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 µm range
- Enable pulse energy measurements from 2.4 mJ to 3 J
- Measure 10 Hz to 300 Hz repetition rate

APPLICATIONS

- Medical
- Scientific
- Industrial

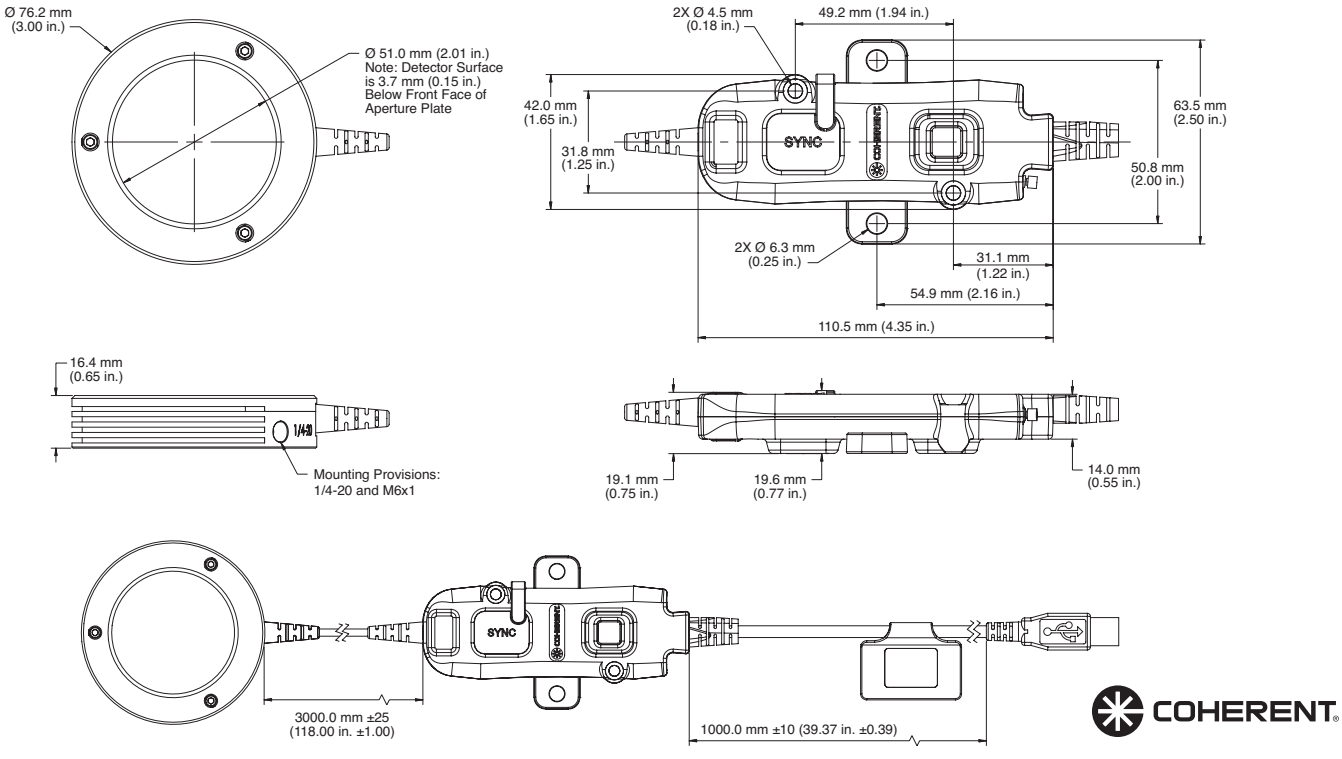
COHERENT®
Superior Reliability & Performance

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[1] (W)	20			15
Maximum Pulse Width	340 µs	57 µs	2 ms[2]	1000 µs
Maximum Repetition Rate (pps)	50	300	10	30
Maximum Energy Density (J/cm^2)	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 RS	 1191437[3] 1191430	 1191439 –	 1191438 1219962	 1191440 –

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.

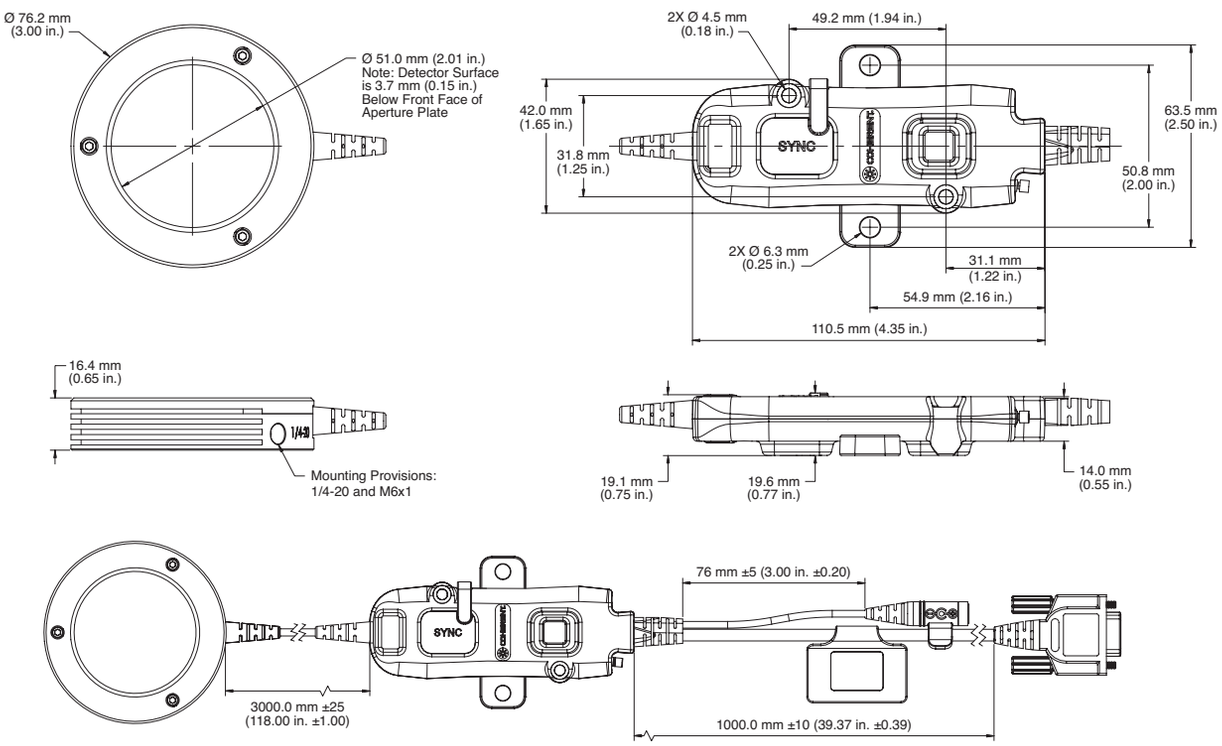
MECHANICAL SPECIFICATIONS

J-50MB-YAG and -IR USB



MECHANICAL SPECIFICATIONS

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



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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 **www.coherent.com**