Rk-3103
Laser Power Meter

- **High Damage Threshold**
- **Fast Response Time**
- **mW Sensitivity**
- **Compact Head Design**

The Rk-3103 Power Meter consists of a thermopile detector assembly ("head") and a large, backlit analog display. The large area detector offers mW sensitivity, UV to far-IR spectral response, and high damage threshold - all in a compact, air-cooled head. The analog meter is designed to provide a fast, smooth display of the optical power, ideal for aligning optics and peaking laser output.

The Rk-3103 is well suited for any mid-power laser. Use it to calibrate ophthalmic and surgical lasers. Monitor industrial welding and drilling lasers, as well as resistor trimming systems. The broadband wavelength response lends itself to applications involving high power arc and flash lamps. The fast system response will be appreciated by technicians working on the factory floor, or while making service calls.

The Rk-3103 can measure the average power of pulsed and chopped light sources as easily as it does the true power of continuous wave sources. The fast system response time insures accurate average power measurement for sources chopped at 5 Hz or greater.

The high damage threshold enables it to measure the average power of a train of short laser pulses without harming the detector surface. If the pulse repetition rate is known the average pulse energy in Joules can be obtained by dividing it into the average power measured by the Rk-3103.

Pulsed or cw, UV to IR, mW to 30W - this versatile instrument can be used for a multitude of measurement requirements. Excimer, Argon, Ruby, Nd:YAG (fundamental and harmonics), Holmium, CO_2 - the list of applications is practically endless.

LaserProbe inc.

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SPECIFICATIONS

Spectral response (see curve)	0.2 - 20 μm
Maximum total power	30 W
Max. average power density	20 kW/cm^2
Noise equivalent power	1 mW
Calibration accuracy	± 5%
Linearity	±0.5%
Response time (10-90%)	< 2 sec
Detector active area dimensions	18 mm (2.5 cm^2)
Full scale ranges	6; 100 mW to 30 W
Head dimensions (dia x depth)	8.5 cm x 4.3 cm (3.4" x 1.7")
Meter dimensions (h x w x d)	9.0 cm x 19.2 cm x 22.1 cm (3.6" x 7.6" x 8.7")
System weight (head and readout)	2.3 kg (5.0 lb)

The Rk-3103 probe uses a thermopile detector with a unique black absorber coating that offers both a broad, flat spectral response and tremendous power handling capability - even focused beams can be measured without damaging the detector. The compact, convection-cooled heat sink assembly features a side-mounted BNC connector, standard ¼-20 mounting hole, and a black anodize finish to reduce unwanted back-reflection.

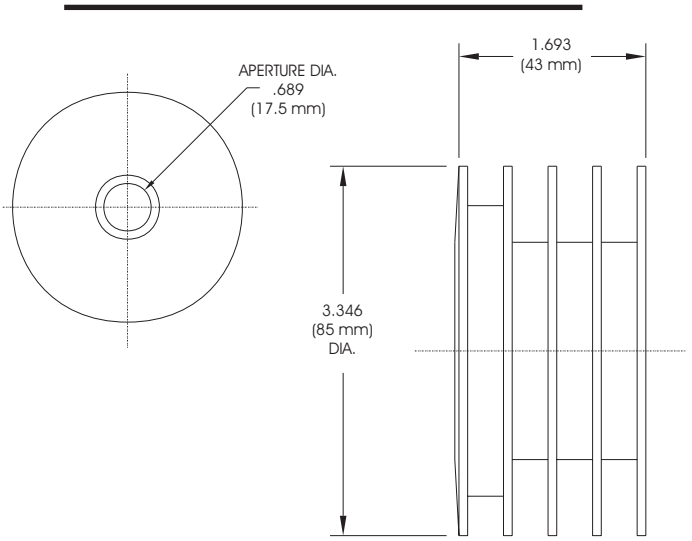
The Rk-3103 Power Meter features an oversized, backlit, dual-scale analog display. System response time is less than 2 seconds, resulting in smooth, real-time needle movement - none of the frustrating lag and overshoot associated with other meters that make it difficult to tweak a laser system.

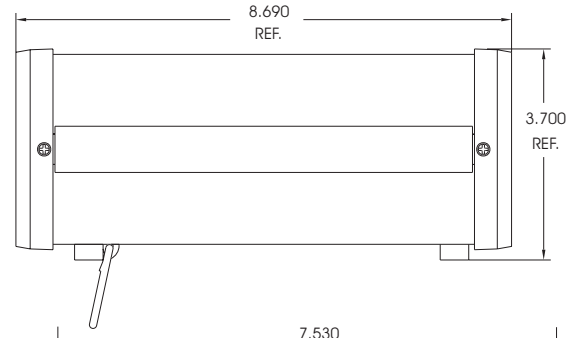
Front panel controls include the Zero Adjust knob and Range Select knob. The Zero Adjust allows for compensation of unwanted background radiation, and to a lesser extent, wavelength responsivity of the detector. The Range Select knob selects the appropriate full scale range for the incident power level.

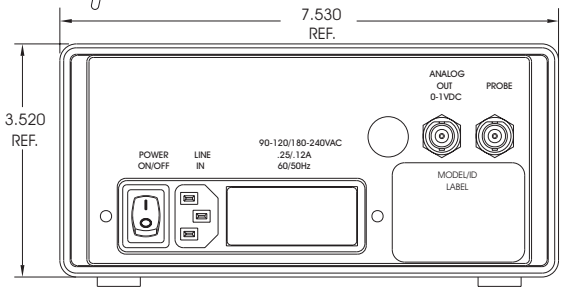
Rear panel features include the universal power entry module (90-240 VAC, 50-60 Hz input), Probe BNC, and Analog Out BNC. The Analog Output is 0-1 VDC, with 1 Volt corresponding to full scale for the selected range. Collapsible feet allow the viewing angle to be optimized to the experimental setup.

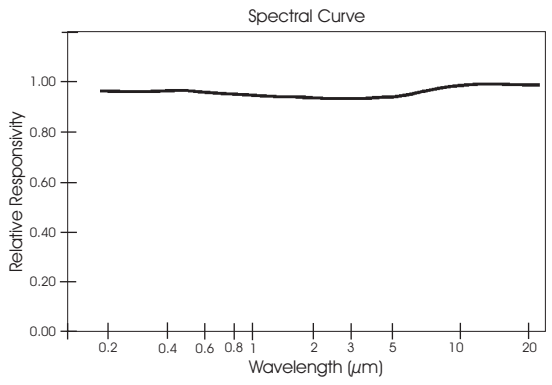
An adjustable head support stand is provided with the Rk-3103. Contact the factory for information regarding other options and accessories.

All Rk-3000 Series instruments are provided with a certificate of calibration showing traceability to the National Institute of Standards and Technology (NIST) and compliance with MIL-45662 and ANSI-Z540 Sections 7-18.









As a result of our ongoing commitment to product improvement specifications are subject to change without notice.

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