

Specifications

Optical Features

Scalar Irradiance Collector: 1.9 cm (3/4") diameter solid Teflon® sphere optically connected to the main housing by a 2.5 cm aluminum-encased quartz light pipe.

Photodetector: Blue-enhanced high-stability silicon photovoltaic detector with dielectric and absorbing glass filter assembly.

PAR Spectral Response: Equal (better than ±10%) quantum response from 400 nm to 700 nm with response sharply attenuated above 700 nm and below 400 nm. Spectral response-induced errors will cause less than 5% errors in naturally occurring light fields.

Directional Response: Each instrument's directional response is optimized before final calibration. Front-to-side (approximately 85° from head on) response over all angles is equal (± 6%) with response attenuated to 0 (at 95°) by the 20-cm diameter cutoff shield. Individual detector response plots are available as an option.

Optical Features (Cont.)

Sensitivity: When purchased alone, the sensor is calibrated in quanta/(cm²·sec)/volt. Nominal sensitivity is 1 volt = 1x10¹⁷ quanta/(cm²·sec) (slightly less than full sunlight). Noise level is typically less than 1 millivolt, temperature coefficient of the dark signal is less than 10 microvolts/°C, and response temperature coefficient is less than 0.15%/°C.

Electronic Features

Measured Signals: PAR Dynamic Range: 1.4x10⁻⁵ μE/(cm²·sec) to 0.5 μE/(cm²·sec)

Fully calibrated with lamps traceable to NIST, each QSR-2100 sensor contains imbedded calibration factors.

Environmental

Temperature Range: -2°C to 35°C

Calibration

Each QSR-2000 sensor is calibrated using a National Institute of Standards and Technology- (NIST) traceable 1000-watt type FEL Standard of Spectral Irradiance using procedures recommended by NIST. Annual recalibration is strongly recommended.

Mechanical Features

Dimensions:

Diameter: 20.0 cm

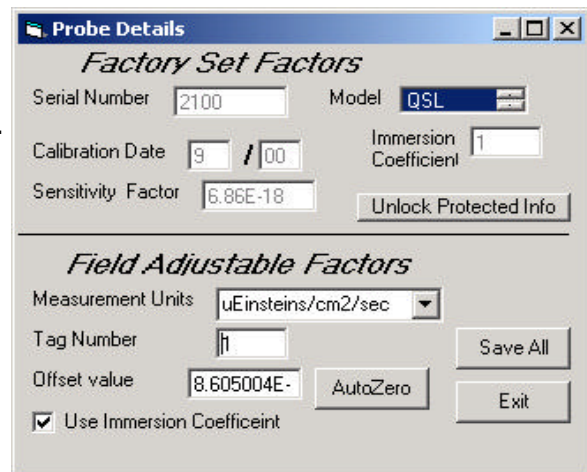
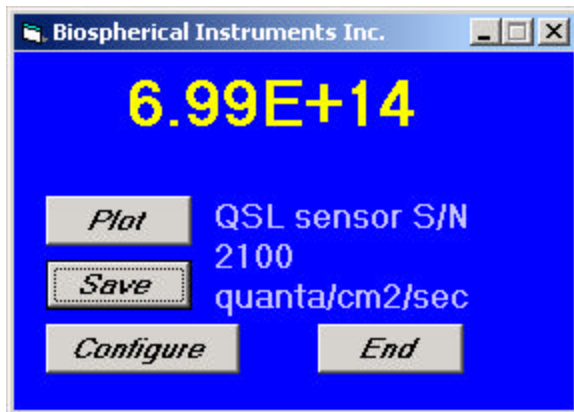
Height: 19.0cm

Weight: 1.1 kg

Housing Materials:

Collector: Solid PTFE sphere, epoxy mounted to a machined aluminum base

Housing: Hard-anodized aluminum



Using BSI's new operating software, the QSR-2100 logs and displays calibrated data in either Quanta or μEinsteins .



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