

BPI-CSR460

Circum Solar Radiation Sensor
Gen 1.2



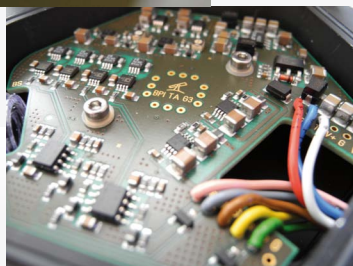
Black Photon
Instruments

CSR
460

Technical Specification

Application: Black Photon's new tracking accuracy sensor measures the amount of circumsolar radiation. These measurements are particularly useful for concentrating solar power plants where circumsolar radiation has a major effect, e.g. CPV modules, CSP power plants with parabolic trough, fresnel mirrors, or heliostat technology.

- Measurement principle: Direct CSR measurement with sun-blocking aperture & reference channel
- Viewing angels (unobstructed view):
 - CSR channel: $\pm 1.25^\circ$ to 2.5°
 - Reference channel: $\pm 2.5^\circ$
- Very sharp cut-off angle : only 0.25° from 0 % to 100 % at beginning and end of unobstructed viewing angle
- Advanced optical design with ultra-low straylight and easy alignment
- Build-in OpAmp based low-noise pre-amplification and signal conditioning of silicon detector
 - Sensor output: 2 analog voltage outputs 0...+10 V (CSR + Reference), symmetrical signal transmission optional
 - Adjustable 3-point spring mounting
 - Outdoor-proof encapsulation and connectors
 - CNC-milled aluminum housing for excellent EMC shielding and high mechanical strength
 - Power supply: 24 V DC (available on request)
 - 10 m outdoor connection cable included, 20 m on request
 - 1 year extended warranty against all kinds measureable degradation of the sensor.



Specification Version 2.15

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.