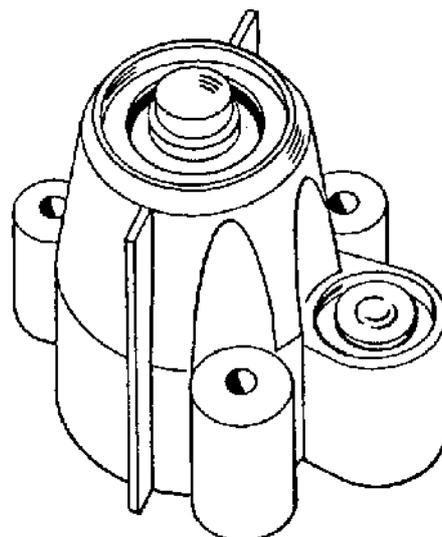


Solar Radiation Sensor SR6450

Description

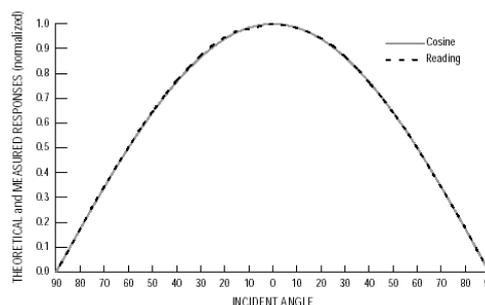
The Solar Radiation Sensor, or solar pyranometer, measures global radiation, the sum at the point of measurement of both the direct and diffuse components of solar irradiance. The sensor's transducer, which converts incident radiation to electrical current, is a silicon photodiode with wide spectral response. From the sensor's output voltage, the console calculates and displays solar irradiance. The outer shell shields the sensor body from thermal radiation and provides an airflow path for convection cooling of the body, minimizing heating of the sensor interior. It includes a cutoff ring for cosine response, a level indicator, and fins to aid in aligning the sensor with the sun's rays. The space between the shield and the body also provides a run-off path for water, greatly reducing the possibility of rain- or irrigation-water entrapment. The diffuser is welded to the body for a weather-tight seal; it provides an excellent cosine response. The transducer is an hermetically-sealed silicon photodiode; the included amplifier converts the transducer current into 0 to +2.5 VDC. Spring-loaded mounting screws, in conjunction with the level indicator, enable rapid and accurate leveling of the sensor. Each sensor is calibrated against a secondary standard which is calibrated periodically against an Eppley Precision Spectral Pyranometer in natural daylight.



Specifications

Operating Temperature:	-40° to +150° F (-40° to +65° C).
Non-operating Temperature:	-50° to +158°F (-45° to +70°C).
Transducer:	Silicon photodiode.
Spectral Response (10% points):	400 to 1100 nanometers.
Cosine Response:	
Percent of Reading	±3% (0° to ±70° incident angle); ±10% (±70° to ±85° incident angle).
Percent of Full Scale	±2% (0° to ±90°).
Supplied Cable Length:	3ft (0.9 m).
Cable Type:	4-conductor, 26 AWG.
Connector:	Modular RJ-11.
I/O Specifications:	
Green wire:	Output (0 to +3VDC); 1.67 mV per W/m ² .
Red & Black wires:	Ground.
Yellow wire:	+3 VDC ±10%; 1mA (typical).
Temperature Coefficient:	+0.067% per °F (+ 0.12% per °C);
Reference temperature	77°F (25°C).
Correction per degree above reference temp	-0.067% of reading per °F (-0.12% per °C).
Correction per degree below reference temp	+0.067% of reading per °F (+0.12% per °C).
Housing Material	UV-resistant ABS plastic.
Dimensions	2" x 2.75" x 2.25" (51 mm x 70 mm x 57 mm).
Weight:	0.5 lbs. (226 g).

Cosine Response



Connection

