

delta Energy Probes/Electronics : Analog & Digital (USB)



Features

- ✓ **Small, compact energy probe**
- ✓ **High performance, low cost**
- ✓ **Pyroelectric 0.25 to 15 μm or greater**
- ✓ **Si, Ge, InGaAs 0.19 to 1.8 μm**
- ✓ **Detector size 3 mm to 10 mm**
- ✓ **Measure fJ to mJ**
- ✓ **Analog or digital electronics (or both)**
- ✓ **LabView Applications Software and drivers for delta-DPM**
- ✓ **Precise, NIST traceable calibration**

Software Features

- ✓ **Executable LabView Applications Software**
- ✓ **Complete instrument controls (range, trigger, wavelength, etc.)**
- ✓ **Live display in J or J/cm²**
- ✓ **Full Statistics**
- ✓ **Graphic display - strip, histogram, tuning**
- ✓ **Data file collection and analysis**

Small, versatile, energy sensors and electronics

Small and flexible, this series of joulemeter probes are the perfect, economical fit for the lab bench, production test bed or on board a laser. The user simply plugs a delta probe into an analog power supply (delta-APM) to mate with oscilloscopes and lock-in amplifiers, or plugs it into a digital USB-based electronic module (delta-DPM) to create a complete PC based Energy Meter. Powerful LabView software controls range, wavelength, trigger level, graphic displays and much more.

Select from a wide range of standard smart delta probes, including Si, Ge and InGaAs photodiodes or Pyroelectric detectors, covering the spectrum from DUV to FAR IR and even the THz region. Each probe includes an EEPROM that identifies the type of sensor, its voltage response and wavelength correction factors for the digital electronics. You can use multiple energy probes with either the analog or digital electronic module. The SM1 threaded front bezel makes it easy to add windows, optics, fiber optic connectors and much more.

Delta Energy Models

- DPJ-8** Pyroelectric Energy Probe, 8 mm square
- DPJ-8-OB** Black Pyroelectric Energy Probe
- DSJ-5** Silicon Energy Probe, 5 mm diameter
- DSJ-10** Silicon Energy Probe, 10 mm square
- DGJ-5** Germanium Energy Probe, 5 mm diameter
- DIJ-3** InGaAs Energy Probe, 3 mm diameter

Delta Electronic Modules

Delta-APM Analog Power Module

Compatible with Oscilloscopes and Lock In Amplifiers, includes 9V Battery operation or AC Battery Eliminator. Use this module for analog operation at high pulse rep rates to 40,000 pps or greater.

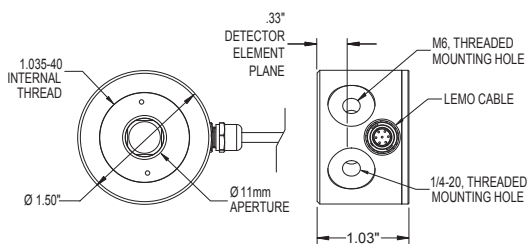
Delta-DPM Digital, USB Power Module

Compatible with PC's, including those running VISTA™. Includes an executable LabView Applications Program that features complete instrument controls, graphic displays, tuning mode and Data Collection and comes with LV Drivers. Use the Analog Output with an Oscilloscope to monitor pulse energy while setting-up the system or to measure at high rep rates.

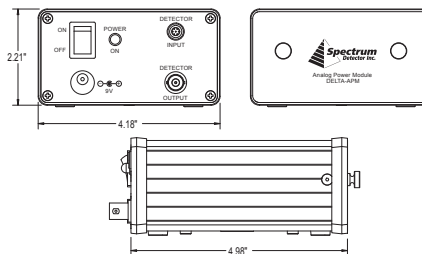
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	DPJ-8	DPJ-8-OB	DSJ-5	DSJ-10	DGJ-5	DIJ-3
Specification (@25°C)						
Detector Type	Pyro (cr)	Pyro (black)	Silicon	Silicon	Germanium	InGaAs
Detector Diameter	8 mm (sq)	8 mm (sq)	5 mm	10 mm	5 mm	3 mm
Responsivity, R _v	1200 V/J	1200 V/J	1 GV/J	20 MV/J	1 GV/J	10 GV/J
Energy Range						
with delta-DPM	2 µJ - 20 mJ	2 µJ - 20 mJ	2 pJ - 20 nJ	100 pJ - 1 µJ	20 pJ - 20 nJ	2 pJ - 2 nJ
with delta-APM (scope)	20 µJ - 20 mJ	20 µJ - 20 mJ	20 pJ - 20 nJ	1 nJ - 1 µJ	0.2 nJ - 20 nJ	20 pJ - 2 nJ
Minimum Energy						
with delta-DPM	50 nJ	50 nJ	0.5 pJ	0.5 pJ	0.5 pJ	5 fJ
with delta-APM (scope)	100 nJ	100 nJ	1 pJ	1 pJ	1 pJ	100 fJ
Max Pulse Width (µsec)	10	10	10	10	10	10
Max Rep Rate (pps)						
with delta-DPM	1500	400	1500	1500	1500	1500
with delta-APM (scope)	>40,000	400	>40,000	>40,000	>40,000	>40,000
Max Energy Density	50 mJ/cm ²	50 mJ/cm ²	5 µJ/cm ²	5 µJ/cm ²	5 µJ/cm ²	5 µJ/cm ²
Max Average Power	0.5 W	0.5 W	1 mW/cm ²	1 mW/cm ²	1 mW/cm ²	1 mW/cm ²
Spectral Range (µm)	0.25 - 15	0.25 - 15	0.19 - 1.1	0.19 - 1.1	1.0 - 1.7	0.9 - 1.6

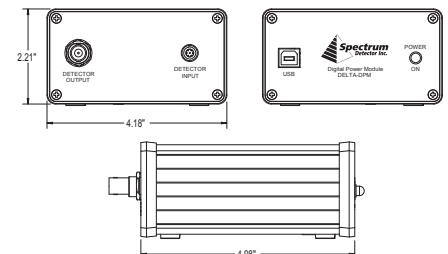
delta Radiometer Probes



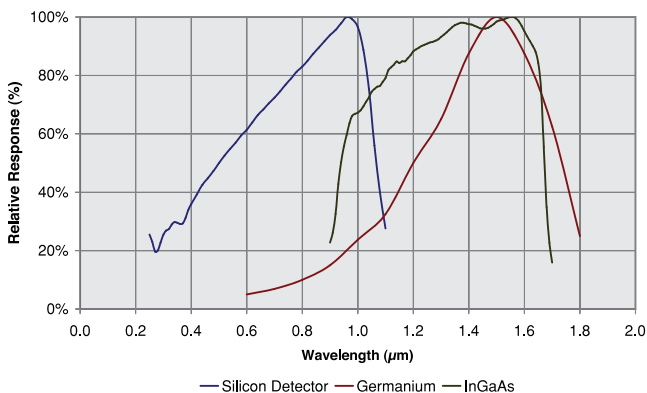
delta - APM Analog Power Module



delta - DPM Digital Power Module



Relative Spectral Response:



Spectral Absorption of Pyroelectric Coatings:

