

Model 5790 Pyranometer Sensor

- Silicon Photovoltaic Detector
- Excellent Spectral Response
- Easy Installation & Mounting



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BENEFITS:

- Weather resistant and durable in long-term outdoor deployments.
- Measures global solar radiation under unobstructed natural daylight conditions.
- Detachable sensor simplifies installation and removal, making it ideal for platforms with complex cabling.
- Uniform sensitivity up to 82° incident angle.

DESCRIPTION:

The Model 5790-00 Pyranometer Sensor is designed for field measurements in energy, agricultural, meteorological, and hydrological applications. It has been used extensively in solar energy studies for site evaluation and monitoring passive system analysis, irrigation scheduling, and other environmental studies.

The 5790-00 features a silicon photo-voltaic detector mounted in a fully cosine-corrected miniature head. It can be mounted in any plane, or hand held without affecting its performance.

For clear, unobstructed daylight conditions, the Model 5790-00 compares favorably within thermopile type pyranometers, but is priced at half the cost. The pyranometer's spectral response does not cover the full range of the solar spectrum, but the error induced is less $\pm 3\%$ under most conditions of natural light.

NOTE: It is recommended the 5790-00 should not be used under vegetation or artificial lights because it has been calibrated for the daylight spectrum.

02-5790-00(D)

Environmental Monitoring Solutions

WEB SITE: www.highsierraelectronics.com E-MAIL: sales@highsierraelectronics.com

Model 5790 Pyranometer Sensor

SPECIFICATIONS:

Range	0 to 1500 W/m ² with converter
Calibration	± 3% in natural daylight conditions, within ± 60° angle of incidence
Sensitivity	Typically 75 µA per 1000 W/m ²
Linearity	Max deviation of 1% up to 3000 W/m ²
Stability	<+ 2% change over a 1 year period
Response Time	1 µs (2 m cable terminated into a 147 Ω load)
Temperature Dependence	± 0.15 per °C maximum
Cosine Correction	Cosine corrected up to 82° angle of incidence
Azimuth	<± 1% error over 360° at 45° elevation
Tilt	No error induced from orientation
Output	0 to 5 VDC with converter
Detector	High stability silicon photovoltaic detector (blue enhanced)
Cable	50 ft (15.24 m) sensor cable, 6 ft (1.83 m) signal cable with 4-pin MS connector
Sensor Housing	Weatherproof anodized aluminum body with acrylic diffuser and stainless steel hardware, O-ring seal on the sensor base
Operating Temperature	-40° to 149° F (-40° to 65° C)
Operating Humidity	0 to 95%, Non-Condensing
Dimensions	0.93 x 1.43 in (2.36 x 3.63 cm) (Dia x H)
Weight	1 oz (28.35 g)
Shipping Weight	2 lbs (0.91 kg)

ORDERING GUIDE:

Model 5790-00	Pyranometer; Includes Sensor, 4005-03 output converter, 6 ft (1.83 m) signal (converter) cable with MS connector, 50 ft (15.24 m) sensor cable, mounting and leveling fixture. <i>Model 5790-02 Mounting Bracket sold separately</i>
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OPTIONS/SPARE PARTS:

Model 5790-01	Pyranometer Sensor Cable, (from Pyranometer to Converter)
Model 5102-00	Signal Cable, 5-conductor 24 AWG (From Converter to Data Collector)
Model 4005-03	Output Converter for Pyranometer; DIN rail (0 to 150 uA in 0 to 5 V out) Included: 6 ft (1.83 m) signal (converter) cable with 4-pin MS connector, Mounting Plate and Hardware.
Model 5790-02	Mast or Pole Mounting Bracket

See www.highsierraelectronics.com for more specification and ordering information.

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