Product Overview

Universal Radiometers

These tremendously versatile instruments measure cw power, average power, and true energy per pulse up to 2 kHz, over a wide range of intensities and wavelengths. The single-channel Rm-3700 has a custom LCD with numeric and bargraph displays, statistical analysis of pulse sets, background cancel, autoranging, and a high-speed Rs-232 computer interface. Other Rm-3700 features include audible tuning, reference ratioing, and battery/AC operation. The dual-channel Rm-6600 adds real-time ratioing, a scalable graphical display mode, GPIB computer interface, drop-down function menus with built-in help, and support for the chopped RkP-500 Series probes.

Digital Energy Meters

The Rj-7600 Series Energy Meters measure the true integrated energy of discrete pulses, pJ to J, UV to far-IR, single-shot to 40 Hz. The single-channel Rj-7610 features an easy to read digital display, statistical analysis for sets of 10 or 100 pulses (mean, minimum, and maximum energies, plus standard deviation), GPIB computer interface, and 0-10VDC analog output. Other features include single-shot (capture and hold) mode, selectable correction factor, and internal/external triggering. The Rj-7620 adds a second channel for real-time ratioing.

Digital Power Meters

The Rk-5700 Series Power Meters are distinguished by their ability to perform total power (cw and average), absolute radiometry, and irradiance measurements. Integral synchronous detection (lock-in amplifier / optical chopper) support for the RkP-500 Series Probes provides superior signal-to-noise ratio and sensitivity. The single-channel Rk-5710 features Watts and dBm display modes, selectable internal/external chopping, GPIB computer interface, and a 0-10VDC analog output. Other functions include autoranging, background cancel, and variable averaging time. The dual-channel Rk-5720 accommodates a second probe for real-time ratioing over 12 decades of dynamic range.

Analog Power Meters

The Rk-3000 Series are dedicated power measurement systems consisting of an analog power readout and a compact detector head. The readouts feature an oversized, backlit, dual-scale analog meter, range selector knob, and 0-1VDC analog output. Several different models are available, ranging from the Rk-3260 Silicon based system for low-level, UV to near-IR (0.18 - 1.1 μm) applications to the Thermopile based systems for mid-to-high power (mW to 150W), UV to far-IR applications. All models are designed to have a fast response time with minimal overshoot for easy laser tuning.

Electrically Calibrated Pyroelectric Radiometer

Developed in conjunction with NIST, the Rs-5900 ECPR is a ±1% absolute accuracy radiometric transfer standard for the visible and near-IR (0.25 - 2.0 μm). The RsP-590 Pyroelectric Probe requires no cooling, and maintains ±1% accuracy from 1 μW to 100 mW. Option RsIR extends the ±1% accuracy to > 20 μm, and the RsFO Fiber Optic option configures the ECPR as a transfer standard for fiber optic instrumentation. The ECPR uses an auto-nulling, electrical substitution technique that allows the instrument to be referenced against NIST electrical standards, insuring maximum accuracy and precision. Unlike most electrically calibrated radiometers, there is a direct correlation between electrical and optical heating because the same material serves as both the optical absorber and electrical heating element.

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Energy Probes

Model	Detector	A (cm^2)	λ (μm)	Energy	PRR (Hz)	t_{max}
RjP-400 Series	**Use with: Universal Radiometers**					
RjP-435	Cavity Pyroelectric	1.0	0.2 - 20	1 μJ - 1 J	200	200 μs
RjP-445	Flat Pyroelectric	1.0	0.2 - 20	1 μJ - 1 J	1000	50 μs
RjP-465	Silicon	1.0	0.18 - 1.1	1 pJ - 250 nJ	500	50 μs
RjP-468	Silicon	1.0	0.18 - 1.1	1 pJ - 250 nJ	2000	10 μs
RjP-485	InGaAs	0.2	0.7 - 1.8	1 pJ - 250 nJ	200	200 μs
RjP-495	Germanium	1.3	0.7 - 1.8	10 pJ - 20 μJ	200	200 μs
RjP-600 Series	**Use with: Universal Radiometers**					
RjP-636	Cavity Pyroelectric	1.0	0.2 - 20	1 μJ - 1 J	200	200 μs
RjP-637	Cavity Pyroelectric	1.0	0.2 - 20	1 μJ - 1 J	500	50 μs
RjP-667	Silicon	1.0	0.18 - 1.1	1 pJ - 250 nJ	500	50 μs
RjP-668	Silicon	1.0	0.18 - 1.1	1 pJ - 250 nJ	2000	10 μs
RjP-700 Series	**Use with: Universal Radiometers; Digital Energy Meters**					
RjP-734	Cavity Pyroelectric	5.0	0.2 - 20	10 μJ - 1 J	40	1 ms
RjP-735	Cavity Pyroelectric	1.0	0.2 - 20	1 μJ - 1 J	40	1 ms
RjP-736	Flat Pyroelectric	20.0	0.2 - 20	100 mJ - 10 J	40	1 ms
RjP-765a	Silicon	1.0	0.18 - 1.1	1 pJ - 1 μJ	40	0.5 ms
RjT Series	**Use with: Universal Radiometers; Digital Energy Meters**					
RjT-30P	Vol Abs Thermopile	2.5	0.18 - 6.0	20 mJ - 25 J	single-shot	150 msec

Power Probes

Model	Detector	A (cm^2)	λ (μm)	Power	Comments
RkP-400 Series	**Use with: Universal Radiometers**				
RkP-465	Silicon	1.0	0.18 - 1.1	1 pW - 1 mW	
RkP-485	InGaAs	0.2	0.7 - 1.8	1 pW - 10 mW	
RkP-500 Series	**Use with: Rm-6600 Universal Radiometer; Digital Power Meters**				
RkP-575	Cavity Pyroelectric	1.0	0.2 - 20	1 μW - 10 W	Uses Rk-570C Chopper
RkP-576a	Silicon	1.0	0.18 - 1.1	1 pW - 1 mW	Uses Rk-570C Chopper
RkT-Series	**Use with: Universal Radiometers; Digital Power Meters**				
RkT-10	Surf Abs Thermopile	2.0	0.2 - 20	1 mW - 10 W	Air cooled
RkT-30-CAL	Surf Abs Thermopile	2.5	0.2 - 20	3 mW - 30 W	Air cooled
RkT-150F-CAL	Surf Abs Thermopile	2.5	0.2 - 20	10 mW - 150 W	Fan cooled
RkT-300W-CAL	Surf Abs Thermopile	2.5	0.2 - 20	100 mW - 300 W	Water cooled
RkT-1500W-CAL	Surf Abs Thermopile	2.5	0.2 - 20	0.5 W - 1.5 kW	Water cooled
RkT-5000W-CAL	Surf Abs Thermopile	2.5	0.2 - 20	1 W - 5 kW	Water cooled
RkT-8000W-CAL	Surf Abs Thermopile	2.5	0.2 - 20	2 W - 8 kW	Water cooled
RkT-30P-CAL	Vol Abs Thermopile	2.5	0.18 - 6.0	3 mW - 30 W	Air cooled