

User's Guide



# EasyView Digital Light Meter

Model EA30



## ***Warranty***

---

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at [www.extech.com](http://www.extech.com) (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

## ***Introduction***

---

Congratulations on your purchase of the Extech EasyView Digital Light Meter which measures light level (illuminance). This device measures up to 40,000 Fc and 400,000 Lux. Careful use of this meter will provide years of reliable service.

## Specifications

| Ranges and Resolution                 | Accuracy  |
|---------------------------------------|---|
| <b>Lux</b>                            |   |
| 40.00, 400.0, 4000, 40.00k, 400.0kLux | $\pm (3\% \text{ Rdg} + 0.5\% \text{ FS})$<br>$\pm(4\% \text{ Rdg} + 10 \text{ digits})$ if $> 10,000 \text{ lux/fc}$ |
| <b>Foot candles</b>                   |   |
| 40.00, 400.0, 4000, 40.00kfc          | $\pm (3\% \text{ Rdg} + 0.5\% \text{ FS})$<br>$\pm(4\% \text{ Rdg} + 10 \text{ digits})$ if $> 10,000 \text{ lux/fc}$ |

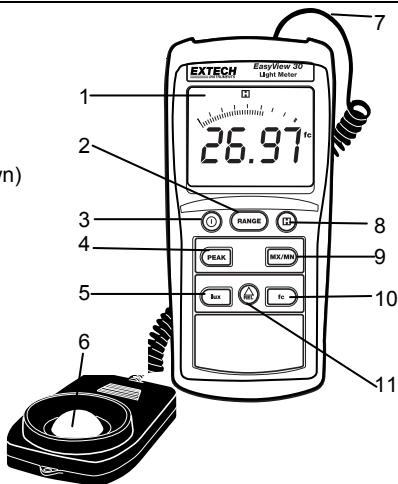
### General Specifications

|                           |   |
|---------------------------|---|
| Display                   | Multi-function 3-3/4 (3999) digit LCD with Bargraph indicator                                 |
| Over range indication     | LCD displays 'OL'   |
| Spectral response         | CIE photopic (CIE human eye response curve)   |
| Spectral accuracy         | CIE $V_{\lambda}$ function ( $f_1$ @ $\square 6\%$ )  |
| Measurement Repeatability | $\pm 2\%$   |
| Temperature coefficient   | $\pm 0.1\%$ per $^{\circ}\text{C}$  |
| Sampling rate             | 13.3 times per second (bargraph); 1.3 times per second (digital display)                      |
| Photo detector            | Silicon photo-diode with spectral response filter   |
| Peak hold                 | Capture light peaks to 100uS  |
| Operating conditions      | Temperature: 32 to 104 $^{\circ}\text{F}$ (0 to 40 $^{\circ}\text{C}$ ); Humidity: < 80% RH   |
| Storage conditions        | Temperature: 14 to 140 $^{\circ}\text{F}$ (-10 to 50 $^{\circ}\text{C}$ ); Humidity: < 80% RH |
| Dimensions                | 5.91 x 2.8 x 1.4" (150 x 72 x 33mm)   |
| Weight                    | Approx. 11.3 oz. (320g) with battery  |
| Low battery indication    | "BT" appears on the LCD   |
| Power supply              | 6 'AAA' cells; Battery life approx 400 hours  |

## Meter Description


1. LCD display
2. Range button
3. Power ON/OFF button
4. Peak hold button
5. Lux select button
6. Photo sensor (lens cover not shown)
7. Sensor input to top of meter
8. Data HOLD button
9. MAX/MIN button
10. fc foot candle select button
11. RELATIVE function button

Note: Battery compartment is located on the rear of the instrument



## Operation

### Turn Power ON or OFF

1. Press the  button to turn power on or off. The meter will perform a short self-test when turned on.

### Light sensor

1. The light sensor is permanently attached to the meter. A coiled cable attaches the sensor to the meter.
2. The white domed light sensor lens is a photo diode and resides underneath the protective cap.
3. The meter automatically zeroes, therefore a zero calibration is not necessary.
4. The back of the sensor has a tripod mounting hole.

### Taking light measurements

1. Remove the protective cap from the sensor and face the white domed light sensor toward the source of light to be monitored. For overhead lighting, the sensor can be placed on a desk or table top.
2. The light being measured must encompass the entire white sensor dome.
3. Read the light level on the LCD. If the light measurement is out of range an "OL" indication will appear on the display. If the 'OL' appears, select another range by pressing the RANGE button.

### Selecting Lux or Foot candle units of measure

Press the **LUX** button to select lux units and the **fc** button to select foot candle units.

### MX MN Function (stores/recalls highest MX and lowest MN readings)

Press the **MX/MN** button once to put the meter in MX mode. The meter will now display only the highest reading (MX is displayed on the upper left-hand portion of the LCD). Press **MX/MN** again to put the meter in MN mode where the meter displays only the lowest reading (MN icon is displayed). Press **MX/MN** again to have the meter continue to record the highest and lowest readings but display only the current reading (both MX and MN icons appear flashing), then use the **MX/MN** button to scroll through the highest and lowest readings. To exit the MX MN mode, press and hold the **MX/MN** button until the MX and MN icons completely disappear.

### Data Hold

Press the **HOLD** button to freeze the displayed reading. The 'H' hold icon will appear on the upper right-hand side of the display. Press the **HOLD** button again to return to normal operation (the 'H' hold icon will disappear). When hold function is enabled the analog bar graph will continue to display level changes.

### Peak Hold

The Peak Hold feature allows the meter to capture light level changes that occur in as little time as 100us. Press the **PEAK** button momentarily and the 'P+' icon will appear on the LCD. The meter can now measure a fast acting light peak and display it on the LCD. To exit the Peak Hold mode, press and hold the **PEAK** button until the 'P+' icon disappears.

NOTE: If the **PEAK** button is pressed *momentarily* rather than pressed and held when exiting the Peak mode, the meter will display 'P-' which is a function reserved for future use and should be ignored.

### Relative mode

Measurements can be displayed as a difference between actual light level and a stored reference value. To store a reading as a reference, press the **REL** button when the desired reference measurement is on the LCD (the triangle icon will appear steady in the upper left-hand corner of the LCD). All subsequent displayed readings will be "relative" to the stored reference value. For example, if the reference value is 100 and the actual light level is 125, the meter will display 25. To view the reference value, press the **REL** button again so that the triangle icon begins to flash. The displayed value will be the reference value. To exit the Relative mode, press and hold the **REL** button until the triangle icon disappears.

## ***Maintenance***

---

### **Cleaning and storage**

1. The white plastic sensor dome should be cleaned with a damp cloth when necessary.
2. Store the meter in an area with moderate temperature and humidity (refer to the operating and storage range in the specifications chart earlier in this manual).

### **Battery Replacement**

When the battery power falls low, the 'BT' symbol will appear on the lower left-hand side of the LCD. Replace the six (6) 1.5 'AAA' batteries by removing the rear (center) battery compartment screw and accessing the battery compartment. Observe polarity when placing the batteries in the compartment. Ensure that the compartment cover is securely fastened when finished.

## ***Calibration and Repair Services***

---

**Extech offers complete repair and calibration services** for all of the products we sell. For periodic calibration, NIST certification or repair of this Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to ensure calibration integrity.



### **Support Hotline (781) 890-7440**

Tech support: Ext. 200; Email: [support@extech.com](mailto:support@extech.com)

Repair>Returns: Ext. 210; Email: [repair@extech.com](mailto:repair@extech.com)

Website: [www.extech.com](http://www.extech.com)

**Copyright © 2002 Extech Instruments Corporation.**

**All rights reserved including the right of reproduction in whole or in part in any form.**

# Appendix

## Typical Light Levels

| Lux         | Foot Candles |                               | Lux          | Foot Candles |                            |
|-------------|--------------|-------------------------------|--------------|--------------|----------------------------|
|             |              | <b>Factories</b>              |              |              | <b>Home</b>                |
| 20-75       | 2-7          | Emergency Stairs, Warehouse   | 100-150      | 10-15        | Washing                    |
| 75-150      | 7-15         | Exit/Entrance Passages        | 150-200      | 15-20        | Recreational Activities    |
| 150-300     | 15-30        | Packing Work                  | 200-300      | 20-30        | Drawing Room, Table        |
| 300-750     | 30-75        | Visual Work: Production Line  | 300-500      | 30-50        | Makeup                     |
| 750-1,500   | 75-150       | Typesetting: Inspection Work  | 500-1,500    | 50-150       | Reading, Study             |
| 1,500-3,000 | 150-300      | Electronic Assembly, Drafting | 1,000-2,000  | 100-200      | Sewing                     |
|             |              | <b>Office</b>                 |              |              | <b>Restaurant</b>          |
| 75-100      | 7-10         | Indoor Emergency Stairs       | 75-150       | 7-15         | Corridor Stairs            |
| 100-200     | 10-20        | Corridor Stairs               | 150-300      | 15-30        | Entrance, Wash Room        |
| 200-750     | 20-75        | Conference, Reception Room    | 300-750      | 30-75        | Cooking Room, Dining Table |
| 750-1,500   | 75-150       | Clerical Work                 | 750-1,500    | 75-150       | Show Window                |
| 1,500-2,000 | 150-2000     | Typing, Drafting              |              |              |                            |
|             |              | <b>Store</b>                  |              |              | <b>Hospital</b>            |
| 75-150      | 7-15         | Indoors                       | 30-75        | 3-7          | Emergency Stairs           |
| 150-200     | 15-20        | Corridor/Stairs               | 75-100       | 7-10         | Stairs                     |
| 200-300     | 20-30        | Reception                     | 100-150      | 10-15        | Sick Room, Warehouse       |
| 300-500     | 30-50        | Display Stand                 | 150-200      | 15-20        | Waiting Room               |
| 500-750     | 50-75        | Elevator                      | 200-750      | 20-75        | Medical Exam Room          |
| 750-1,500   | 75-150       | Show Window, Packing Table    | 750-1,500    | 75-150       | Operating Room             |
| 1,500-3,000 | 150-300      | Storefront, Show Window       | 5,000-10,000 | 500-1000     | Eye Inspection             |

## Spectral Sensitivity

