

Industrial Heavy Duty Light Meter



BST-LX05

Operating Manual

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1. FEATURES

- * Microprocessor circuit ensure high accuracy, and also and also provides special functions and features.
- * Super large LCD display with contrast adjustment for best viewing angle.
- * Dual function display.
- * Heavy duty & compact case.
- * Records Maximum, Minimum and Average readings.
- * Data hold.
- * Auto power off saves battery life.
- * Operates from 9V battery.
- * Spectrum of photo sensor meets C.I.E..
- * Wide range measurement both for LUX & Foot Candle units.
- * Relative % light measurement.
- * User selectable lighting type (Tungsten, Fluorescent, Daylight or Mercury).
- * Zero adjustment by push button.

2. SPECIFICATIONS

2-1 General Specifications

Circuit	Custom one-chip microprocessor LSI circuit.
Display	13 mm(0.5") Super large LCD display with contrast adjustment for best viewing angle. Dual function display.
Lighting Type Selection	Tungsten/Sun, Fluorescent, Sodium & Mectomy.

Measurement & ranges	LUX	0 - 100,000 LUX, 3 ranges.
	Foot-candle	0 - 10,000 Ft-cd, 3 ranges.
Sensor	The exclusive photo diode & color correction filter, spectrum designed to meet C. I. E.	
Memory Recall	Records Maximum, Minimum and Average readings with RECALL facilities.	
Sample Time	Approx. 0.4 sec.	
Zero Adj.	By push button.	
Power off	Manual off by push button, or Auto shut off after 10 minutes.	
Over Load Indication	"- - - -"	
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F).	
Operating Humidity	Max. 80% RH.	
Power Supply	9V d.c. 006P, MN1604(PP3) or equivalent.	
Power Current	Approx. DC 5.3 mA.	
Weight	335 g/0.77 LB (included batteries)	
Size	Main instrument: 180 x 72 x 32 mm(7.1 x 2.8 x1.3 inch).	
	Sensor probe: 85x55x12 mm(3.2x2.2x0.5 inch).	
Accessories	Instruction manual. Sensor with protective cover.	

2-2 Electrical Specifications (23 ± 5 ° C)

Measurement	Range	Max. In-range Display
LUX	2,000 LUX	0 - 1,999 LUX
	20,000 LUX	2,000 - 19,990 LUX
	100,000 LUX	20,000 - 100,000 LUX
Foot-candle	200 Ft-cd	0 - 186.0 Ft-cd
	2,000 Ft-cd	167 - 1,860 Ft-cd
	10,000 Ft-cd	1,670 - 10,000 Ft-cd

Range	Resolution	Accuracy
2,000 LUX	1 LUX	± (5 % + 2 dgt)
20,000 LUX	10 LUX	Remark : <i>> 50,000 Lux :</i> <i>> 4,650 Fc</i> <i>for refereence only,</i> <i>no specify the accuracy.</i>
100,000 LUX	100 LUX	
200 Ft-cd	0.1 Ft-cd	
2,000 Ft-cd	1 Ft-cd	
10,000 Ft-cd	10 Ft-cd	

Note : Accuracy tested by a standard parallel light tungsten lamp of 2856°K temperature.

* *The above spec. accuracy are tested under the environment RF Field Strength less than 3 V/M & frequency less than the 30 MHz only.*

3. FRONT PANEL DESCRIPTION

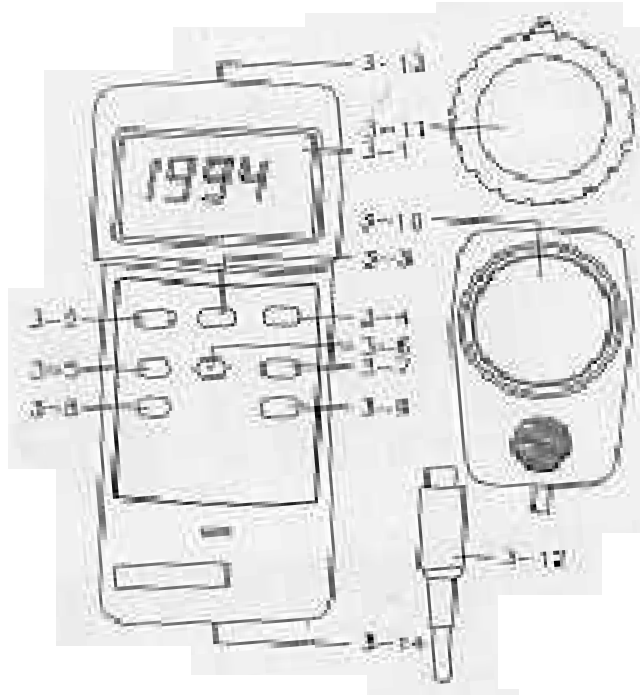


Fig. 1

- | | | | |
|-----|---------------------------|------|-------------------------------|
| 3-1 | Display | 3-7 | Light Source
Select Button |
| 3-2 | Power Off/On
Button | 3-8 | Zero Button |
| 3-3 | Data Hold Button | 3-9 | Range Switch |
| 3-4 | LUX/FC(Ft-cd)
Button | 3-10 | Light Sensor |
| 3-5 | Memory "Record"
Button | 3-11 | Sensor Cover |
| 3-6 | Memory "Call"
Button | 3-12 | Light Sensor Plug |
| | | 3-13 | Light Sensor Input Socket |
| | | 3-14 | Battery Compartment/
Cover |

4. MEASURING PROCEDURE

- (1) Push the "Power Off/On Button"(3-2, Fig. 1) to switch the instrument on.
- (2) Zero Adjust Procedures
 - * Cover the Light Sensor(3-10, Fig. 1) using the Sensor Cover provided (3-11, Fig. 1).
 - * Slide the "Range Switch"(3-9, Fig. 1) to the 2000 LUX position.
 - * Push the "Zero Button"(3-8, Fig. 1), then display will show zero values.
 - * Upon completion, remove the sensor cover.
- (2) Select the desired measuring unit by pressing the "LUX/FC Button"(3-4, Fig. 1). The display will indicate the selected unit of "LUX" or "Ft-cd".
- (3) Determine the lighting type (Tungsten/Sun, Sodium, Fluorescent or Mercury lamp) by pressing the "Light Source Select Button"(3-7, Fig. 1)
 - * The LCD will indicate the selected lighting type using the following symbols :
1 = Tungsten/Sun, 2 = Fluorescent
3 = Sodium, 4 = Mercury
- (4) Select the max. range using the "Range Switch"(3-9, Fig. 1).
 - * If the display shows "- - - -", it indicates an overload condition, select the next higher range.
 - * If the display shows "_ _ _ _", it indicates an out-of-range, select the next lower range.
- (5) Position the Light Sensor(3-10, Fig. 1) directly under the light source.

- (6) * On the 20,000 LUX range, the last digit will be shown on the lower line of LCD display.
- * On the 100,000 LUX range, the last two digits will show on the lower line of LCD display.
 - * For example :
On the 20,000 range, if the display shows

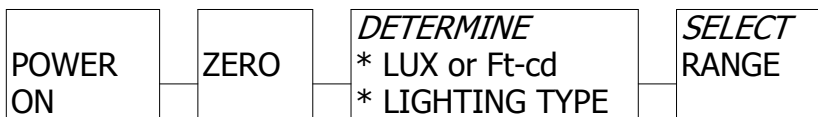
1562	LUX
0	

 that means the real display is 15,620 LUX.
 - * Please note the digits on the lower display are multipliers only (i.e. x10 & x 100 respectively). These digits will not change, and will only indicate 0.
- (7) Data Hold :
- * During measurement, pushing the "Data Hold Button"(3-3, Fig. 1) will hold the display values & the LCD will show the "D.H" symbol.
 - * To cancel the Data Hold function, Press the Data Hold Button, once more.
- (8) Data Record(Max., Min., Average reading)
- * The DATA RECORD function displays the maximum, minimum and average readings. To start the DATA RECORD function, press the "Record Button"(3-5, Fig. 1) once. "REC" marker will appear on the LCD display.
 - * ***With the "REC" symbol indicated on the display***
 - (a) Push the "CALL Button"(3-6, Fig. 1) once, then the "Max" symbol with the maximum values recorded will appear on the LCD display.
 - (b) Push the "CALL Button" once again, the "Min" symbol with the minimum values recorded will appear on the LCD display.

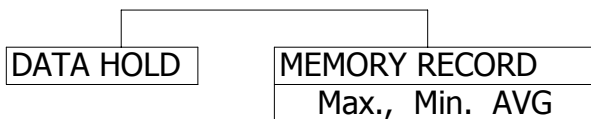
- (c) Push the "CALL Button" once more, the "AVG" symbol with the average values will appear on the LCD display.
- (d) To de-activate the Data Record function, Press the "Record Button" (3-5, Fig. 1) once again. All associated annunciators will disappear from the display.

(9) For quick measurement, follow the procedures shown below :

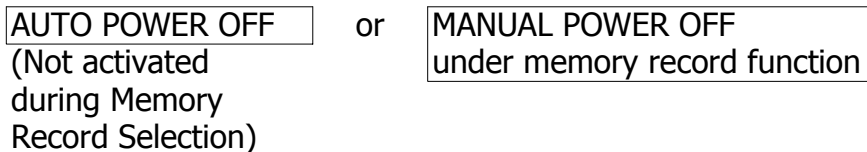
Main procedures :



Optional measuring procedures :



Power management



5. ADDITIONAL FEATURES

The instrument has built-in "Auto Power Shut-off" in order to prolong battery life. The meter will switch off automatically if none of the buttons are pressed within 10 min.

To de-activate this feature, Select the memory record function during measurement, by pressing the "RECORD" button(3-5, fig.1).

6. BATTERY REPLACEMENT

- (1) When the left corner of LCD display show "LBT", it is necessary to replace the battery. However, in-spec measurement may still be made for several hours after low battery indicator appears before the instrument become inaccurate.
- (2) Slide the Battery Cover(3-14, Fig. 1) away from the instrument and remove the battery.
- (3) Install a 9V battery(PP3 type) and replace the cover.