BPI-IT1

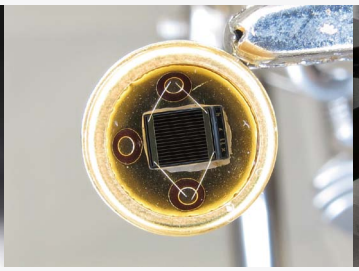
Isotype Cell Sensor

Black Photon Instruments

Technical Specification

IT

- Lattice matched isotype top cell ($Ga_{0.5}In_{0.5}P$), middle cell ($Ga_{0.99}In_{0.01}As$), bottom Cell (Ge).
- Spectral range of isotype cells: Top 375-700 nm, Mid 700-900 nm, Bot 900-1750 nm.
- Two-layer encapsulation for long lifetime and superior stability in the entire operating range -20 °C to +65 °C.
- All cells sealed in hermetic glass/metal enclosure with nitrogen atmosphere.
- Anodized aluminum sensor carrier with easy to clean cover.
- Collimator tubes rejection with slope angle ±2.5°, opening angle ±2.75°, stop angle ±3° (Customizable on request).
- Black Photon instruments custom plasma coating on collimator tubes for highest straylight rejection among the entire solar spectrum.
- Sensors pre-calibrated under AM1.5d ASTM G173 spectrum at 1000 W/m^2
- Fraunhofer ISE Calibration Certificate optional.
- Built in resistor shunts: +/-0.1 % accuracy resistors with 10 ppm/K thermal coefficient.
- Build in shunt resistors: Top 50 Ohm / Mid 50 Ohm / Bot 10 Ohm.
- Temperature measurement: PT100 Sensor integrated in the top cell sensor.
- Electrical connection: industrial grade connectors with 10 m cable.
- Electrical connection box for joining all signals in one cable optional.
- Grounding: The sensor housing and all cables are shielded and can be connected to protective earth (PE) or signal ground.
- Mounting with three individually adjustable spring loaded bearings on every sensor.
- Optics interface: Each sensor housing has a M47x1.0 custom interface and a 1”-1/32 c-mount standard optics interface. The c-mount is compatible with a large number of suppliers of optical parts out of the catalog, e.g. optical filters, baffles or custom collimators.
- 1 year extended warranty against all measurable degradation.



About Black Photon Instruments GmbH:
Black Photon Instruments is a Freiburg (Germany) based company which offers new ways for solar radiation measurements. Our technology is developed in close cooperation with the Fraunhofer Institute for Solar Energy Systems (ISE) in Freiburg and other leading research institutes.

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