

TRAMP Transimpedance Amplifier



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About UDT Instruments

For over 40 years UDT Instruments, a Gamma Scientific company, has been trusted by the world's leading organizations to provide accurate light measurement systems.

UDT Instruments manufactures precision photometers, radiometers, colorimeters and photosensors for optical measurement applications.

UDT Instruments designs the most accurate photometric filters in the world, with an unsurpassed ability to match the human eye's sensitivity to color and light intensity. Each sensor includes a NIST-traceable calibration.

High-performance optometers from UDT Instruments can be combined with our integrating spheres and detectors to create complete photometric and radiometric test systems with industry leading accuracy.

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The UDT Instruments TRAMP is a transimpedance amplifier (current-to-voltage) instrument which provides a low input impedance to accurately measure the short circuit current of phototransducers such as silicon and germanium photodetectors, vacuum photodiodes and photomultiplier tubes.

The TRAMP has been specifically designed as a low cost, lab quality instrument to interface silicon photodiodes to a variety of measurement equipment.

This model provides multiple gain selection and utilizes a common BNC connector for input and output connections for user convenience.

A voltmeter, oscilloscope, chart recorder or any other voltage sensitive instrument may be used to monitor the amplifier output.



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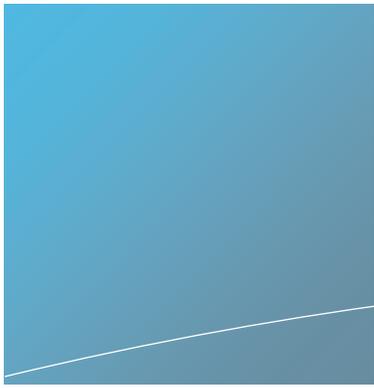


Features

- Very low noise
- Eight decades of gain ranging between 10^3 and 10^{10} (ohms)
- Remote computer control using data acquisition interface (digital input/output, analog output)
- Integral NiCad battery pack with normal and trickle charge modes
- Line powered operation using transformer supplied
- Output scaling to interface to chart recorders and other equipment
- Optimal measurement range indicator

Applications

- Laboratory research
- OEM manufacturers
- Automatic test equipment
- Laser pulse measurement
- Educational
- Detector interface: any type of photo current producing detector in the photovoltaic mode (silicon, germanium, GaAsP, InGaAs)



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TRAMP Specifications	
Gain (volt/ampere)	$10^3 - 10^{10}$
Noise (mV RMS)	0.5
Current Range (amps)	$10^{-2} - 10^{-13}$
Overall Accuracy	$\pm 2\%$
Bandwidth vs. Gain	10^3 @ 160 kHz
	10^4 @ 45 kHz
	10^5 @ 12 kHz
	10^6 @ 12 kHz
	10^7 @ 550 Hz
	10^8 @ 550 Hz
	10^9 @ 5 Hz
	10^{10} @ 5 Hz
Offset Drift vs. Temperature	Less than 50 $\mu\text{V}/^\circ\text{C}$
Input Impedance	0.001 ohms typical
Output Impedance	Less than 1 ohm
Output Voltage	$\pm 5\text{V}$
Power Supply	115/230 VAC
Battery Life	15 hours
Type	10 AA NiCad
Physical Dimensions	2.76"H x 5.91"W x 7.51"L

*Standard Operating Range for Gamma Scientific Instruments- Temperature: Minimum: 0°C (32°F) - Maximum: 35°C (95°F); Relative Humidity (Non-Condensing): Minimum: 20% - Maximum 70%

**The information contained in this data sheet is based on Gamma Scientific's internal evaluation and is subject to change at any time without notice.

***Revised on January 28, 2016