

IS50

Integrating sphere detector for laser energy measurement up to 1 kW

New product



KEY FEATURES

- **CUSTOM-BUILT**
Contact us with your requirements for a version tailored to your needs
- **WIDE ENERGY RANGE**
Very low noise level = wide energy range with just one device
- **HIGH AVERAGE POWER**
The water-cooled joulemeters can handle high average powers, up to 1000 W.
- **RESISTANT COATING**
Our proprietary coating is designed to be strong. Its damage thresholds are orders of magnitude higher than any other "white" coatings on the market.
- **PRECISE CALIBRATION**
The IS detectors have a NIST-traceable calibration for the entire calibrated spectral range.

OUTPUT OPTIONS

- **SMART DB15 CONNECTOR**
Contains all the calibration data
- **ANALOG OUTPUT**
When used with APM (D) analog power supply
- **integra ALL-IN-ONE-METER**
Connects directly to a PC
Three models available:
 - USB output (-INT)
 - RS-232 output (-IDR)
 - USB with external trigger (-INE)

COMPATIBLE DISPLAYS & PC INTERFACES



MAESTRO



U-LINK



M-LINK



S-LINK

ACCESSORIES



Stand with delrin post



DB15 to BNC adaptor



Pelican carrying case



Fiber adaptors & connectors
(FC, ST or SMA)



APM (D)
analog power supply


IS50

Specifications

CE NIST*
Traceable

*Also traceable to NRC-CNRC



IS50A-1KW-RMT	
MAX MEASURABLE ENERGY ^a	1 J, can be higher for low repetition rates
MAX REPETITION FREQUENCY	1000 Hz
EFFECTIVE APERTURE	50 mm Ø
COOLING METHOD	Water
MEASUREMENT CAPABILITY	
Spectral range	0.19 – 2.5 µm
Calibrated spectral range	532 nm, 1064 nm, and 1070 nm, other wavelengths available on request
Maximum measurable energy 1064 nm, 7 ns	1 J, can be higher for low repetition rates
Noise equivalent energy ^b	< 1 mJ
Max repetition frequency	1000 Hz
Maximum pulse width (typical)	10 µs
Maximum divergence	10° (half-angle)
Maximum incidence angle	± 25° for beam diameter < Ø 12mm ± 5° for beam diameter > Ø 12mm
Calibration uncertainty ^c	± 4 %
Back reflections	12 %, concentrated in a cone with 15 degrees half-angle
Repeatability	< ± 0.5 %
DAMAGE THRESHOLDS	
Maximum average power	1000 W
Maximum energy density 532 nm and 1064 nm, 7 ns	400 mJ/cm²
Maximum average power density ^d	400 mJ/cm²
PHYSICAL CHARACTERISTICS	
Effective aperture	50 mm Ø
Mounting thread	SM2
Sphere inner diameter	100 mm Ø
Sensor	Pyroelectric
Dimensions	127H x 140W x 115D mm
Weight	4 kg
ORDERING INFORMATION	
Available output options	DB15, USB or RS-232
Compatible stand	STAND-D-443
Product page	

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- a. Not exceeding maximum average power. Increasing pulse width increases the maximum measurable energy.
b. Nominal value, actual value depends on electrical noise in the measurement system.
c. Excludes non-linearities.
d. At 1064 nm.

Specifications are subject to change without notice