



# YAG/Harmonics and IR Sensors

## Very High Damage Threshold, Large Area, Laser Energy Sensors Optimized for Nd:YAG, Erbium, Ruby, and Holmium Lasers

The YAG and IR EnergyMax laser energy sensors are designed for use with very high energy/peak power lasers operating at low repetition rates, such as those based on Nd:YAG, Erbium, and Ho:YAG. The J-50MB-YAG sensors can operate with laser beams up to 35 mm in diameter, and can work at 1064 nm, 532 nm, 355 nm, and 266 nm without the need to change diffusers or any other accessories. The J-50MB-IR sensor is optimized for Erbium lasers at 2940 nm.

These sensors are compatible with Coherent LabMax-Pro SSIM, LabMax-TOP, FieldMax-TOP, and FieldMaxII-P meters. USB and RS-232 enabled models are also available.

### FEATURES

- High damage resistance for lasers with high pulse energy and high peak power at low repetition rates
- Operate over the 266 nm to 3  $\mu$ m range
- Enable pulse energy measurements from 2.4 mJ to 3 J
- Measure 10 Hz to 300 Hz repetition rate

### APPLICATIONS

- Medical
- Scientific
- Industrial



SPECIFICATIONS	J-50MB-YAG	J-50MB-YAG-1528	J-50MB-YAG-1535	J-50MB-YAG-1561	J-50MB-IR	J-25MB-IR
Energy Range	1.5 mJ to 3 J	1.5 mJ to 3 J	12 mJ to 15 J	50 μJ to 100 mJ	1.0 mJ to 3 J	1.5 mJ to 3 J
Noise Equivalent Energy (μJ)	<50				<100	<50
Wavelength Range (μm)	0.266 to 2.1				0.5 to 3.0	0.532 to 2.1
Maximum Beam Size (mm)	35				30	12.5
Maximum Average Power <sup>1</sup> (W)	20				15	20
Maximum Pulse Width	340 μs	57 μs	2 ms <sup>3</sup>	340 μs	1000	860
Maximum Repetition Rate (pps)	50	300	10	50	30	20
Maximum Energy Density (J/cm <sup>2</sup> )	14.0 (at 1064 nm, 10 ns) 2.8 (at 532 nm, 10 ns) 0.75 (at 355 nm, 10 ns) 1.0 (at 266 nm, 10 ns)				100 (at 2940 nm, 100 μs)	5.0 (at 1064 nm, 10 ns)
Detector Coating	MaxBlack					
Diffuser	YAG				IR	
Calibration Wavelength (nm)	1064				1064, 2940	1064
Calibration Uncertainty (%) (k=2)	±2				±2 (at 1064 nm) ±3 (at 2940 nm)	±2
Energy Linearity (%)	±3				±3.5	±3
Cable Length <sup>2</sup> (m)	3				2.5	
Cable Type	J DB-25					
Part Number	1110744 <sup>4</sup>	1144701	1151431	1174756	1155722	1110577

1 Extend average power range with optional heat sink.

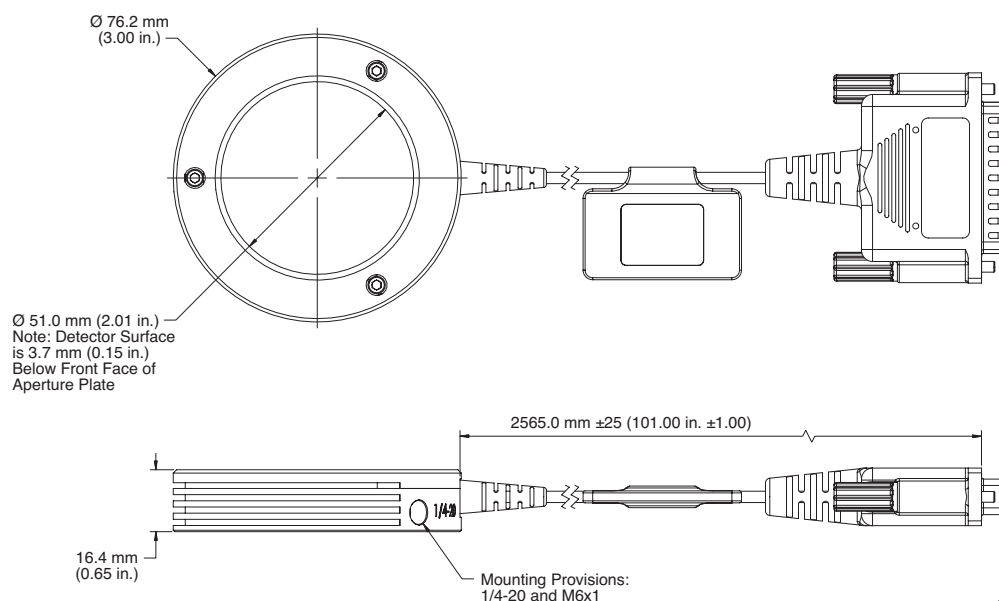
2 Cable lengths up to 10m possible. Contact factory.

3 Pulsewidths up to 5 ms can be measured with an additional  $\pm 1\%$  uncertainty.

4 1 Day Ship program: eligible for next business day shipment.

## MECHANICAL SPECIFICATIONS

### J-50MB-YAG and -IR

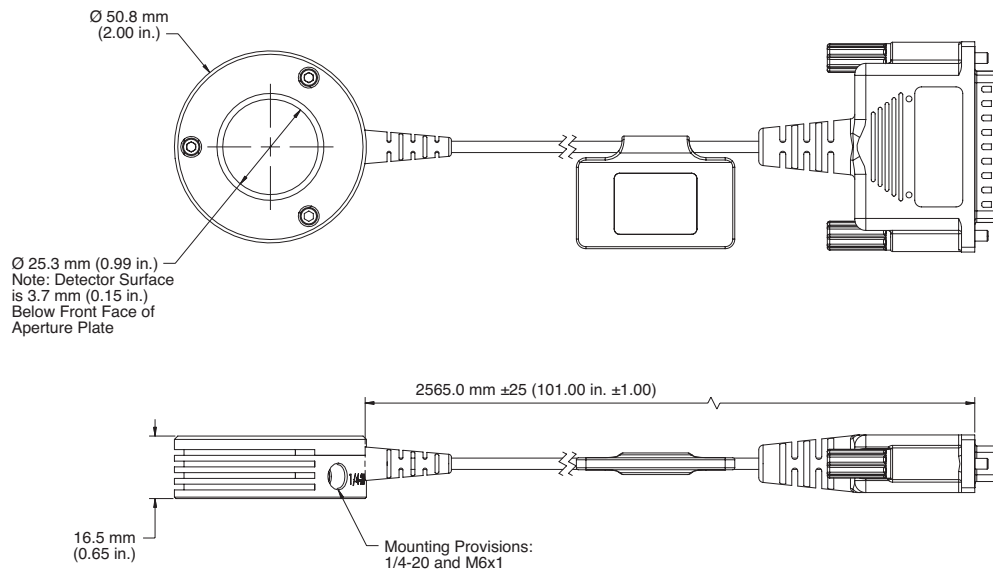




## YAG/Harmonics and IR Sensors Datasheet

### MECHANICAL SPECIFICATIONS

#### J-25MB-IR



Coherent, Inc.,  
5100 Patrick Henry Drive Santa Clara, CA 95054  
p. (800) 527-3786 | (408) 764-4983  
f. (408) 764-4646

[tech.sales@coherent.com](mailto:tech.sales@coherent.com) [www.coherent.com](http://www.coherent.com)

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all YAG/Harmonics and IR Sensors. For full details of this warranty coverage, please refer to the Service section at [www.coherent.com](http://www.coherent.com) or contact your local Sales or Service Representative. MC-028-21-0M0122Rev.A Copyright ©2022 Coherent, Inc.