



Silicon Cell Pyranometer Model 3120



Overview

Rugged and weatherproof, the Model 3120 Silicon Cell Pyranometer measures global solar radiation. When used with the Model 3079 shadow ring, it will measure diffused radiation. This pyranometer is low cost, lightweight, and easy to install. The sensor is a silicon photo voltaic cell which absorbs radiation from 0.35 to 1.15 microns. The silicon cell converts this light energy directly into electrical energy, and the output

voltage (approximately 70 mV/W/m²) is essentially linear with light intensity. Full-scale response time is less than 1 millisecond due to the fact that the instrument is light sensitive, not heat sensitive as the thermopile pyranometers are. If the output is integrated over a daily period, the accuracy of the value is within $\pm 3\%$. Accuracy of instantaneous values is $\pm 5\%$. Temperature compensation is provided from 4° to 60°C.

Features

A pyrex glass dome protects the silicon cell from wind and moisture. Desiccant is included to prevent moisture condensation on the inside of the glass. A 10 foot length of cable is provided. The positive output lead is connected internally to chassis ground, therefore requiring isolation at the mounting hardware. The Model 30318 mast adapter provides the needed isolation.

The Model 3120 is Federal Aviation Administration (FAA) certified, meeting all of the most current regulatory requirements.

SENSORS

SPECIFICATIONS

Parameter	Specification
Spectral Response	0.25–1.15 μm
Sensitivity	$\sim 70 \mu\text{V/W/m}^2$ (50 mV/ly/min)
Sensor (Transducer)	Silicon photovoltaic cell
Impedance	1 Ω
Time Constant	<1 ms
Temperature Compensation	40–140°F
Windshield	Pyrex glass dome
Leveling	Threaded legs and level provided

ORDERING INFORMATION

Part Number	Description
3120	Silicon Cell Pyranometer
30310	Mast, 5 ft with mounting adapter
30318	Mast Adapter with 6' boom for mounting 3120 to Model 8500 tripod tower
30318-A	Mast Adapter without boom for mounting 3120 to 1.05" O.D. mounting stub
T600502	Cable, 2-conductor, 20 AWG shielded

DIMENSIONS & WEIGHTS

Size	5" x 4" (125 x 100 mm)
Weight	1.0 lbs (0.5 kg)
Shipping Dimensions	6" x 6" x 6" (152 mm x 152 mm x 152 mm)
Shipping Weight	1.5 lb (0.7 kg)



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