Dynalab

SOLAR RADIATION SENSOR MODEL - DWR 8101

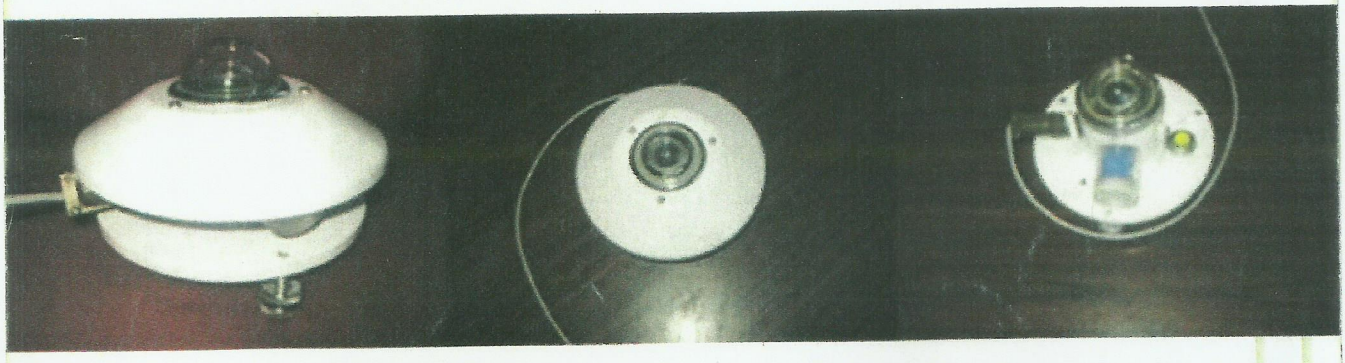
Sensor	: 72 element thermopile.
Spectral range	: 0.3 to 3 μ meters
Sensitivity	: ~ 20 micro volts/W/M ^{2}
Time constant	: < 30 seconds.
Range	: 0 -1500 W/ Sq.m
Output	: 0 to 25 milli volts .

PRINCIPLE OF OPERATION :

The pyranometer measures radiation received on a horizontal surface from both the sun and the sky. When exposed to radiation, the temperature of the blackened horizontal surface rises. Heat is lost from the blackened surface by conduction, convection and radiation. The equilibrium temperature reached is a measure of the radiation. This temperature is measured by a thermopile.

SENSOR :

A thin metallic film blackened with a special paint (which absorbs energy completely in the range of 0.3 to 3 μm) is the sensor. A 72 element copper constantan thermopile is in thermal contact with this thin metal film. Alternate junctions of this thermopile are in thermal contact with the massive body of the instrument at ambient temperature which serves as the cold junction. This way a millivolt output proportional to the radiation received develops across the thermopile. the instrument has a time constant less than 30 seconds.



Ordering information :

Dynalab Pyranometer model **DWR 8101**

Note : These specifications are likely to change without notice.