

LIGHTTELLS Corporation Limited
Coffee Roast Degree Analyzer

CM-100+
BLACK EDITION
使用手冊



• 焙度名稱及顯示方式

SCAA Gourmet Result	Common	SCAA Names
91 <= Gourmet# <= 130	Light	Extremely Light
81 <= Gourmet# <= 90	Light	Very Light
71 <= Gourmet# <= 80	Medium	Light
61 <= Gourmet# <= 70	High	Medium Light
51 <= Gourmet# <= 60	City	Medium
41 <= Gourmet# <= 50	Full City	Moderately Dark
31 <= Gourmet# <= 40	French	Dark
0 <= Gourmet# <= 30	Italian	Very Dark

<回復出廠設定值>
所有的設定都會回復到出廠時的設定值



▲ 注意：選擇回復出廠設定時，所有的量測記錄都會被清除，日期時間設定會回復到原廠設定。

產品介紹

CM-100+咖啡焙度儀是一款用來測熟豆及咖啡粉的焙度的專業精密儀器。它具有攜帶方便，精確，容易使用的特點。它能快速準確地提供您SCAA標準數值，也可以顯示不同的焙度名稱(Light, City, Italian..等等)。量測數值會自動被存放在儀器內部並調閱。

產品包裝內容

- CM-100+主機 x 1
- 充電器 x 1
- micro USB 充電線 x 1
- 可拆式豆盤 x 2
- 量匙 x 1
- 刮尺 x 1
- 校正用的灰卡 x 1
- 使用手冊(包括保修頁) x 1

主要功能

- 快速且容易操作的校正方式讓量測更為精準
- SCAA標準量測數值(5-130)
- 歷史量測記錄
- 單筆刪除歷史記錄
- SCAA名稱及一般常用焙度名稱
- 日期及時間設定
- 自動關機時間設定
- 快捷量測鍵讓您一鍵完成測量

▲ 警告：電源開啟時請勿直視CM-100+內部的LED

• 歷史記錄

每次的測量值都會被自動地儲存在CM-100+裡，CM-100+可以儲存最近一次到前200次的量測記錄，請以[上/下鍵]查閱各筆記錄。

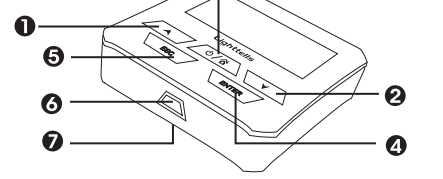
若要刪除單筆歷史記錄(例如沒放好而量測的記錄)，在該筆查閱記錄畫面按下[ENTER鍵]後會出現詢問“Are you sure to delete this data?”，按下[ENTER鍵]以刪除該筆資料，按下[ESC鍵]則放棄刪除。

產品規格

螢幕	2.6" OLED 面板
電池	1150毫安培/小時的鋰電池
光源	近紅外線
感應器	近紅外線感應器
記錄	200筆
重量(主機重量)	230 g (Main unit 主機重量)
尺寸(主機尺寸)	L: 123.4 mm
	W: 123.4 mm
	H: 132.0 mm
工作溫度	0 - 45°C
儲存溫度	-10 - 70 攝氏度
充電器	110 - 240V, 50/60Hz
充電輸入電源	5V, 0.5A
安規認證	CE, FCC

CM-100+ 硬體

• 按鍵名稱

- 
- ▲ [方向鍵上] 功能選擇/上一筆資料
 - ▼ [方向鍵下] 功能選擇/下一筆資料
 - ⏻/🏠 [電源/首頁] 長按兩秒用以開啟/關閉電源，短按用以回到首頁。
 - ENTER [進入鍵] 確定或量測
 - ESC [ESC跳出鍵] 跳出目前頁面
 - 📏 [量測鍵] 在任何頁面只要按下量測鍵就可以量測咖啡豆/咖啡粉的焙度。
 - 🔄 [系統重置鍵] 若產品在使用中發生異常現象，請以回紋針或筆尖按下[重置鍵]用以重置產品。

• 電源開/關

長按[電源鍵]兩秒用以開機CM-100+。在CM-100+能夠正確工作之前必須等待60秒的暖機時間。您可以按下[ESC鍵]以跳過暖機步驟。但是為了得到更為精確的量測，我們不建議您跳過暖機步驟。

• 充電

請將充電器插在AC110/220電源插座上，並接上USB充電線將microUSB那一端連接到CM-100的充電口。一個完全沒電的情況下的CM-100+需要大約3小時的充電時間。在完全充滿電的狀態下，CM-100+最多大約能夠連續使用6個小時。

▲ 若電池的電量遠低於足夠開機的電力時，有可能會開不了機。此時請接上充電器並讓它充電幾分鐘後再開機。

一、本保固卡是以本卡記載細項內容做維修保固請詳閱。

1. 維修保固，自購買日起算一年內為保固期限，保固期間內發生故障，請提示本保固卡洽本公司或經銷商做維修保固。
2. 本產品使用時請依說明書之使用安全須知，在規範下安全使用。
3. 在規範下使用本公司產品於保固期間內發生故障時，本公司做免費維修處理
4. 產品保固卡為保固憑證請謹慎保存如遇遺失或毀損，本公司將不予補發。
5. 保固卡必需有銷售店簽章及詳細交易日期或提示統一發票證明購買事實，無提示者之保固卡效力將以原廠出貨給經銷商的出貨日起一年內為保固期限。
6. 代理商或經銷商承諾之服務及附加的配置和贈品，由代理商或經銷商負責。
7. 保固期間內之產品維修保固，運送往返之費用由雙方各自負擔。
8. 本產品屬咖啡烘培度檢測儀，請勿使用於其它用途。
9. 本產品使用準則請依使用說明書使用，若因錯誤使用、濫用、使用過失、使用者未依或違反產品規格使用，導致傷害或受行為須自行承擔與本公司無涉。
10. 本保固卡之條文內容增加、修訂、刪除、更新，本公司保留對條文更(變)動有最終權益。
12. 本公司嚴重否認所有其它未於此載明之服務，不論明示或隱含，除了現行法律限制之範圍外，任何商務上或符合特定目的之暗示性服務等，皆不在產品之服務保固內。

二、保固有效期間內，有下列情形之一，不予免費維修保固。

1. 使用方法錯誤或不當的修理及改裝、因意外造成、因其產品造成、而導致產品故障或毀損或未依使用說明書指示正確操作者。
2. 消耗性零件之更換(電池)，非消耗性零件(豆盤、量匙、直尺、校正片)。
3. 購買後碰撞、摔落、浸水、髒垢造成產品故障或毀損或外觀上的刮傷等。
4. 火災、水災、地震、雷擊或環境因素、其他因素及自然現象之不可抗力因素，導致產品故障或毀損。
5. 特殊環境下不保固指超出材質本身可承受範圍如超高溫、高潮濕、硫磺區或海邊高鹽分及船上等容易腐蝕地區。
6. 指定外電源使用，導致產品故障或毀損。
7. 非經由本公司指定之服務處或自行拆卸，導致保固貼紙破裂或毀損。

CM-100+ 使用者介面

• 量測

在開始量測豆子或豆粉之前，請將待測物放在豆盤中並以直尺將豆子或豆粉表面與豆盤的高度齊高並鋪平，將CM-100+放在豆盤上，進入<Measure>畫面，選擇待測物的類別(豆子或是豆粉)後，按一下側邊的[測量鍵]或是[ENTER鍵]開始量測。在聽到短音的響聲後即表示量測完畢，豆子或豆粉的焙度及名稱會顯示在螢幕上。

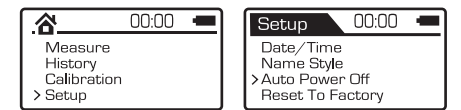
▲ 在您選擇豆子或豆粉之後，無論何時或在哪個選單裡按下[量測鍵]都會以已經選取的類別量測。

• 校正

校正前請先將電源充滿，並開機達半小時以上。請將校正卡(序號標籤朝下)放在平坦的桌面上，並將CM-100+正確放在校正卡上，選擇Calibration 選項後按下[ENTER鍵]，聽到短音的響聲後即完成校正。若校正後出現Error 字樣，請您再次確定CM-100+有正確放在校正片上並且四週都密合後，再做一次校正。

**原廠建議每年校正一次即可，不需每次量測前都做校正

• 設定

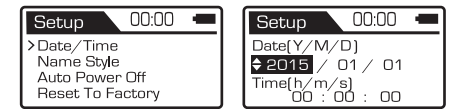


<自動關機>

CM-100+在開置一段時間後會自動關機。

您可以選擇自動關機的時間：5分鐘，10分鐘，30分鐘及不關機(Disable)出廠預設開置時間為五分鐘。

<日期及時間>



設定日期及時間

▲ 選擇不關機時，為了保護電池壽命，CM-100+可能隨時會在低電量時自動關機。

產品保修卡

品名: CM-100+ Coffee Roast degree Analyzer

序號:

購買日期: _____ YY(西元年)

_____ MM(月) _____ DD(日)

客戶姓名:

客戶地址:

經銷商名稱/公司章



Lighttells Corp. Ltd.
http://www.lighttells.com

LIGHTTELLS Corporation Limited
Coffee Roast Degree Analyzer

CM-100+
BLACK EDITION
User Manual



Product Introduction

The CM-100+ portable degree of Roasting meter is designed to help you measuring the degree of roast for both whole bean and ground coffee. It is portable, user-friendly, accurate and easy to use. It provides you quick accurate SCAA Gourmet numeric scales result and also display a variety of name terminology corresponding to the result (Light, City, Italian+, etc). The results are automatically stored in the CM-100+ internal memory and can be easily re-checked on display.

Package Contents

- CM-100+ x 1
- 5V Power Adapter x 1
- micro USB Power cable x 1
- Detachable Sample Dish x 2
- Measuring Spoon x 1
- Straightedge x 1
- Reference Gray Card (for calibration use) x 1
- User Manual with Limited Warranty Page x 1

Major Function

- Fast and easy calibration for better accuracy measurement
- Results in SCAA Gourmet scale
- Historical measuring record
- Embedded SCAA and Common Roast Names
- Calendar and Time settings
- Auto Power Saving
- Quick measuring key

▲ WARNING:
NEVER LOOK AT THE LEDS WHILE THE CM-100+ IS POWERED ON

• History

Each measurement is automatically stored in CM-100+. CM-100+ can store up to 200 measurement records from the most recent to the oldest. Please use Up/Down button for record review.

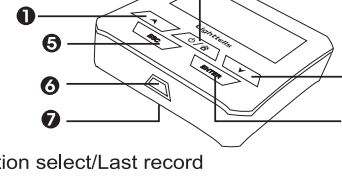
The single record can be deleted (ex: the record was not measured correctly), press [ENTER] at the record you wanna delete, an "Are you sure to delete this data?" message will show up on the screen. Press [ENTER] to delete, or press [ESC] to ignore.

Specification

Display	2.6" OLED Panel
Battery	Li-polymer 1150 mAh Battery
Light	Infra-red LED
Sensor	Infra-red Sensor
Log	200 records
Weight (Main unit)	230 g
Dimension (Main unit)	L: 123.4 mm
	W: 123.4 mm
	H: 132.0 mm
Working Temp.	0 - 45°C
Storage Temperature	-10 - 70°C
AC Adapter	110 - 240V, 50/60Hz
Charging input	5V, 0.5A
Certification	CE, FCC

CM-100+ Hardware

• Button names

- 
- ▲ [Up] Function select/Last record
 - ▼ [Down] Function select/Next record
 - ⏻/🏠 [Power/Home] Long press for 2 seconds to Power ON/OFF CM-100 Short press to jump back to main menu
 - ENTER [Enter] OK function
 - ESC [ESC] Press the [ESC] key to exit current screen
 - 📏 [Measure] Press the [Measure] key to start measuring Coffee Bean or Ground Coffee at any page
 - [System Reset] Press the System Reset button by paperclip or pen point to reset system in case the system is crashed

• Power ON/OFF

Click on the [Power button] for two seconds to power on CM-100+. A warm-up process (60 seconds) will start before CM-100+ is ready to work. You may skip the warm-up process by pressing the [ESC button], but it is recommended DO NOT skip the warm-up process in order to get better accuracy of the roasting degree.

• Charging

Plug the power adapter to an AC 110/220 outlet, connect the micro USB cable between the power adapter and the micro USB port of CM-100+. It takes around 3 hours for fully charge from a drained battery. After full charged, the CM-100+ could be able to continuous working up to 6 hours.

▲ CM-100+ might not be able to powering on when the battery is completely drained. Please connect the charger to CM-100+ for few minutes in order to power on CM-100+.

• Warranty Information

This Limited Warranty applies to LIGHTTELLS product model name CM-100 purchased from an authorized LIGHTTELLS dealer by the original purchaser for normal use and not for resale. LIGHTTELLS warrants that a CM-100 product is free from defects in materials and workmanship, with the exceptions stated below. This limited warranty lasts for 1 year from date of purchase, depending on when and where it was originally purchased. A valid proof of purchase may be required to prove eligibility. If you do not have a valid proof of purchase, the limited warranty period will be measured from the date of sale from LIGHTTELLS to the authorized distributor.

The limited warranty does not cover damage resulting from improper or unreasonable use or maintenance, misuse, accident, modification or alteration to hardware or software, tampering, unsuitable physical or operating environment beyond product specifications, or failure caused by a product for which LIGHTTELLS is not responsible. There is no warranty of uninterrupted or error-free operation. There is no warranty for product with removed or altered identification labels. LIGHTTELLS DOES NOT PROVIDE ANY OTHER WARRANTIES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SOME JURISDICTIONS DO NOT ALLOW THE LIMITATION OF IMPLIED WARRANTIES, SO THIS LIMITATION MAY NOT APPLY TO YOU. LIGHTTELLS is not responsible for returning to you product which is not covered by this limited warranty.

CM-100+ User Interface

• Measure

Before measuring Ground Coffee/Whole Beans, please get the DUT (device under test) ready in the sample dish and use the straight edge to keep the DUT flat surface is level with the edge of the dish. Put the CM-100+ unit on top of the dish properly, enter the <Measure> menu, select the DUT type (whole bean or ground), short click on the [Measurement button] or [ENTER button] to start measuring. A short beep sound will notify you when the measurement is done. The Gourmet numeric scales result and terminology name will be shown on the screen.

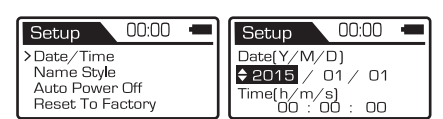
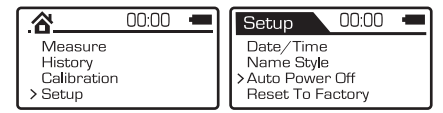
▲ After you have chosen the DUT type (whole bean or ground) by press [ENTER] button for measurement, CM-100 measures the type you have chosen at any time in any manual.

• Calibration

Before calibrating: Please full charge the battery and turn on the power for at least 0.5 hour. Calibrate: Place the Reference Gray Card on the table with labeled side down, put the CM-100+ on top of the Reference Gray Card, click [ENTER button] to start calibration. A short beep sound will notify you after the calibration is done. If the calibration results error, please make sure the gray card is covered properly then do calibration again.

• Setup

<Auto Power Off>
CM-100+ will automatically turn off the power after idling a period of time. Selection: 5 min, 10 min, 30 min and Disable.



<Date and Time>
Setup Calendar and Time

▲ CM-100 would turn off the power anytime in order to protect the battery when the power is in low battery status when the Auto Power Off function is disabled

• Roast name display type

You can choose Common or SCAA roast names. (see Table)

SCAA Gourmet Result	Common	SCAA Names
91 <= Gourmet# <= 130	Light	Extremely Light
81 <= Gourmet# <= 90	Light	Very Light
71 <= Gourmet# <= 80	Medium	Light
61 <= Gourmet# <= 70	High	Medium Light
51 <= Gourmet# <= 60	City	Medium
41 <= Gourmet# <= 50	Full City	Moderately Dark
31 <= Gourmet# <= 40	French	Dark
0 <= Gourmet# <= 30	Italian	Very Dark

<Reset To Factory>
Reset all the settings to factory default setting.



▲ Warning: All the history records will be erased, the calendar/time will be reset to default setting.

Limited Warranty Card

Model Name: CM-100+ Coffee Roast degree Analyzer

Serial Number:

Date of Purchase: _____ YY

_____ MM _____ DD

Customer Name:

Customer Address:

Authorized Dealer Name / Stamp



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