Address:
3944 E Parkside Ln
Phoenix, AZ 85050 USA

Ph: (480) 833-1413
Email: engineering@matrix-solar.com
Web: www.matrix-solar.com

MK 1-G & MK XX SOL-A-METER
OPERATING INSTRUCTIONS

DESCRIPTION

The Mk 1-G/Mk XX Sol-A-Meter is a silicon photovoltaic cell pyranometer with a spectral response from 0.35 microns to 1.15 microns with peak sensitivity at 0.85 microns. It is calibrated for the entire solar spectrum by comparison with a thermopile type radiometer in direct sunlight on clear days. The standard Mk 1-G/Mk XX is designed to operate with 0-100mv (0-10mv available if desired) recorders, meters or other readout devices with minimum impedance of 100 ohms (10 ohms for 10mv instruments).

SPECIFICATIONS

Spectral Response:	0.35 to 1.15 microns
Accuracy:	$\pm$ 5%
Temperature Compensation:	40 to 140 °F.
Full Scale Response Time:	< 1 milli-second
Size:	5” diameter x 2” tall
Weight:	10 ounces (Mk 1-G), 13 ounces (Mk XX)

SITE SELECTION AND INSTALLATION

The instrument should be set on a flat surface as far away as possible from any obstructions. Consider the sun’s track in the sky so as to eliminate obstructions at low solar angles if possible. For the most accurate results, the instrument should be positioned so the bubble level is toward the north when the sensor is located in the Northern Hemisphere, or towards the south if the sensor is located in the Southern Hemisphere. In other words, the level should be away from the side of the sensor that will receive the most sunlight or radiation.

OPERATION

To operate the sensor, connect the black or gray wire to the negative terminal of the readout device and the red, white, or blue wire to the positive terminal. Operation of the sensor is essentially automatic and does not require on-site supervision.

MAINTENANCE

Keep the dome clean in order to maintain the accuracy of the calibration. For instruments calibrated after December1, 1993, a provision has been made for the user to change the desiccant. To change the desiccant, turn the instrument upside down. Use a razor blade to gently cut off the nametag. Remove the plug, which is in the large hole under the nametag farthest from the three level mounting holes. Dig out the sealant and unscrew the plug with a hex wrench. Turn the instrument right side up and gently shake out the desiccant. After removing the old desiccant, refill with new and replace the plug. THE PLUG DOES NOT tighten up. Run the plug in until it is about 1/16th of an inch below the surface of the plate. Reseal completely with 100% Silicone sealant. Replace the nametag with the same sealant. The desiccant should be replaced about once a year or at the VERY FIRST sign of moisture condensing on the inside of the dome.

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