

Table of Contents

Features.....	3
Specifications.....	3-5
Instrument Description	6
Operating Instructions.....	7-11
<i>Zero Adjustment</i>	7
<i>Selecting Measuring Unit</i>	7
<i>Selecting Maximum Range</i>	7
<i>LCD Display</i>	8
<i>Data Hold</i>	8
<i>Relative % Light Measurements</i>	8
<i>Data Record (Max, Min and Average Reading)</i>	9
<i>Quick Measurement</i>	9
<i>Auto Power Off</i>	9
<i>Contrast Adjustment</i>	10
<i>RS232 PC Interface</i>	10-11
Battery Replacement.....	11

Features

- Simultaneous display of Foot Candles or Lux, plus four lighting types
- Measuring Ranges: 200.0/2000/5000 Fc; 2000/20,000/50,000Lux
- Microprocessor assures maximum accuracy
- Super large 1.4" (1999 count) LCD display
- Displays % differential from reference point
- "ZERO" re-calibration
- Utilizes precision photo diode colour correction filter
- Cosine & colour corrected measurements
- 4% of full scale accuracy is enhanced by selecting lighting type (Tungsten/Daylight, Fluorescent, Sodium, Mercury)
- Record/Recall Min, MAX & AVG readings
- Data Hold plus Auto shut-off
- Built-in RS-232 serial interface, optional software
- Optional Windows® compatible & DOS Data Acquisition software & serial cable enables user to display & capture readings on a PC
- Optional battery powered datalogger stores over 8000 readings for later transfer to a PC

Specifications

Circuit:	Custom one-chip microprocessor LSI
Display:	13mm (0.5") Dual function LCD display with contrast adjustment
Lighting Type Selection:	Daylight, tungsten, fluorescent & mercury lamp
Ranges:	LUX: 0 - 50,000 LUX, 3 ranges Foot-candle: 0 - 5,000 Ft-cd, 3 ranges Relativity: 0 - 1999%
Sensor:	An exclusive photo diode & color correction filter, spectrum designed to meet CIE

Memory Recall:	Records maximum, minimum and average readings with recall facilities	
Sample Time:	Approximately 0.4 seconds	
Zero Adjustment:	By push button	
Power Off:	Manual off by push button, or auto shut off after 10 minutes	
Data Output:	RS 232 PC serial interface	
Overload Indication:	“- - - -”	
Operating Temperature:	0°C to 50°C (32°F to 122°F)	
Operating Humidity:	Maximum 80% RH	
Power Supply:	006P DC 9V battery or equivalent	
Weight:	335g/0.77lb (includes batteries)	
Dimensions:	Instrument:	180 x 72 x 32mm (7.1 x 2.8 x 1.3”)
	Sensor probe:	85 x 55 x 12mm (3.2 x 2.2 x 0.5”)
Includes:	Sensor with protective cover	
Optional Accessories:		
	Datalogger	(Model DL-9601)
	Data Acquisition Software	(Model SW-U801-WIN)
	RS232 Cable	(Model UPCB-01)
	USB Cable	(Model USB-01)
	Soft Carrying Case	(Model CA-05A)

continued ...

Electrical Specifications

Measurement	Range	Max. In-Range Display
LUX	2,000 Lux	0-1,999 Lux
	20,000 Lux	1,800-19,990 Lux
	50,000 Lux	18,000-50,000 Lux
Foot-Candle	200 Ft-cd	0-186.0 Ft-cd
	2,000 Ft-cd	167-1,860 Ft-cd
	5,000 Ft-cd	1,670-5,00 Ft-cd

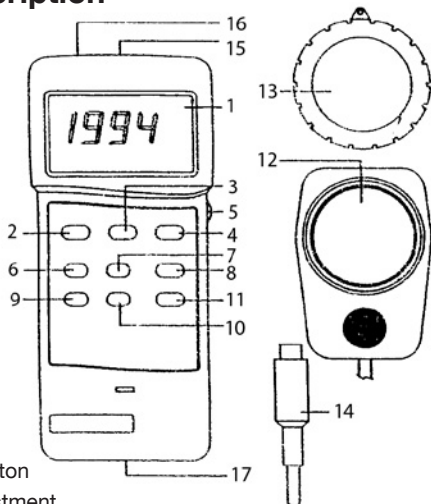
Range	Resolution	Accuracy
2,000 Lux	1 Lux	± (4% + 2dgt)
20,000 Lux	10 Lux	
50,000 Lux	100 Lux	
200 Ft-cd	0.1 Ft-cd	
2,000 Ft-cd	1 Ft-cd	
5,000 Ft-cd	10 Ft-cd	

Note: Accuracy tested by a standard parallel tungsten light bulb of 2856°K

Measurement	Range	Resolution
Relativity	0 to 1999%	1%

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Instrument Description



1. Display
2. ON/OFF button
3. Data hold button
4. LUX/FC (Ft-cd) button
5. LCD contrast adjustment
6. Memory record button
7. Call button
8. Light source select button
9. Zero button
10. % button (Relativity)
11. Range switch
12. Light sensor
13. Sensor cover
14. Light sensor plug
15. Light sensor input socket
16. RS-232 output
17. Battery compartment/button cover

Operating Instructions

Press the ON/OFF button to turn the instrument on.

Zero Adjustment

- Cover the light sensor using the sensor cover provided
- Slide the range switch to the 2000 LUX position
- Press the zero button and the display will show a value of zero
- When completed remove the sensor cover

Selecting Measuring Unit

Select the desired measuring unit by pressing the LUX/FC button. The display will indicate the selected unit of either LUX or ft-cd. Determine the lighting type (Daylight, Tungsten, Fluorescent or Mercury lamp) by pressing the light source select button. The LCD will indicate the selected lighting type by displaying the following symbols:

L = Tungsten

F = Fluorescent

S = Daylight

C = Mercury

Selecting Maximum Range

Select the maximum range by using the range switch and position the light sensor directly under the light source

- Overload conditions will be indicated by “- - - -” on the display and you will need to select the next higher range
- Out of range conditions will be indicated by “_ _ _ _” on the display and you will need to select the next lower range

LCD Display

On the 20000 LUX range the last digit will be shown on the lower line of LCD display. On the 50000 LUX range the last two digits will show on the lower line of LCD display.

1562	LUX
0	

For example: On the 20000 range, if the display shows the above it means the real display is 15620 LUX

Note: The digits on the lower display are multipliers only (i.e. x10 and x100 respectively). These digits will not change, and will only be indicated by a 0.

Data Hold

While taking a measurement, press the data hold button and the meter will hold the displayed values. A DH symbol will appear to indicate that data hold had been activated. To cancel the data hold function, press the data hold button once more.

Relative % Light Measurements

While taking a measurement, press the % button and the current value will be indicated as 100%. All the subsequent measurements will be indicated as a percentage, relative to the value from when the button was pressed.

The formula used is as shown below:

$$\frac{\text{New light values}}{\text{Light value when \% button was pressed}} \times 100$$

To deactivate this feature, press the % button again.

Data Record (Max, Min and Average Reading)

The data record function displays the maximum, minimum and average readings. To start the data record function, press the record button once. A REC symbol will appear on the LCD display.

With the “REC” symbol indicated on the display:

- To display the maximum recorded value, press the call button once. A MAX symbol will appear on the display.
- To display the minimum recorded value, press the call button again. A MIN symbol will appear on the display.
- To display the average recorded value, press the call button again. An AVG symbol will appear on the display.
- To deactivate the data record function, press the record button. All associated indicators will disappear from the display.

Quick Measurement

Main procedures:

Power ON – Zero Adjustment – Select Measuring Unit – Select Range

Optional measuring procedures:

Data Hold – Memory Record – RS232 Output

Power Management:

Auto Power Off or Manual Power Off

Note: Auto Power Off is not active during the data record function

Auto Power Off

The instrument has built-in auto power off in order to prolong battery life. The meter will switch off automatically if no buttons are pressed within 10 min. To deactivate this feature, press the record button during a measurement.

Contrast Adjustment

The instrument features the ability to adjust the contrast of the display. This is achieved by controlling the LCD contrast adjustment.

RS232 PC Interface

The instrument features an RS232 output via 3.5mm terminal. The connector output is a 16 digit data stream which can be utilized to the user's specific application. An RS232 lead with the following connection will be required to link the instrument with the PC serial input.

Meter (3.5mm jack plug)	PC (9W D connector)
Center Pin	Pin 2
Ground/shield	Pin 5

The 16 digit data stream will be displayed in the following format:
D15 D14 D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1 D0

Each digit indicates the following status:

D0	End word		
D1 to D4	Upper display reading, D1=LSD, D4=MSD		
D5 to D8	Lower display reading, D5=LSD, D8=MSD		
D9	Decimal point (DP) for upper display.		
D10	0=No DP, 1=1 DP, 2=2 DP, 3=3 DP, ect...		
	Decimal point (DP) for lower display.		
	0=No DP, 1=1 DP, 2=2 DP, 3=3 DP, ect...		
D11 & D12	Indicator for upper display		
	00=No symbol	07=mg/L	14=mS
	01=°C	08=m/s	15=Lux
	02=°F	09=Knots	16=Ft-cd
	03=%	10=Km/h	17=bD
	04=%RH	11=Ft/min	18=mV
	05=%PH	12=mile/h	
	06=%O2	13=uS	

continued ...

D13	Indicator for lower display		
	0=No symbol	1=°C	2=°F
D14	Reading polarity for the display		
	0=Both upper & lower display values are +		
	1=Upper -, lower +		
	2=Upper +, lower -		
D15	3=Both upper & lower display values are -		
	Start word		

Battery Replacement

- 1) When the left corner of LCD display shows LBT you will need to replace the battery
- 2) Slide the battery cover away from the instrument and remove the battery
- 3) Install a 9V battery and replace the cover

Notes

Notes

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