

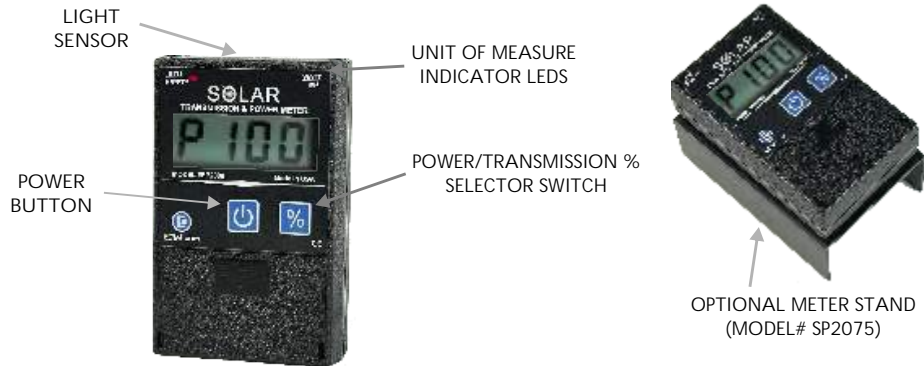
### CALIBRATION

This instrument has been calibrated to detect the total incident solar power of the sun. The largest incident value of solar power is obtained when the end of the meter faces the sun directly. When the end of the meter does not face the sun, the incident solar power is reduced by the cosine curve of the angle to the sun. Make sure the transparent materials being tested are reasonably clean.

This instrument is factory calibrated to a NIST (NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY) traceable thermopile and should require no field adjustment.

### RELATED PRODUCTS FROM EDTM, INC.

#### MODEL# SP2080 SOLAR TRANSMISSION & POWER METER



The SP2080 Solar Transmission & Power Meter is capable of taking SOLAR TRANSMISSION measurements as well as power measurements. You no longer have to calculate the transmission percentages as with the SP1080.

### FEATURES

- Solar Transmission measurements
- Real-time readings continually updated on the display
- Select either power or transmission
- End-mount light sensor
- Auto power-off
- LED confirmation of unit of measure (BTU/HR\*FT<sup>2</sup>) OR (W/M<sup>2</sup>)

### APPLICATIONS

- Convincing sales tool
- Field service assistant
- Illustrate your products solar performance and effectiveness in reducing energy costs
- Identify high performance windows
- Speak to customers in terms they understand: Transmission %

## SP1080 WARRANTY

The manufacturer warrants all models of the SP1080 to be free from defects in material and workmanship under normal use and service as specified within the operator's manual. The manufacturer shall repair or replace the unit within ninety (90) days from the original date of shipment after the unit is returned to the manufacturers factory, prepaid by the user, and the unit is disclosed to the manufacturers satisfaction, to be thus defective. This warranty shall not apply to any unit that has been repaired or altered other than by the manufacturer. The aforementioned provisions do not extend the original warranty period of the unit which has been repaired or replaced by the manufacturer. Batteries are not covered by warranty as well as damage caused by over-heating the device.

The manufacturer assumes no liability for the consequential damages of any kind through the use or misuse of the SP1080 product by the purchaser or others. No other obligations or liabilities are expressed or implied. Any damage or liability claim will be limited to an amount equal to the sale price of the SP1080.

# DIGITAL SOLAR POWER METER

## INCIDENT SOLAR ENERGY

MODEL# SP1080

MADE IN THE USA

### GENERAL DESCRIPTION:

The digital "SOLAR POWER METER" measures the power per unit area of incident solar radiation reaching the meter's sensing area. The meter uses a state of the art light sensor coupled with microprocessor control to achieve an EASY TO READ hand held meter. The device may be used to measure the solar performance of glass, windows, window film or other transparent materials.



### FEATURES:

- CHOICE OF (BTU/HR\*FT<sup>2</sup>) OR (W/M<sup>2</sup>)
- AUTO-POWER-OFF FEATURE TO CONSERVE BATTERY
- MEMBRANE STYLE POWER SWITCH
- DIGITAL TECHNOLOGY
- EXCELLENT RESOLUTION
- MICROPROCESSOR CONTROL
- NO ADJUSTMENTS OR CALIBRATIONS NECESSARY
- END-MOUNTED SENSOR

### KEEP THE COMPETITIVE EDGE WITH PRODUCTS FROM



745 Capital Commons Drive  
Toledo, Ohio 43615 USA  
PHONE: (419) 861-1030 FAX: (419) 861-1031  
WWW.EDTM.COM Email: sales@edtm.com

## METHOD OF OPERATION -- SP1080

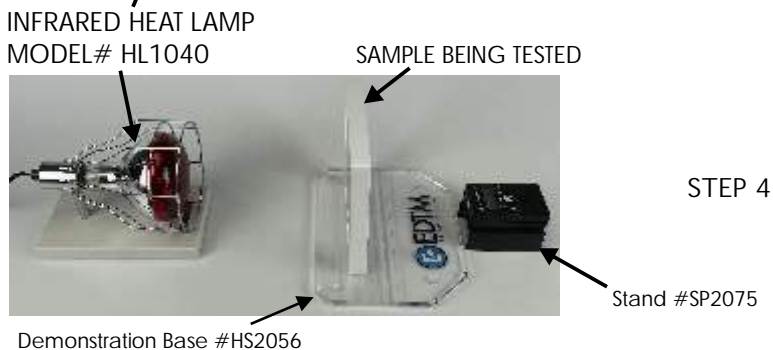
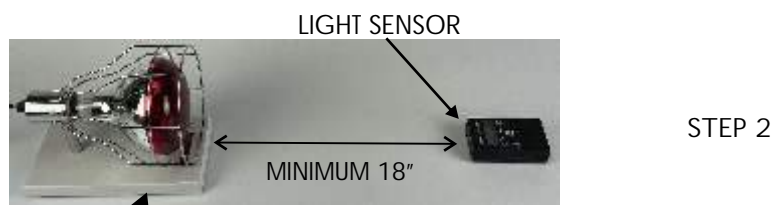
The SP1080 can be used to measure solar power in many applications. Repeated readings can be taken in a given environment to show changes over time. The meter can also be used to compare the solar performance (solar gain) of various transparent mediums. Solar transmission measurements can be obtained by following the procedure below.

To set up a *TABLETOP DEMONSTRATION*, place a light source facing the SP1080. Position the SP1080 flat on the table a minimum of 18" (46 cm) away from the light source with the sensor facing the light source directly. If necessary, place the SP1080 on top of a stand (Model# SP2075) to position the meter in the center of the light beam. To obtain the most accurate results, DO NOT move the light source or the SP1080 during the measurements.

For *DIRECT SUN* measurements, position the SP1080 with the light sensor facing the sun directly (when possible). By placing your window or film samples in front of the sensor one at a time, you can monitor the reduction in solar energy transmitted through each sample. Please note that outdoor conditions are ever-changing. Clouds and environmental conditions can change the incident solar energy quickly.

### STEP-BY-STEP DIRECTIONS

- 1) TURN ON THE SP1080 BY PUSHING THE POWER BUTTON
- 2) POINT THE LIGHT SENSOR (top end of meter) AT THE LIGHT SOURCE  
WARNING: METER SHOULD BE 18" (46 cm) AWAY FROM LIGHT SOURCE
- 3) RECORD THE POWER READING FROM THE DISPLAY
- 4) PLACE TRANSPARENT SAMPLE BETWEEN THE LIGHT SOURCE AND THE SP1080
- 5) RECORD THE POWER READING FROM THE DISPLAY
- 6) REMOVE THE SAMPLE AND CONFIRM YOUR ORIGINAL READING FROM STEP 3
- 7) THE TRANSMISSION PERCENT IS (STEP 5 / STEP 3) \* 100 (I.E. 150/200 = 75%)
- 8) PUSH THE POWER BUTTON AGAIN TO TURN THE METER OFF

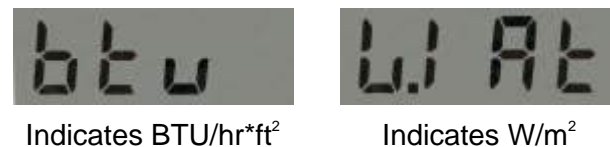


## CHANGING THE UNIT OF MEASURE

The SP1080 accommodates measurements in units of both Watts/Meter<sup>2</sup> and BTU/hour\*foot<sup>2</sup>. At start up, the meter will indicate the current setting on the display (See Figure 1). The meter will retain the previously established unit of measure until it is modified by the user. Therefore you do not have to modify it each time the meter is powered on. Follow the instructions below to change the unit of measure.

- 1) Power the unit on and release the power button.
- 2) Press **AND HOLD** the power button as though you are turning it off.
- 3) The display will go blank as though the instrument is turning off.
- 4) Continue to hold down the power button for 3 seconds.
- 5) The display will briefly show the current setting, and then switch to the new setting.
- 6) When the screen shuts off again release the power button.
- 7) The next time you turn the meter on, it will function in the new unit of measure.

FIGURE 1



### HELPFUL OPERATING TIPS

1. If taking measurements near a heat lamp, do not place the meter too close to the light source. If the end of the meter begins to feel hot to the touch, it is too close to the light source. Extended periods of heat exposure can cause deformation of the filters, resulting in a change in the accuracy of the meter. It is recommended that the heat lamp and meter are separated by at least 18 inches (46 cm).
2. When taking measurements for transmission percentage or comparative tests, it is important that the meter is held in the exact same position for both measurements (when possible). Any change in angle or proximity to your light source can adversely affect the accuracy of your measurements. FOR BEST RESULTS, place the meter on top of a stand (#SP2075). It is best to leave the heat lamp and meter stationary, while sliding the glass sample in between them. This will guarantee the most accurate measurements possible.
3. When performing tests, it is advised to take multiple readings to reduce the amount of error that occurs. Be aware that a changing light source (sun with moving clouds) will affect your measurements.
4. The light sensor is located at the top end of the enclosure. For the greatest accuracy in measurements, this sensor should be directly facing the light source. DO NOT alter the condition of the sensor opening by touching or pushing on the filter. Any modifications or altering of the exterior surface of the white filter WILL affect the calibration of the meter. This area should be kept clean at all times. Compressed air or a lint-free cloth should be used to clean the filter surface if it becomes soiled.
5. Do not attempt to open the enclosure. Opening the enclosure will void the product

### BATTERY REPLACEMENT

The SP1080 is powered by a 9 volt battery. When the battery voltage is getting too low to operate the meter, the display will begin blinking. Once the display begins blinking you will want to replace the battery soon. To replace the battery, turn off the meter. Remove the battery cover near the bottom of the meter and replace with a new battery. Alkaline batteries will provide the longest service, but are not required for this product.