

RkP-465 Silicon Power Probe



This UV-Enhanced Silicon Power probe is designed specifically for measuring low intensity, continuous wave or pulsed sources, from the near-UV to the near-IR. Picowatt sensitivity, a low noise preamplifier, and a 1 cm² active area combine for unprecedented versatility and accuracy.

The RkP-465 is suitable for a number of lasers - HeNe, Argon, Nd:YAG, Nd:YLF, Ti:Sapphire, Nitrogen, Excimer, Dye - just to name a few. It works equally well with other light sources such as Xenon lamps, LEDs, and laser diodes.

Bioluminescence, laser induced fluorescence, holography, non-linear optics - these are just a few of the uses for the RkP-465. Mate the appropriate filter to the probe for photopic and scotopic measurements, or isolate the UV-A / UV-B range for germicidal studies. Use the RkP-465 with the battery powered Rm-3700 Universal Radiometer for field testing weapons simulation systems, LIDAR, and target rangefinder/designator systems. Couple it with the Rm-6600 Dual Channel Universal Radiometer and a thermopile power probe to radiometrically measure the transmission of laser goggles, filters, and attenuators over 6 decades of dynamic range.

The compact size and modular design make the RkP-465 ideal for OEM applications as well. Incorporate the detector and preamplifier directly into lasers, detector calibration fixtures, or fire-control systems for real-time diagnostics, output stabilization, and process control.

The RkP-465 is calibrated for absolute power measurement at 950 nm (the wavelength of peak spectral response). The typical wavelength

- **UV-Enhanced Response from 180 nm to 1.1 μ m**
- **pW Sensitivity; fW Resolution**
- **Large, 1.0 cm² Active Area**
- **Windowless Version Optional**

*Laser***Probe** inc.

SPECIFICATIONS

Spectral response (see curve)	200 - 1100 nm
Maximum total power	1 mW
Maximum average power density	5.0 mW/cm ²
Noise equivalent power	1 pW
Calibration accuracy	± 5%
Linearity	± 0.5%
Detector active area dimensions	10 x 10 mm (1.0 cm ²)
Full scale ranges	7; 3 nW - 3 mW
Head dimensions (dia x depth)	6.0 cm x 4.6 cm (2.4" x 1.8")
Preamplifier dimensions (l x w x h)	11.5 cm x 7.7 cm x 5.1 cm (4.5" x 3.0" x 2.0")
Probe weight (head and preamp)	0.5 kg (1.0 lb)

designed gain stages insure excellent linearity and S/N ratio over 6 decades of dynamic range.

There are many options and accessories available for the RkP-400 Series probes, including a precision aperture, light baffle, and the kTA-141 support stand. These options and accessories are detailed in a separate data sheet.

All 400 Series Probes 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.

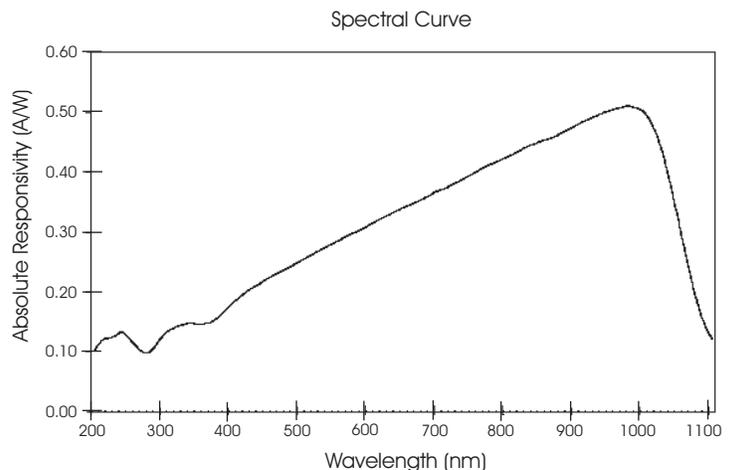
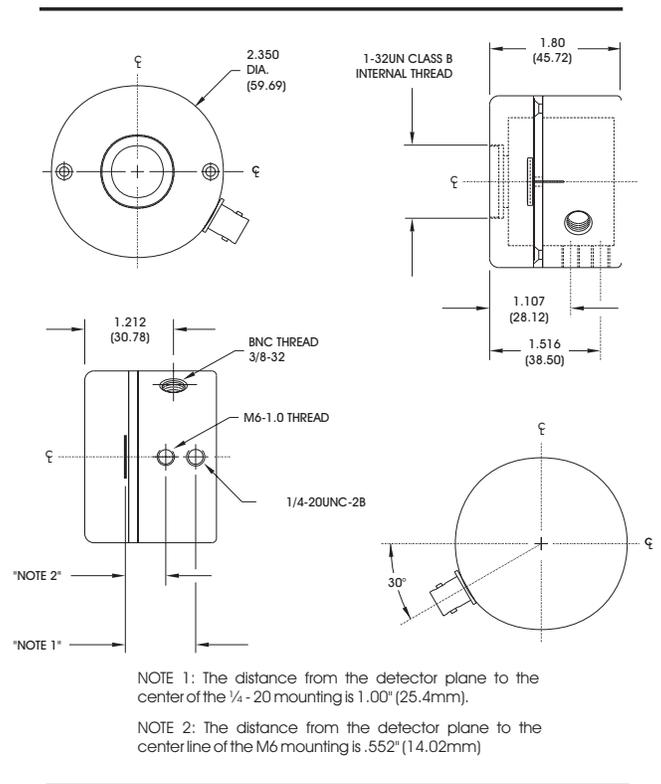
response curve, normalized to 100% relative responsivity at 950 nm, is stored in the preamplifier. When a wavelength other than 950 nm is entered via the "Wavelength Select" function of the Universal Radiometers the appropriate wavelength correction factor is automatically applied, and the true power displayed. Two absolute wavelength calibrations are available, VIS-IR (350-1100 nm) and UV (200-350 nm).

A windowless version is available as well. Removing the window improves the surface uniformity and reduces back-reflection. However, care must be exercised in humid environments as silicon is slightly hygroscopic, thus the detector responsivity may vary over a period of years.

As a member of the 400 Series Probe family, the RkP-465 uses the same detector housing and preamplifier enclosure as all other 400 Series probes. In addition, most 400 Series probes are designed so the detector plane is the same distance from the mounting post plane, allowing for easy interchange of probes in an experiment.

The compact 400 Series detector housing measures 2.35" in diameter by 1.8" deep. The side-mounted BNC connector requires no additional clearance in the beam path. Standard metric and English mounting holes and a 1" (25 mm) filter holder facilitate use, while the black anodized finish reduces unwanted back-reflection.

A separate enclosure houses the preamplifier. Probe parameters, including wavelength correction factors and calibration date, are stored in memory for access by Laser Probe's Universal Radiometers. Carefully



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