

## **INFRARED RADIOMETER MODEL 401K**



**The EOI Model 401K Infrared Radiometer** is an energy transfer standard with 1.9 to 5.0 micrometer spectral response and four selectable fields.

The selectable field of view and background compensation features enable transfer of low energy level calibration measurements with a precision limited by the radiometer noise equivalent irradiance.

**The Radiometer Optics, Chopper, Detector and Preamplifier** are contained in a 5 inch diameter cylindrical housing. An eight foot cable connects the housing to the 7 X 19 inch rack panel control and display electronics package.

**The Cassegrain Collection Optics** are focused at infinity and protected by a sapphire window. The indium antimonide detector is cooled by a demand flow cryostat protected by a molecular sieve filter.

**Synchronous** detection of the signal uses the internal chopper. Signal amplitude is displayed on a digital meter on the controller panel with an LED lit if the signal channel is overloaded.

**Panel Control Functions** include range, filter switching, and background offset. Outputs available at the panel are TTL level internal sync, signal before synchronous detection, and a 0 to 10 VDC output proportional to the digital meter reading.

Located on the back plate of the optical housing are the electrical connector, the fitting for high pressure nitrogen, and vents for cooling air for the chopper motor.



### ***The Infrared Radiometer Features:***

- ◆ ***Four Selectable Fields***
- ◆ ***Six Selectable Filters  
(One Long Pass Filter Included)***
- ◆ ***High Sensitivity***
- ◆ ***1.9 to 5.0 Microns Spectral Response***
- ◆ ***Low NEI***
- ◆ ***2 Year Warranty***



## Specifications

Spectral response	1.9 to 5.0 micrometers
NEI	$3 \times 10^{-13}$ W /cm <sup>2</sup> ,500 K, 1 Hz
Dynamic range	10 <sup>5</sup>
Linearity	2%
Stability	±1% in. 8 hours, ±0.05°C
Entrance pupil	1.8 in. (4.6 cm)
Fields of view	Four, selectable, maximum 3.0 mrad
Filter wheel	Six positions available for user supplied filters, One long pass filter included
Reflex viewing	Eyepiece at 90° to optical axis
Display	4.5 in. mirrored scale analog meter
Recorder output	0 - 10 VDC
Sync output	TTL level
(Optical head) sync output	5.0 in. (12.7 cm) diameter, 18.0 in. (45.7 cm) long
Weight	12 lbs. (5.5 kg)
Electronics size	7.0 in. H x 19.0 in. W x 16.0 in. D (18cm) x (48.3.cm) x (40.6.cm)
Weight	20 lbs. (9.1 kg)
Ambient range	20 to 50°C
Power required	220 VAC±5%, 50 Hz, or 110 VAC ±5%, 60 Hz
High pressure gas required	dry nitrogen per MIL-N-6011, Grade A

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Model 401K-103006 JDS

Specifications subject to change without notice.