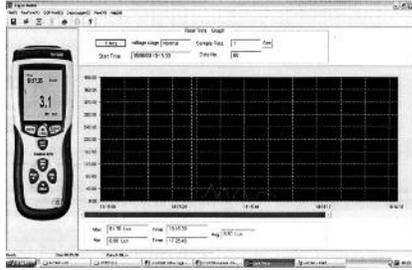


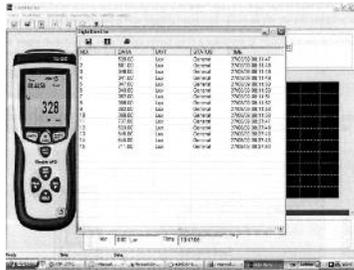
If the software still displays 'OFFLINE' there is no connection. To create a connection, go to **Com Port (C)** icon (top menu line), click on the drop down menu, select **Com3 (M)**. The light meter image on the software should now be displaying the same information as your light meter. In some cases this com port will not work and **Com4 (4)** or another may have to be selected, by selecting **Other Com** and choosing the appropriate com port where the information is being displayed on the light meter. This works exactly as it would with **Com3 (M)** selected.

When the connection is made, on the top right side of the instrument display you will see this symbol,  and the word "Scout". The software will show an image of the instrument and display measured values the same as the instrument.



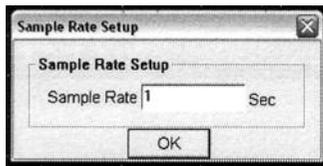
#### Reading the Recall 99 Memory Function via the Software

On the top menu line, click on **Mem(M)**. The software will now download the memorised values and, when complete, auto open a new window listing: - The Reading Number, Measured Value with the Time and Date the measurement was memorised. This data can be saved or printed.



#### General Recording Using the Software

Open the software and connect the instrument. On the top menu icons, click on **RealTime(R)**. On the drop down menu, click **Run**. A new window will open "Sample Rate Setup".



The sample rate can be set from 1 second up to 99 seconds. Click OK. The software will now log results from the instrument. Note: Data is

captured based on the date and time of the connected computer irrespective of the date and time settings on the instrument. To stop recording, click on **RealTime(R)**. On the drop down menu, click **Stop**.

Alternatively, recordings can be made using the Stop/Go buttons located at the top of the software.



Stop Go

#### Viewing Saved Data

When stopped, the data can be viewed as a graph and by moving the mouse over the data line, the time and measured value will be displayed at the bottom of the software.

The graph has a zoom facility. Hold the right button of the mouse near to the area, then drag and draw a box to cover the data line. On releasing the mouse button, the zoom will auto focus to the selected area. This can be actioned 3 times for in-depth analysis.

To undo the zoom, click this icon in the top menu. 

#### Datalogging

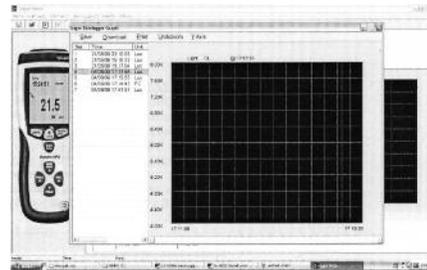
Ensure date, time and sampling rate are set correctly. Sample rate can be set from 1 second up to 99 seconds.

Auto power off has to be disabled.

To set the instrument to record mode press and hold **REC/Setup** button (No 4) until, in the top right corner of the display, **MEM01** appears. The instrument is now logging measured values as per set sampling time. To stop datalogging, press and hold **REC/Setup** until the **MEM01** disappears. To take a second set of data, repeat until **MEM02** appears. Multiple or single data logging sets can be stored up to a maximum of 16,000 measurements. If the datalogger is full the **OL** will appear in the MEM sector.

#### To View Logged Data

Connect the instrument to the computer and open the software. Click on **Data Logger(D)** icon on the menu bar at the top of the screen. A loading window saying 'Logging...' will appear. This window will auto close when the download is complete and open a new window giving a line listing of data sets.



Double click on the data that you wish to view and a red line will appear on the graph. The zoom facility and file save work as previously detailed.

To delete the data files, press and hold **REC/Setup**, then turn the instrument on. The instrument display will show 'del' to indicate the memory has had its data sets deleted.

# YORK Survey Supply



## Datalogging Light Meter



## Operating Instructions



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# Datalogging Light Meter

## Introduction

This digital datalogging light meter is a precision instrument used to measure luminance by Lux or Footcandles (FC). It meets the CIE photopic spectral response standard. When not in use, the instrument should be kept in the carry case and lens cap put onto the lens to protect it from damage.

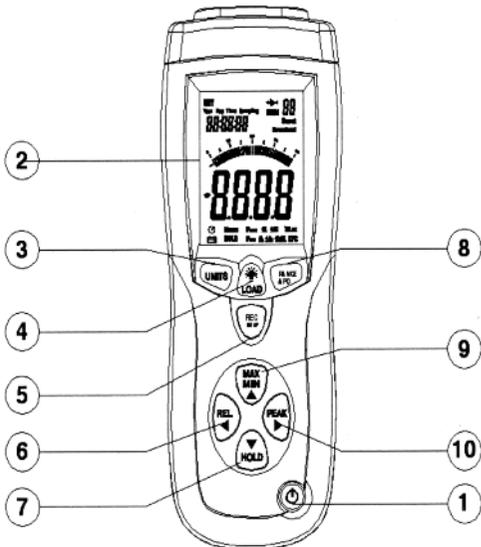
## Features

- > 4 Measuring Ranges Lux
- > 4 Measuring Ranges Footcandles
- > Silicon Photo Diode Sensor with a Spectral Response Filter Fully Cosine Corrected
- > High accuracy and rapid response
- > Data Hold, Peak Hold, Min/Max Memory, Relative Function
- > 56mm Hight Contrast LCD with 41 Segment Bargraph, Function Indicators and Backlight
- > Auto-Power Off after 15 minutes with User Disable
- > USB output
- > 99 Individual Record Memory independent of the Datalogger
- > Datalogger Capacity of 16,000 Readings
- > Accessories Included: Carry Case, Software and USB Connection Cable

## Specifications

- > 4 Measuring Ranges for Lux: 0Lux to 400Lux, 4KLux, 40KLux, 400KLux
- > 4 Measuring Ranges for Footcandles: 0FC to 40FC, 400FC, 4KFC, 40KFC
- > Accuracy:  $\pm 3\%$  rdg  $\pm 0.5\%$  f.s. (<10,000Lux),  $\pm 4\%$  rdg  $\pm 10\%$  (>10,000Lux)
- > Sampling rate of 1.5 times per second (selectable rate for data logging)
- > Operating temperature and humidity: 0°C ~ 40°C and 0%RH ~ 80%RH
- > Storage conditions: -10°C ~ 50°C and 0%RH ~ 70%RH
- > Power source: 1x 9V battery
- > Length of Connection Lead for Light Sensor: 1m
- > Light Sensor Dimensions: 115L x 80W x 20H (mm)
- > Meter Dimensions: 230L x 80W x 50H (mm)
- > Weight of Unit: 390g

## Function Buttons



1. Power On/Off Button
2. UNITS Button

4. Backlight and LOAD Button
5. REC/SETUP Button
6. PEAK Button
7. HOLD Button
8. RANGE/APO Button
9. MIN/MAX Button
10. REL Button

## Operating Instructions

### Power On/Off, Auto Power Off and Display Backlight

To turn the meter on, press the **yellow** power button (No 1) on the bottom of the unit. If auto power off is disabled, press the button again to turn the meter off.

At first power on the instrument defaults to a 15 min "Auto Power OFF". To disable auto power off, press and hold **REC/Setup** button (No 5) then press **RANGE/APO** button (No 8) until this symbol disappears from the bottom left of the display. Repeat to re-enable the auto power off.

To illuminate the backlight, press the **LOAD** button (No 4). Repeat to turn off the backlight.

### Selection of Measurements and Ranges in Lux or Footcandles

To change measurement units, press the **UNITS** button (No 2). This changes the displayed values from Lux to Footcandles or vice versa. 1FC = 10.76Lux.

There are 4 measuring ranges for Lux and Footcandles. Press **RANGE/APO** button (No 8) to scroll through the measuring ranges. Should the display show "OL" then the range selected is too low for the measured value. Select the next range up. Repeat until the instrument displays a value. The selected range is displayed below the main reading.

Connect the sensor to the instrument. Remove the black plastic cover protecting the sensor and the instrument will display the measured value.

### To Set Time, Date and Datalogging Sampling Time

The time, date and sampling rate has to be set for recording and storing measurements.

To enter this setup mode, press and hold down for 5 seconds the **REC/Setup** button (No 5) and the **UNITS** button (No 3) simultaneously. The word "Time" and the hour digits should be flashing. You are now in the setup mode.

The 4 keys (No's 6, 7, 10 and 9) with arrows are used to change the data and scroll through the setup menu. The Hour is the first part of the program and is flashing. Use the up/down arrow buttons (No's 7 and 9) to increase or decrease the displayed hour. When the hour is correct, press the right arrow button (No 10) which then moves the setup to Minutes. Again using up/down arrow buttons (No's 7 and 9) change the displayed digits to the correct value. Repeat this process to set Seconds, Sampling Time, Month, Date and Year. Note: The sampling time is for the datalogger recording only. The true sampling rate of the instrument is 1.5 times per second. To exit the setup program, press and hold down for 5 seconds the **REC/Setup** button (No 5) and the **UNITS** button (No 3) simultaneously.

### Data Hold

This function allows the current reading to be frozen on the display. Press **HOLD** button (No 7) to activate. An indicator in the bottom of the display will show **Manu Hold**. Press **HOLD** again to cancel data hold and the instrument will display current measured values.

### Minimum/Maximum Values

This function is activated by pressing **MIN/MAX** button (No 9) and will display the minimum and maximum values since the instrument was switched on. The first value is the maximum measured value with a **Manu Max** indicator shown in the bottom of the display. Press the **MIN/MAX** button again. The displayed value with **Manu Min** indicator shown in the bottom of the display. Press **MIN/MAX** again to cancel data hold and the instrument will display current measured values.

### Peak Hold

This function's purpose is to display only the highest or lowest measured value and is activated by pressing the **PEAK** button (No 6). The first value is the highest measured value with a **Manu Pmax** indicator shown in the bottom of the display. Press the **PEAK** button again. The displayed value is the lowest measured value with **Manu**

**Pmin** indicator shown in the bottom of the display. Press **PEAK** again to cancel peak measuring and the instrument will display current measured values.

## Relative Readings

This function is used to read measured values compared to a memorised value. When a value is established, press the **REL** button (No 10). The displayed values will then be deviations to the relative stored value and shown as plus or negative value with a **Manu** indicator shown in the bottom of the display. Press the **REL** button again to exit this function and the instrument will display current measured values.

## Recall 99 Memory Function

The instrument has an independent memory separate to the datalogger. It is used to memorise individual measured values for recall without using a computer connection. To memorise a reading, press **REC/Setup** button (No 5). In the top right hand corner of the display an indicator will appear "MEM 01". This confirms the measured value has been memorised as record number 1. Press **REC/Setup** again and the indicator will display as "MEM 02". This confirms the measured value has been memorised as record number 2. This can be repeated for up to 99 readings.

To recall the readings from the memory, press and hold for 5 seconds the **LOAD** button (No 4). Using the up and down buttons (No's 7 and 9) will allow you to scroll through each memorised value.

To clear the memory, press and hold for 5 seconds the **LOAD** and **REC/Setup** buttons at the same time. **MEM CL** will appear in the top right hand corner of the display whilst the memory is cleared. When the memory is clear, the instrument will revert back to normal measuring mode.

To read the "Recall 99 Memory" via the software. On the top menu line click on **Mem(M)**. The software will now download the memorised values and, when complete, auto open a new window listing the reading Number, Measured Value with the Date and Time the measurement was memorised. This data can be saved or printed.

## Low Battery Indication

When the battery power falls below the required voltage, a battery symbol will appear on the display. To change the battery, slide the back cover off, disconnect the expired battery and replace.

## EPROM Memory Backup

The EPROM has a 2nd battery backup so no data is lost due to main battery changes.

## Recommended Illumination Values

LOCATIONS		Lux	FC
OFFICE	Conference, Reception room	200 ~ 750	18 ~ 70
	Clerical work	700 ~ 1,500	65 ~ 140
	Typing drafting	1,000 ~ 2,000	93 ~ 186
FACTORY	Visual work at production line	300 ~ 750	28 ~ 70
	Inspection work	750 ~ 1,500	70 ~ 140
	Electronic parts assembly line	1,500 ~ 3,000	140 ~ 279
HOTEL	Packing work, Entrance passage	150 ~ 300	14 ~ 28
	Public room, Cloakroom	100 ~ 200	9 ~ 18
	Reception	200 ~ 500	18 ~ 47
STORE	Cashier	750 ~ 1,000	70 ~ 93
	Indoors Stairs Corridor	150 ~ 200	14 ~ 18
	Show window, Packing table	750 ~ 1,500	70 ~ 140
HOSPITAL	Forefront of show window	1,500 ~ 3,000	140 ~ 279
	Sickroom, Warehouse	100 ~ 200	9 ~ 18
	Medical Examination Room	300 ~ 750	28 ~ 70
SCHOOL	Operating room, Emergency treatment	750 ~ 1,500	70 ~ 140
	Auditorium, Indoor Gymnasium	100 ~ 300	9 ~ 28
LABORATORY	Classroom	200 ~ 750	18 ~ 70
	Laboratory, Library, Drafting room	500 ~ 1,500	47 ~ 140

## Maintenance and Calibration

In order to ensure accurate readings, the lens should be cleaned using a damp cloth to remove any dust or dirt. Do not store the instrument where the temperatures are excessively low or high or the humidity is excessively high. This should be considered especially when leaving instruments in vehicles.

Re-calibration of this instrument will vary due to operating conditions and regulations. It is recommended that the meter is re-calibrated at least once every 12 months. York Survey Supply Centre offers a fully traceable calibration service to national standards. Please call our technical helpline for current prices: 01904 692723.

## Installing the Software

Start Windows and insert the CD into the CD drive. Install Wizard should detect and install the software.

If install wizard does not appear automatically, go to **START** at the bottom of the desktop, then **Run...** Browse for **Light Meter (D:)** which is the name of the software.

Click on **Light Meter (D:)**. This will open up the files stored within the CD. Open the **SETUP** file and follow the instructions to install the software.

Once this is complete you will see this icon, appear on your desktop. The installation was successful, but before you can use the software you need to install the hardware drivers. **Do not remove the CD.**

## Installing the Hardware Drivers

**You do not need to install the hardware drivers if you already have installed it - the following Datalogging instruments all use the same program:**

- SL-8851 USB Logging Sound Level Meter**
- SL-8852 Datalogging Sound Level Meter**
- LX-1309 USB Logging Lux Meter**

With the CD for the software still in the CD drive, turn the instrument on, then connect the meter to the computer using the USB cable supplied.

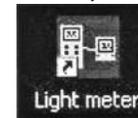
A message will appear to show the computer has detected new hardware in the USB port. Double click on this message. A new window will appear asking you to install the hardware. On this window click "No, not this time", as you do not need to connect to the windows update. Follow the instructions to install the hardware, but **before** you press FINISH check that it reads "CP2101 USB Composite Device" in the window (this is the first hardware driver). Click FINISH.

The window will now ask to install the hardware; this is to install the second driver. Install in the same way as you did for the previous driver. In the last window it should show "CP2101 USB to UART Bridge Controller". Click FINISH and both hardware drivers should now be installed.

To un-install the drivers (in the "add or remove programs") you will not find two separate drivers. You will find one driver called "CP2101x USB to UART Bridge Controller". This is because both drivers are saved together, so by un-installing this you are, in fact, un-installing both the drivers.

## Using the Software

Connect the instrument to the computer with the USB cable. Open the software by clicking on the icon.



If there is no connection the software will display **OFFLINE** in the instrument image. Check the connections are correct and plugged in.

