



# 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 have USB and RS-232 interfaces for use with a PC or industrial controller. DB25 models are also available for use with stand-alone energy meters.

### FEATURES

- USB connectivity
- 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

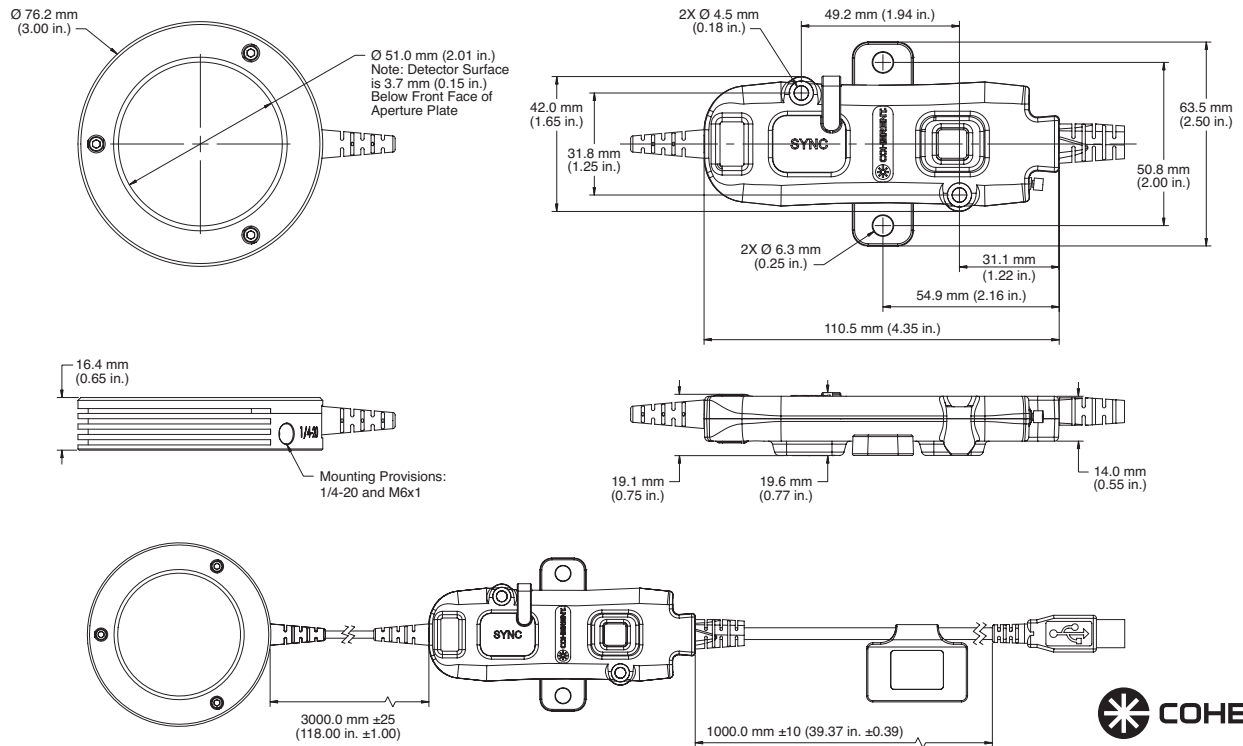


SPECIFICATIONS	J-50MB-YAG	J-50MB-YAG-1528	J-50MB-YAG-1535	J-50MB-IR
Energy Range	2.4 mJ to 3 J	2.4 mJ to 3 J	12 mJ to 15 J	3.2 mJ to 3 J
Noise Equivalent Energy (μJ)	<240		<320	
Wavelength Range (μm)	0.266 to 2.1		0.5 to 3.0	
Maximum Beam Size (mm)	35		30	
Maximum Average Power <sup>1</sup> (W)	20		15	
Maximum Pulse Width	340 μs	57 μs	2 ms <sup>2</sup>	1000 μs
Maximum Repetition Rate (pps)	50	300	10	30
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)	
Detector Coating	MaxBlack			
Diffuser	YAG		IR	
Calibration Wavelength (nm)	1064		1064, 2940	
Calibration Uncertainty (%) (k=2)	±2		±2 (at 1064 nm) ±3 (at 2940 nm)	
Energy Linearity (%)	±3		±3.5	
Cable Length (m)	3			
Cable Type	USB and RS			
Part Number				
USB	1191437 <sup>3</sup>	1191439	1191438	1191440
RS	1191430	-	1219962	-

1 Extend average power range with optional heat sink. See page 100.  
 2 Pulsewidths up to 5 ms can be measured with an additional ±1% uncertainty.  
 3 1 Day Ship program: eligible for next business day shipment.

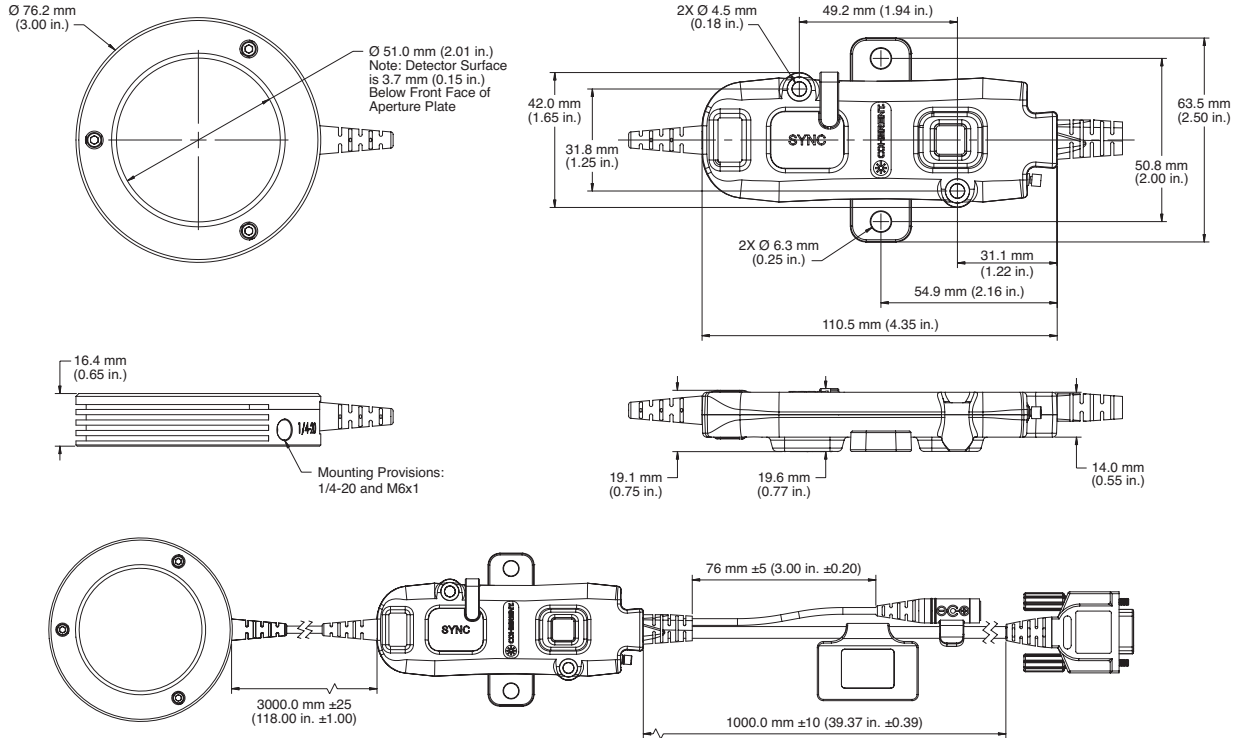
**MECHANICAL SPECIFICATIONS**

**J-50MB-YAG and -IR USB**



**MECHANICAL SPECIFICATIONS**

**J-50MB-YAG and -IR RS-232**



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)

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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-029-21-0M0122Rev.A Copyright ©2022 Coherent, Inc.