevádзка

1. Dotknite sa ikony [CRI] na obrazovke Výber režimu zobrazenia.

Zobrazí sa obrazovka CRI. (• P30)

2. Dotknite sa ikony [Režim merania].



Zobrazí sa obrazovka výberu režimu merania. Vyberte požadovaný režim merania, ktorý sa má použiť. (• P23)

3. Dotknite sa indikácie [Expozičný čas] alebo [T (rýchlosť uzávierky)] indikácia na obrazovke Meranie.

Pre meranie okolitého svetla zvolte tlačidlo [Auto], [0,1 s] alebo [1,0 s]. (• P25) Pre meranie blesku vyberte požadovanú rýchlosť uzávierky. (• P26)

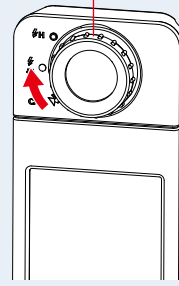
4. Stlačte meracie tlačidlo 5 merať.

Svetelný výberový krúžok 2 by mala byť pri meraní okolitého svetla nastavená na L.

Pri meraní jednotiek blesku vyberte rozsah L alebo rozsah H.  H () v závislosti od jasů blesk. (• P102, • P103)

Merania sú teraz zobrazené.

Prsteň na výber svetla 2



Meracie tlačidlo 5



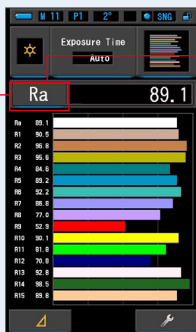
POZNÁMKY

- Oblasť zobrazenia grafu Ra, R1 ~ R15 sú vždy zobrazené.
- Meranie a zobrazovanie bude trvať dlhšie pri úrovniach svetla nižších ako 30x. Osvetlenie LCD sa počas merania normálne vypne, aby sa zabránilo ovplyvneniu merania.
- Ra je priemerná hodnota iba od R1 do R8. R9 až R15 nie sú zahrnuté v Ra.

5. Dotknite sa indikácie [Zobraziť položku] pre zmenu.

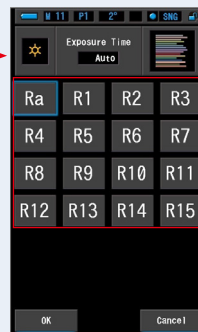
Zobrazí sa obrazovka Zobrazit' knižnicu položiek.

CRI obrazovka



[Zobraziť položku]
Indikácia

Zobrazit' knižnicu položiek



6. Dotknite sa požadovanej zobrazenej položky.

Vyberte položku, ktorá sa má zobraziť nad grafom.


Indikácia bude obklopená modrou farbou.

7. Dotknite sa tlačidla [OK].

Ak chcete zrušiť nastavenie, dotknite sa tlačidla [Zrušiť].



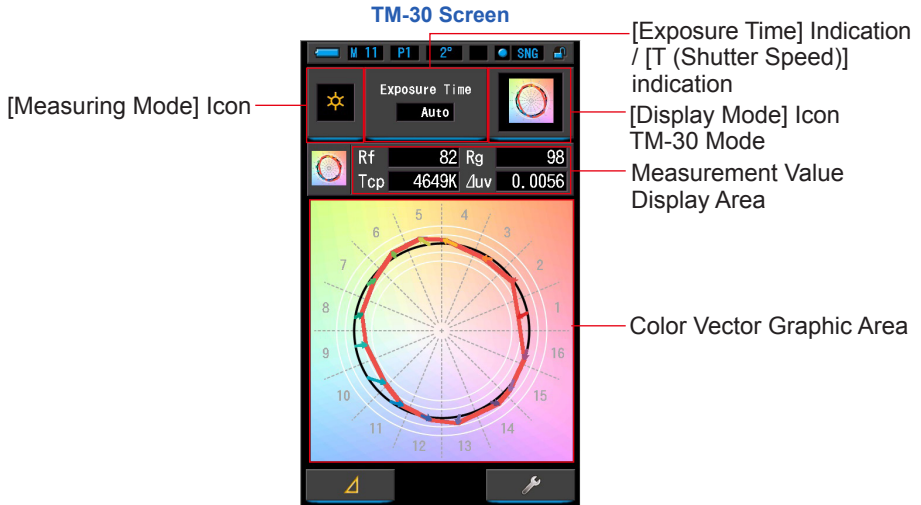
8. Dotknite sa tlačidla [OK].

Ak chcete zaznamenať iba aktuálne merania, stlačte pamäťové tlačidlo  . (• P108)

4-4-4 Displaying in TM-30 [TM-30] Mode

Displays four current measurement values (Rf, Rg, Tcp, Δuv) and color vector graphic.
(➔ P204)

The C-7000 with latest firmware shows TM-30-18.



Operation

1. Touch the [TM-30] icon on the Display Mode Selection screen.

A TM-30 distribution graph screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

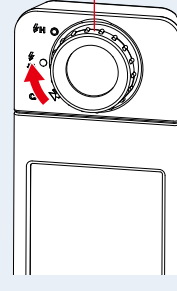
4. Press the Measuring Button 5 to measure.

The Light Selection Ring 2 should be set to L () when taking ambient light measurements.

When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (→ P102, → P103)

Measurements are now displayed.

Light Selection Ring 2



Measuring Button 5



NOTE

- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. Current measurements and color vector graphic are displayed.

Default Display Items are Rf, Rg and Tcp, Δuv .

Color vector graphic is the visual representation of hue and chroma shifts around the hue circle divided by 16.

Color vector graphic shows the current measurement in the red line.

The standard light source is displayed in black slid line, and arrow shows the difference for current measurement.

White circles with radius shows Rg80, 90, 110 and 120.

Numbers from 1 to 16 represent hue-angle bins divided by 16 in 22.5 degree increment, which assign from 1 of red to 16 of reddish purple.

TM-30 Screen



Measurement Value Display

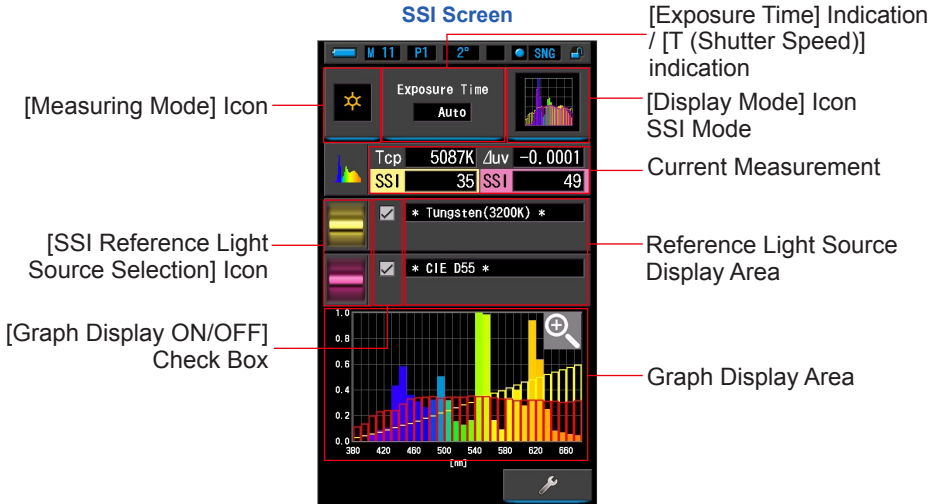
Color Vector Graphic Display

6. Memorize the measurement results.

To record measurements, press Memory Button 7. (→ P108)

4-4-5 Displaying in Spectral Similarity Index [SSI] Mode

Compares the current measurement value and up to 2 reference values (color temperature and Δuv), and displays SSI index with the SSI spectrum graph. Reference light source can be set in three ways from standard illuminant, color temperature input or memory recall. (➔ P205)



Operation

1. Touch the [SSI] icon on the Display Mode Selection screen.

The SSI screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)

3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

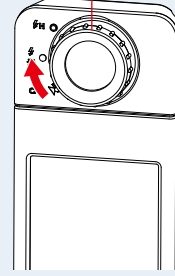
4. Press the Measuring Button ⑤ to measure.

The Light Selection Ring ② should be set to L (⚡ (🔵)) when taking ambient light measurements.

When measuring flash units, select Range L (⚡ (🔵)) or Range H (⚡H (🔵)) depending on the brightness of the flash. (➡ P102, ➡ P103)

Measurements are now displayed.

Light Selection Ring ②



Measuring Button ⑤



NOTE

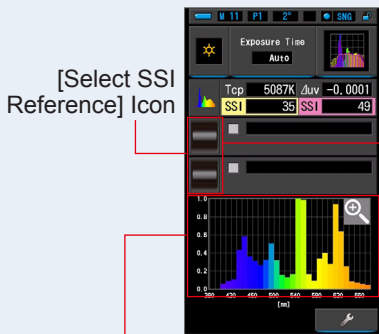
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5. The current measurement is displayed in the graph display area.

6. Touch the [Select SSI Reference] icon.

The [Select SSI Reference Light] screen will be displayed.

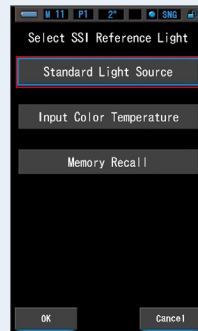
SSI Screen



[Select SSI Reference] Icon

Current Measurement Graph (SSI)

Select SSI Reference Light Screen



Blue bar indicates the item selected.

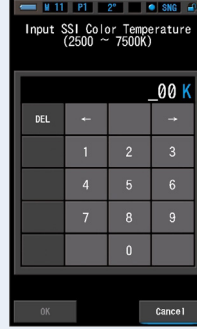
7. There are three ways to select the [Select SSI Reference Light].

Select the item to compare from three options; [Select SSI Standard Light Source], [Input SSI Color Temperature] and [SSI Memory Recall].

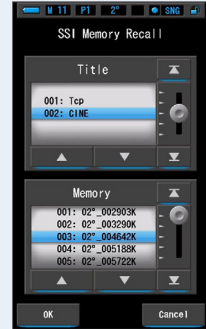
Select SSI Standard Light Source Screen



Input SSI Color Temperature Screen



SSI Memory Recall Screen



[Standard Light Source Selection]

You can select the reference light source from standard illuminants.

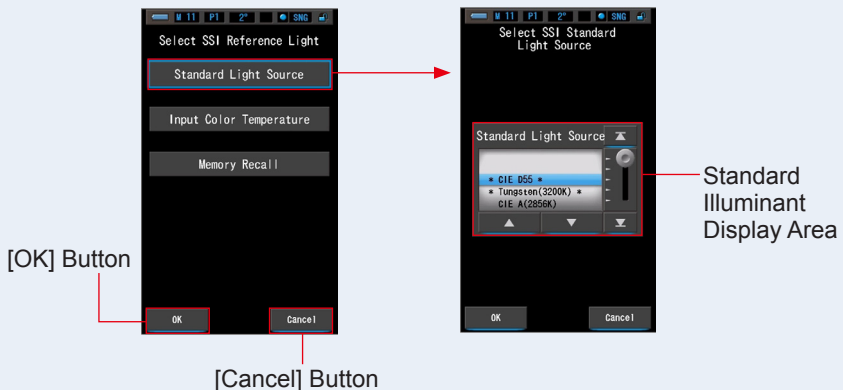
There are [Tungsten 3200K] and supplementary standard illuminant [CIE D55] as the SSI standard light source, [CIE A(2856K)] and [CIE D65] as CIE standard illuminant, and [CIE D50] and [CIE D75] as the CIE supplementary standard illuminant.

1. Touch the [Standard Light Source] indication on the Select SSI Reference Light screen.

The Select SSI Standard Light Source screen will be displayed.

Select SSI Reference Light Screen

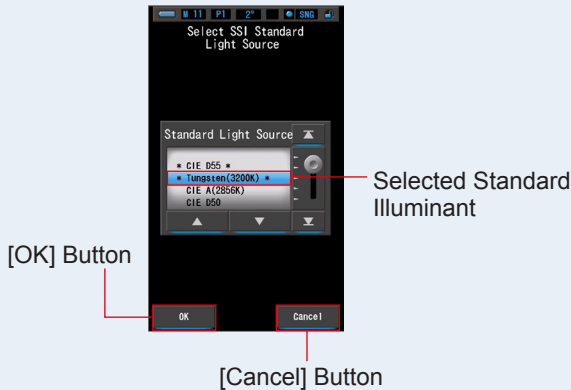
Select SSI Standard Light Source Screen



2. Select the desired standard illuminant to compare.

To select the standard illuminant, match it with the blue background position.

Select SSI Standard Light Source Screen



3. Touch the [OK] button.

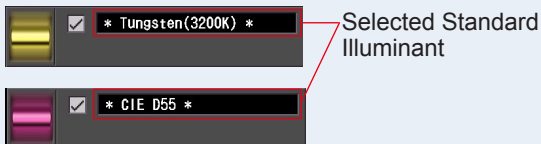
Confirms the setting and returns to the SSI screen.

To cancel the setting, touch the [Cancel] button.

4. The selected standard illuminant will be displayed in the reference light source display area on the SSI screen.

You can select up to two reference light sources.

Reference Light Source Display Area



5. SSI value of current measurement to compare with the reference light source will be displayed.

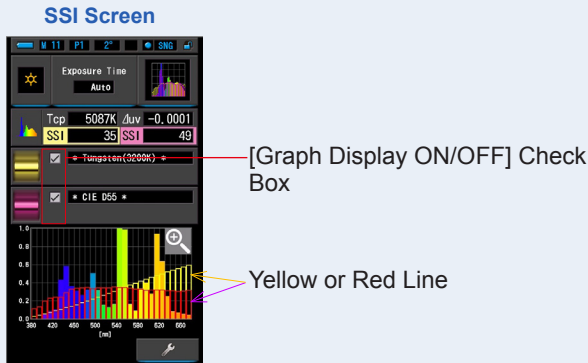
Current Measurement Display Area



6. Yellow and Red line graphs will be displayed in the SSI spectrum graph.

Touch the [Graph Display ON/OFF] check box to hide/show a line graph on the screen.

* shows line. hides line.

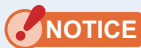
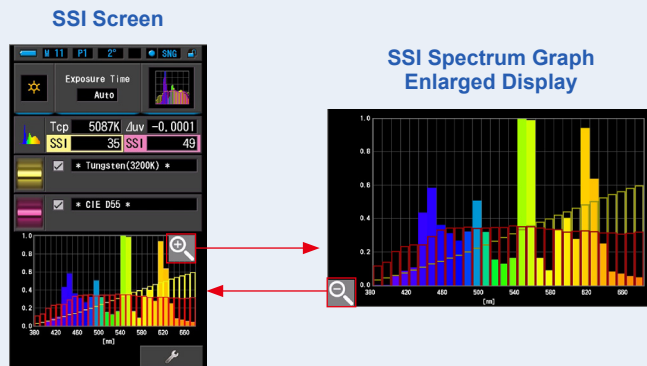


7. Touch the [Magnifying Glass (+)] icon.

The SSI spectrum graph will be enlarged.

The enlarged graph is displayed on the whole screen (landscape).

To return to the SSI screen, touch the [Magnifying Glass (-)] icon on the enlarged SSI spectrum graph.



- When the enlarged graph is displayed, measurement cannot be performed.

8. Memorize the measurement results.

To record current measurements, press Memory Button . (→ P108)

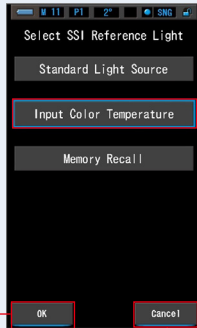
[Color Temperature Input]

Input the color temperature in 100K step from 2500K to 7500K.

1. Touch the [Input Color Temperature] indication on the Select SSI Reference Light screen.

The Input SSI Color Temperature screen will be displayed.

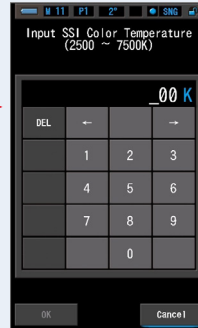
Select SSI Reference Light Screen



[OK] Button

[Cancel] Button

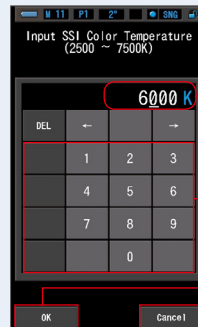
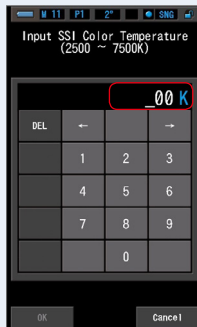
Input SSI Color Temperature Screen



2. Input the desired color temperature to compare.

Input value is displayed in the color temperature display area.

Input SSI Color Temperature Screen



Input value display

Numeric number input

[OK] Button

[Cancel] Button

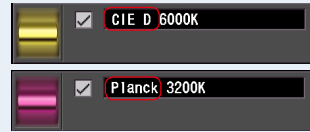
3. Touch the [OK] button.

Confirms the setting and returns to the SSI screen.

To cancel the setting, touch the [Cancel] button.

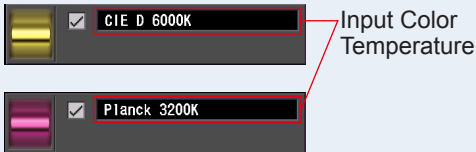
**NOTE**

Depending on the input color temperature, calculation of light source is different.
 2,500K to 4,900K is the color temperature based on the black body radiation.
 5,000K to 7,500K is the color temperature based on daylight illuminant.

Display Example

4. The input color temperature will be displayed in the reference light source display area on the SSI screen.

You can select up to two reference light sources.

Reference Light Source Display Area

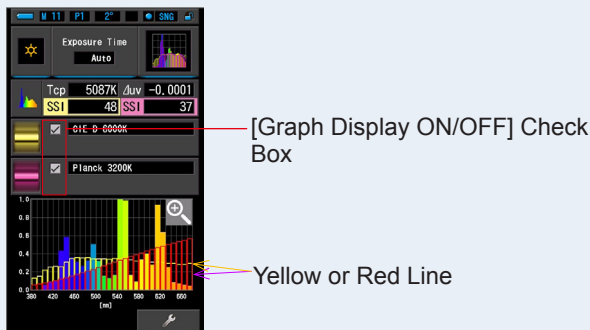
5. SSI value of current measurement to compare with the reference light source will be displayed.

Current Measurement Display Area

6. Yellow and Red line graphs will be displayed in the SSI spectrum graph.

Touch the [Graph Display ON/OFF] check box to hide/show a line graph on the screen.

* shows line. hides line.

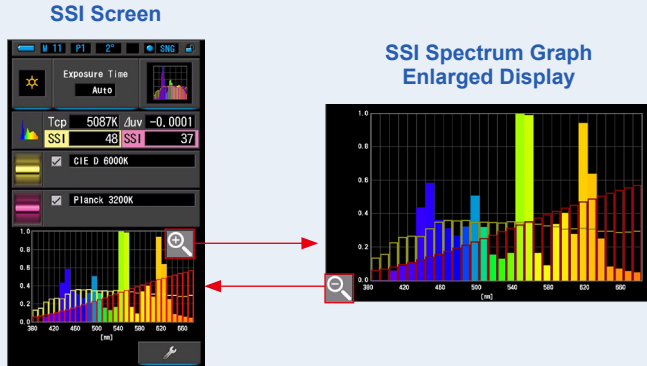
SSI Screen

7. Touch the [Magnifying Glass (+)] icon.

The SSI spectrum graph will be enlarged.

The enlarged graph is displayed on the whole screen (landscape).


To return to the SSI screen, touch the [Magnifying Glass (-)] icon on the enlarged SSI spectrum graph.



NOTICE

- When the enlarged graph is displayed, measurement cannot be performed.

8. Memorize the measurement results.

To record current measurements, press Memory Button  . (➔ P108)

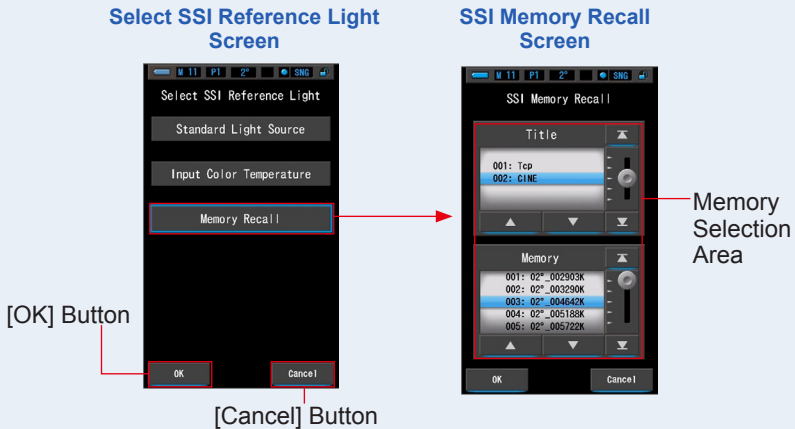
[Memory Recall Selection]

You can select the reference light source from memory recall.

Memorize the measurements to be used as reference light source in advance, and compare the current measurement with memorized light source to see the difference in quality.

1. Touch the [Memory Recall] indication on the Select SSI Reference Light screen.

The SSI Memory Recall screen will be displayed.

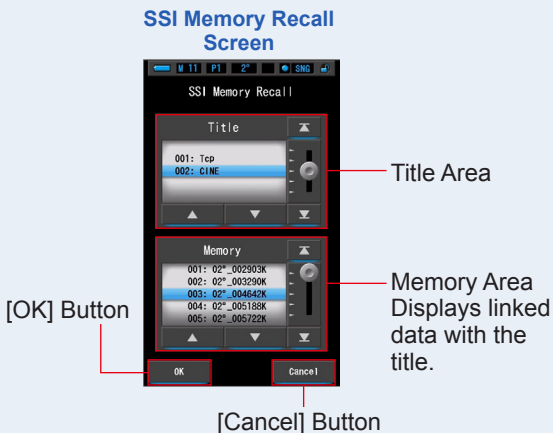


2. Select the desired memory data to compare.

When a title is selected, the memory linked to the title will be displayed.

Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.



3. Touch the [OK] button.

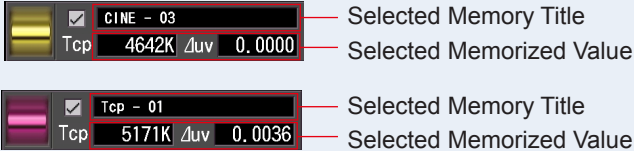
Confirms the setting and returns to the SSI screen.

To cancel the setting, touch the [Cancel] button.

4. The selected memorized value will be displayed in the reference light source display area on SSI screen.

You can select up to two reference light sources.

Reference Light Source Display Area



5. SSI value of current measurement to compare with the reference light source will be displayed.

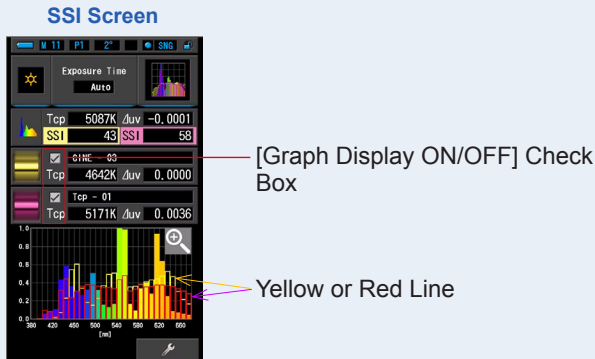
Current Measurement Display Area



6. Yellow and Red line graphs will be displayed in the SSI spectrum graph.

Touch the [Graph Display ON/OFF] check box to hide/show a line graph on the screen.

* shows line. hides line.

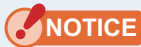
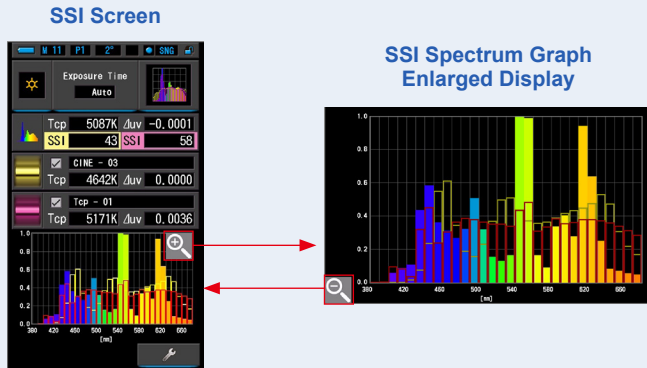


7. Touch the [Magnifying Glass (+)] icon.

The SSI spectrum graph will be enlarged.

The enlarged graph is displayed on the whole screen (landscape).

To return to the SSI screen, touch the [Magnifying Glass (-)] icon on the enlarged SSI spectrum graph.



- When the enlarged graph is displayed, measurement cannot be performed.

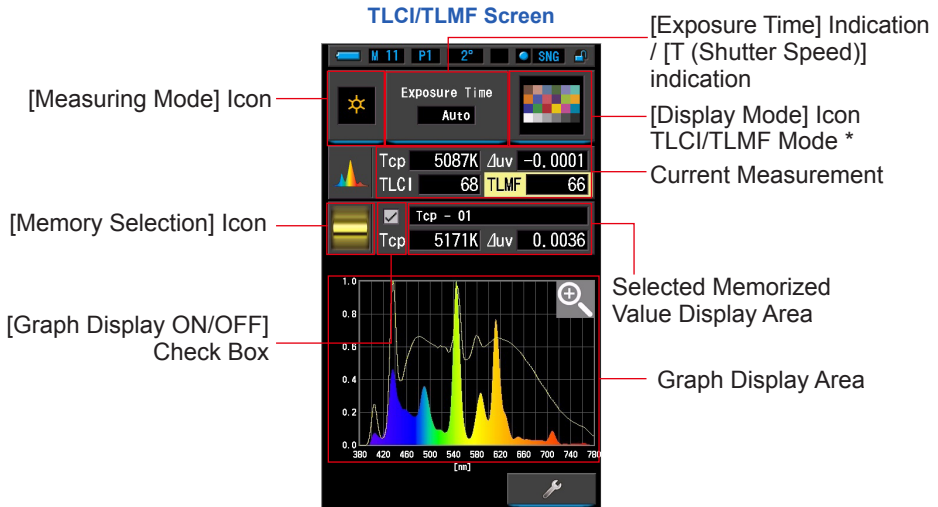
8. Memorize the measurement results.

To record current measurements, press Memory Button **7** . (⇒ P108)

4-4-6 Displaying in TLCI or TLMF [TLCI/TLMF] Mode

Displays the current measurement values and memorized values (in color temperature and Δuv), TLCI and TLMF with spectrum graph.

TLCI stands for Television Lighting Consistency Index. TLMF stands for Television Luminaire Matching Factor. (➔ P205)



* X-Rite ColorChecker is used for TLCI/TLMF mode icon

Operation

1. Touch the [TLCI/TLMF] icon on the Display Mode Selection screen.

The TLCI/TLMF screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

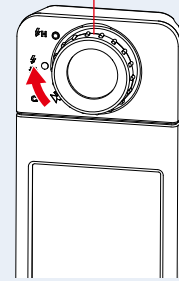
4. Press the Measuring Button ⑤ to measure.

The Light Selection Ring ② should be set to L () when taking ambient light measurements.

When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (➔ P102, ➔ P103)

Measurements are now displayed.

Light Selection Ring ②



Measuring Button ⑤



NOTE

- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

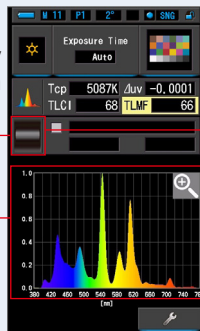
5. Current measurement appears with the spectrum graph.

6. Touch the [Memory Selection] icon.

The [TLMF Memory Recall] screen will be displayed.

TLCI/TLMF Screen

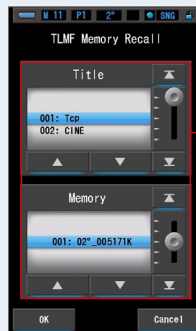
[Memory Selection] Icon



Current measurement in graph

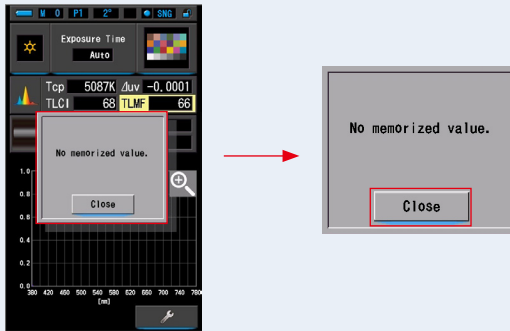
TLMF Memory Recall Screen

Memory Selection Area



If no measurements have been memorized, the pop-up screen appears to indicate no memorized value.

Memory Selection Pop-up Screen



After you confirmed the message "No memorized value.", touch the [Close] button. Returns to the TLCI/TLMF screen.

After memorizing several values, select the memorized value again.

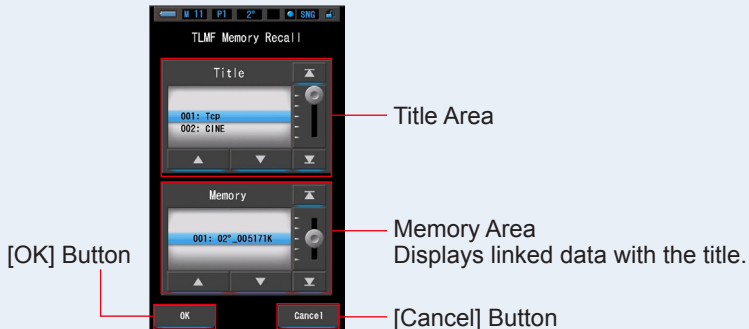
7. Select the desired memorized value to compare.

When a title is selected, the memory linked to the title will be displayed.

Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.

Spectrum Comp. Memory Recall Screen



8. Touch the [OK] button.

Confirms the setting and returns to the TLCI/TLMF screen.

To cancel the setting, touch the [Cancel] button.

9. The title of selected memory will be displayed on the TLCI/TLMF screen.

Memory Title Display



10. TLMF index is displayed to compare with the selected memorized value.

Current Measurement Display Area

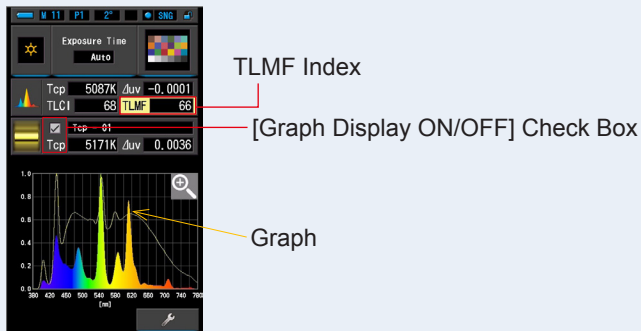


11. Line graphs will be displayed in the TLCI/TLMF graph.

Touch the [Graph Display ON/OFF] check box to hide/show a line graph on the screen.

* shows line. hides line.

TLCI/TLMF Screen



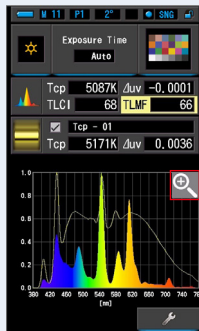
12. Touch the [Magnifying Glass (+)] icon.

The spectrum comparison graph will be enlarged.

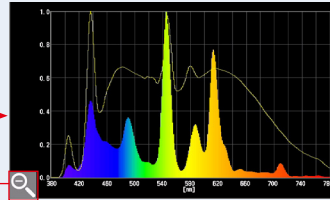
The enlarged graph is displayed on the whole screen (landscape).

To return to the TLCI/TLMF screen, touch the [Magnifying Glass (-)] icon on the enlarged spectrum comparison graph.

TLCI/TLMF Screen




TLCI/TLMF Graph Enlarged Display



- When the enlarged graph is displayed, measurement cannot be performed.

13. Memorize the measurement results.

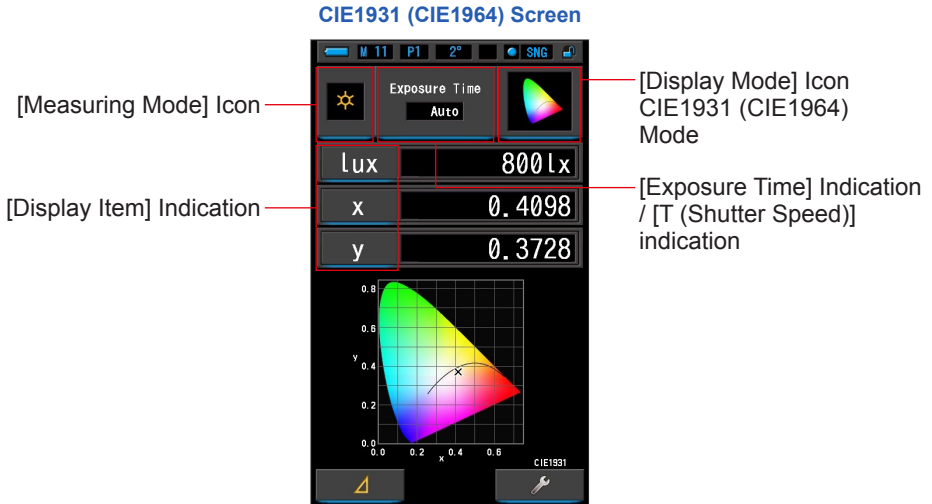
To record current measurements, press Memory Button  . (→ P108)

4-4-7 Displaying in CIE1931 (CIE1964) [CIE1931 (CIE1964)] Mode

Displays the measurement result in text format together with the position on the CIE1931 (or CIE1964) chromaticity diagram.

When 2 degrees of view of angle is selected in Hardware Setting, this mode shows CIE1931.

CIE1964 appears when 10 degrees of view of angle is selected.



Operation

1. Touch the [CIE1931 (CIE1964)] icon on the Display Mode Selection screen.

The CIE1931 (CIE1964) screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

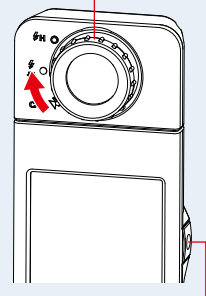
4. Press the Measuring Button 5 to measure.

The Light Selection Ring 2 should be set to L () when taking ambient light measurements.

When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (➔ P102, ➔ P103)

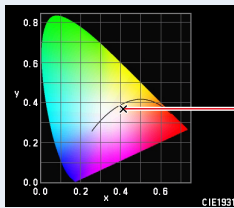
Measurements are now displayed.

Light Selection Ring 2



Measuring Button 5

5. The measured value is indicated by a black "x".



Measured value



NOTE

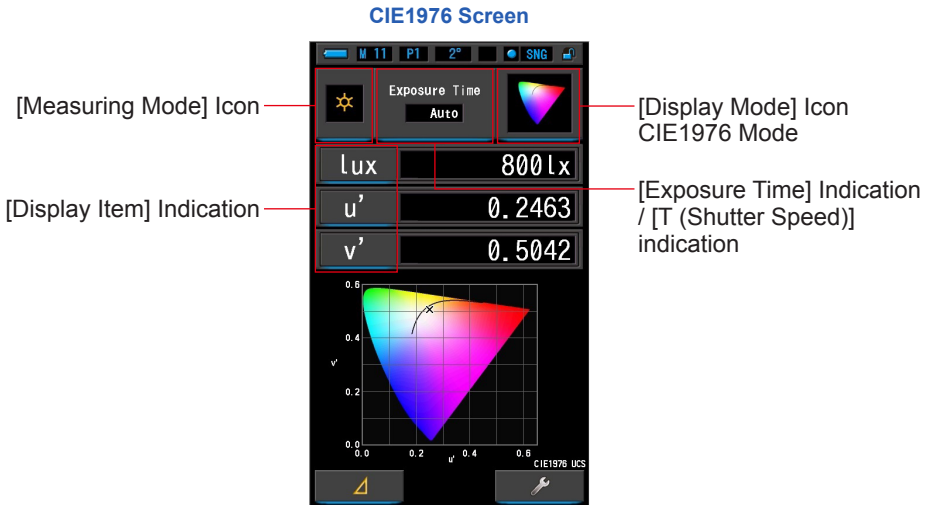
- Measurement and display will take longer in light levels below 30lx.
The LCD illumination will normally switch off during measurement to avoid influence to measurement.

6. Memorize the measurement results.

To record measurements, press Memory Button 7 . (➔ P108)

4-4-8 Displaying in CIE1976 [CIE1976] Mode

Displays the measurement result in text format together with position on the CIE1976 chromaticity diagram.



Operation

1. Touch the [CIE1976] icon on the Display Mode Selection screen.

The CIE1976 screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.

The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)

3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

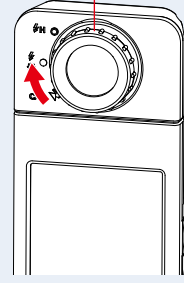
4. Press the Measuring Button 5 to measure.

The Light Selection Ring 2 should be set to L (⚡ (●)) when taking ambient light measurements.

When measuring flash units, select Range L (⚡ (●)) or Range H (⚡⚡ (●)) depending on the brightness of the flash. (➔ P102, ➔ P103)

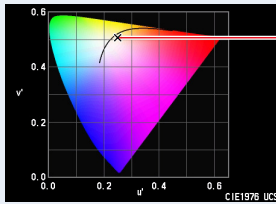
Measurements are now displayed.

Light Selection Ring 2



Measuring Button 5

5. The measured value is indicated by a black "x".



Measured value



NOTE

- Measurement and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurement to avoid influence to measurement.

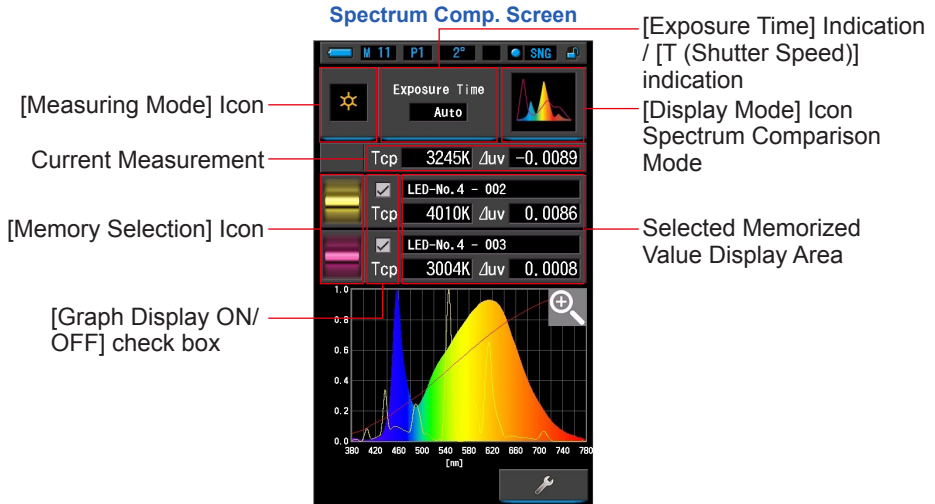
6. Memorize the measurement results.

To record current measurements, press Memory Button 7. (➔ P108)

4-4-9

Displaying in Spectrum Comparison [Spectrum Comp.] Mode

Compares the current measurement value and up to 2 memorized values as yellow and/or red lines in the spectrum distribution graph.



Operation

1. Touch the [Spectrum Comp.] icon on the Display Mode Selection screen.

The Spectrum Comp. screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

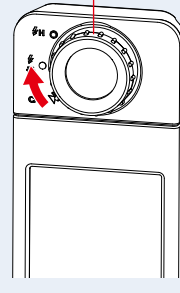
4. Press the Measuring Button ⑤ to measure.

The Light Selection Ring ② should be set to L () when taking ambient light measurements.

When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (➔ P102, ➔ P103)

Measurements are now displayed.

Light Selection Ring ②



Measuring Button ⑤



NOTE

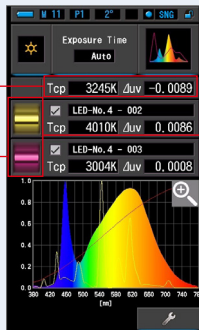
- Measurement and display will take longer in light levels below 30lx.
The LCD illumination will normally switch off during measurement to avoid influence to measurement.

5. The current measurement is displayed at the top of display area with rainbow colored spectrum graph.

6. Touch the [Memory Selection] icon.

The [Spectrum Comp. Memory Recall] screen will be displayed.

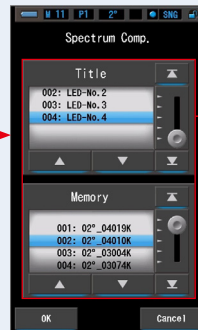
Spectrum Comp. Screen



Current Measurement

[Memory Selection] Icon

Spectrum Comp. Memory Recall Screen



Memory Selection Area

If no measurements have been memorized, the pop-up screen appears to indicate no memorized value.

Memory Selection Pop-up Screen



After you confirmed the message "No memorized value.", touch the [Close] button. Returns to the Spectrum Comp. screen.

After memorizing several values, select the memorized value again.

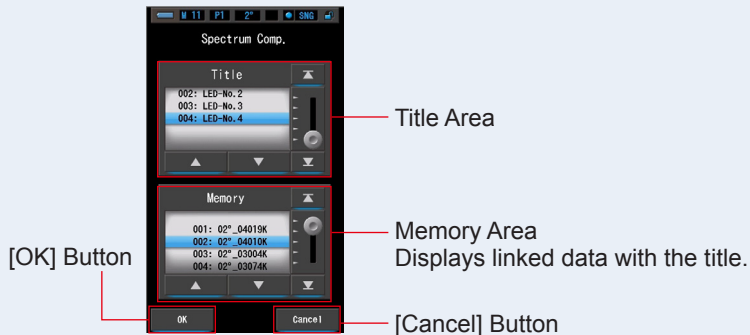
7. Select the desired memory data to compare the spectrum.

When a title is selected, the memory linked to the title will be displayed.

Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.

Spectrum Comp. Memory Recall Screen



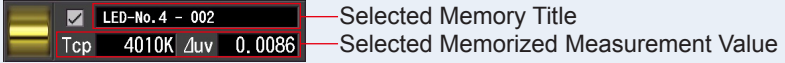
8. Touch the [OK] button.

Confirms the setting and returns to the Spectrum Comp. screen.

To cancel the setting, touch the [Cancel] button.

9. The titles and measurements of the selected memories will be displayed on the Spectrum Comp. screen.

Memory Title Display

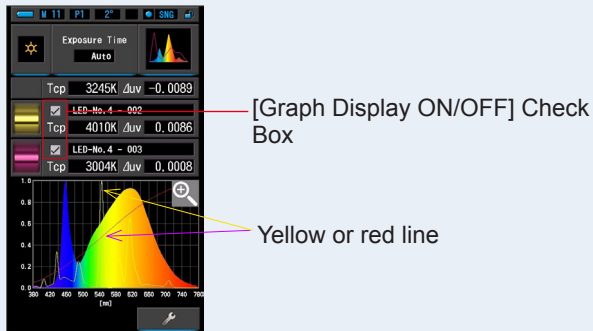


10. Line graphs will be displayed in the spectrum graph.

Touch the [Line Graph Display ON/OFF] check box to hide/show a line graph on the screen.

* shows line. hides line.

Spectrum Comp. Screen



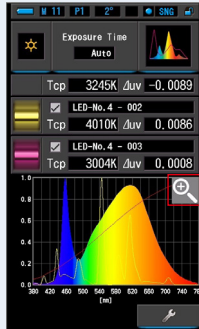
11. Touch the [Magnifying Glass (+)] icon.

The spectrum comparison graph will be enlarged.

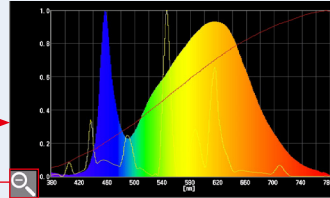
The enlarged graph is displayed on the whole screen (landscape).

To return to the Spectrum Comp. screen, touch the [Magnifying Glass (-)] icon on the enlarged spectrum comparison graph.

Spectrum Comp. Screen




Spectrum Comparison Graph Enlarged Display




NOTICE

- When the enlarged graph is displayed, measurement cannot be performed.

NOTE

- The maximum display value of the Y-axis can be selected in the [Spectrum Y Axis Scale] in "Customize" on page 1 of Setting screen. (➔ P140)
- During Spectrum Comparison Mode, the Contrast Function is not available and [] button will be hidden.

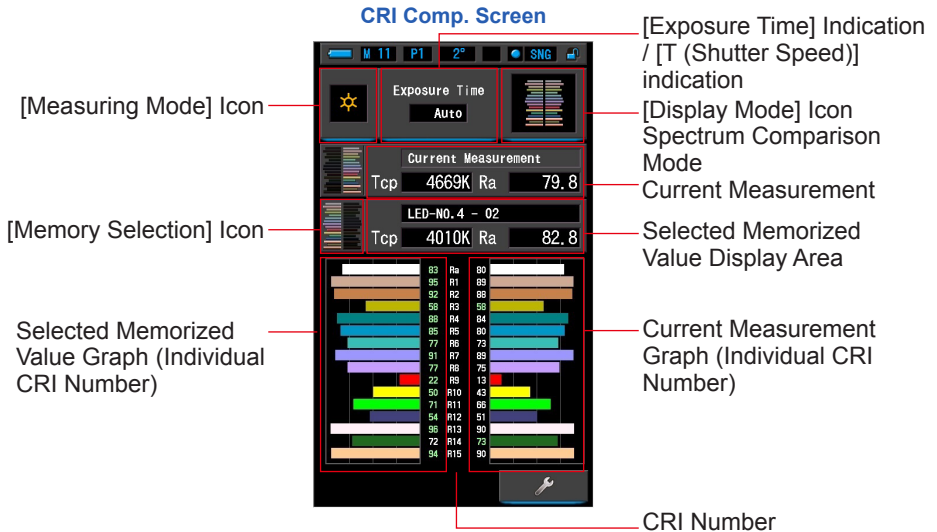
12. Memorize the measurement results.

To record measurements, press Memory Button  . (➔ P108)

4-4-10

Displaying in Color Rendering Index Comparison [CRI Comp.] Mode

Compares the current measurement value and memorized value to show the color temperature and average CRI (Ra). Also individual CRI (R1 to R15) is displayed in each graph.



Operation

1. Touch the [CRI Comp.] icon on the Display Mode Selection screen.

The CRI Comp. screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

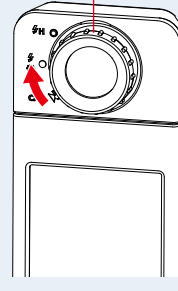
4. Press the Measuring Button 5 to measure.

The Light Selection Ring 2 should be set to L () when taking ambient light measurements.

When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (→ P102, → P103)

Measurements are now displayed.

Light Selection Ring 2



Measuring Button 5



NOTE

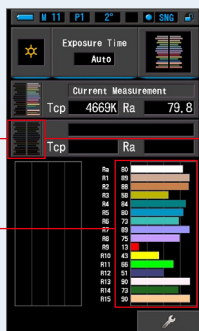
- Graph display areas Ra, R1 to R15 are always displayed.
- Measurements and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.
- Ra is the averaged value from R1 to R8 only. R9 to R15 are not included in the Ra.

5. Current measurement appears with the graph in the right side of display.

6. Touch the [Memory Selection] icon.

The [CRI Comp. Memory Recall] screen will be displayed.

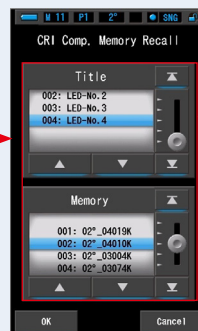
CRI Comp. Screen



[Memory Selection] Icon

Current Measurement Graph
(Individual CRI Number)

CRI Comp. Memory Recall Screen



Memory Selection Area

If no measurements have been memorized, the pop-up screen appears to indicate no memorized value.

Memory Selection Pop-up Screen



After you confirmed the message "No memorized value.", touch the [Close] button. Returns to the CRI Comp. screen.

After memorizing several values, select the memorized value again.

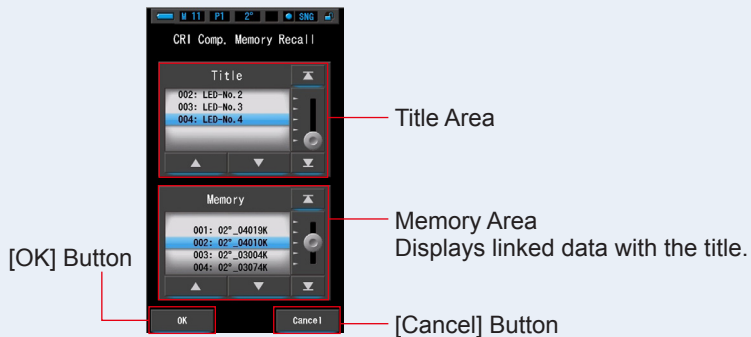
7. Select the desired memory data to compare the CRI.

When a title is selected, the memory linked to the title will be displayed.

Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.

CRI Comp. Memory Recall Screen



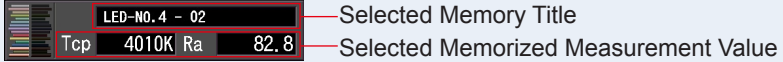
8. Touch the [OK] button.

Confirms the setting and returns to the CRI Comp. screen.

To cancel the setting, touch the [Cancel] button.

9. The titles and measurements of the selected memories will be displayed on the CRI Comp. screen.

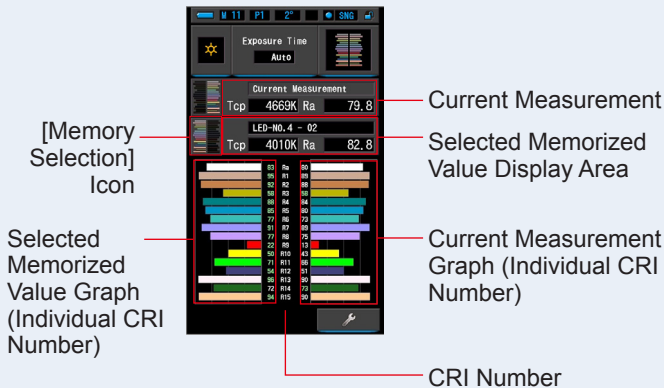
Memory Title Display




10. Selected memorized value and graph are displayed on the CRI Comp. screen

Current measurement appears on the right side of graph, and selected memorized value appears on the left side of graph.

CRI Comp. Screen



11. Memorize the measurement results.

To record measurements, press Memory Button  . (→ P108)

4-4-11

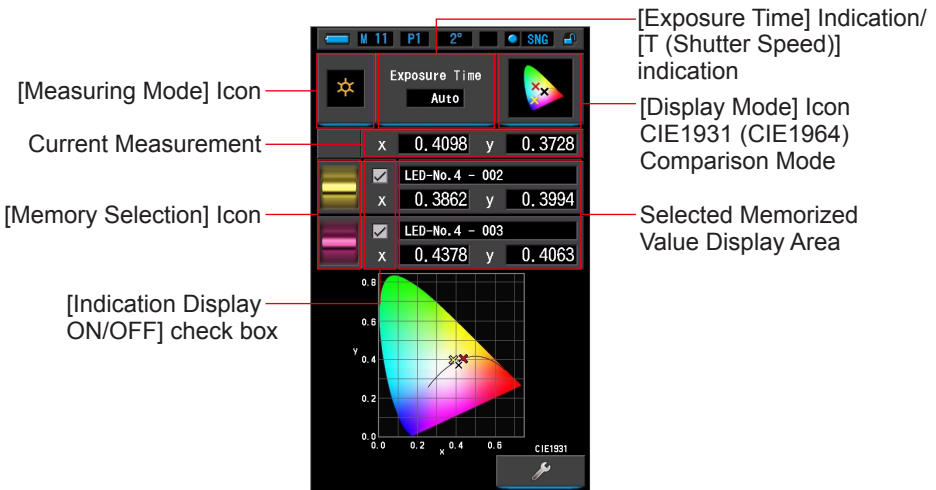
Displaying in CIE1931 (CIE1964) Comparison [CIE1931 (CIE1964) Comp.] Mode

Displays the measured result in text format together with the position on the CIE1931 (or CIE1964) chromaticity diagram. The measured result can be compared with up to 2 sets of memorized values.

When 2 degrees of view of angle is selected in Hardware Setting, this mode shows CIE1931.

CIE1964 appears when 10 degrees of view of angle is selected.

CIE1931 (CIE1964) Comp. Screen



Operation

1. Touch the [CIE1931 (CIE1964) Comp.] icon on the Display Mode Selection screen.

The CIE1931 (CIE1964) Comp. screen will be displayed. (⇒ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (⇒ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (⇒ P25)

For flash light measurement, select the desired shutter speed. (⇒ P26)

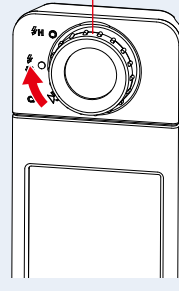
4. Press the Measuring Button ⑤ to measure.

The Light Selection Ring ② should be set to L  when taking ambient light measurements.

When measuring flash units, select Range L  or Range H  depending on the brightness of the flash. (→ P102, → P103)

Measurements are now displayed.

Light Selection Ring ②



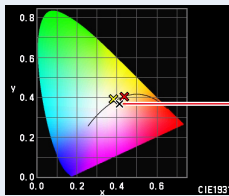
Measuring Button ⑤



NOTE

- Measurement and display will take longer in light levels below 30lx.
The LCD illumination will normally switch off during measurement to avoid influence to measurement.

5. The current measurement value is indicated by a black "x".



Measured value

6. Touch the [Memory Selection] icon.

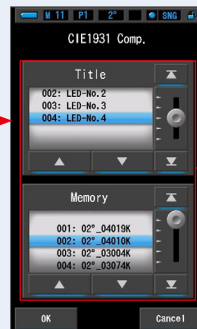
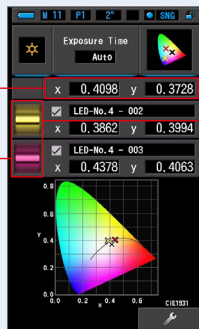
The [CIE1931 (CIE1964) Comp.] screen will be displayed.

CIE1931 (CIE1964) Comp. Screen

CIE1931 (CIE1964) Comp. Memory Screen

Current Measurement

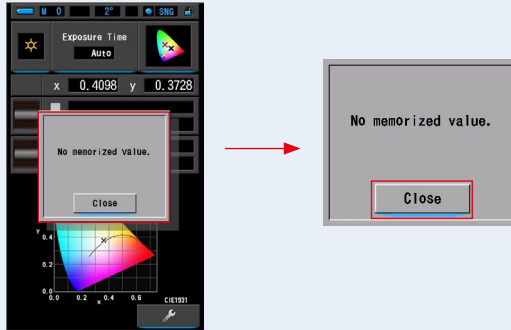
[Memory Selection] Icon



Memory Selection Area

If no measurements have been memorized, the pop-up screen appears to indicate no memorized value.

Memory Selection Pop-up Screen



After you confirmed the message "No memorized value.", touch the [Close] button.

Returns to the CIE1931 (1964) Comp. screen.

After memorizing several values, select the memorized value again.

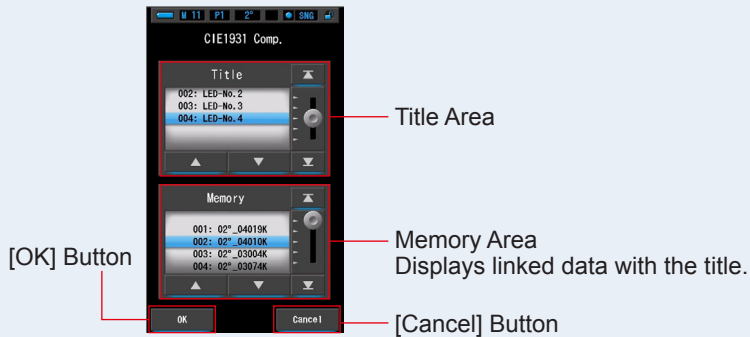
7. Select the desired memory data to compare the CIE1931 (CIE1964).

When a title is selected, the memory linked to the title will be displayed.

Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.

CIE1931 (CIE1964) Comparison Title/Memory Screen



8. Touch the [OK] button.

Confirms the setting and returns to the CIE1931 (CIE1964) Comp. screen.

To cancel the setting, touch the [Cancel] button.

9. The titles and measurements of the selected memory data will be displayed on the CIE1931 (1964) Comp. screen.

Memory Title Display



Selected Memory Title

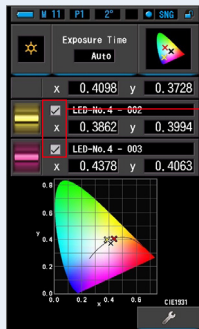
Selected Memorized Measurement Value

10. X mark in yellow or red will be displayed on the CIE1931 (CIE1964) chromaticity diagram.

Touch the [Indication Display ON/OFF] to hide/show a x mark on the screen.

* shows x mark. hides x mark.

CIE1931 (CIE1964) Comp. Screen



[Indication Display ON/OFF]
Check Box

11. Memorize the measurement results.

To record current measurements, press Memory Button . (→ P108)



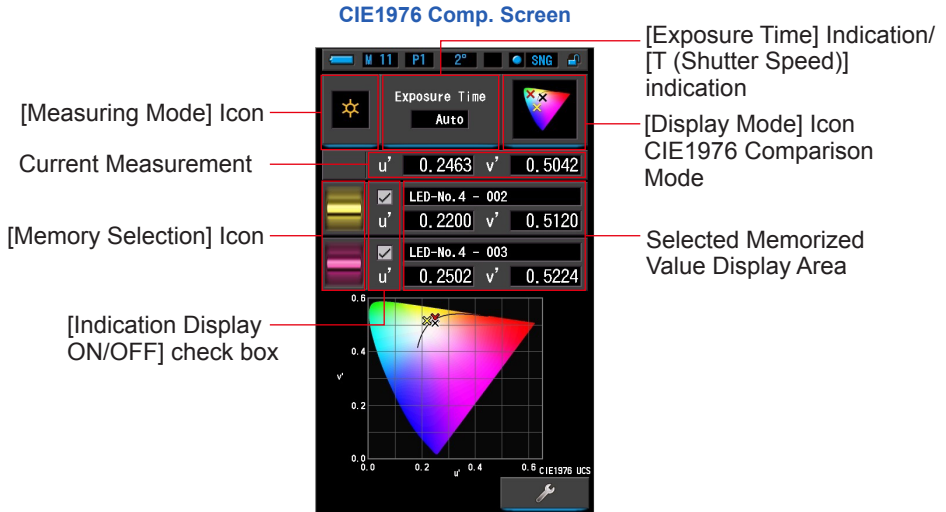
NOTE

- During CIE1931 (or CIE1964) comparison, the Comparison Function is not available and button will be hidden even if a Preset with this function is selected.

4-4-12

Displaying in CIE1976 Comparison [CIE1976 Comp.] Mode

Displays the measurement result in text format together with the position on the CIE1976 chromaticity diagram. The measured result can be compared with up to 2 sets of Memorized Value.



Operation

1. Touch the [CIE1976 Comp.] icon on the Display Mode Selection screen.

The CIE1976 Comp. screen will be displayed. (➔ P30)

2. Touch the [Measuring Mode] icon.


The Measuring Mode Selection screen will be displayed. Select the desired measuring mode to use. (➔ P23)



3. Touch the [Exposure Time] indication or [T (Shutter Speed)] indication on the Measuring screen.

For ambient light measurement, select the [Auto], [0.1 sec] or [1.0 sec] button. (➔ P25)

For flash light measurement, select the desired shutter speed. (➔ P26)

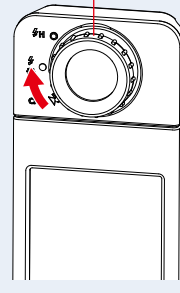
4. Press the Measuring Button 5 to measure.

The Light Selection Ring 2 should be set to L  when taking ambient light measurements.

When measuring flash units, select Range L  or Range H  depending on the brightness of the flash. (→ P102, → P103)

Measurements are now displayed.

Light Selection Ring 2



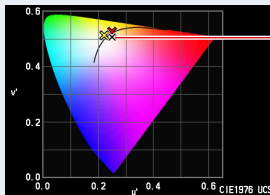
Measuring Button 5



NOTE

- Measurement and display will take longer in light levels below 30lx.
The LCD illumination will normally switch off during measurement to avoid influence to measurement.

5. The current measurement value is indicated by a black "x".



Measured value

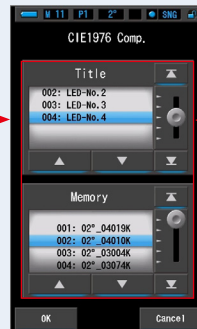
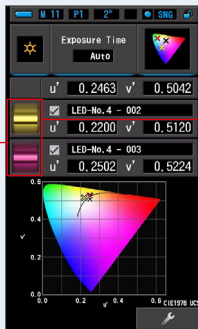
6. Touch the [Memory Selection] icon.

The [CIE1976 Comp. Memory Recall] screen will be displayed.

CIE1976 Comp. Screen

CIE1976 Comp. Memory Recall Screen

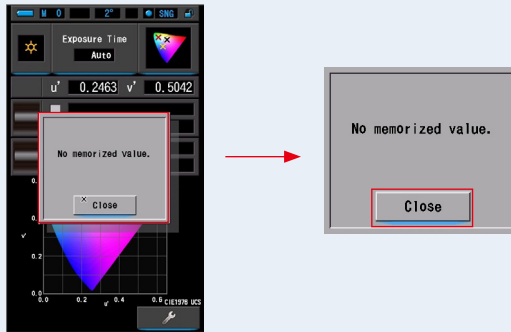
[Memory Selection] Icon



Memory Selection Area

If no measurements have been memorized, the pop-up screen appears to indicate no memorized value.

Memory Selection Pop-up Screen



After you confirmed the message "No memorized value.", touch the [Close] button. Returns to the CIE1976 Comp. screen.

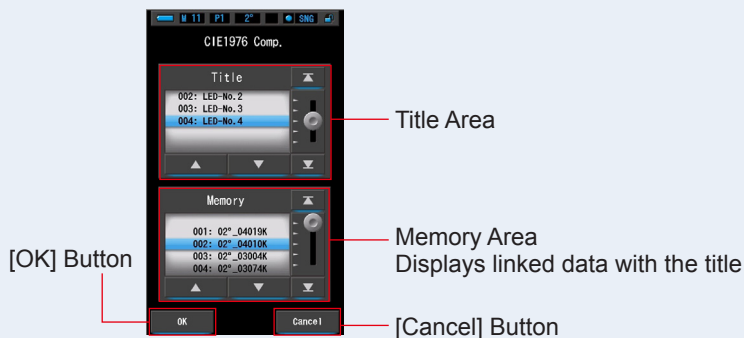
After memorizing several values, select the memorized value again.

7. Select the desired memorized value to compare the CIE1976 Comp..

When a title is selected, the memory linked to the title will be displayed. Select a memorized reading for display and comparison.

To select a title and a memory, match them with the blue background positions.

CIE1976 Comp. Memory Recall Screen



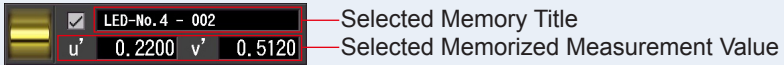
8. Touch the [OK] button.

Confirms the setting and returns to the CIE1976 Comp. screen.

To cancel the setting, touch the [Cancel] button.

9. The titles and measurements of the selected memories will be displayed on the CIE1976 Comp. screen.

Memory Title Display

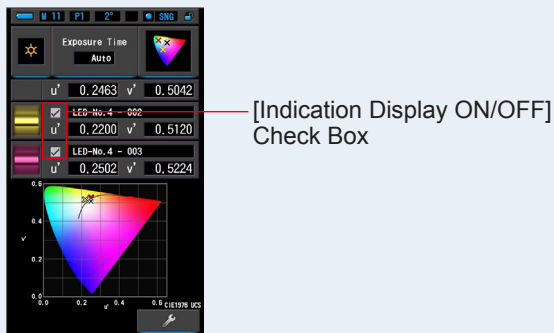


10. X mark in yellow or red will be displayed on the CIE1931 (CIE1964) chromaticity diagram.


Touch the [Indication Display ON/OFF] to hide/show a x mark on the screen.

* shows x mark. hides x mark.


CIE1976 Comp. Screen



11. Memorize the measurement results.

To record current measurements, press Memory Button  . (→ P108)

NOTE

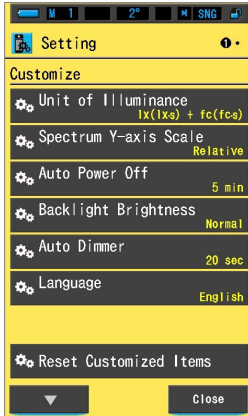
- During CIE1976 comparison, the Comparison Function is not available and  button will be hidden even if a Preset with this function is selected.

4-4-13 Displaying Setting [Setting] Screen

Displays the settings. The contents can be changed according to usage.

For more information about how to set and the details of specifications, see "7-1-1 Item List". (➔ P135)

Setting Screen
Page 1



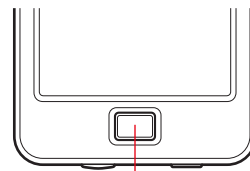
Setting Screen
Page 2



* Models sold in some countries do not display illuminance and exposure in "fc (fc-s)" due to legal restrictions. In this case, "Unit of Illuminance" is not displayed.



- Pressing the Menu Button **6** will exit the settings and return to the Display Mode Selection screen.

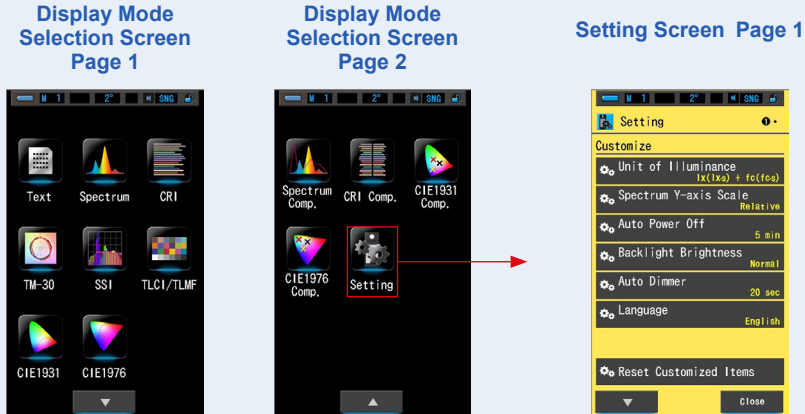


Menu Button **6**

Operation

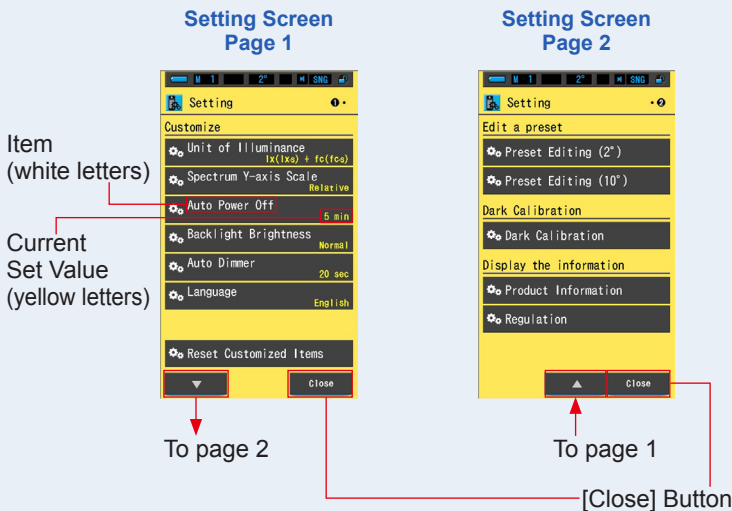
1. Touch the [Setting] icon on page 2 of Display Mode Selection screen.

The Setting screen will be displayed.



2. Settings show items in white letters and set values in yellow letters.

Touch each item to change the setting.

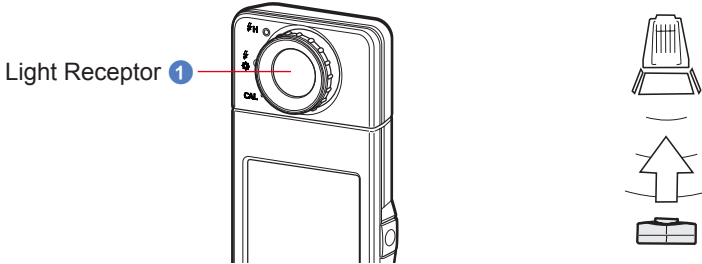


When the [Close] button is touched, the display returns to the Display Mode Selection screen. For more information about how to set and the details of specifications, see "Item List". (➔ P135)

5. Measuring Light Sources [Measurement Screen]

5-1 Measurement Method

Take a measurement by facing the Light Receptor ① towards the light source to correctly measure the color temperature of the light source.



NOTICE

- When taking measurements, the C-7000 should be located at a distance that is approximately 10 times (10X) the diameter of the light source being measured.
- To get accurate color from a light source, make sure not to get bounced or reflected light from a colored surface, or another light.
- Damage and dirt on the Light Receptor ① can affect the precision of the measurement. If the Light Receptor ① becomes dirty, wipe it with a dry, soft cloth. Never use organic solvents such as thinner or benzene.
- Be courteous to those around you that may be sensitive to flash, or bright light, please give them notice before taking a measurement.

5-2

Measurement in Ambient Light Mode

Select Ambient Light Mode when taking measurements of natural light (sunlight), and continuous light sources such as LED, tungsten lamps and fluorescent lights.

WARNING

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

Operation

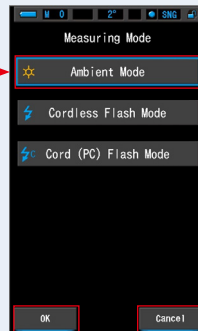
1. On the Measuring screen, touch the [Measuring Mode] icon and select the [Ambient Mode] icon on the Measuring Mode Selection screen. (→ P23)

Select the measuring mode.

Measuring Screen



Measuring Mode Selection Screen



[OK] Button

[Cancel] Button

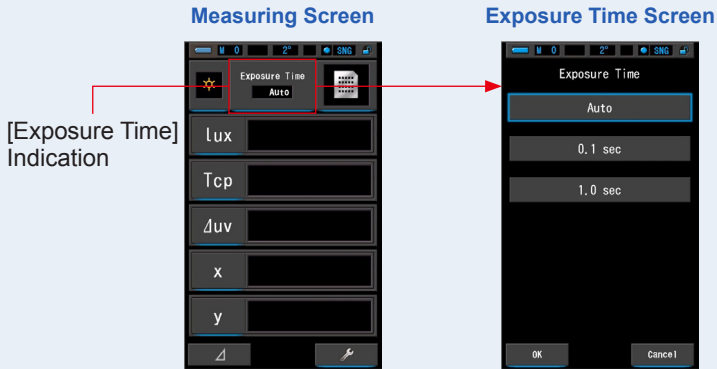
2. Touch the [OK] button.

Confirms and returns to the Measuring screen.

To return to the Measuring screen without confirming, touch the [Cancel] button.

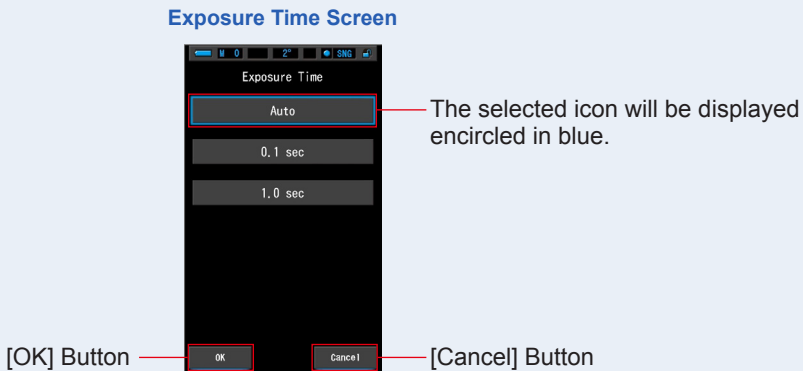
3. Touch the [Exposure Time] indication on the Measuring screen.

Exposure Time Screen appears. (→ P25)



4. Select the exposure time.

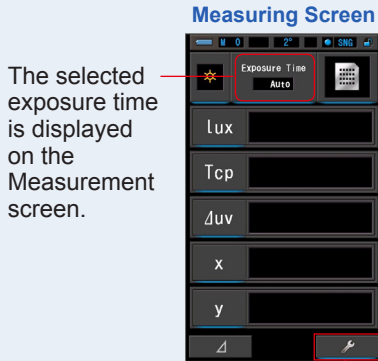
Touch the [Auto], [0.1 sec] or [1.0 sec] button.



5. Touch the [OK] button.

Confirms and returns to the Measuring screen.

To return to the Measuring screen without confirming, touch the [Cancel] button.



The selected exposure time is displayed on the Measurement screen.




[Tool Box] Button



NOTE

- Exposure Time can also be set in the Tool Box. (→ P126)

6. Confirm the light measuring range.

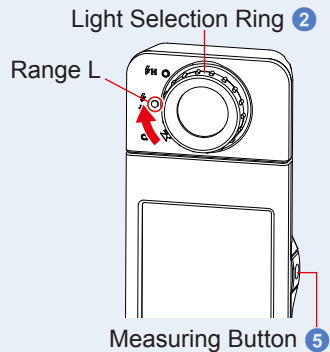
When you return to the Measurement screen, make sure to select Range L ().

7. Press the Measuring Button 5.

Measurements are now displayed.

While the button is held, the meter measures continuously.

When the button is released, the measurements will stop and the light source value at the time of release will be displayed.



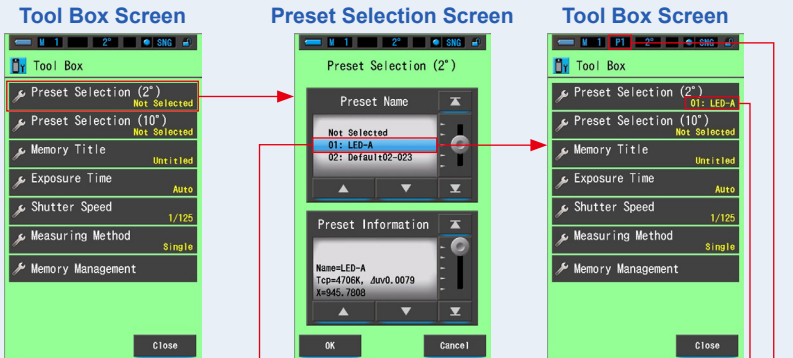
NOTE

- The default measuring method is single measurement. You can select continuous measurement in Tool Box. (→ P130)
- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. (→ P102)
In this case, adjust the brightness or color temperature of light source.
- Measurement and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurement to avoid influence to measurement.

Measurement in Ambient Light Mode is complete.

 **NOTE**

- You can select a previously created Preset value from Preset Selection in the Tool Box. (→ P152)



Tool Box Screen **Preset Selection Screen** **Tool Box Screen**

Blue bar indicates the item selected.

The set content is displayed
The selected Preset No. is displayed

If no presets have been created, the Preset Selection will be grayed out and touching the button will not display the Preset Selection Display.

 **NOTICE**

- A Preset value must be created and saved in the Preset Editing under the "Setting Mode" icon before use.
Preset Selection buttons will be grayed out until settings are created.

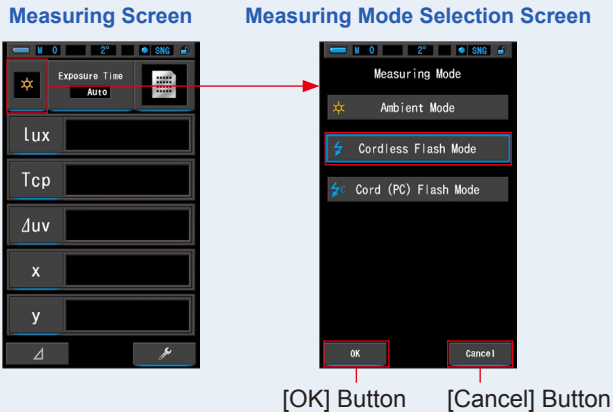
5-3 Measurement in Cordless Flash Mode

Cordless Flash Mode is preferable when wireless measuring is desired. In this measuring mode, the meter will go into measurement standby mode (for 90 seconds) to wait for a burst of flash to measure.

Operation

1. On the Measuring screen, touch the [Measuring Mode] icon and select the [Cordless Flash Mode] icon on the Measuring Mode Selection screen.

Select the measuring mode. (→ P23)



2. Touch the [OK] button.

Confirms and returns to the Measuring screen.

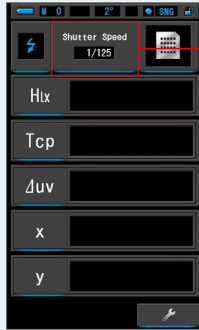
To return to the Measuring screen without confirming, touch the [Cancel] button.

3. Touch the [Shutter Speed] indication on the Measuring screen.

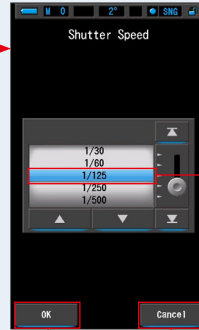
Set the shutter speed used for measurements. (► P26)

Match the blue background with the desired shutter speed.

Measuring Screen



Shutter Speed Screen



The selected value is indicated by the blue background.

[OK] Button [Cancel] Button

NOTICE



- If you are using this measurement to judge color for photographic reproduction by adjustable camera, be sure to use a shutter speed that synchronize with the camera and flash system.

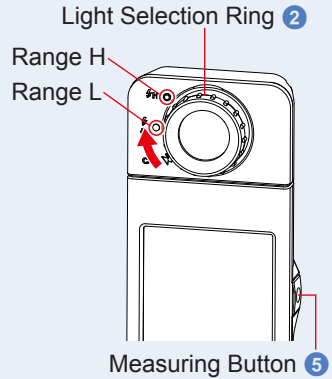
NOTE

- Shutter speed can also be set in the Tool Box. (► P128)



4. Confirm the light measuring range.

When you return to the Measurement screen,

select Range L  or Range H  depending on the brightness of the flash.



NOTE

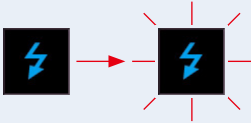
- Range L : Select when measuring small and low power flash units (lower than 640lx-s), [Over] will appear if flash power is too high. Select Range H.
- Range H : Select when measuring powerful flash units (brighter than 580lx-s) [Under] will appear if flash power is too low. Select Range L.

5. Press the Measuring Button .

The meter will enter measurement standby mode.


While the icon is blinking, manually trigger the flash.

The [Measuring Mode] icon will blink for 90 seconds when measuring.




The display panel illumination will dim when the Measuring Button is pressed as the display illumination can affect the reading. This is normal.

When the flash light is fired, the measured value will be displayed for 3 seconds, and the display will return to measurement standby mode.

To cancel standby mode, touch the screen or press the Menu Button .



NOTE

- When the icon stops blinking before triggering the flash, or when you want to restart the 90-second delay cycle again, press Measuring Button  again.

Measurement in Cordless Flash Mode is complete.



CAUTION

- Do not trigger flash while skin or other objects are in contact with the flash tube. Do not touch the flash tube after repeated flashes. (It may cause burns.)
- Do not trigger flash while near the eyes of people or animals. (It may temporarily affect vision.)
- The flash may be triggered suddenly. Because there is the possibility of burns or negative effects on vision, please handle with care.



NOTICE

- When using Cordless Flash Mode, the LCD screen backlight dims during measurement, and the LCD backlight is illuminated for only 3 seconds after measurement. To cancel standby mode, touch the screen or press the Menu Button **6** .
- In case of the following, please follow "5-4 Measurement in Cord (PC) Flash Mode" (➔ P94)
 - If the flash output power is too weak compared to the surrounding light, the meter may not detect the flash output.
 - Pulsed light sources such as fluorescent lights or special lighting could cause the meter to take cordless flash measurements in rare cases.
 - If the Light Receptor **1** detects a sudden and bright change in lighting intensity, the meter may mistakenly take a measurement.
 - Because the light radiated from a flash bulb gradually builds, the meter will not detect the light when used in Cordless Flash Mode.



NOTE

- When using the meter in Cordless Flash Mode, it is possible to mount the meter to a light stand, tripod or similar support using the Tripod Socket **10**.
- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. (➔ P102)
In this case, adjust the brightness or color temperature of light source, or switch the light range. (➔ P103)

5-4

Measurement in Cord (PC) Flash Mode

Cord (PC) Flash Mode is preferable when lighting conditions prevent the use of cordless measurements or when certain types of equipment require a physical sync connection.

In Cord (PC) Flash Mode, the meter and flash unit are connected with a Sync Cord (sold separately).



CAUTION

- Do not handle this product with wet hands, or leave it in the rain or in a location where it may be splashed with water, submerged, or come into contact with moisture. There is a danger of electric shock in Cord (PC) Flash Mode. This may also result in damage to the product.
- When using flash with high voltage, there is a danger of electric shock if you touch the Sync Terminal 12. Handle the flash with care when using for measurement.

Operation

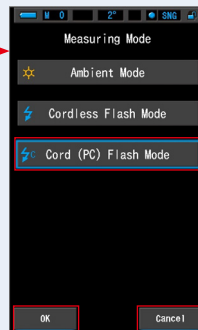
1. On the Measuring screen, touch the [Measuring Mode] icon and select the [Cord (PC) Flash Mode] icon on the Measuring Mode Selection screen.

Select the measuring mode. (→ P23)

Measuring Screen



Measuring Mode Selection Screen



[OK] Button

[Cancel] Button

2. Touch the [OK] button.

Confirms and returns to the Measurement screen.

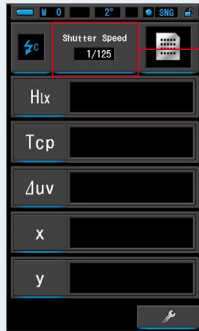
To return to the Measurement screen without confirming, touch the [Cancel] button.

3. Touch the [T (Shutter Speed)] indication on the Measuring screen.

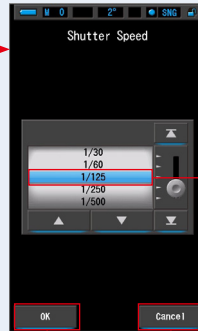
Set the shutter speed used for measurements. (➔ P26)

Match the blue background with the desired shutter speed.

Measuring Screen



Shutter Speed Screen



The selected value is indicated by the blue background.

[OK] Button [Cancel] Button

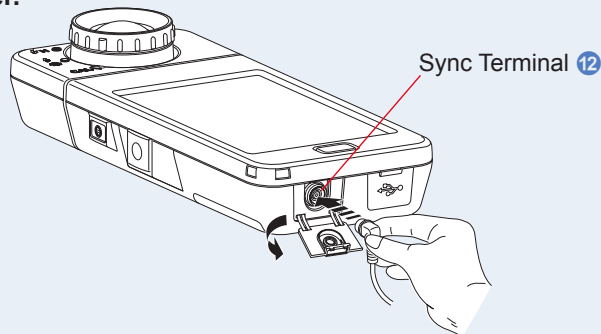
NOTICE

- If you are using this measurement to judge color for photographic reproduction by adjustable camera, be sure to use a shutter speed that synchronize with the camera and flash system.

NOTE

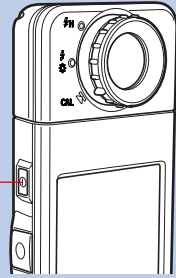
- Shutter speed can also be set in the Tool Box. (➔ P128)

4. Connect the sync cord (sold separately) to the Sync Terminal 12 of the meter.





CAUTION

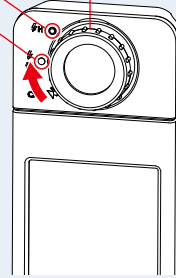
- Depending on the flash equipment used, the flash may be triggered when the sync cord is connected to the Sync Terminal **12** or when operating the Power Button **3**. Because there is the possibility of burns or negative effects on vision, please handle with care.

Power Button **3**



5. Confirm the light measuring range.

When you return to the Measurement screen, select Range L  or Range H  depending on the brightness of the flash.

Light Selection Ring **2**
Range H
Range L

Measuring Button **5**

NOTE

- Range L : Select this when measuring small and low power flash units (lower than 640lx·s), [Over] will appear if flash power is too high. Select Range H.
- Range H : Select when measuring powerful flash units (brighter than 580lx·s) [Under] will appear if flash power is too low. Select Range L.

6. Press the Measuring Button **5**.

Measurement will be taken with flash, and the light source values will be displayed.

Because it affects measurement while measuring, the LCD backlight will dim. It is not a defect.

Measurement in Cord (PC) Flash Mode is complete.



CAUTION

- Depending on the flash equipment used, the flash may be triggered when the sync cord is connected to the Sync Terminal ⑫ or when operating the Power Button ③. Because there is the possibility of burns or negative effects on vision, please handle with care.
- Do not trigger flash while skin or other objects are in contact with the flash tube. Do not touch the flash tube after continuous flashes. (It may cause burns.)
- Do not trigger flash while near the eyes of people or animals. (It may temporarily affect vision.)
- The flash may be triggered suddenly. Because there is the possibility of burns or negative effects on vision, please handle with care.



NOTICE

- If the triggering voltage of the flash used is extremely low, the flash may not trigger. In this case, use "5-3 Measurement in Cordless Flash Mode". (➔ P90)
- In the Cordless Flash mode, the measured color temperature may change depending on the shutter speed set for flash measurement and the amount of ambient light present when the measurement is made.


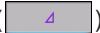


NOTE

- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. (➔ P102)
In this case, adjust the brightness or color temperature of light source, or switch the light range. (➔ P103)

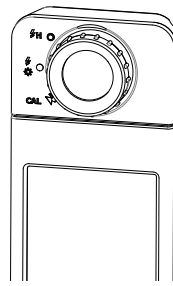
5-5

Comparison Function (in Ambient Light Mode only)

In all Display Modes (except Spectrum Comp., CIE1931/1964 Comp. and CIE1976 Comp. modes), when you touch the Delta icon () in the Display mode, it changes to ()

While this mode, the difference between preset reference value and currently being measured value is displayed as long as the Measuring Button **5** is released.

When the Measuring Button **5** is released, the preset reference value is displayed in the yellow letter.

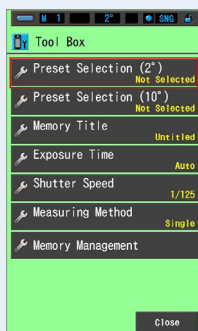
Measuring Button **5**

Operation

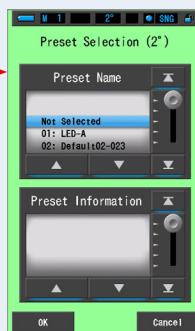
1. Touch the [Preset Selection (2°) (Preset Selection (10°))] button in the Tool Box.

The Preset Selection screen will be displayed.

Tool Box Screen



Preset Selection (2°) Screen



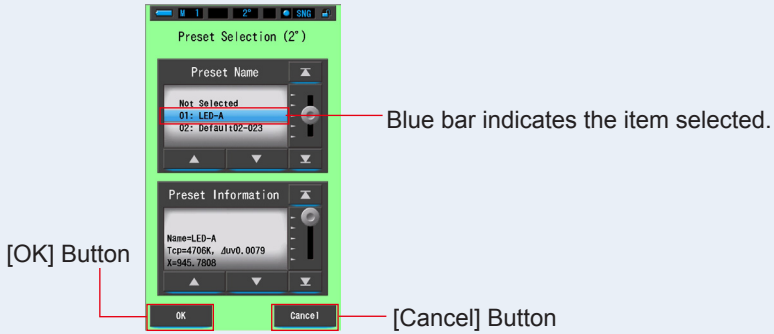
NOTICE

- A Preset value must be created and saved in the Preset Editing function under the "Setting Mode" icon before use. Preset Selection buttons will be grayed out until settings are created.

2. Select desired preset no. (1 ~ 5).

Match the blue background with the desired shutter speed.

Preset Selection Screen



NOTICE

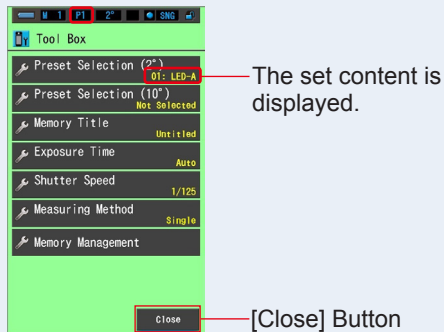
- Be sure to set Preset Selection to "Not Selected" when no correction is desired.

3. Touch the [OK] button.

Confirm and return to the Measurement screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

Tool Box Screen



4. Touch the [Close] button.


The preset is set.

Returns to the Measurement screen.

The selected status will be displayed on the status bar.



5. Touch the [Delta] icon ().

The [Delta] icon will change to ().

Measuring Screen





Measuring Screen



[Delta] Icon

6. Hold the Measuring Button .

While the [Delta] icon is activated (), the difference with the preset reference value is displayed as long as the Measuring Button  is pressed.


Measuring Screen



7. Comparison Function is complete.



When the Measuring Button **5** is released, the preset reference value is displayed.

8. Touch the [Delta] icon ().

The last measured values are displayed, and the [Delta] icon () will be deactivated.



NOTE

- If Preset is not selected, the Comparison Function does not start even when you touch the Delta icon ().
- The [Delta] icon () is deactivated when the power is turned OFF.
- When the [Delta] icon is displayed, the Memory Button **7** is disabled.

5-6

When [Over] or [Under] is Displayed

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



5-6-1

Display of [Over] or [Under]

When [Over] is displayed:

If the indicated values are higher than the maximum measuring range, [Over] is displayed.



When measuring ambient light, decrease the brightness of the illumination.

When measuring flash light, turn the Light Selection Ring ②, and change the range from L ⚡ () to H ⚡H (), or lower the flash output power. ⚙️

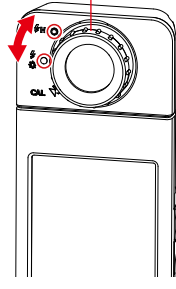
When [Under] is displayed:

If the indicated values are lower than the minimum measuring range, [Under] is displayed.

When measuring ambient light, increase the brightness of the illumination.

When measuring flash light, turn the Light Selection Ring ②, and change the range from H ⚡H () to L ⚡ (), or raise the flash output power. ⚙️

Light Selection Ring ②








Measuring Button ⑤

**NOTE**

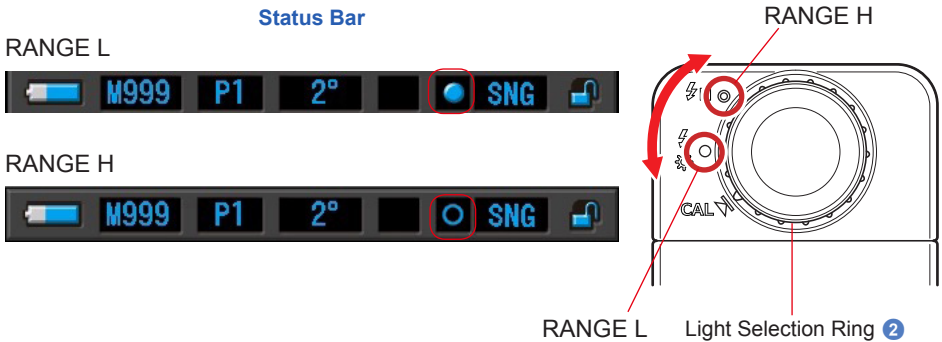
- Measurement and display will take longer in light levels below 30lx. The LCD illumination will normally switch off during measurements to avoid influence to measurements.

5-6-2 Changing the Light Range

Change and use the light range depending on the brightness of the flash.


Light Selection Ring (Status Bar Display)			Content
Dark Calibration Position		CAL	Select for dark calibration only. Measurement cannot be made in this position.
Range L			Select for ALL ambient light measurement, and low power flash units (lower than 640lx·s/59.5fc·s)
Range H			Select for powerful flash units (brighter than 580lx·s/53.9fc·s) only.

Turn the Light Selection Ring ② and select the desired range.
The set range will be displayed on the LCD screen's status bar.



6. Measurement Tool [Tool Box] Screen

Selecting Screens from the Tool Box

Touch the [Tool Box ()] icon in the Measuring screen to display the Tool Box screen. (→ P16) You can select screens from the Tool Box as follows.

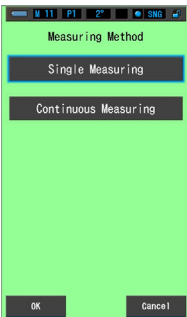
Exposure Time (→ P126)



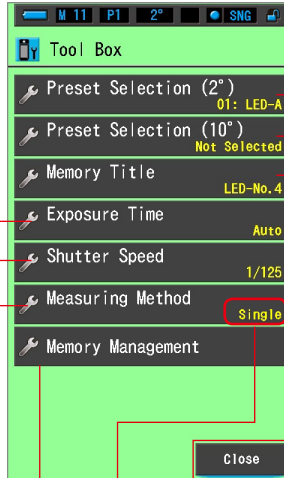
Shutter Speed (→ P128)



Measuring Method (→ P130)



Tool Box



The set content is displayed in yellow letter at the lower right hand corner of the button.

Return to the [Measuring screen] by touching the [Close] button.

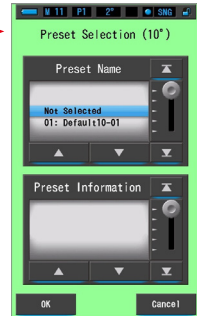
Memory Management (→ P113)



Preset Selection (2°) (→ P105)



Preset Selection (10°) (→ P105)



Memory Title (→ P109)



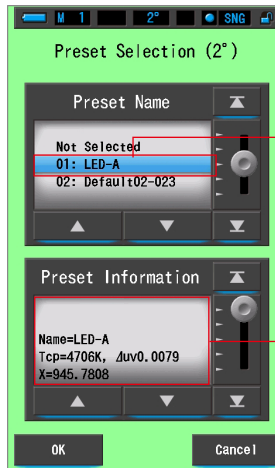
6-1 Setting Preset Contents [Preset Selection] Screen

You can select a previously created Preset value from Preset Selection in the Tool Box.

Select a preset item of Preset Selection (2°) or Preset Selection (10°).

If the "Preset Selection List" is set to be displayed in the "Preset Editing" function of "Setting", only these preset items are displayed on the drum.

Preset Selection (2°) Screen



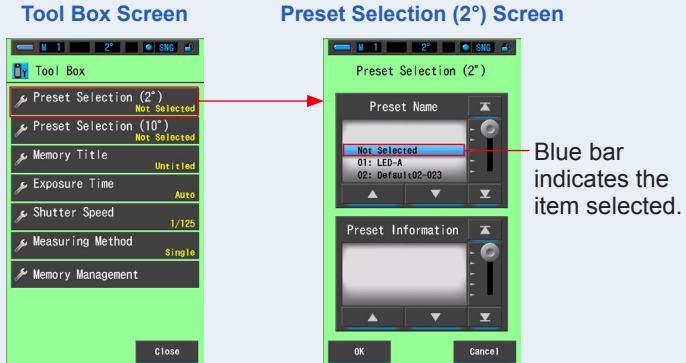
Presets which are set to "Displayed" in the "Preset Editing" in "Setting" screen appear here.

Contents of selected Preset is displayed.

Operation

1. Touch the [Preset Selection (2°) (Preset Selection (10°))] button in the Tool Box.

The Preset Selection screen will be displayed.



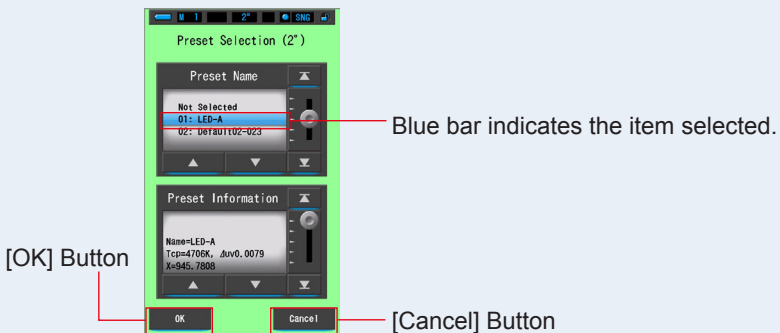
NOTICE

- A Preset value must be created and set to “Displayed” in the Preset Editing function under the “Setting Mode” icon before it can be used. Preset Selection buttons will be grayed out until settings are created and set to “Displayed”. (➔ P158)

2. Select desired preset no. (01 ~ 05).

Touch Up/Down buttons or move slide to position the desired Preset under the blue bar.

Preset Selection (2°) Screen





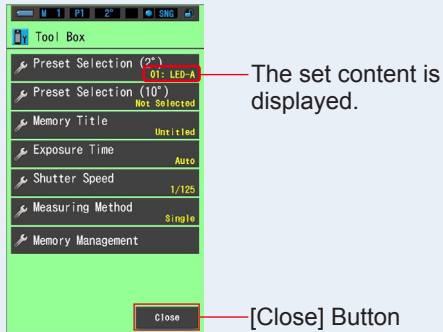
- Be sure to set Preset Selection to "Not Selected" when no correction is desired.

3. Touch the [OK] button.

Confirm and return to the Measuring screen.

To return to the Measurement screen without confirming, touch the [Cancel] button.

Tool Box Screen



4. Touch the [Close] button.

Returns to the Measuring screen.

The selected status will be displayed on the status bar.



The preset is set.

6-2 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 999 measurements can be stored. Memory function also enables naming or renaming the title of memory and clearing the stored value.

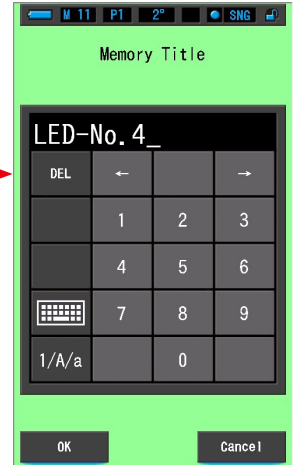
Memory Management Screen



Tool Box Screen



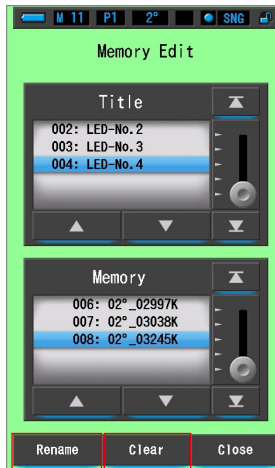
Memory Title Screen



Memory Recall Screen



Memory Edit Screen



Renaming Memory Title Clearing Memorized Value

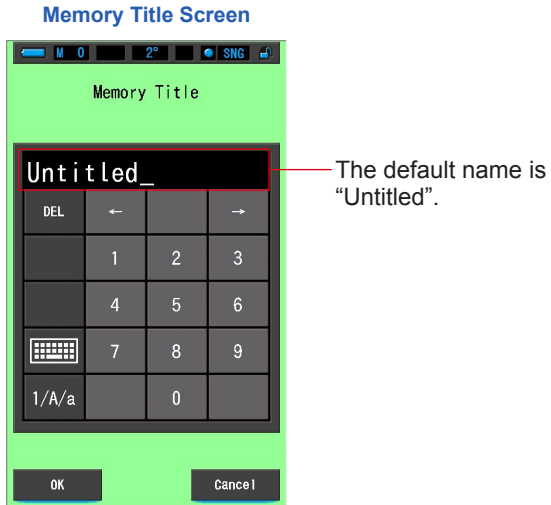
6-2-1

Naming Measurement Values Being Memorized [Memory Title] Screen

You can create special titles for memorized values to make them easier to select, view and use data later.

To use this function the order of operation:

- * Create memory title
- * Measure light source
- * Press Memory button **7** to memorize

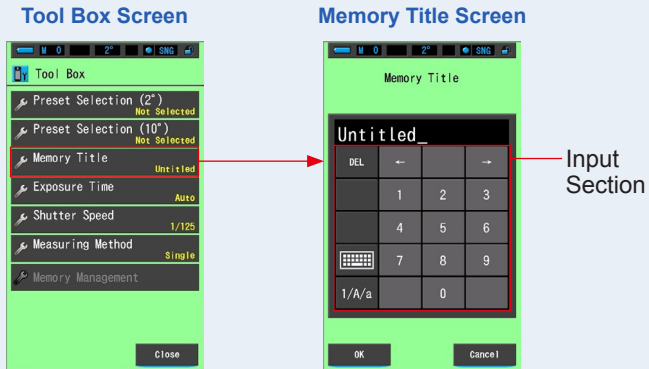


NOTE

- A title can be a maximum of 16 alphanumeric characters.
- More than one measurement can be stored under one title.
- Up to 999 titles can be created.

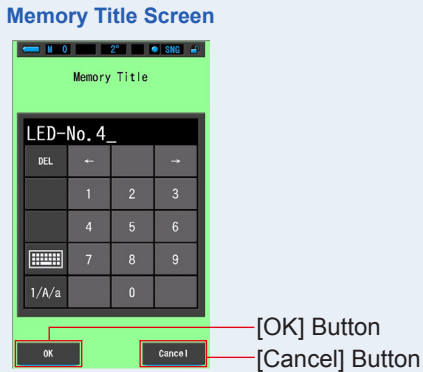
Operation

1. Touch and select the [Memory Title] button in the Tool Box.
The Memory Title screen will be displayed.



2. Enter the memory title. (→ P18)

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



3. Touch the [OK] button.

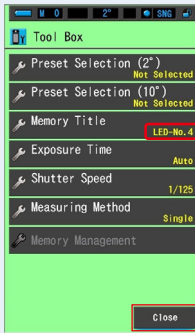
Confirms and returns to the Tool Box screen.

To return to the Tool Box screen without confirming, touch the [Cancel] button.

4. Touch the [Close] button.

Returns to the Measuring screen.

Tool Box Screen



[Close] Button

The memory title is entered.






NOTICE

- The memory title needs to be entered before memorizing.
- The memory title can be changed after memorizing in Memory Management function. (➔ P118)

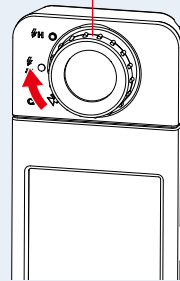
5. Measure light.

Press Measuring Button ⑤ to take a measurement.

The Light Selection Ring ② should be set to L () when taking ambient light measurements.

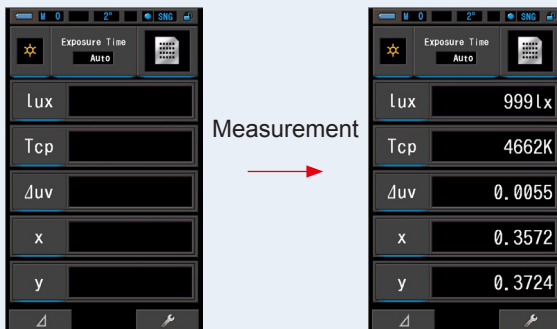
When measuring flash units, select Range L () or Range H () depending on the brightness of the flash. (➔ P102, ➔ P103)

Light Selection Ring ②



Measuring Button ⑤

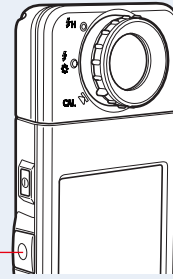
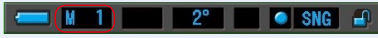
Measuring Screen



6. Press Memory Button 7 to memorize light source values and link the reading to the created title name.

The Memory reflected on the status bar.

Status Bar

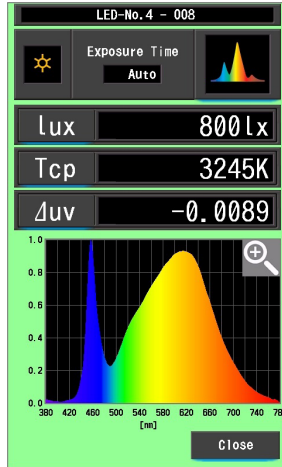


Memory Button 7

6-2-2 Recalling Measurement Results [Memory Recall] Screen

The Memory Recall screen enables selecting a specific Title and Memory number to view and inspect values stored in the memory under any Display Mode.

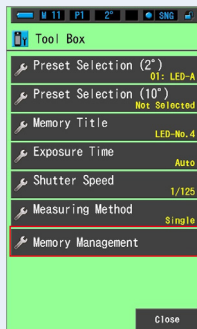
Ex.) Memory Recall Spectrum Mode Screen



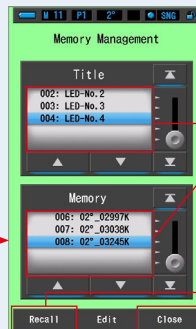
Operation

1. Touch the [Memory Management] button in the Tool Box.
Memory Management screen will be displayed.
2. Select the "Title" and "Memory" to recall with the blue background position.

Tool Box Screen



Memory Management Screen



Move Title and then Memory number into the blue background to make a selection.

[Recall] Button
[Close] Button

3. Touch the [Recall] button.

The meter will display the Display Mode viewed at the time the light source was measured.

To return to the Tool Box screen without confirming, touch the [Close] button.

4. Confirm the memory contents.

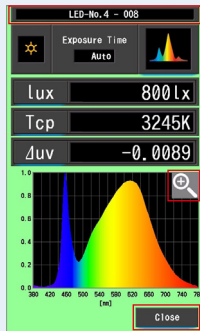
Display Mode at the time when measured appears.

In Memory Recall Mode, the background color becomes green.

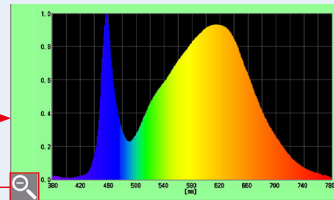
Memory Title of recalled value appears every two seconds on the status bar.

Ex.)

Memory Recall Spectrum Mode Screen



Spectrum Distribution Graph Enlarged Display



[Close] Button

NOTICE

- If the Memory Button is pressed while in Spectrum Comparison mode, recalled data will be displayed on the Spectrum Display screen.
- In Memory Recall Mode, measurement cannot be made.

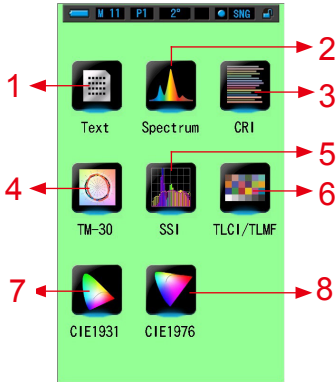
5. Touch the [Close] button.

Returns to the Memory Management screen.

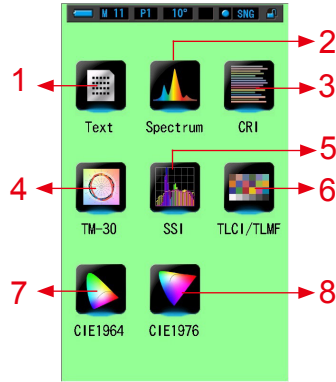
Changing Memory Recall Mode Display

Touch one of the [Display Mode] icons in Memory Recall Mode, and the specified display with memorized data for that Memory Recall Mode will appear. In Memory Recall Mode, Memory Title of recalled value appears every two seconds on the status bar.

**Memory Recall Mode
Display Mode Selection Screen (2°)**



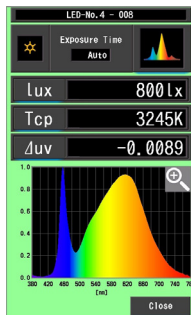
**Memory Recall Mode
Display Mode Selection Screen (10°)**



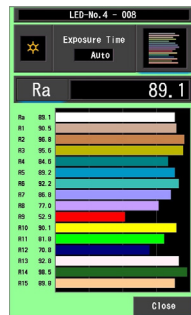
**1 Memory Recall Mode
Text Mode**



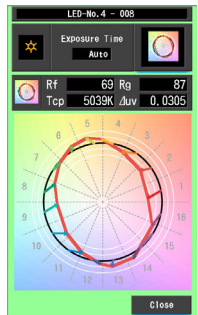
**2 Memory Recall Mode
Spectrum Mode**



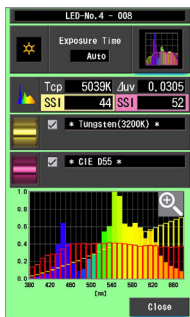
**3 Memory Recall Mode
CRI Mode**



**4 Memory Recall Mode
TM-30 Mode**



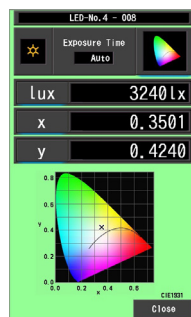
**5 Memory Recall Mode
SSI Mode**



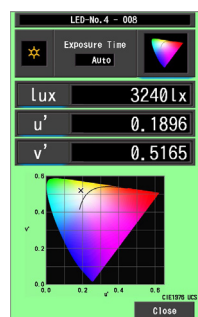
**6 Memory Recall Mode
TLCI/TLMF Mode**






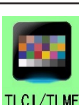





**7 Memory Recall Mode
CIE1931 (CIE1964) Mode**



**8 Memory Recall Mode
CIE1976 Mode**



No.	Display Mode Icon	Part Name	Description	
1	 Text	Memory Recall Mode [Text] Icon	Displays user-selected 5 items in numeric values. (➔ P35)	
2	 Spectrum	Memory Recall Mode [Spectrum] Icon	Displays 3 user-selected values and spectrum distribution graph. (➔ P38)	
3	 CRI	Memory Recall Mode [CRI] Icon	Displays the selected average CRI (RA) or individual CRI (R1 ~ R15). Each CRI is displayed in a bar graph. (➔ P41)	
4	 TM-30	Memory Recall Mode [TM-30] Icon	Displays four current measurement values (Rf, Rg, Tcp, Δuv) and color vector graphic. (➔ P44)	
5	 SSI	Memory Recall Mode [SSI] Icon	Compares the current measurement value and up to 2 reference values (color temperature and Δuv), and displays SSI index with the SSI spectrum graph. (➔ P46)	
6	 TLCI/TLMF	Memory Recall Mode [TLCI/TLMF] Icon	Displays the current measurement values and memorized values (in color temperature and Δuv), TLCI and TLMF with spectrum graph. (➔ P57)	
7	 CIE1931	 CIE1964	Memory Recall Mode [CIE1931 (CIE1964)] Icon	Displays the measured result of the selected memory on the CIE1931 chromaticity diagram for a 2° viewing angle (or CIE1964 chromaticity diagram for a 10° viewing angle). (➔ P62)
8	 CIE1976	Memory Recall Mode [CIE1976] Icon	Displays the measured result of the selected memory on the CIE1976 chromaticity diagram. (➔ P64)	

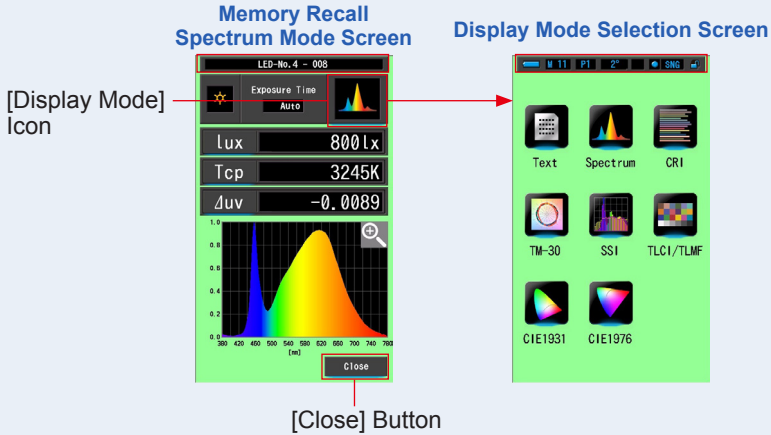

NOTE

- The contents of Memory Recall Mode display the selected display items in the current Display Modes instead of display items at the time when memorized.

Operation

1. Touch the [Display Mode] icon on the Memory Recall Mode.

Display modes of Memory Recall Mode will be displayed. Memory Title of recalled value appears every two seconds on the status bar.



2. Touch the desired [Display Mode] icon to select display. Switches to each display mode screen.

Memory Recall Text Mode Screen



3. Touch the [Close] button.

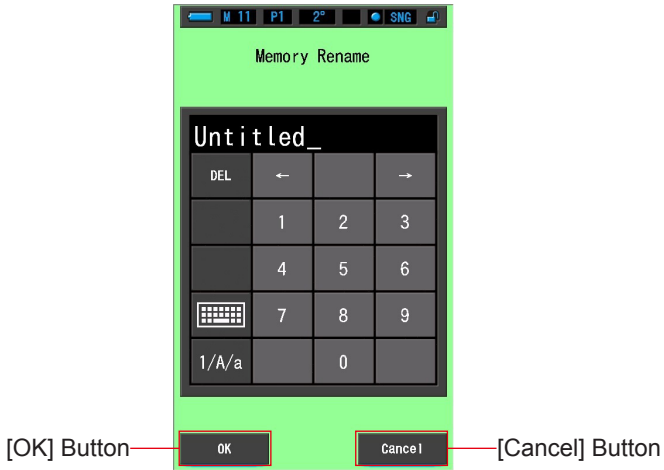
Returns to the Memory Management screen.

6-2-3

Renaming Memory Title [Memory Rename] Screen

The title of measurements of the memory can be changed.

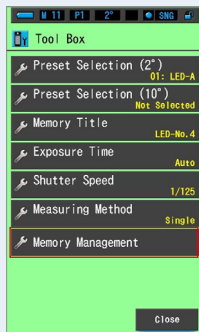
Memory Rename Screen



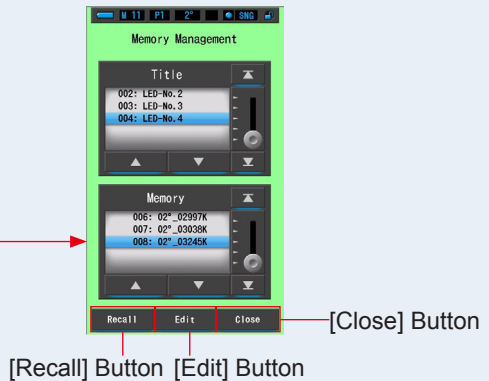
Operation

1. Touch the [Memory Management] button in the Tool Box. Memory Management screen will be displayed.

Tool Box Screen



Memory Management Screen



2. Touch the [Edit] button.

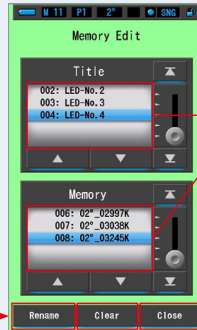
Memory Edit screen will be displayed.

Memory Management Screen



[Edit]
Button

Memory Edit Screen



Move Title and then Memory number into the blue background to make a selection.

[Close] Button

[Rename] Button [Clear] Button

3. Select the "Title" and "Memory" to rename with the blue background positions.

4. Touch the [Rename] button.

Memory Rename screen will be displayed.

Memory Edit Screen



[Rename]
Button

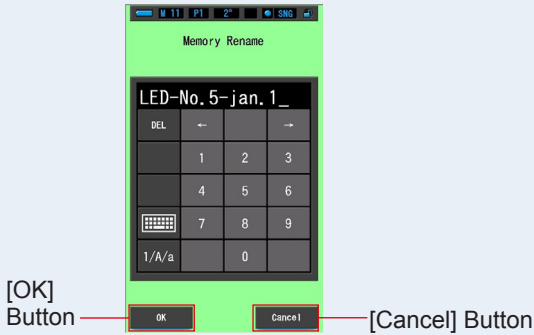
Memory Rename Screen



5. Enter the Memory Title to rename. (→ P18)

Use the keyboard to create a name for the memorized value.

Memory Rename Screen



6. 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.

The memory title is entered.

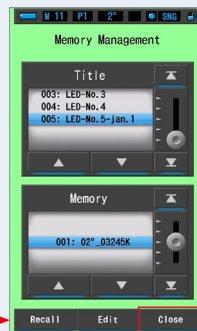
7. Touch the [Close] button.

Close and return to the Memory Management screen. Touch the [Close] button to return to Measuring screen.

Memory Edit Screen



Memory Management Screen



[Close] Button

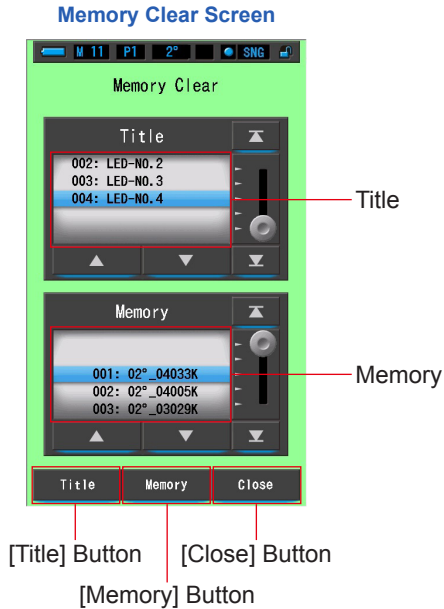
[Close] Button

6-2-4

Deleting Saved Measurement Results [Memory Clear] Screen

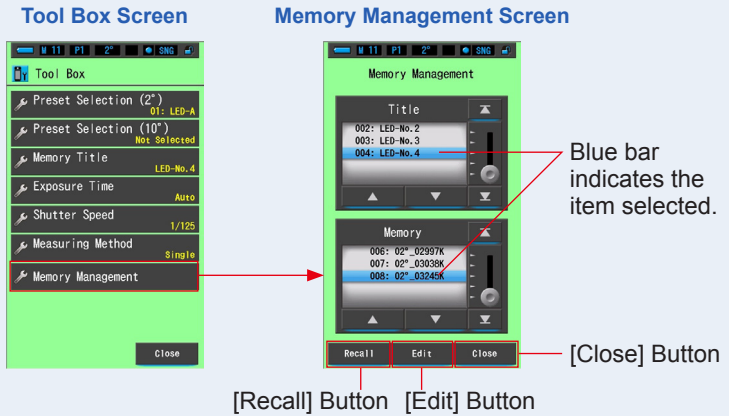
You can delete memorized measurement values individually or every Memory Title at once.

In Memory Clear, titles and memory contents (memory numbers and measurement values) are displayed in the registered order.

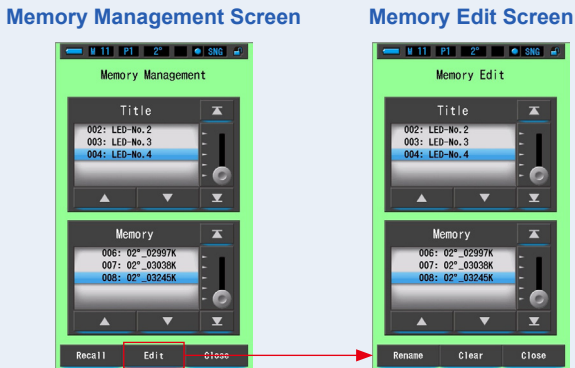


Operation

1. Touch and select the [Memory Management] button in the Tool Box.
The Memory Management screen will be displayed.



2. Touch the [Edit] button.
Memory Edit screen will be displayed.



3. Select the "Title" and "Memory" to clear with the blue background positions.

4. Touch the [Clear] button.

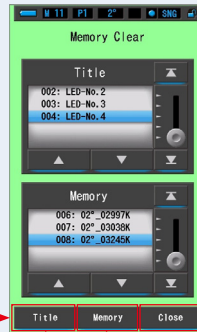
Memory Clear screen will be displayed.

Memory Edit Screen



[Clear] Button

Memory Clear Screen



[Close] Button

[Title] Button [Memory] Button

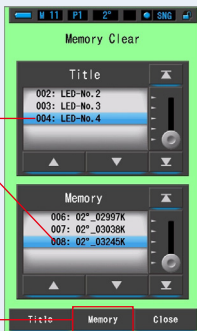
[Erasing Individual Values]

1. Select the Title to display the memorized value you want to delete. Then select the specific light source value under that title, if more than one value has been memorized.

2. Touch the [Memory] button.

This will display the Memory Clear Confirmation screen. "Remove the selected memory data. Are you sure?" will be displayed.

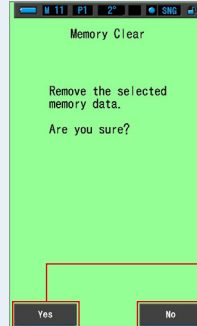
Memory Clear Screen



Select Title then the Memory that you want to clear.

[Memory] Button

Memory Clear Confirmation Screen



[Yes] Button

[No] Button

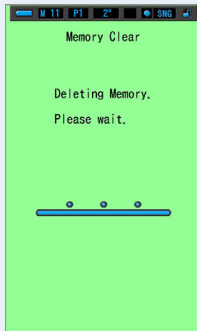
3. Touch the [Yes] button.

“Deleting Memory. Please wait.” will appear while the memory is being deleted. After the memory is cleared, the meter will return to the Memory Clear Screen.

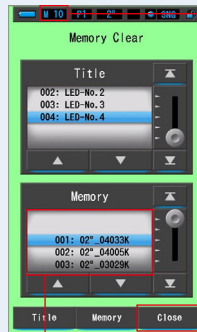
While the progress bar is running, the deletion is in progress. The process may require time depending on the number of memories to be deleted. Do not perform other work. You can clear (delete) additional memories by repeating steps 1-3.

If you decide not to delete a memory, touch the [No] button to return to the Memory Clear Screen.

Memory Clear Processing Screen



Memory Clear Screen



The number of memories will change.

[Close] Button

The selected memory will be deleted, and the numbers after the selected number will decrease by one.

4. Touch the [Close] button.

Returns to the Memory Edit screen.

Touch the [Close] button until returning to Measuring screen.

[Erasing the Memory Title]

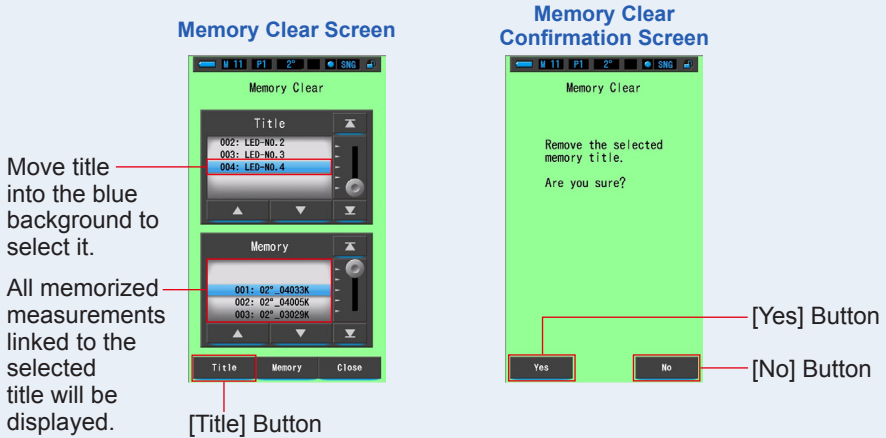
1. Match the "Title" to be deleted with the blue background positions.

Select the "Title" to be deleted.

2. Touch the [Title] button.

This will delete the title. All the memory data linked to the title will be deleted.

This will display the Memory Clear Confirmation screen. "Remove the selected memory title. Are you sure?" will be displayed.

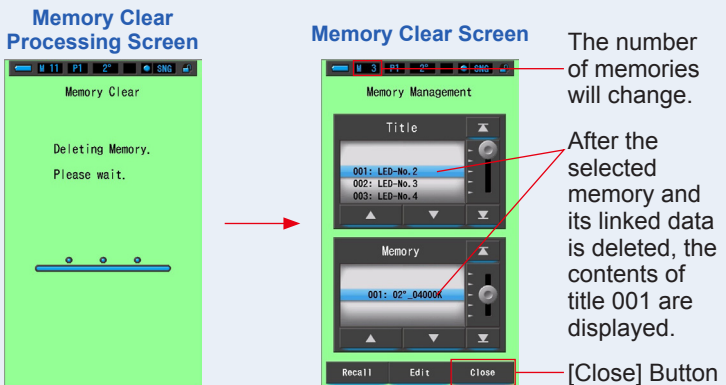


3. Touch the [Yes] button.

"Deleting Memory. Please wait." will be displayed. Returns to the Memory Clear screen after deletion.

While the progress bar is running, the deletion is in progress. The process may require time depending on the number of memories to be deleted. Do not perform other work.

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. Touch the [Close] button until returning to Measuring screen.

6-3

Selecting Exposure Time [Exposure Time] Screen

Set a Exposure Time for ambient measurement.

Exposure Time Screen

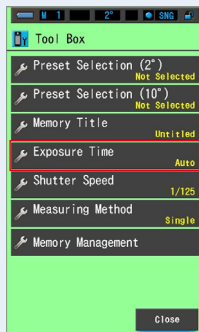


Select a button

Operation

1. Touch the [Exposure Time] button in the Tool Box.
The Exposure Time screen will be displayed.

Tool Box Screen



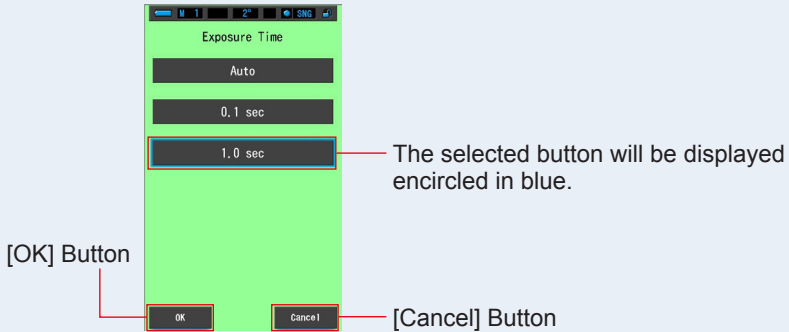
Exposure Time Screen



2. Set a Exposure Time for ambient measurement.

Select Auto, 0.1 sec or 1.0 sec.

Exposure Time Screen



3. Touch the [OK] button.

Confirms and returns to the Tool Box screen.

To return to the Tool Box screen without setting, touch the [Cancel] button.

The selected status will be displayed on the Tool Box.

Tool Box Screen



The selected exposure time is displayed on the Measuring screen.



The selected exposure time is displayed.

The Exposure Time has been set for a fixed 1.0 second measurement.

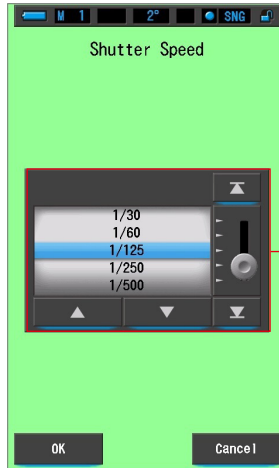
NOTE

- In Auto mode, the C-7000 automatically selects among 15 measuring times, determined by the illumination available, to achieve a proper result in a convenient way.
Two fixed reading times are available to enable exact comparison of multiple measurements.
When measuring high illuminance levels, set the Exposure Time to 0.1 sec.
When taking measurements in low illuminance, set the Exposure time for 1.0 sec.

6-4 Setting the Shutter Speed [Shutter Speed] Screen

Set a shutter speed that is appropriate for the intended flash-ambient measurement.

Shutter Speed Screen

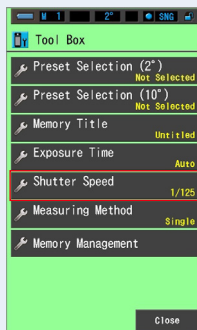


Select a shutter speed in the list.

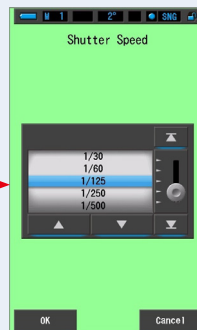
Operation

1. Touch the [shutter Speed] button in the Tool Box
The Shutter Speed screen will be displayed.

Tool Box Screen

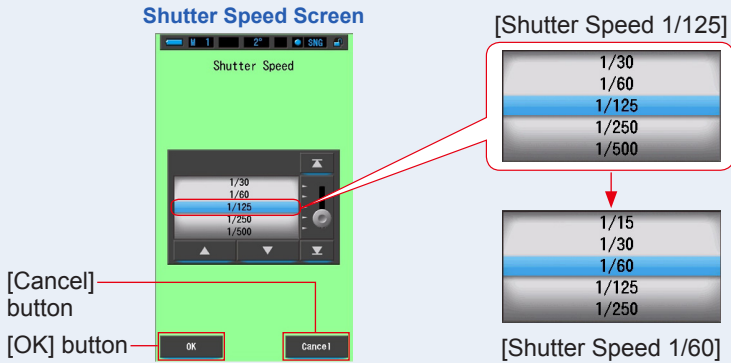


Shutter Speed Screen



2. Select the desired shutter speed.

Shutter Speed Options (➔ P26)



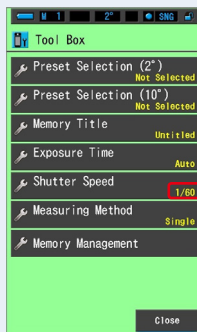
3. Touch the [OK] button.

Confirms the settings, and returns to the previous Measuring screen.

Touch [Cancel] to return to the previous measuring screen without setting.

The shutter speed is set.

Tool Box Screen



The selected shutter is displayed on the Measuring screen



The selected shutter speed is displayed.

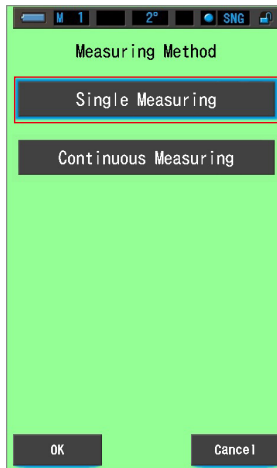
6-5

Selecting Measuring Method [Measuring Method] Screen

Set a measuring Method from single measurement or continuous measurement. Single measurement enables to measure at the time when the Measuring button ⑤ is pressed.

Continuous measurement can be made by pressing the Measuring button ⑤ to start measuring, and pressing the Measuring button ⑤ again to complete measuring to display the measured value continuously during this duration.

Measuring Method Screen



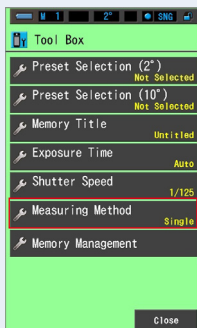
Select the measurement method in the list.

Operation

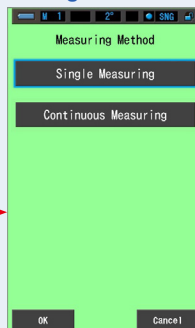
1. Touch the [Measuring Method] button in the Tool Box

The Measuring Method screen will be displayed.

Tool Box Screen



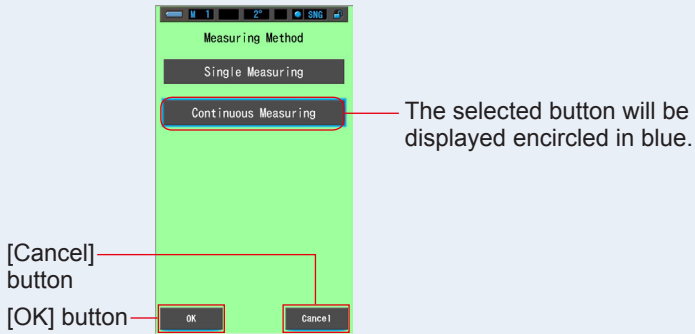
Measuring Method Screen



2. Select the desired measuring method.

Select **Single Measurement (SNG)** or **Continuous Measurement (CNT)**.

Measuring Method Screen



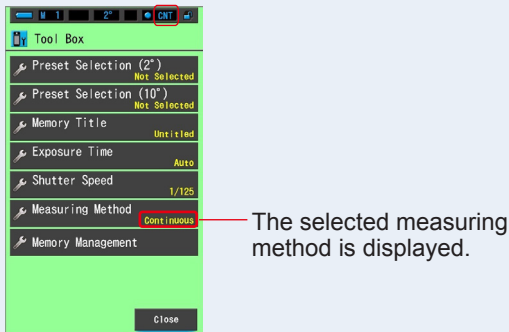
3. Touch the [OK] button.

Confirms the settings, and returns to the previous Measuring screen.

Touch [Cancel] to return to the previous measuring screen without setting.

Measurement method has been set.

Tool Box Screen



NOTE

[Single Measurement]

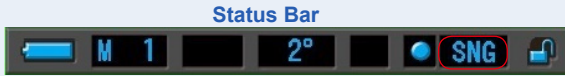
- Measured value at the time when the Measuring button 5 is pressed is displayed.
- It is useful to measure multiple light sources and memorize them.

[Continuous Measurement]

- Press the Measuring button 5 to start measuring, and press the Measuring button 5 again to complete measuring to display the last measured value.
- It is useful to measure one light source to check the variation or evenness of light source.

[Single Measurement (SNG)]

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



2. Single measurement displays the measure value at the time when the Measuring button ⑤ is pressed.



NOTE

- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. (➔ P102)
In this case, adjust the brightness or color temperature of light source, or switch the light range. (➔ P103)

[Continuous Measurement (CNT)]

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



2. Continuous measurement can be made by pressing the Measuring button ⑤ to start measuring, and pressing the Measuring button ⑤ again to complete measuring to display the measured value continuously during this duration.



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 the continuous measurement, auto power off function is disable.



NOTE

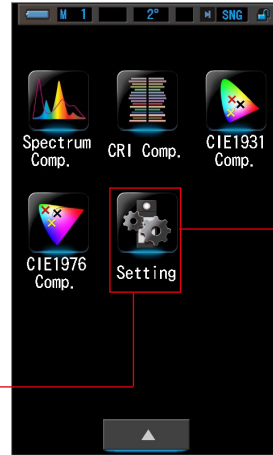
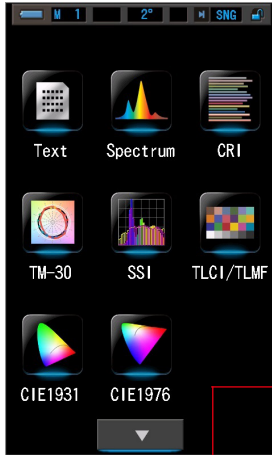
- [Over] or [Under] will be displayed if the light source illumination is too bright or not bright enough, or if the color temperature is out of the measurement range, when the Measuring Button is pressed. (➔ P102)
In this case, adjust the brightness or color temperature of light source, or switch the light range. (➔ P103)

7. Meter Settings [Setting] Screen

7-1 Setting Items

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

Display Mode Selection Screen (2°) Page 1 Display Mode Selection Screen (2°) Page 2



[Setting] Icon

Setting Page 1 Screen



To page 2

Setting Page 2 Screen



To page 1

[Close] Button

* Models sold in some countries do not display illuminance and exposure in "fc (fc-s)" due to legal restrictions. In this case, Unit of Illuminance is not displayed.

Operation

1. Touch the [Setting] icon on the Display Mode Selection screen.
Setting will be displayed.
2. Touch the one step icons [▲][▼] to display the desired page.
3. Touch the desired setting name.

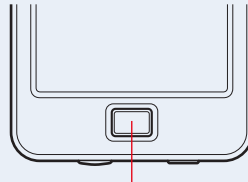
That setting screen will be displayed.

When the [Close] button is touched, the display returns to the Display Mode Selection screen.



NOTE

- Pressing the Menu Button ⑥ will exit the settings and return to the Display Mode Selection screen.



Menu Button ⑥

7-1-1 Item List

The Setting screen items are as follows.

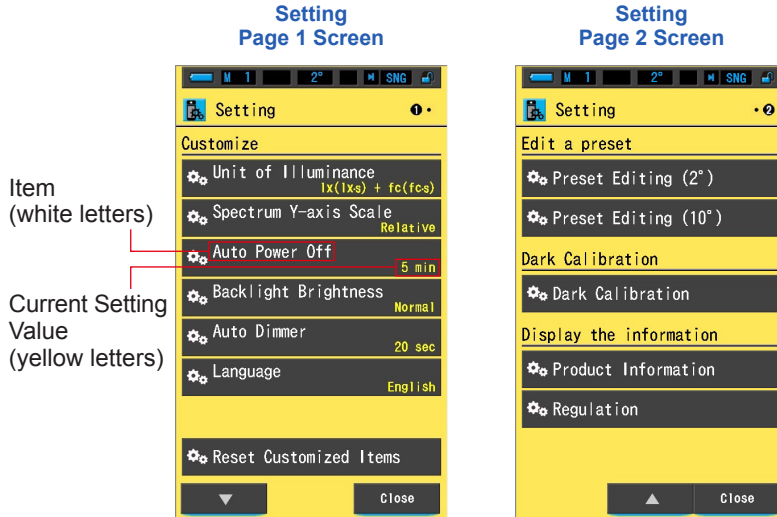
Item Name	Description
Customize	
Unit of Illuminance	Select the unit from lx(lx·s), fc(fc·s) or both when measuring illuminance. (➔ P138)
Spectrum Y-axis Scale	Select relative, auto, or spectral irradiance. (➔ P140)
Auto Power Off	Select the time before the power automatically turns off after last use (5min, 10min, 20min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated. (➔ P143)
Backlight Brightness	Select the LCD backlight brightness from dark, normal, or bright. (➔ P145)
Auto Dimmer	Select the time before the backlight dims after last use to save power or adjust the visibility under the surrounding light condition. (5sec, 10sec, 20sec, 40sec, 60sec, No Dimmer) (➔ P147)
Language	Select the language displayed on the touch panel from English, Japanese or Chinese. (➔ P149)
Reset Customized Items	Initialize (reset) only contents of "Customize" in Setting to the factory default (6 items for C-7000). (➔ P151)
Edit a preset	
Preset Editing	Edit a preset for 2° or 10° separately. (➔ P152)
Dark Calibration	
Dark Calibration	Perform dark calibration. (➔ P186)
Display the information	
Product Information	Display the product Information. (➔ P189)
Regulation	Display the compliant regulation. (➔ P191)

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions.

7-2 Customize

You can set the display contents of 6 items in Customize Setting to customize your meter for your preference.

The current setting for each item is displayed in yellow letters.



Operation

1. Touch the [Setting] icon on the Display Mode Selection screen.
Setting will be displayed.
2. Touch the one step icons [▲][▼] to display the desired page.
3. Touch the desired item.

The item screen will be displayed.

When the [Close] button is touched, the display returns to the Display Mode Selection screen.

7-2-1 Item Specifications

The specifications of each "Customize" item is as follows.

No.	Setting Name	Item						(Default)
1	Unit of Illuminance*	lx(lx·s)+ fc(fc·s)	lx(lx·s)	fc(fc·s)	-	-	-	lx(lx·s)+ fc(fc·s)
2	Spectrum Y-axis Scale	Relative	Auto	Spectral Radiant Intensity 1.0μW to 100W·m ⁻² ·nm ⁻¹				Relative
3	Auto Power Off	5min	10min	20min	No Auto Power Off	-	-	5min
4	Backlight Brightness	Dark	Normal	Bright	-	-	-	Normal
5	Auto Dimmer	5sec	10sec	20sec	40sec	60sec	No Dimmer	20sec
6	Language	English	Japanese	Chinese	-	-	-	Selected by default
7	Reset Customized Items	When you touch the [OK] button, the Setting contents will be reset to factory default.						-

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions.

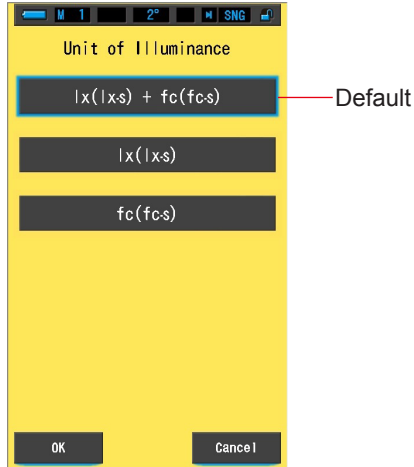
7-2-2

Selecting the Unit of Illuminance

Select the unit when measuring illuminance.

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" due to legal restrictions. In this case, "Unit of Illuminance" button will not appear in Setting screen.

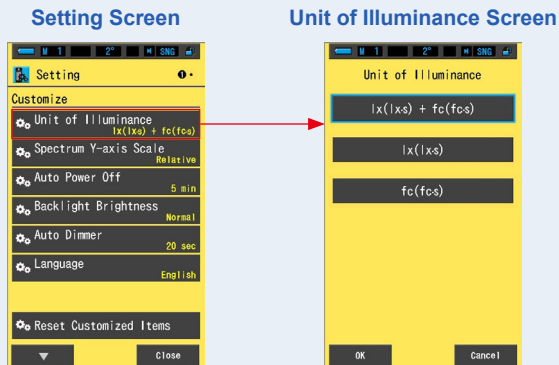
Unit of Illuminance Screen



Operation

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

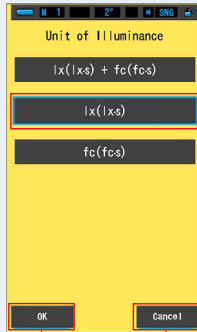
The unit of illuminance will be displayed.



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

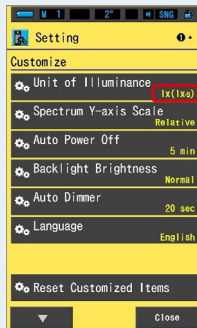
[Cancel] Button

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



The set content is displayed.

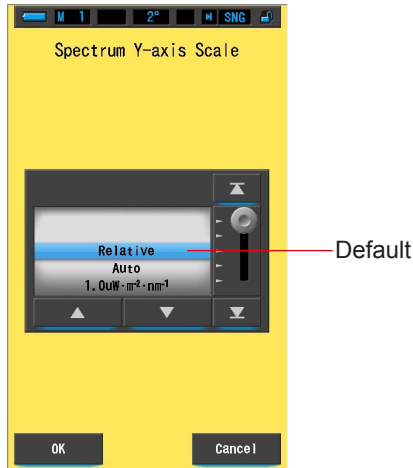
The unit of illuminance is set.

7-2-3

Selecting the Spectrum Y-axis Scale

Select Relative, Auto, or any specific number of spectral irradiance as the maximum display value for the spectrum Y-axis.

Spectrum Y-axis Scale Screen

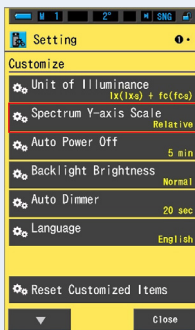


Operation

1. Touch the item [Spectrum Y-axis Scale] button on page 1 of Setting screen.

The maximum display value of the spectrum Y-axis scale will be displayed.

Setting Screen



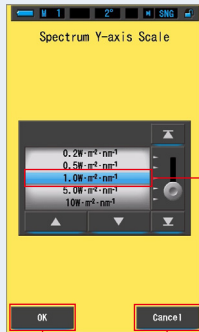
Spectrum Y-axis Scale Screen



2. Select the desired spectrum Y-axis scale.

Select from Relative, Auto, or any specific number of spectral irradiance.

Spectrum Y-axis Scale Screen



Blue bar indicates the value selected.

[OK] Button

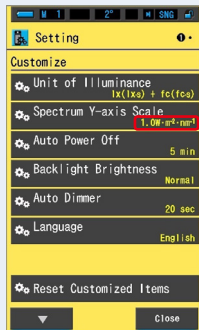
[Cancel] Button

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



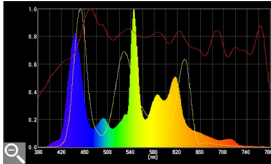
The set content is displayed.

The spectrum Y-axis scale is set.

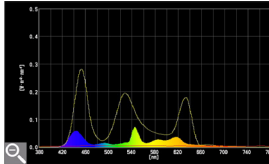


- Relative.....Regardless of brightness of light source, the peak of brightness in each measurement and memorized values is regarded as 1.0 to compare the light sources in shape of spectrum graph.
- AutoThe appropriate Y-axis value is automatically selected and spectral irradiance can be compared.
- Spectral IrradianceSpecific value can be selected from 1.0u to 100 W·m⁻²·nm⁻¹.

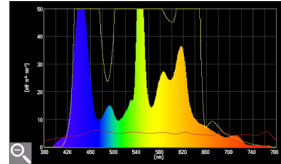
Relative



Auto



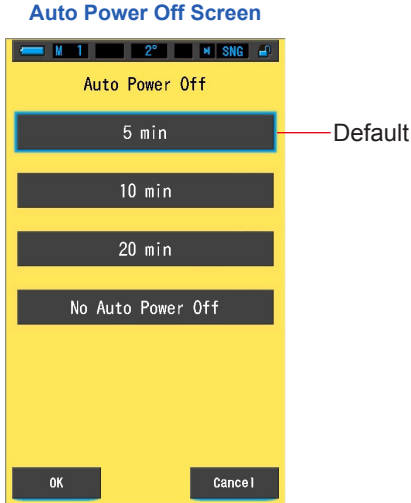
Spectral Irradiance



7-2-4

Selecting the Auto Power Off Time

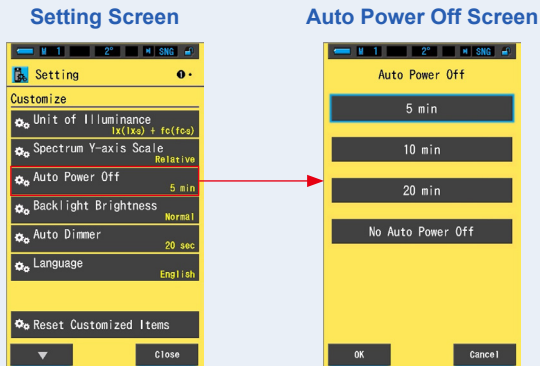
Select the time delay before the power automatically turns off after last use (5min, 10min, 20min, No Auto Power Off). When No Auto Power Off is set, the automatic power OFF function is not activated.



Operation

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

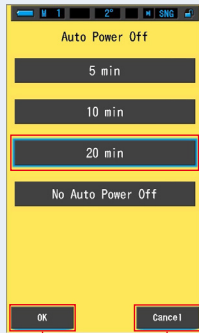
The auto power off time will be displayed.



2. Touch the desired time delay button on the Auto Power Off screen.

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

Auto Power Off Screen



The selected button will be displayed encircled in blue.

[OK] Button

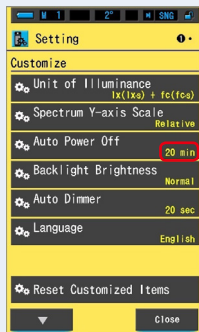
[Cancel] Button

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



The set content is displayed.

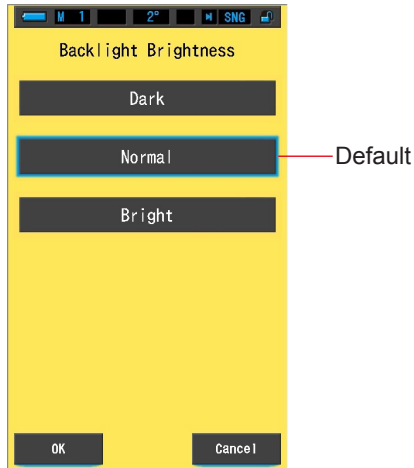
The auto power off time delay is set.

7-2-5

Selecting the Backlight Brightness

Select the LCD backlight brightness from Dark, Normal or Bright to save extra power or adjust the visibility under the surrounding light condition.

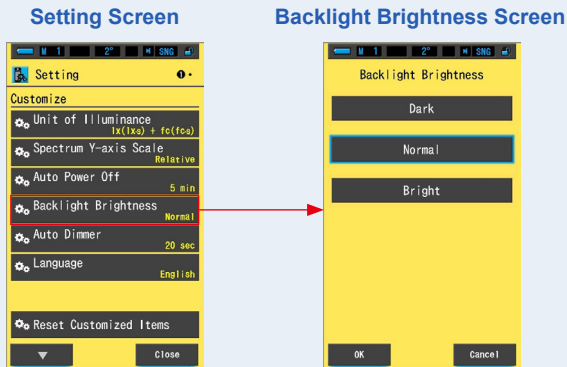
Backlight Brightness Screen



Operation

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

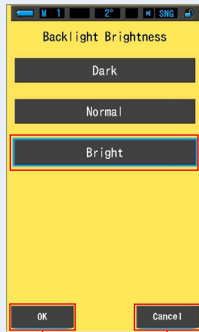
The Backlight Brightness screen will be displayed.



2. Touch the desired brightness button on the Backlight Brightness screen.

Select Dark, Normal or Bright.

Backlight Brightness Screen



The selected button will be displayed encircled in blue.

[OK] Button

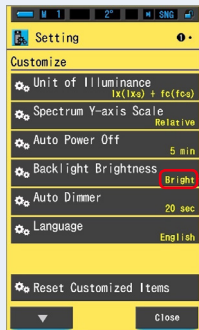
[Cancel] Button

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



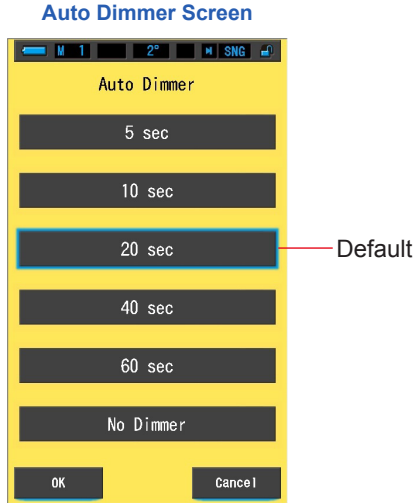
The set content is displayed.

The backlight brightness is set.

7-2-6

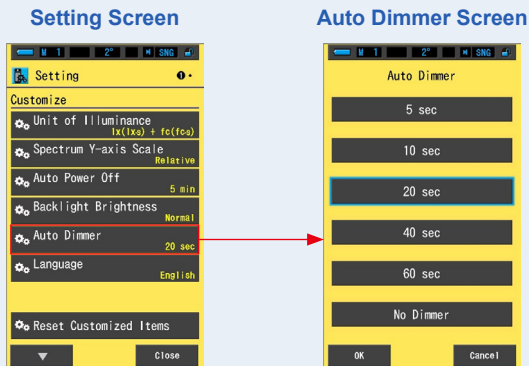
Selecting the Auto Dimmer Time

Select the time before the backlight dims after last use to save extra power.
(5sec, 10sec, 20sec, 40sec, 60sec, No Dimmer)



Operation

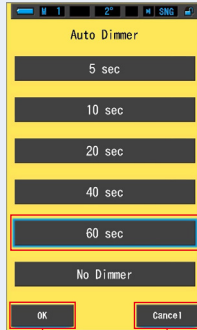
1. Touch the [Auto Dimmer] button on page 1 of Setting screen
The auto dimmer time delays will be displayed.



2. Touch the desired time delay button on the Auto Dimmer screen.

Select 5sec, 10sec, 20sec, 40sec, 60sec, or No Dimmer.

Auto Dimmer Screen



The selected button will be displayed encircled in blue.

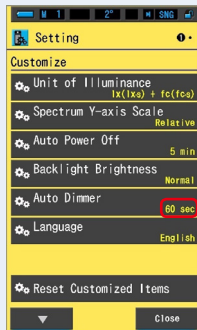
[OK] Button [Cancel] Button

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



The set content is displayed.

The auto dimmer time is set.

7-2-7 Selecting the Language

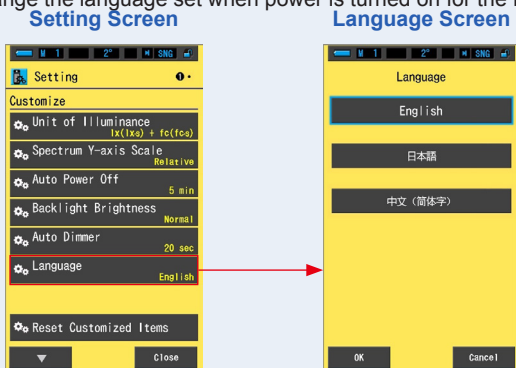
Select the language displayed in the meter from English, Japanese or Chinese.



Operation

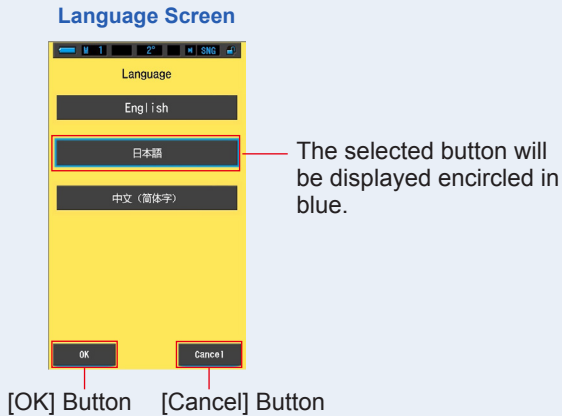
1. Touch the [Language] button on page 1 of Setting screen
The language will be displayed.

* You can change the language set when power is turned on for the first time.



2. Touch the desired language to use.

Select English, Japanese or Chinese.



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.

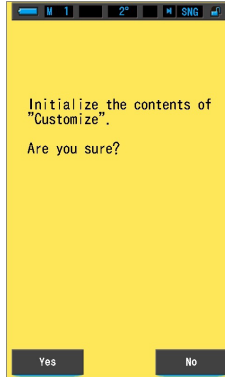


The language is set.

7-2-8 Reset Customized Items

Initialize (reset) only contents of “Customize” in Setting to the factory default.

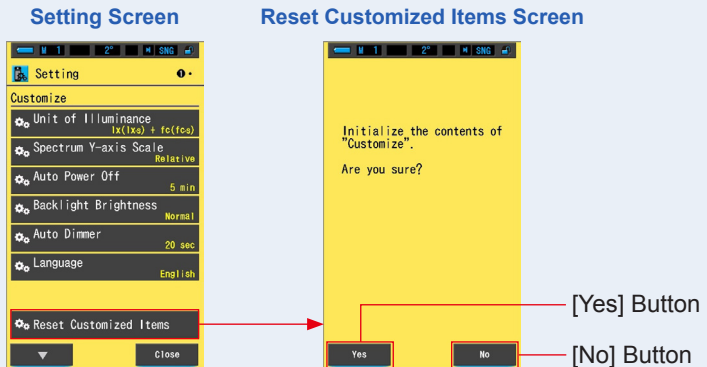
Reset Customized Items Screen



Operation

1. Touch the item [Reset Customized Items] button on page 1 of Setting screen.

"Initialize the contents of "Customize". Are you sure?" is displayed.



2. Touch the [Yes] button.

Custom settings are reset. After finishing initialization, returns to Setting screen.

To return to the Setting screen without initializing, touch the [No] button.

7-3 Preset Editing

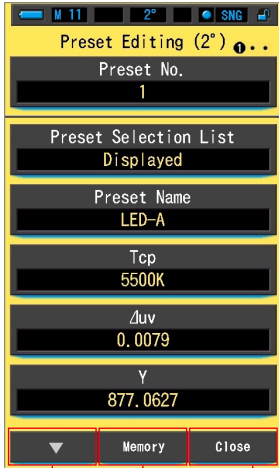
Select [Preset Editing (2°)] button or [Preset Editing (10°)] button.

Preset value is used for the reference value in Monitor Function.

This preset reference value can be input manually or set from memorized value if there is data in meter's memory.

Refer to page 199 for details on Field of View (2 degrees and 10 degrees).

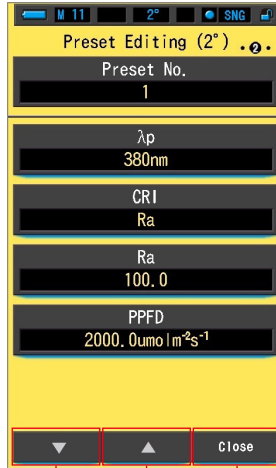
Preset Editing Screen
(Page 1)



To page 2

[Memory] Button

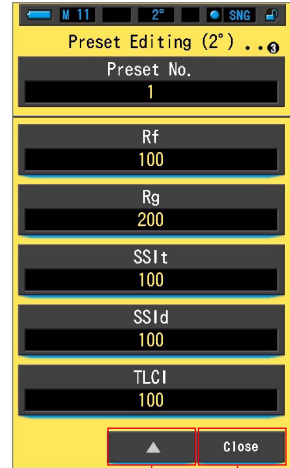
Preset Editing Screen
(Page 2)



To page 3 To page 1

[Close] Button

Preset Editing Screen
(Page 3)



To page 2

* If no value is stored in memory, the [Memory] button is not activated.



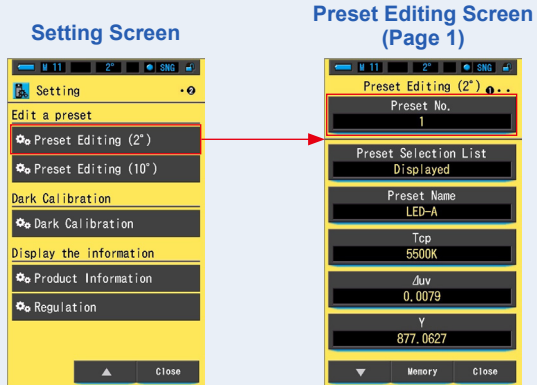
NOTE

- Up to 5 presets can be registered for each of viewing angle 2° and 10°.

Operation

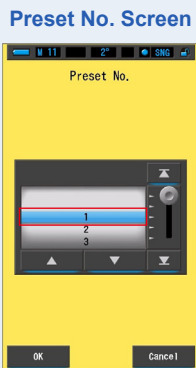
1. Touch the item [Preset Editing (2°)] or [Preset Editing (10°)] button on page 2 of Setting screen.

The Preset Editing screen of Setting will be displayed.

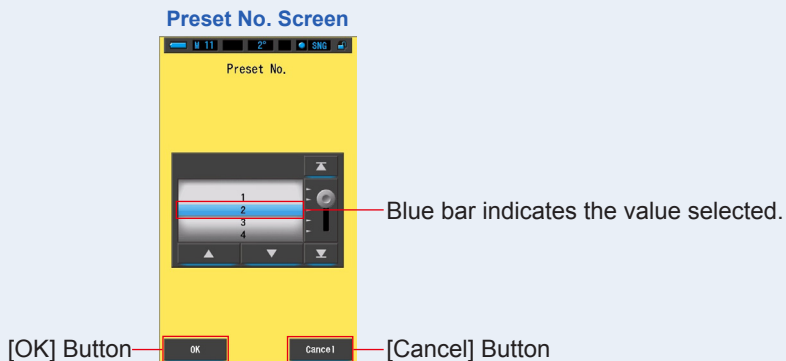


2. Touch the [Preset No.] button on page 1 of [Preset Editing (2°)] or [Preset Editing (10°)].

The Preset Number screen is displayed.



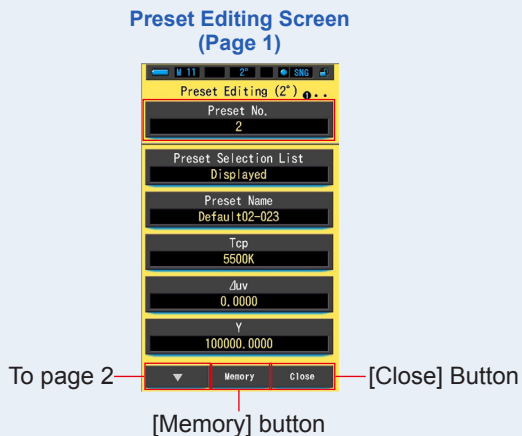
3. Select the desired present number (1 ~ 5) to edit. Adjust it to the blue background position.



4. Touch the [OK] button.

Preset number is confirmed and the display returns to page 1 of the Preset Editing (2°)/(10°) screen.

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

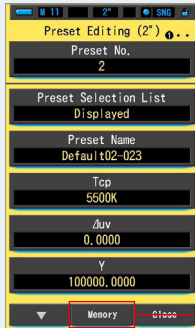


[Setting the preset value from memorized value]

1. Touch the [Memory] button on the page 1 of Preset Editing screen.

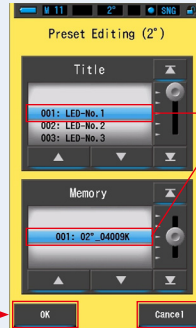
Memory Recall screen is displayed.

Preset Editing Screen
(Page 1)



[Memory] button

Memory Recall Screen
in Preset Editing



[OK] button

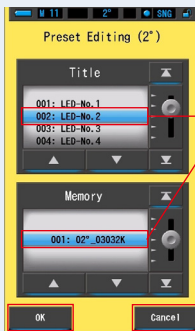
[Cancel] button

The selected memory will be displayed encircled in blue.

2. Select the memorized value to set.

The selected memory will be displayed encircled in blue.

Memory Recall Screen in Preset Editing



[OK] button

[Cancel] button

The selected memory will be displayed encircled in blue.

3. Touch the [OK] button.

The selected memory is set as preset information and the display returns to page 1 of the Preset Editing (2°)/(10°).

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 1)



To page 2 — [Close] button

4. Touch the [Close] button.

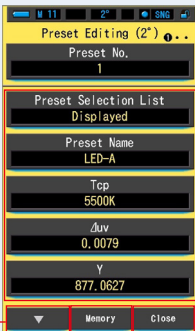
Returns to Setting screen.

[Setting the preset value manually]

1. Edit each setting item.

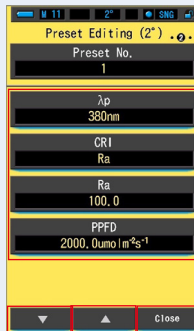
Touch each item to edit the setting value.

Preset Editing Screen (Page 1)



To page 2 [Memory] Button [Close] Button

Preset Editing Screen (Page 2)



To page 3 [Close] Button
To page 1

Preset Editing Screen (Page 3)



To page 2 [Close] Button

Refer to the following pages for editing each setting item.

- Preset Selection List (➔ P158)
- T_{cp} (Correlated Color temperature) (➔ P162)
- Y (tristimulus value) (➔ P166)
- CRI (Color Rendering Index) (➔ P170)
- PPF_D (Photosynthetic Photon Flux Density) (➔ P174)
- R_f (Fidelity Index) (➔ P176)
- SS_{It} (SSI Tungsten) (➔ P180)
- TL_{CI} (Television Lighting Consistency Index) (➔ P184)
- Preset Name (➔ P160)
- Δ_{uv} (deviation) (➔ P164)
- λ_p (peak wavelength) (➔ P168)
- R_a (Average CRI) (➔ P172)
- R_g (Gamut Index) (➔ P178)
- SS_{Id} (SSI Daylight) (➔ P182)

2. Touch the [Close] button.

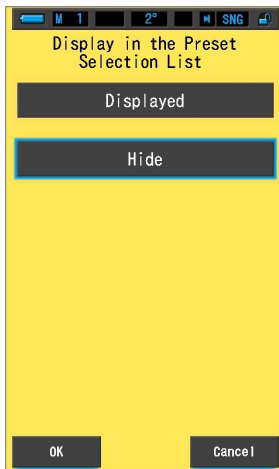
Returns to Setting screen.

7-3-1

Displaying the Preset Selection List

Select to display or not in the Preset Selection list in the Tool Box.

Display in the Preset Selection List Screen



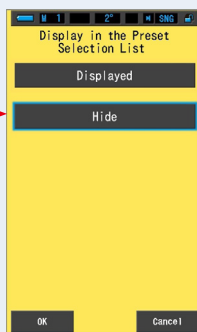
Operation

1. Touch the [Preset Selection List] button on page 1 of Preset Editing (2°) or Preset Editing (10°).

Display in the Preset Selection List will appear.

Preset Editing Screen
(Page 1)

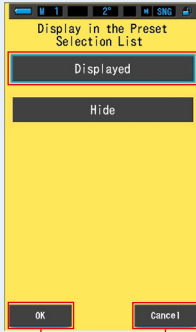
Display in the Preset Selection List Screen



2. Select the [Displayed] to set.

The selected icon will be displayed encircled in blue.

Display in the Preset Selection List Screen



The selected button will be displayed encircled in blue.

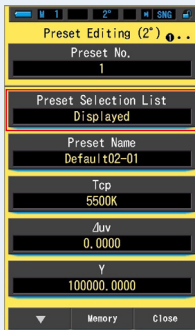
[OK] Button [Cancel] Button

3. Touch the [OK] button.

The set item is confirmed, and the display returns to page 1 of the Preset Editing (2°)/(10°) screen.

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 1)



The Preset Selection List is set.

7-3-2 Setting the Present Name

Editing the Preset Name.



NOTE

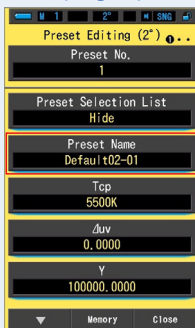
- Up to 16 alphanumeric characters can be input for Preset name.

Operation

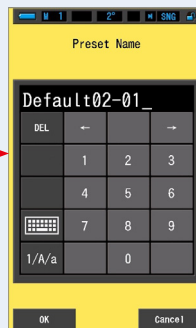
1. Touch the [Preset Name] button on page 1 of Preset Editing (2°) or Preset Editing (10°).

The Preset Name Input screen is displayed.

Preset Editing Screen (Page 1)



Preset Name Screen



2. Use the keyboard to create a name for the preset. (→ P18)

Preset Name Screen



Input number

Keypad (Upper Case Input Screen)



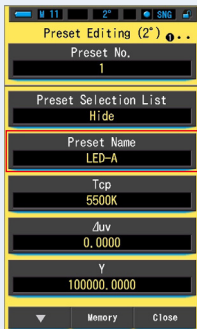
[OK] Button [Cancel] Button

3. Touch the [OK] button.

The Preset name is memorized, and the display returns to the page 1 of the Preset Editing (2°)/(10°) screen.

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming (memorizing/editing), touch the [Cancel] button.

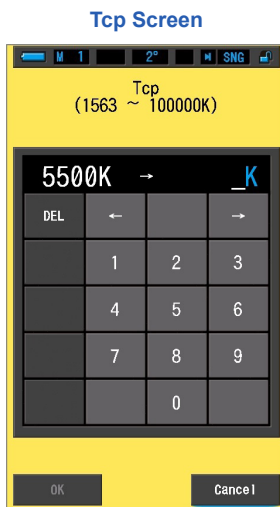
Page 1 Screen (with memory)



The preset name is entered and memorized.

7-3-3 Setting the Tcp

Set the preset Tcp (Correlated Color Temperature).

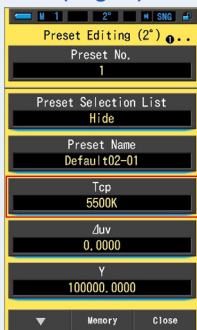


Operation

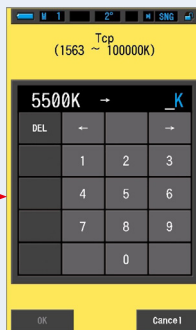
1. Touch the [Tcp] button on page 1 of Preset Editing (2°) or Preset Editing (10°).

The Tcp Input screen will be displayed.

Preset Editing Screen (Page 1)



Tcp Screen

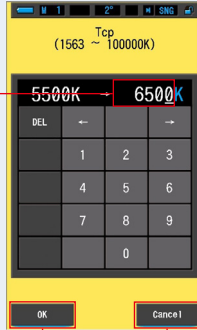


2. Set the Tcp within the range from 1563 to 100000K. (→ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the set range, re-entred a value.

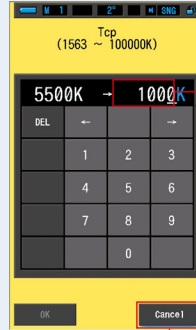
Tcp Screen
(if within the set range)



Input number

[OK] Button [Cancel] Button

Tcp Screen
(if outside the set range)



Out of the range

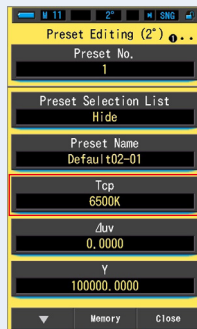
[Cancel] Button

3. Touch the [OK] button.

The number is fixed, and the display returns to the page 1 of the Preset Editing (2°)/(10°) screen.

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

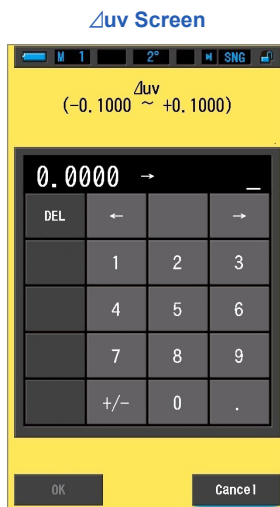
Page 1 Screen
(with memory)



The Tcp (Correlated Color Temperature) is edited.

7-3-4 Setting the Δuv

Sets the preset Δuv (Deviation).



Operation

1. Touch the [Δuv] button on page 1 of Preset Editing (2°) or Preset Editing (10°).

The Δuv input screen will be displayed.

Preset Editing Screen (Page 1)



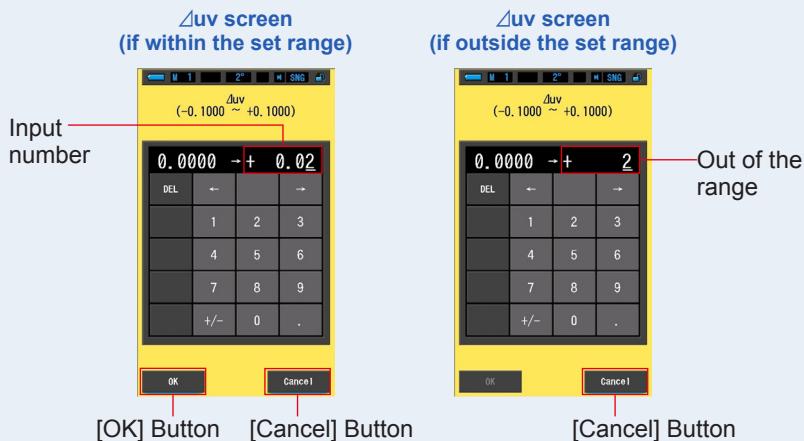
Δuv Screen



2. Set the Δuv deviation value from -0.1000 to +0.1000. (⇒ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the set range, re-entred a value.



3. Touch the [OK] button.

The number is memorized, and the display returns to the page 1 of the Preset Editing (2°)/(10°) screen.

To return to the page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 1)

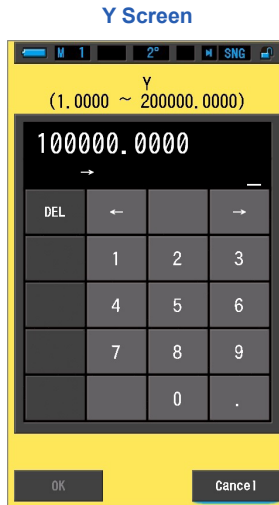


The Δuv (Deviation) is edited.

7-3-5

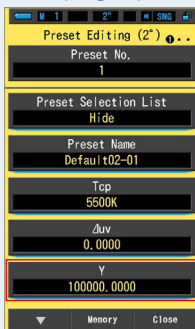
Setting the Tristimulus Value Y

The preset tristimulus value Y can be set as illuminance (lx).

**Operation**

1. Touch the [Y] button on page 1 of Preset Editing (2°) or Preset Editing (10°).

The tristimulus value Y input screen is displayed.

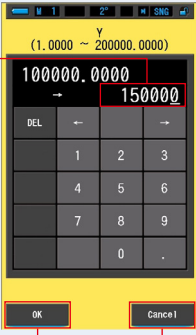
Preset Editing Screen (Page 1)**Y Screen**

2. Set the tristimulus value Y from 1.0000 to 200000.0000. (⇒ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

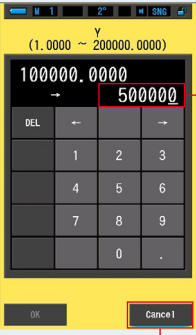
Y Screen
(within the setting range)



Input number →

[OK] Button [Cancel] Button

Y Screen
(outside the setting range)



→ Outside the range

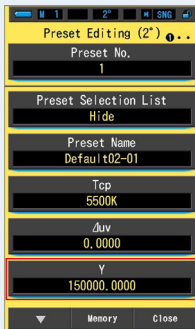
[Cancel] Button

3. Touch the [OK] button.

The number is confirmed and the display returns to the page 1 of the Preset Editing (2°)/(10°) screen.

To return to page 1 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 1)



The tristimulus value Y (illuminance (Ix)) is edited.

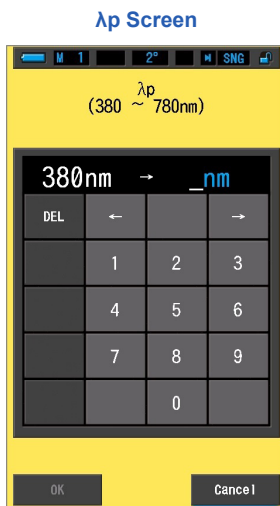


NOTE

- The edited preset data will be displayed on the Preset Information screen.
- Setting range of tristimulus value Y is 1.0000 to 200,000, although the meter's measuring range of illuminance (Ix) is from 1 to 200,000Ix.

7-3-6 Setting the λ_p

Setting the preset peak wavelength λ_p (Peak wavelength).

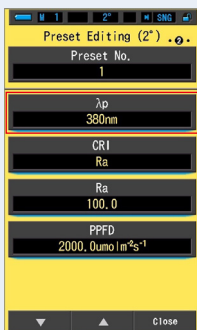


Operation

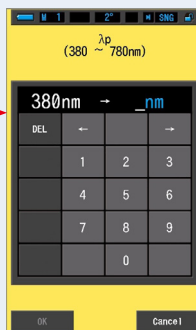
1. Touch the [λ_p] button on page 2 of Preset Editing (2°) or Preset Editing (10°).

The peak wavelength λ_p input screen is displayed.

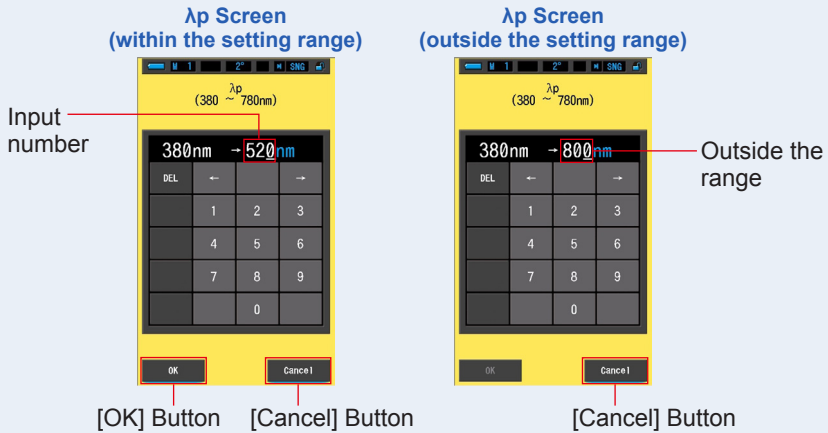
Preset Editing Screen (Page 2)



λ_p Screen



- 2. Set the peak wavelength λ_p within the range from 380 to 780 nm. (⇒ P18)**
 If the entered value is within the setting range, the [OK] button is displayed.
 If it is outside the setting range, re-enter a value.

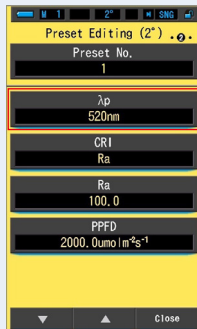


- 3. Touch the [OK] button.**

The number is memorized, and the display returns to the page 2 of the Preset Editing (2°)/(10°) screen.

To return to the page 2 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 2)

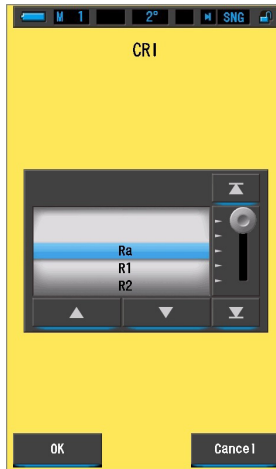


The λ_p (Peak wavelength) is edited.

7-3-7 Setting the CRI

Select the preset CRI (Color Rendering Index: Ra, or R1 to R15).

CRI Selection Screen

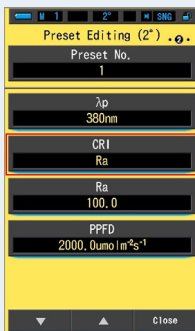


Operation

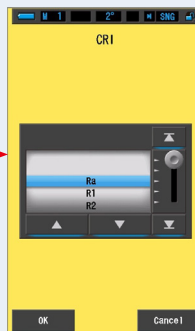
1. Touch the [CRI] button on page 2 of Preset Editing (2°) or Preset Editing (10°).

The Color Rendering Index screen is displayed.

Preset Editing Screen (Page 2)



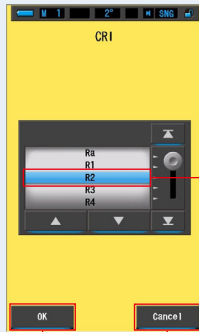
CRI Selection Screen



2. Select the desired color rendering index. (→ P18)

Select Ra, or any single index from R1 to R15. Adjust the index under the blue background to select.

CRI Selection Screen



The selected CRI will be displayed encircled in blue.

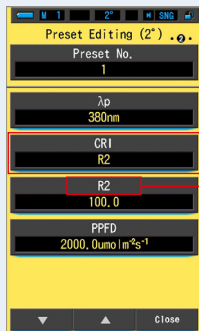
[OK] Button [Cancel] Button

3. Touch the [OK] button.

The set item is memorized, and the display returns to the page 2 of the Preset Editing (2°)/(10°) screen.

To return to the page 2 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 2)



Color Rendering Index

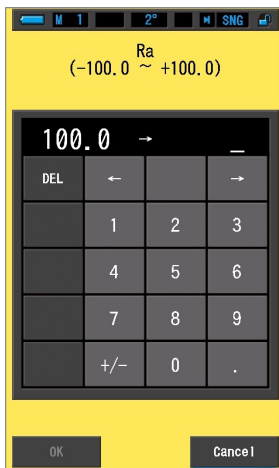
This setting also appears the selected index on the CRI screen.

The CRI (Color Rendering Index) is edited.

7-3-8 Setting the value of CRI

Set the preset CRI value for the selected CRI. (➔ P170)

Selected CRI Value Input Screen

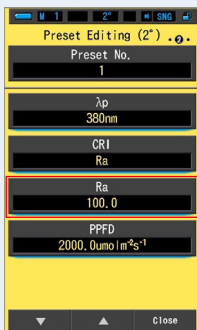


Operation

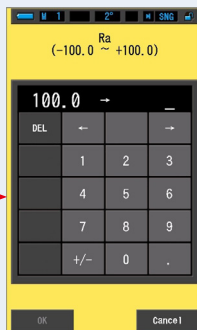
1. Touch the [Selected CRI Value Input] button on page 2 of Preset Editing (2°) or Preset Editing (10°).

The Selected CRI Value input screen is displayed. (The default is Ra.)

Preset Editing Screen
(Page 2)



Selected CRI Value Input
Screen



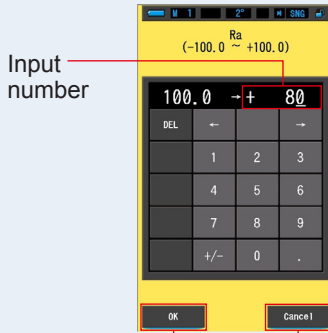
2. Set the value of selected CRI from 0 to 100. (⇒ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

Selected CRI Value Input Screen
(within the setting range)

Selected CRI Value Input Screen
(outside the setting range)



Input
number

[OK] Button

[Cancel] Button



Outside the
range

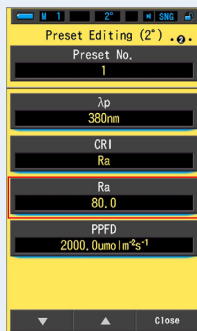
[Cancel] Button

3. Touch the [OK] button.

The number is memorized, and the display returns to the page 2 of the Preset Editing (2°)/(10°) screen.

To return to the page 2 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen
(Page 2)



The selected CRI value is edited.

7-3-9

Setting the PPF

Setting the PPF (Photosynthetic Photon Flux Density).

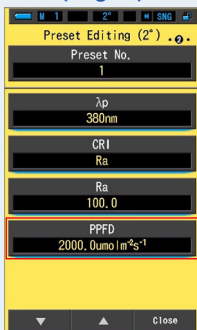
PPFD Screen



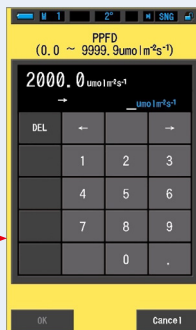
Operation

1. Touch the [PPFD] button on page 2 of Preset Editing (2°) or Preset Editing (10°).

The PPF input screen is displayed.

Preset Editing Screen
(Page 2)

PPFD Screen

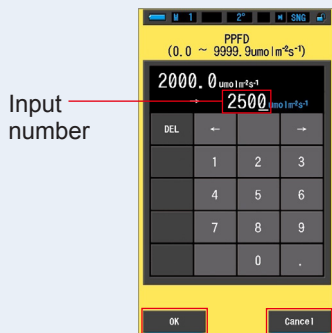


2. Set the PPF from 0.0 to 9999.9 $\mu\text{mol m}^{-2}\text{s}^{-1}$. (→ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

PPFD Screen
(within the setting range)



[OK] Button [Cancel] Button

PPFD Screen
(outside the setting range)



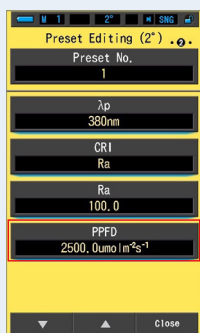
[Cancel] Button

3. Touch the [OK] button.

The number is memorized, and the display returns to the page 2 of the Preset Editing (2°)/(10°) screen.

To return to the page 2 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

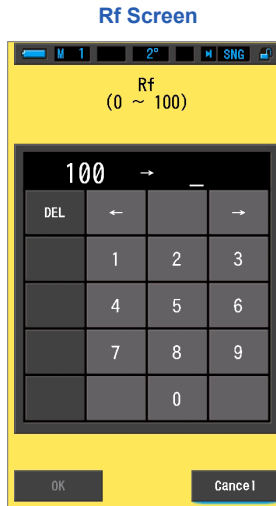
Preset Editing Screen
(Page 2)



The PPF (Photosynthetic Photon Flux Density) is edited.

7-3-10 Setting the Rf

Setting the Rf (Fidelity Index).

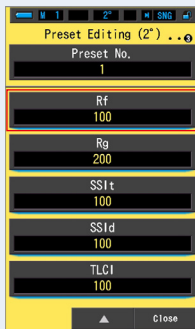


Operation

1. Touch the [Rf] button on page 3 of Preset Editing (2°) or Preset Editing (10°).

The Rf input screen is displayed.

Preset Editing Screen (Page 3)



Rf Screen

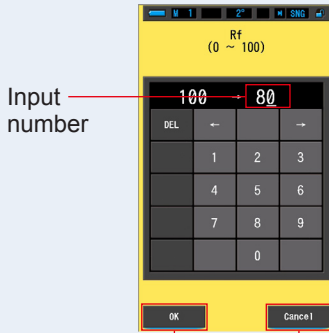


2. Set the Rf from 0 to 100. (→ P18)

If the entered value is within the setting range, the [OK] button is displayed.

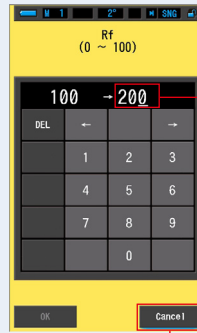
If it is outside the setting range, re-enter a value.

Rf Screen
(within the setting range)



[OK] Button [Cancel] Button

Rf Screen
(outside the setting range)



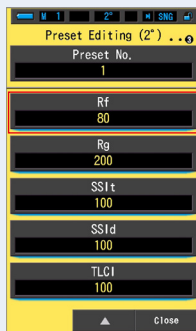
[Cancel] Button

3. Touch the [OK] button.

The number is memorized, and the display returns to the page 3 of the Preset Editing (2°)/(10°) screen.

To return to the page 3 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen
(Page 3)



The Rf (Fidelity Index) is edited.

7-3-11 Setting the Rg

Setting the Rg (Gamut Index).

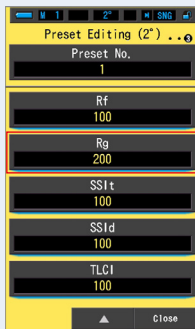


Operation

1. Touch the [Rg] button on page 3 of Preset Editing (2°) or Preset Editing (10°).

The Rg input screen is displayed.

**Preset Editing Screen
(Page 3)**



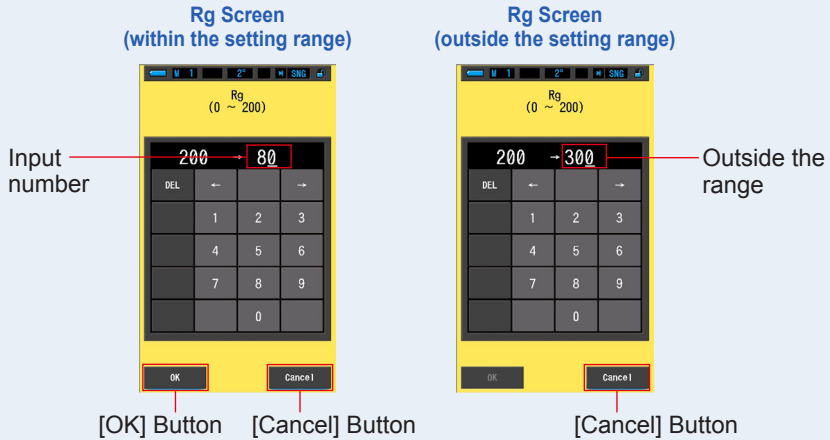
Rg Screen



2. Set the Rg from 0 to 200. (⇒ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

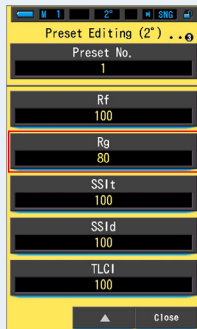


3. Touch the [OK] button.

The number is memorized, and the display returns to the page 3 of the Preset Editing (2°)/(10°) screen.

To return to the page 3 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

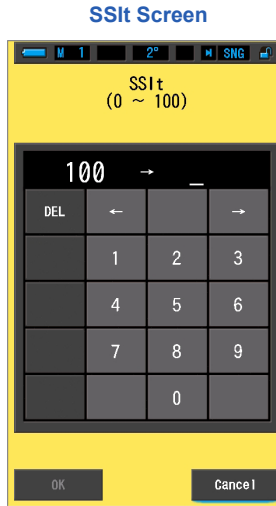
Preset Editing Screen (Page 3)



The Rg (Gamut Index) is edited.

7-3-12 Setting the SSIt

Setting the SSIt (SSI Tungsten).

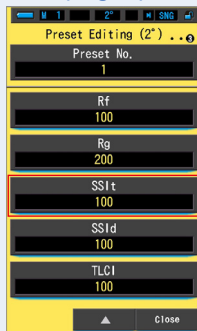


Operation

1. Touch the [SSIt] button on page 3 of Preset Editing (2°) or Preset Editing (10°).

The SSIt input screen is displayed.

**Preset Editing Screen
(Page 3)**



SSIt Screen

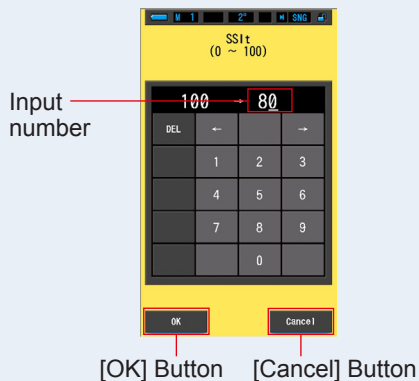


2. Set the SSIt from 0 to 100. (⇒ P18)

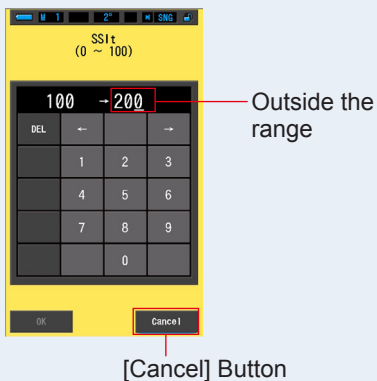
If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

SSIt Screen
(within the setting range)



SSIt Screen
(outside the setting range)

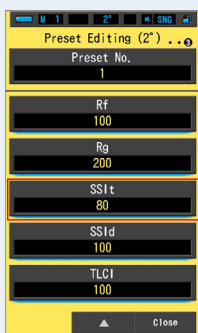


3. Touch the [OK] button.

The number is memorized, and the display returns to the page 3 of the Preset Editing (2°)/(10°) screen.

To return to the page 3 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen
(Page 3)



The SSIt (SSI Tungsten) is edited.

7-3-13 Setting the SSId

Setting the SSId (SSI Daylight).

SSId Screen

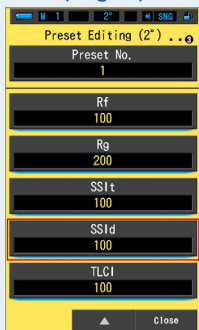


Operation

1. Touch the [SSId] button on page 3 of Preset Editing (2°) or Preset Editing (10°).

The SSId input screen is displayed.

Preset Editing Screen
(Page 3)



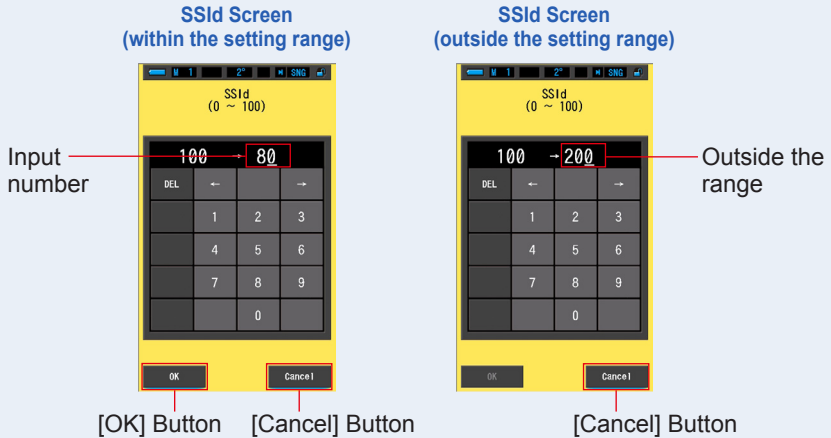
SSId Screen



2. Set the SSId from 0 to 100. (⇒ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

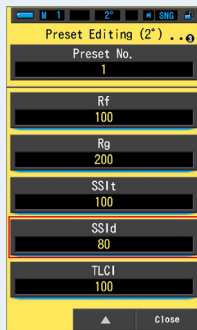


3. Touch the [OK] button.

The number is memorized, and the display returns to the page 3 of the Preset Editing (2°)/(10°) screen.

To return to the page 3 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

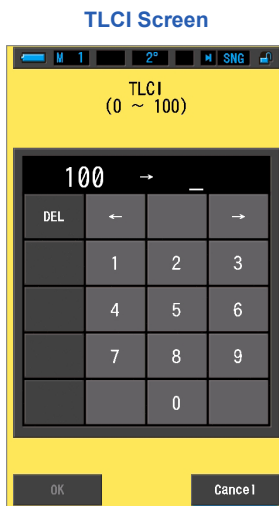
Preset Editing Screen (Page 3)



The SSId (SSI Daylight) is edited.

7-3-14 Setting the TLCI

Setting the TLCI (Television Lighting Consistency Index).

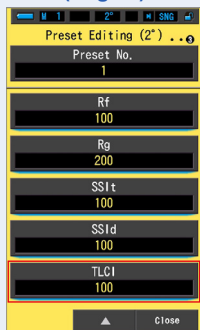


Operation

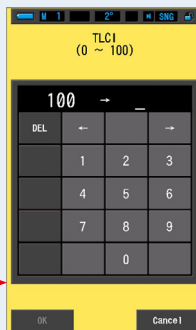
1. Touch the [TLCI] button on page 3 of Preset Editing (2°) or Preset Editing (10°).

The TLCI input screen is displayed.

**Preset Editing Screen
(Page 3)**



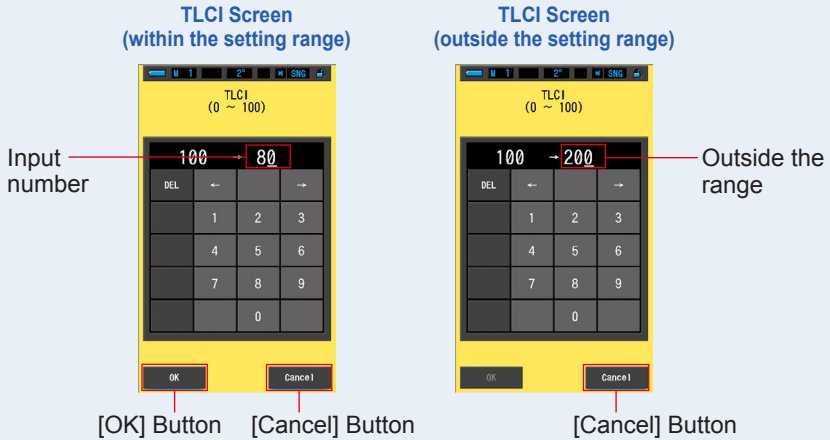
TLCI Screen



2. Set the TLCI from 0 to 100. (→ P18)

If the entered value is within the setting range, the [OK] button is displayed.

If it is outside the setting range, re-enter a value.

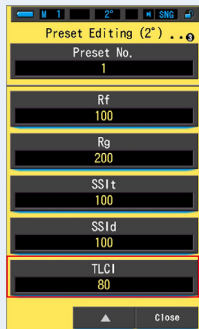


3. Touch the [OK] button.

The number is memorized, and the display returns to the page 3 of the Preset Editing (2°)/(10°) screen.

To return to the page 3 of the Preset Editing (2°)/(10°) screen without confirming, touch the [Cancel] button.

Preset Editing Screen (Page 3)

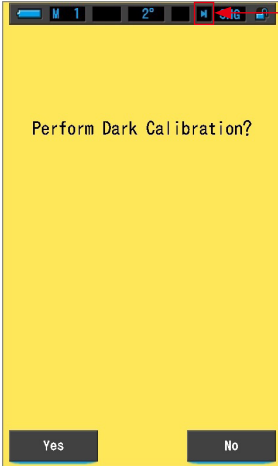


The TLCI (Television Lighting Consistency Index) is edited.






7-4 Dark Calibration

Dark calibration is performed when new batteries are used, 24 hours passed since last use or there is a big change in temperature between turning power OFF and ON again. Except the cases above, dark calibration after power ON is skipped. Accordingly, when there are sudden changes in temperature experienced while using the meter, the meter may effect measured values. When temperature changes are encountered, perform dark calibration manually.

Dark Calibration Confirmation Screen



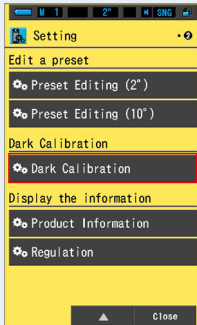
Light Selection Ring Status Indicator Chart

Icon		Content
		If either of icons appears, set the Light Selection Ring ② to the dark calibration position.
		
	CAL	This icon is the dark calibration position. Perform dark calibration after making sure it is set to this position.


Operation

1. Touch the item [Dark Calibration] button on page 2 of Setting.
"Perform Dark Calibration?" will be displayed.

Setting Screen

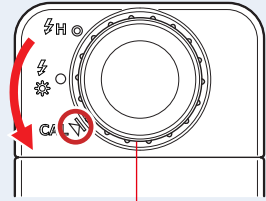
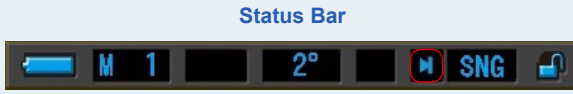


Dark Calibration Confirmation Screen



2. Turn the Light Selection Ring ② to set to the dark calibration position CAL ().

The status bar will display the dark calibration icon.

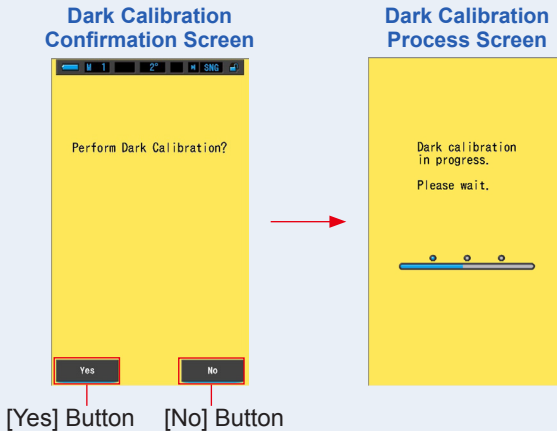


Light Selection Ring ②

3. Touch the [Yes] button.

"Dark calibration in progress. Please wait" and the status bar will appear while meter's measuring system is being calibrated.

To return to Setting without performing dark calibration, touch the [No] button.



NOTICE

- While the message "Dark calibration in progress. Please wait." or the progress bar is displayed, do not turn the power off. Otherwise, the meter may be damaged.

The dark calibration is completed.

When the Following Screen is Displayed

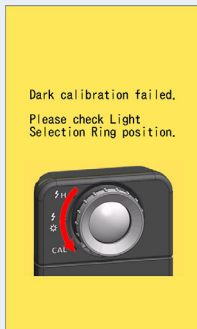
Dark Calibration Position Confirmation Screen



If the Light Selection Ring ② is set to Range H (⚡ H (🔵)) or Range L (⚡ L (🔵)), dark calibration cannot be performed.

Set the Light Selection Ring ② to the dark calibration position **CAL** (🔵), and perform dark calibration.

Dark Calibration Failure Screen

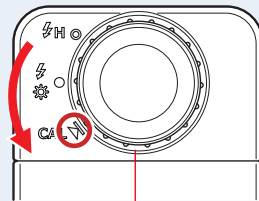


If Dark calibration was performed, but it could not be completed normally.

Set the Light Selection Ring ② to the dark calibration position **CAL** (🔵) again, and perform dark calibration again.

NOTE

- Dark calibration can be done by turning the Light Selection Ring ② to set to the dark calibration position **CAL** (🔵) in Measuring.
- Dark calibration is performed when new batteries are set, 24 hours passed since last use or there is a big change in temperature between turning power OFF and ON again. Except the cases above, dark calibration after power ON is skipped.

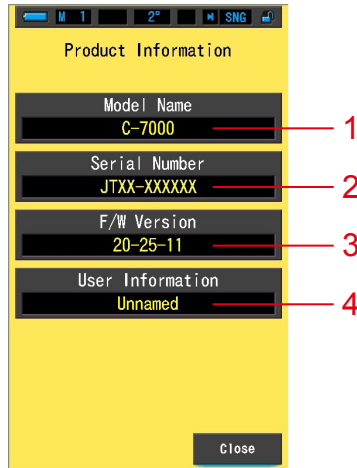


Light Selection Ring ②

7-5 Product Information Display

The Product Information screen displays detailed information not displayed in the Measuring screen.

Product Information Screen

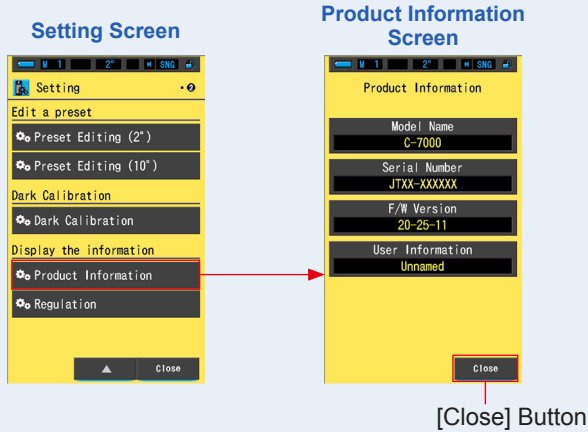


* The screen contents differs depending on model.

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 user-input information such as ownership or meter function, etc which is set in the "Hardware Setting". (➡ P192)

Operation

1. Touch the item [Product Information] button on page 2 of Setting.
The Product Information screen will be displayed.

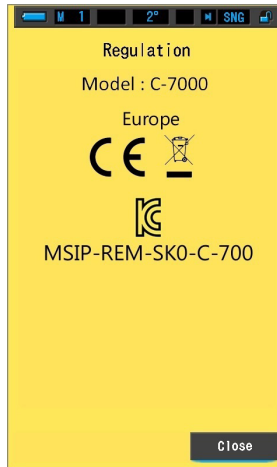


2. Touch the [Close] button.
Returns to the Setting screen.

7-6 Regulation Display

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

Regulation Screen



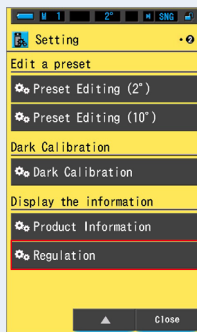
Operation

1. Touch the item [Regulation] button on page 2 of Setting.

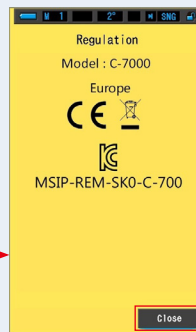
The Regulation screen will be displayed.

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

Setting Screen



Regulation Screen



[Close] Button

2. Touch the [Close] button.

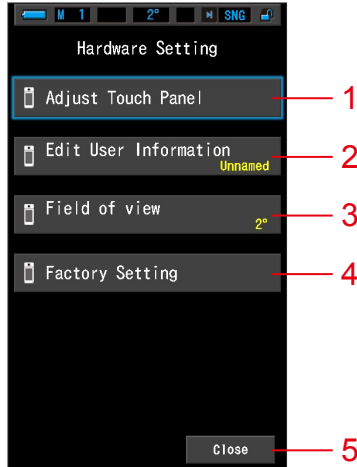
Returns to the Setting screen.

8. Hardware Setting Screen

The following items can be set on the Hardware Setting screen.

- Adjust Touch Panel
- Edit User Information
- Field of view
- Factory Setting

Hardware Setting Screen



No.	Item Name	Description
1	Adjust Touch Panel	Adjust the positioning of touch panel display. (➔ P194)
2	Edit User Information	Edit user-input information which will be displayed on User Information position of the Product Information screen under the Settings function. (➔ P197)
3	Field of view	Select viewing angle 2° or 10°. (➔ P199)
4	Factory Setting	Returns all display and setting contents to the factory default. (➔ P201)
5	Close	Closes the Hardware Setting screen and returns to Display Mode Selection screen.

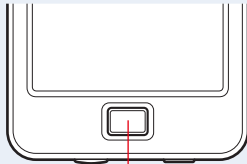
Operation

1. With the meter turned OFF, hold down the Menu Button ⑥ and press the Power Button ③.

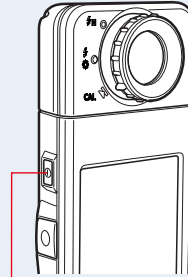
* Until the Hardware Setting screen is displayed, do not release the Menu Button ⑥ and the Power Button ③.

If the buttons are released before the Hardware Setting screen is displayed, the Measuring screen will be displayed.

The Hardware Setting screen will be displayed.



Menu Button ⑥



Power Button ③

2. Touch the desired menu item.

The setting screen of the selected item will be displayed.

Refer to the explanations on the following page for each item setting.

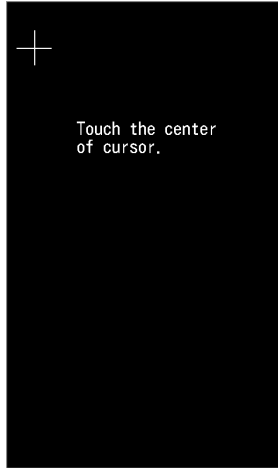
3. When completed, touch the [Close] button.

This will return the display to the Display Mode Selection screen.

8-1 Adjust Touch Panel

Adjust the position of touch panel display.

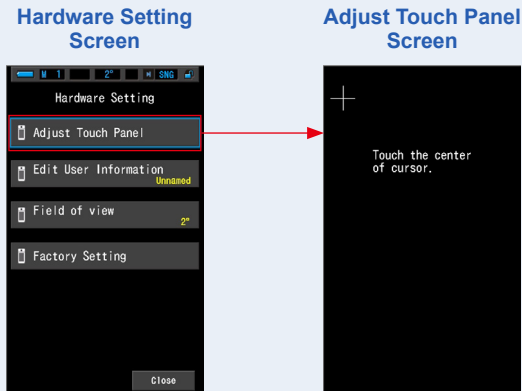
Adjust Touch Panel Screen



Operation

1. Touch the [Adjust Touch Panel] button on the Hardware Setting screen.

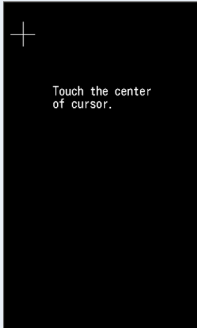
"Touch the center of cursor." will be displayed.



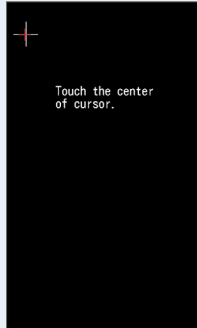
2. Touch the center of the white cross in the upper left corner of the screen.

The touch position will be shown as a coinciding red cross cursor, and the white cross cursor will appear at the next position.

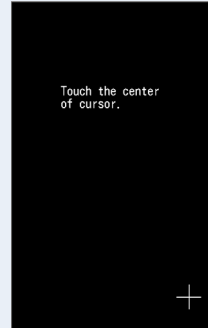
Adjust Touch Panel Screen



The touch position is showed with a red cross cursor



The white cross appears at the next position

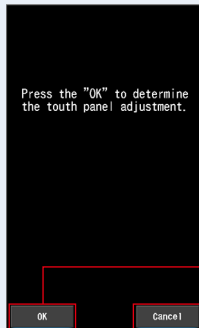


3. Repeat in 7 places.

Continue and repeat in 7 places.

When finished, "Press the "OK" to determine the touch panel adjustment." will be displayed.

Adjust Touch Panel Confirmation Screen



[OK] Button

[Cancel] Button

4. Touch the [OK] button.

Adjustment of touch panel is completed, and the display returns to the Hardware Setting screen.

To return to the Hardware Setting screen without adjusting the setting, touch the [Cancel] button.

Touch panel adjustment is completed.

 **NOTE**

- When a point far from the white cursor is touched, the screen will blink to indicate adjustment failure. Perform the adjustment again.

Adjust Touch Panel Screen

8-2 Edit User Information

Edit user information can be entered in this screen.

Edit User Information Screen



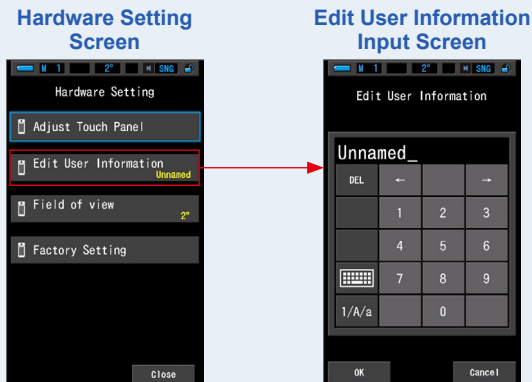
NOTE

- Up to 16 alphanumeric characters can be entered.

Operation

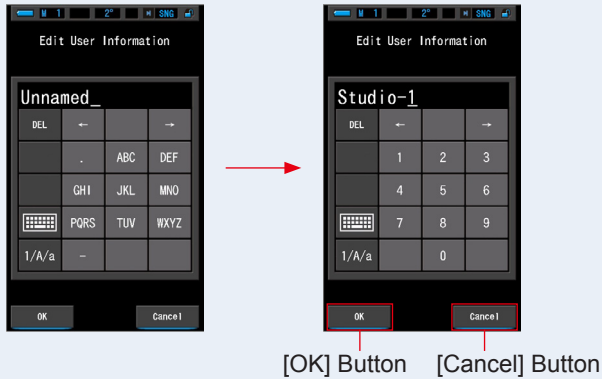
1. Touch the [Edit User Information] button on the Hardware Setting screen.

The Edit User Information Input screen is displayed.



2. Edit the user information. (→ P18)

Edit User Information Input Screen

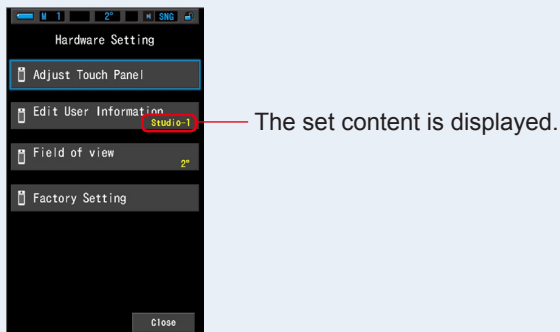


3. Touch the [OK] button.

Registers the user information, and returns to the Hardware Setting screen.

To return to the Hardware Setting screen without registering the user information, touch the [Cancel] button.

Hardware Setting Screen

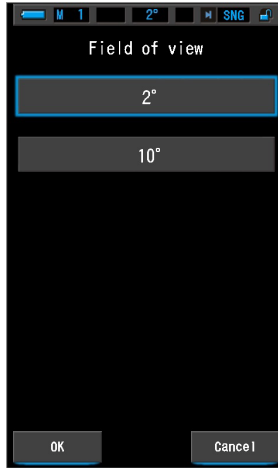


The user information is input.

8-3 Field of View

Set the Field of view for measurement.

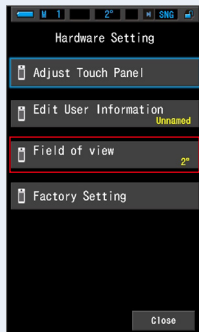
Field of view Screen



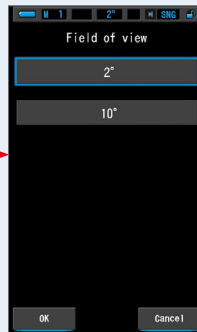
Operation

1. Touch the [Field of view] button on the Hardware Setting screen. The Field of view screen is displayed.

Hardware Setting Screen



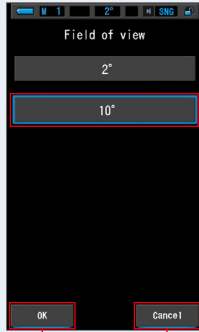
Field of view Screen



2. Set the Field of view.

Select viewing angle 2° or 10°.

Field of view Screen



The selected button will be displayed encircled in blue.

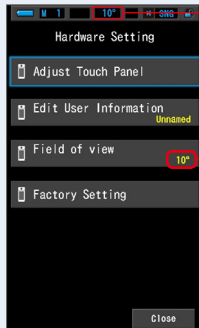
[OK] Button [Cancel] Button

3. Touch the [OK] button.

Confirms the settings, and returns to the Hardware Setting screen.

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

Hardware Setting Screen



The selected setting is displayed on the status bar.

The set content is displayed.

The Field of view has been set.



NOTE

- CIE standard observers help correlate instrumental color measurements to human visual assessments. The 2 degree field of view is common within quality control and other color evaluation procedures, particularly for food applications. The 10 degree field of view is considered to be more representative of how the human eye is commonly used with spectrophotometers for formulating and evaluating the color of various types of samples.

8-4

Factory Setting

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

Factory Setting Screen

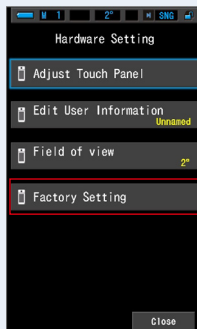


Operation

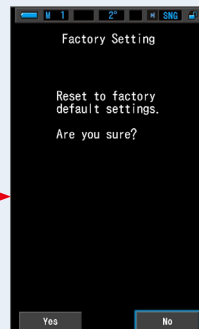
1. Touch the [Factory Setting] button on the Hardware Setting screen.

The screen of "Reset to factory default settings. Are you sure?" will be displayed.

Hardware Setting Screen



Factory Setting Screen



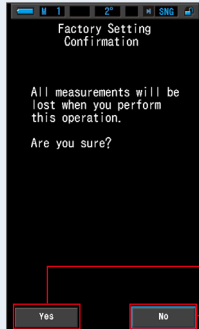
2. Touch the [Yes] button.

The factory setting confirmation message "All measurements will be lost when you perform this operation. Are you sure?" will be displayed.

Confirm again.

To return to the Hardware Setting screen without resetting to factory default settings, touch the [No] button.

Factory Setting Confirmation Screen



[Yes] Button

[No] Button

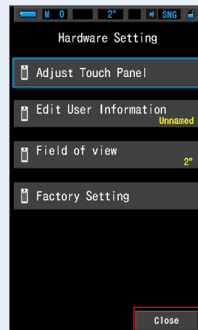
3. Touch the [Yes] button.



- When the message "Deleting Memory. Please wait." or the progress bar is displayed, do not turn the power off.

All measurement values are deleted, and returns to the Hardware Setting screen. (English display is the default factory setting.)

Factory Setting (Deleting) Screen Hardware Setting Screen



[Close] Button

4. Touch the [Close] button.

The Language Selection screen is displayed. Select the language to use. (→ P6)

Language Selection Screen



Language Selection Confirmation Screen



The selected button will be displayed encircled in blue.

[OK] Button

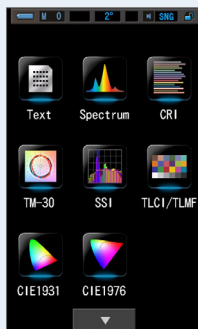
5. Press the [OK] to select the language.

The language can be switched at any time.

6. Dark calibration.

"Dark calibration in progress. Please wait" and the status bar will appear while calibrating. The Display Mode Selection screen will appear when operational.

Measuring Mode Selection Screen
page 1



Factory setting is completed.

9. Appendix

9-1

Glossary

Term	Description
Color Temperature	<p>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.</p> <p>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.</p> <p>A figure that plots the changes of color temperatures on an xy chromaticity diagram is called the black body radiation locus.</p>
Correlated Color Temperature	<p>Not all light sources match the black body radiation locus when measuring light sources. In this case, the correlated color temperature is used. The correlated color temperature is a color temperature obtained by drawing an isothermperature line from the black body radiation locus which matches the measured value.</p>
Light	<p>This refers to the electromagnetic wavelength ranging from 380nm to 780nm that can be detected by the human eye.</p>
Black Body	<p>Theoretically, this is an object that absorbs all wavelengths and when heated, emits light equivalent to the applied color temperature.</p>
Black-body Radiation	<p>This refers to the light emitted by a black body.</p> <p>The amount of energy released for each wavelength changes with the applied color temperature, resulting in visible color variations.</p>
K	<p>Expressed in absolute Kelvin temperature, with units of "K". 0 (zero) K is equivalent to -273.15 °C or -459.67 °F.</p>
Δuv	<p>The deviation between the correlated color temperature and the black body radiation locus.</p> <p>When the correlated color temperature is above the black body radiation locus, a "+" sign is assigned; when below, a "-" sign is assigned.</p>
CRI (Color Rendering Index)	<p>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.</p>
TM-30	<p>Technical Memorandum TM-30 is, published by Illuminating Engineering Society (IES), the method for evaluating light source color rendition including LED lights. The C-7000 with latest firmware shows TM-30-18 which Rf is identical with Rf of CIE 224:2017.</p> <p>The values are based on color appearance of objects with 99 color samples compared to their appearance under the defined reference illuminant.</p> <p>In the TM-30, there are Fidelity 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.</p>

Term	Description
SSI	Spectral Similarity Index (SSI) is, defined by Academy of Motion Picture Arts and Sciences, Science and Technical Council, the method to express how close a test spectrum is to a reference spectrum. It is the index (SSI) to evaluate the similarity of spectrum of two light sources.
TLCI-2012	Television Lighting Consistency Index (TLCI), developed by EBU (European Broadcasting Union), the method to evaluate the color rendition (the color appearance of objects) under the reference light source with 18 color samples and a mathematical model of a broadcast camera to 'see' the colors. TLCI is suitable index to the evaluation of television lighting equipment.
TLMF-2013	Television Luminaire Matching Factor (TLMF) is, developed by EBU (European Broadcasting Union), a new companion metric to TLCI, TLMF allows you to compare two different lights to each other, rather than to a perfect reference, and see if they will play well together. TLMF is suitable index to the evaluation of television lighting equipment.
CIE1931	This is the trichromatic system based on the color matching function, $\bar{x}(\lambda)$, $\bar{y}(\lambda)$, and $\bar{z}(\lambda)$ 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.
CIE1964	This is the trichromatic system based on the color matching function, $\bar{x}_{10}(\lambda)$, $\bar{y}_{10}(\lambda)$, and $\bar{z}_{10}(\lambda)$, which has been adopted by the CIE in 1964. (This is also called the XYZ color system that has a 10° viewing angle.) It is applied if the field of view exceeds 4°.
CIE1976	This chromaticity diagram features a scale so that the sense of difference of colors with the same illuminance becomes proportional to the geometric distance on the diagram at all points of the chromaticity diagram, which was determined by the CIE in 1976. This is calculated by the formula based on tristimulus values X, Y and Z or chromaticity coordinates x and y of XYZ color system.
Field of View	CIE standard observers help correlate instrumental color measurements to human visual assessments. The 2 degree field of view is common within quality control and other color evaluation procedures, particularly for food applications. The 10 degree field of view is considered to be more representative of how the human eye is commonly used with spectrophotometers for formulating and evaluating the color of various types of samples.
Photosynthetic Photon Flux Density	The photosynthetic photon flux density is the Photon is that the number of incident per unit time and unit area, needed for photosynthesis at a wavelength from 400nm to 700nm. The unit represent in $\mu\text{mol m}^{-2}\text{s}^{-1}$.

9-2

Specifications

Type

- Spectrometer with CMOS linear image sensor

Illuminance meter class

- Conforms to JIS C 1609-1:2006 for General Class A Illuminance Meters
- Conforms to DIN 5032 Part 7 Class C

Light receiving method

- Incident light

Light receptor

- White diffuser (fixed type)

Light receptor element

- CMOS linear image sensor 128 pixels

Measurement system

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> • Measuring mode | <ul style="list-style-type: none"> • Ambient light • Flash light | <ul style="list-style-type: none"> Ambient light mode Cord (PC) Flash mode Cordless Flash mode |
| <ul style="list-style-type: none"> • Display mode | | <ul style="list-style-type: none"> Text mode, Spectrum mode, Spectrum Comparison mode, CRI mode, CRI Comparison mode, TM-30 mode, SSI mode, TLCI/TLMF mode, CIE1931 (CIE1964) mode, CIE1931 (CIE1964) Comparison mode, CIE1976 mode, CIE1976 Comparison mode |

Measuring item

- | | |
|---|--|
| <ul style="list-style-type: none"> • T_{cp} • Δuv • $X, Y, Z / X_{10}, Y_{10}, Z_{10}$ • $x, y, z / x_{10}, y_{10}, z_{10}$ • $u', v' / u'_{10}, v'_{10}$ • $\lambda_d / \lambda_{d,10}$ • $P_e / P_{e,10}$ • λ_p • Lux, fc / Hlx, Hfc • Ra • R1 ~ R15 • Rf, Rg • SSlt, SSld • TLCI • TLMF • PPFd | <ul style="list-style-type: none"> Correlated Color temperature Deviation Tristimulus value CIE1931(CIE1964)Chromaticity coordinates CIE1976 Uniform Chromaticity Scale Dominant wavelength Excitation purity Peak wavelength Illuminance / luminous exposure Average Color Rendering Index Special Color Rendering Index Photosynthetic Photon Flux Density |
|---|--|

Measurement range

• Illuminance	• Ambient light	1lx to 200,000lx 0.1fc to 18,600fc
• Luminous exposure	• Flash light	Range L: 20lx·s to 640lx·s (f/2.8 to f/16) Range H: 580lx·s to 20,500lx·s (f/11.9 to f/90)
• Photosynthetic Photon Flux Density		0.0 to 9999.9 $\mu\text{mol m}^{-2}\text{s}^{-1}$
• Color rendering properties	• CRI	Ra, R1 to R15 -100.0 to 100.0
	• TM-30	Rf 0 to 100 Rg 0 to 200
	• SSI	SSI 0 to 100
	• TLCI-2012	Qa 0 to 100
	• TLMF-2013	\angle Qa 0 to 100 (5lx to 200,000lx = 0.46fc to 18,600fc)

Accuracy

• Illuminance	$\pm 5\%$ ± 1 digit of indicated value (Complies with JIS C1609-1:2006 general A class illuminometer)
• x y	± 0.003 (Light source A, 800lx)

Repeatability (2σ)

• Illuminance	1% + 1digit (Light source A, 30lx to 200,000lx), 5% + 1digit (Light source A, 1lx to 29.9lx)
• x y	• 0.001 (Light source A, 500lx to 200,000lx) • 0.002 (Light source A, 100lx to 499lx) • 0.004 (Light source A, 30lx to 99lx) • 0.008 (Light source A, 5lx to 29.9lx)

Spectral response characteristics

• f1'	9% or less (Complies with JIS C1609-1:2006 general A class illuminometer)
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Oblique incident light characteristics

• f2	6% or less (Complies with JIS C1609-1:2006 general A class illuminometer)
------	---

Temperature characteristics

• Illuminance	$\pm 5\%$ of indicated value (Complies with JIS C1609-1:2006 general A class illuminometer)
• x y	± 0.006 (Light source A, 1000lx)

Humidity characteristics

• Illuminance	$\pm 3\%$ of indicated value (Complies with JIS C1609-1:2006 general A class illuminometer)
• x y	± 0.006 (Light source A, 1000lx)

Display range

• Color temperature		1,563K to 100,000K (5lx to 200,000lx)
• Illuminance	• Ambient light	1lx to 200,000lx (3 significant digits)
• Luminous exposure	• Flash light	20 lx·s to 20,500 lx·s, 1.86 fc·s to 1,900 fc·s (3 significant digits)
• Shutter speed	• Flash light	1 second to 1/500 second
• Color rendering properties	• CRI	Ra, R1 to R15 -100.0 to 100.0
	• TM-30	Rf 0 to 100 Rg 0 to 200
	• SSI	SSI 0 to 100
	• TLCI-2012	Qa 0 to 100
	• TLMF-2013	∠ Qa 0 to 100 (5lx to 200,000lx = 0.46fc to 18,600fc)

Other functions

• Preset setting	• Preset 1 to 5 settings
• Setting	• 6 item settings
• Memory function	• Up to 999 measurements or titles
• 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 20min., 10min., 5min., none
• LCD backlight	• Brightness can be selected from bright, normal, or dark • Dimmer time after last operation: selectable from about 5second, about 10second, about 20second, about 40second, about 60second, none
• Touch panel lock function	Hold MENU button 6 down for 3 seconds to lock and unlock.
• Tripod socket	• 1/4-inch, 20 threads

Display

• LCD display resolution	• 4.3 inch QVGA 480×800 dots
--------------------------	------------------------------

Recommended battery

• AA batteries	• 1.5V × 2 alkaline, manganese
----------------	--------------------------------

Power Supply

• USB bus-power	• 5V/500mA or less (via USB cable when connected to computer) • (Limited Power Source or Class 2 Power Source)
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Operating temperature

- -10°C to 40°C (without condensation)

Operating humidity

- 85%RH or less (at 35°C) (without condensation)

Transportation and storage conditions

- -10°C to 60°C (without condensation)

Dimensions

- Approx. 73 (width) × 183 (height) × 27 (depth) mm
(excluding protruding part of light receiving) (max. thickness 40mm)

Weight

- approx. 230g (without batteries)

Included accessories

- CD-ROM (this Operating Manual and applications (Win, Mac)), Soft case, Strap, Start-up Guide, Safety Precaution, Safety Requirement and Precaution, USB Cable (Mini-B connector)

* Models sold in some countries do not display illuminance and exposure in "fc (fc·s)" 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 without prior notice for improvement.

Measurement Reference Plane

- Tip of the Light Receiving Part

Color correction factor of the general illuminating light source against the CIE standard illuminant A: C-7000

Light source	Color correction factor
supplementary standard illuminant B	0.984
supplementary standard illuminant C	0.978
CIE standard illuminant D ₆₅	0.977
Fluorescent lamp F6	0.995
Fluorescent lamp F8	0.983
Fluorescent lamp F10	0.983
High-pressure sodium lamp	1.022
Metal halide lamp H1	0.978
Metal halide lamp H2	0.992
High-pressure mercury lamp	0.990

In the relative spectral responsivity characteristics of C-7000, error value from the standard spectral luminous efficiency $V(\lambda)$ 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.

9-3 Legal Requirement

■ Legal Requirement

This product complies with the following legal requirements.

Destination	Standard		Details
Europe	CE 	SAFETY	IEC (EN) 61010-1
		EMC	EMC: EN61326-1
		Environmental	WEEE
			RoHS
			REACH
North America	FCC (US) 	EMC	FCC Part15 SubpartB ClassA
	IC (Canada)	EMC	ICES-003
Japan	Environmental		Containers and Packaging Recycling Law
China	Environmental		China RoHS
South Korea	KC	EMC	KN11 KN61000-6-1
		1. 기자재의명칭 (모델명) : COLOR METER (C-7000) 2. 식별부호 : MSIP-REM-SK0-C-700 3. 상호명 : SEKONIC CORPORATION 4. 제조자 : SEKONIC CORPORATION 5. 제조국가 : 일본	

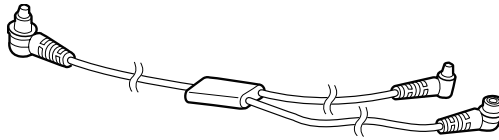
10. Optional Accessories

■ Synchro Cord

This is a five-meter (16.4 feet) long cord with three plugs.

An exposure meter, a camera and a flash can all be connected at the same time without having to plug or unplug the cord during shooting. Also, the connection terminal (male) on the light meter side of the synchro cord has a locking mechanism to ensure it remains connected to the meter.

(1 male terminal on the light meter side, 1 male terminal and 1 female terminal)



11. Troubleshooting

The following cases may not suggest failures. Please check again before requesting repair. When the meter does not function normally after checking the following, it may be damaged. Remove the battery, and ask the retailer or us to repair it.

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 $\oplus \ominus$ of the batteries inserted properly?	Check the $\oplus \ominus$ signs. (➔ P4)
	Are the batteries exhausted?	Replace the batteries. (➔ P10)
	Are the battery terminals dirty?	Wipe them off with a dry cloth.
	Are you using the specified batteries?	Check the batteries. (➔ P4)
The LCD does not respond	Is the screen locked?	Press and hold the Menu Button 6 to unlock the screen. (➔ P20)
The measurement cannot be made	Are you using the "C-700/C-7000 Series Utility"?	Stop using the "C-700/C-7000 Series Utility".
The measured values are wrong	Is the Light Selection Ring in the middle position? The light distribution characteristics change and suitable measurements cannot be made.	Rotate the Light Selection Ring until it clicks.
	Is the measuring mode wrong? (Such as measuring in Ambient Light Mode in flash light)	Check if the measuring mode is correct. (➔ P23)
	Are you using the pre-flash function when measuring in Cordless Flash Mode?	In Cordless Flash Mode, the measurement value of the main flash may not be displayed because the pre-flash is measured at first. Cancel the pre-flash function.

Status	Check item	Measure
The memory function cannot be used	Is the differential measurement icon displayed?	The memory function cannot be used when the differential measurement icon is displayed. Cancel the differential measurement mode.
	Is "Memory Full" displayed when pressing the Memory Button?	The memory can store up to 999 values. Clear unnecessary memory values in advance, measure, and memorize it.

12. After-sales Services

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

Check the conditions of warranty provided by local distributor or retailer.

- The warranty is not valid unless the copy of proof of purchase with the date of purchase and the retailer name. 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.

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.

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