

TRACEABLE[®] DUAL-DISPLAY LIGHT METER INSTRUCTIONS

SPECIFICATIONS

Ranges:

Lux: 0 to 1999 Lux
2000 to 19,990 Lux
20,000 to 50,000 Lux

Foot Candle: 0 to 199.9 Fc
200 to 1999 Fc
2000 to 5000 Fc

Relativity: 0 to 1999% (relative to desired range and measured value)

Resolution: 1 Lux (0 to 1999 Lux)
10 Lux (2000 to 19,990 Lux)
100 Lux (20,000 to 50,000 Lux)
0.1 Foot Candle (0 to 199.9 Fc)
1 Foot Candle (200 to 1999 Fc)
10 Foot Candle (2000 to 5000 Fc)

Accuracy: $\pm 4\%$ full scale plus 2 digits

Sampling time: Approximately 0.4 seconds

Case: ABS plastic

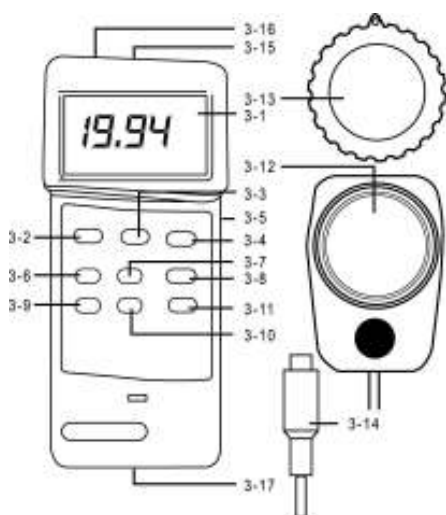
Fail safe: Low battery Indicator

Power: One (1) 9-Volt alkaline battery

Accessories

Supplied: photo sensor probe, battery, Traceable[®] Certificate, Instructions

FIGURE 1:



DESCRIPTION

- 3-1 LCD Display
- 3-2 Power Button
- 3-3 Hold Button: press to hold reading
- 3-4 LUX/FC (Foot Candle) Button
- 3-5 LCD Contrast Adjustment Knob
- 3-6 Record Button: press to record results.
- 3-7 Recall Button: press to show minimum and maximum readings.
- 3-8 Light Source Button
- 3-9 Zero Button
- 3-10 % Button (Relativity)
- 3-12 Light Sensor
- 3-13 Sensor Cover
- 3-14 Sensor Plug
- 3-15 Sensor Input Socket
- 3-16 Computer Output Socket
- 3-17 Battery Compartment

DUAL-DISPLAY LIGHT METER OPERATION

1. Turn the meter on by pressing the POWER BUTTON (3-2, fig. 1)
2. Zero Adjustment Cover the LIGHT SENSOR (3-12, fig. 1) with the SENSOR COVER (3-13, fig. 1) for a more accurate zero reading. Set the RANGE SWITCH (3-1, fig. 1) to 2000 LUX position. This is the far left setting. Press the ZERO BUTTON (3-9, fig. 1). The display should read 0.0. Remove the sensor cover.
3. Select the desired measurement unit by pressing the LUX/FC BUTTON (3-4, fig. 1). The display will alternate between "Lux" and "Ft-cd" with each press of the button.
4. Select the desired lighting source by pressing the LIGHT SOURCE BUTTON (3-8, fig. 1). The lower left portion of the display will alternate between "L" (Tungsten), "F" (Fluorescent), "S" (Daylight), and "C" (Mercury) with each press of the button.
5. Select the desired range by switching the RANGE SWITCH (3-1, fig. 1). The left position (2000 Lux/ 200 Fc) measures 0 to 1999 Lux/ 0 to 199.9 Fc. The middle position (20,000 Lux/ 2000 Fc) measures 2000 to 19,990 Lux/ 200 to 1999 Fc. The right position (50000 Lux/ 5000 Fc) measures 20,000 to 50,000 Lux/ 2000 to 5000 Fc.

NOTE: If the display shows "-----" then there is too much light for the meter to read in this range. Select the next higher range. If the display shows "_____" then there is not enough light for the meter to read in this range. Select the next lower range.

6. Place the LIGHT SENSOR (3-12, fig. 1) directly under the light source you wish to measure. Hold for at least 0.4 seconds. The meter will measure the light and display the value. When the range is set to 20000 Lux, "0" will appear on the lower line of the display. This is the last digit of the reading. When the range is set to 50000 Lux, "00" will appear on the lower line of the display. These are the last two digit of the reading for example, if the range is set to 2000 and the reading displays the following:

1562 LUX
0

The actual reading is 15620 Lux.

7. To hold a measurement on the display, press the HOLD BUTTON (3-3, fig. 1) while a measurement is being taken. The LCD will show OH (Data Hold) in the upper left portion of the display to indicate that the value is a "held" value. To cancel the data hold feature, simply press the HOLD BUTTON a second time.
8. To show the relative % light measurement, press the % BUTTON (3-10, fig. 1) while a measurement is being taken. Subsequent measurements will be shown as a percentage of the value of the reading when the % BUTTON was pressed. To cancel the % feature, simply press the % BUTTON a second time.
9. To record a measurement for both Memory Recall and RS—232 Data Acquisition, press the RECORD BUTTON (3-4, fig. 1) while a measurement is being taken. The LCD will show REC in the lower left portion of the display to indicate that the value is being recorded. To deactivate the record function, press the RECORD BUTTON again.

10. **Memory Recall:** Press the RECORD BUTTON. Use the RECALL BUTTON (3-6, fig. 1) to recall the minimum and maximum readings. With the REC symbol on the display, press the RECALL BUTTON (3-6, fig. 1) once. The maximum recorded value will be displayed. The letters "Max" will also appear, indicating that this is the maximum or highest reading. A second press of the RECALL BUTTON will display the minimum reading. The letters "Mm" will appear indicating that this is the minimum or lowest reading.

NOTE: The Data Record function must be on to utilize the Memory recall features. Once the RECORD BUTTON has been pressed a second time to deactivate the data record function, the minimum and maximum values are no longer stored.

COMPUTER INTERFACE

This unit features computer output. A COMPUTER OUTPUT SOCKET (3-11, fig. 1) is located on the top of the unit. To utilize this feature, connect the unit to a PC with an accessory Data Acquisition System. See **ACCESSORIES**.

BATTERY LIFE

If the letters 'LBT' appear on the left corner of the display, it indicates the batteries are low and need to be replaced. To replace the battery, slide the battery cover located on the back of the unit away from the unit. Remove the old battery and replace it with a new 9-Volt alkaline battery. Use an alkaline battery, NOT a regular or heavy duty battery. Properly connect the battery. Replace the battery cover. Incorrectly installed batteries may damage electronics.

The unit has an automatic shut off feature to prolong battery life. If no button on the unit is pressed for ten minutes, the unit will automatically shut off. To deactivate this feature, press the RECORD BUTTON while a measurement is being taken.

LCD CONTRAST ADJUSTMENT

The Contrast of the LCD may need to be changed either because of light conditions, battery voltage drop, or user preferences. The LCD contrast can be adjusted using the LCD CONTRAST ADJUSTMENT KNOB (3-5, fig. 1). Simply turn the knob to the left or right until the optimal LCD contrast is obtained. If the display is filled with "88888" when no reading is being taken, the contrast needs to be adjusted. Turn the contrast knob to the left until a single "0" appears.

ALL OPERATIONAL DIFFICULTIES

If this Light Meter does not function properly for any reason, please replace the battery with a new 9-Volt alkaline battery (see Low Battery section, above). Low battery power can occasionally cause any number of "apparent" operational difficulties. Replacing the battery with a new fresh battery will solve most difficulties.

ACCESSORIES

Cat. No. 4138 Easy-Use Accessory Adaptor 115 VAC

Bonus Free Disk This demonstration disk shows the data acquisition capabilities of this digital product when connected to a computer. See **Cat No. 4136** below to order complete **Data Acquisition System**.

Cat. No. 4136 Data Acquisition System Accessory Powerful and easy to use computer data capture/data logging program works with Traceable® Instruments with computer output. Records interval readings from 1 to 10,000 seconds; displays minimum/maximum readings; and utilizes an alarm mode that permits the user to be notified visually, audibly, and by email when an alarm is triggered. Data is stored to a file that can be printed in any report or spreadsheet format. Networking server/client capability allows the captured data to be monitored on a remote workstation and/or by email. It is designed to work with Windows® 98/Me/NT/2000/XP/Vista. Includes a CD,

a 6-foot cable (supplied USB and serial connections) that plugs into the instrument and computer. Accessory extension cables expand cable length to 300 feet.

Cat No. 4325 Data Logger Complete DAS-4™ System captures and stores up to 8000 bytes (over 1000 readings). Readings may be taken at intervals from 1 second to 8 hours. Stored readings may be downloaded to any PC and viewed. Can be read "as-is" or imported to spreadsheets, databases, and statistical programs. Supplied complete with 36-inch cable with D9F computer plug, CD, Windows®, and four AA alkaline batteries.

Cat. No. 4326 Accessory Adaptor 115 VAC for Data Logger