



IS50A-1KW-RSI-INT-D0

Water-cooled integrating sphere detector for laser power measurement up to 1000 W.



PRODUCT FAMILY KEY FEATURES

FASTEST RESPONSE

With their silicon sensors, the IS detectors are as fast as photodiodes.

HIGH AVERAGE POWER

Two sizes are available, both with high average power capabilities:

- 12 mm aperture for up to 9 W of continuous power
- 50 mm aperture for up to 1000 W of continuous power

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 their entire calibrated spectral range. Temperature compensation completes the calibration to give you the most accurate and stable measurements.

CHOICE OF OUTPUT

The IS detectors are available with two output options:

- INTEGRA with USB output (-INT)
- INTEGRA with RS-232 output (-IDR)

AWARD-WINNING TECHNOLOGY

The laser power detectors in the IS series were recognized among the best solutions on the market by an esteemed and experienced panel of judges from the optics and photonics community at the 2022 Laser Focus World Innovators Awards.



The Laser Institute of America awarded Gentec-EO the William M. Steen Award for top idea of the year as adjudicated by a prize giving panel for significant developments in laser material processing.



COMPATIBLE STAND

[STAND-S-443-C](#)

SPECIFICATIONS

MEASUREMENT CAPABILITIES

Maximum average power (continuous) ¹	1000 W
Noise equivalent power ²	10 μ W
Spectral range	340 - 1100 nm



Typical rise time	0.2 s
Linearity with power	±1 %
Sphere inner diameter	100 mm Ø
Maximum incidence angle	± 25° for beam diameter < 12mm, ± 5° for beam diameter > 12mm
Maximum divergence	10° (half-angle)
Power calibration uncertainty	±5.0 % (405 - 499 nm) ±3.5 % (500 - 1069 nm) ±2.5 % (1070 nm)
Calibrated spectral range	405 - 1070 nm
Back reflections	12 %, concentrated in a cone with 15 degrees half-angle

1. Up to 1500 W for short exposure. See user manual for maximum power without water cooling.
2. At 1070 nm. Nominal value. Actual value depends on environmental electromagnetic interference and wavelength.

DAMAGE THRESHOLDS

Maximum average power density ¹	5 kW/cm²
Maximum energy density ²	400 mJ/cm²

1. At 1064 - 1070 nm, CW. May vary with wavelength and average power.
2. At 1064 - 1070 nm, 7 ns. May vary with wavelength and pulse width.

PHYSICAL CHARACTERISTICS

Cooling	Water
Aperture diameter	50 mm
Dimensions	127H x 140W x 115D mm
Weight	4 kg

ORDERING INFORMATION

IS50A-1KW-RSi-INT-D0	205483
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IS50A-1KW-RSi-IDR-D0	205484

Specifications are subject to change without notice. Refer to the user manual for complete specifications.

INTERESTED IN THIS PRODUCT?

GET A QUOTE

Find your local sales representative at gentec-eo.com/contact-us