



# Excimer Laser EnergyMax Sensors

## Energy Range 50 $\mu$ J to 1 J

Coherent Excimer Laser EnergyMax sensors are specifically optimized for use with ArF lasers operating at 193 nm and with KrF lasers at 248 nm. Excimer Laser EnergyMax Series sensors feature high accuracy and large active area (up to 50 mm), and utilize a novel coating that delivers superior long-term damage resistance.

The Excimer Laser EnergyMax Series comprises four different models, two that are optimized for operation at 193 nm and two that are intended for 248 nm (although all models are capable of producing accurate measurements throughout the UV, visible and near IR). These sensors utilize our MaxUV coating, which delivers high damage threshold at deep UV wavelengths, as well as excellent resistance to long-term UV exposure, and enables operation at repetition rates of up to 400 Hz.

### FEATURES

- Unique MaxUV coating delivers increased damage threshold, long term UV exposure resistance and high repetition rate operation
- Operate over the 190 nm to 2.1  $\mu$ m range
- Enable pulse energy measurements from 50  $\mu$ J to 1 J
- Measure single shot to 200 Hz repetition rate

### APPLICATIONS

- Medical
- Scientific
- Industrial
- Excimer Laser Applications



SPECIFICATIONS	J-50MUV-248 w/o Diffuser	J-50MUV-248 w/ Diffuser	J-50MUV-193 w/o Diffuser	J-50MUV-193 w/ Diffuser
Energy Range	500 $\mu$ J to 1 J	500 $\mu$ J to 1 J	125 $\mu$ J to 250 mJ	125 $\mu$ J to 250 mJ
Noise Equivalent Energy ( $\mu$ J)	<16	<16	<4	<4
Wavelength Range ( $\mu$ m)	0.19 to 2.1	0.19 to 0.266	0.19 to 2.1	0.19 to 0.266
Active Area Diameter (mm)	50	50	50	50
Max. Average Power <sup>1</sup> (W)	10	15	10	18
Max. Pulse Width ( $\mu$ s)	86	86	86	86
Max. Rep. Rate (pps)	200	200	200	200
Max. Energy Density	260 (at 248 nm, 10 ns)	520 (at 248 nm, 10 ns)	200 (at 193 nm, 10 ns)	400 (at 193 nm, 10 ns)
Detector Coating	MaxUV			
Diffuser	No	DUV	No	DUV
Calibration Wavelength (nm)	248	248	193	193
Calibration Uncertainty (%) (k=2)	$\pm 3$			
Energy Linearity (%)	$\pm 3$			
Cable Length <sup>2</sup> (m)	2.5			
Cable Type	J DB-25			
Part Number	1146243	1110572 <sup>3</sup>	1146237	1110575

SPECIFICATIONS	J-25MUV-248 w/o Diffuser	J-25MUV-193 w/o Diffuser
Energy Range	125 $\mu$ J to 250 mJ	50 $\mu$ J to 100 mJ
Noise Equivalent Energy ( $\mu$ J)	<4	<2
Wavelength Range ( $\mu$ m)	0.19 to 2.1	0.19 to 2.1
Active Area Diameter (mm)	25	25
Max. Average Power <sup>1</sup> (W)	5	5
Max. Pulse Width ( $\mu$ s)	43	43
Max. Rep. Rate (pps)	500	500
Max. Energy Density	260 (at 248 nm, 10 ns)	200 (at 193 nm, 10 ns)
Detector Coating		
Diffuser	No	No
Calibration Wavelength (nm)	248	193
Calibration Uncertainty (%) (k=2)	$\pm 3$	
Energy Linearity (%)	$\pm 3$	
Cable Length <sup>2</sup> (m)	2.5	
Cable Type	J DB-25	
Part Number	1110745 <sup>3</sup>	1110741

<sup>1</sup> Extend average power range with optional heat sink.

<sup>2</sup> Cable lengths up to 10 m possible. Contact factory.

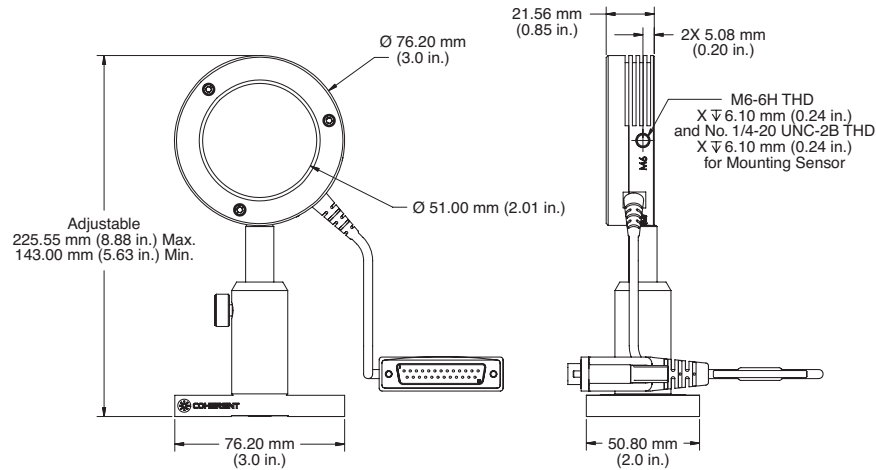
<sup>3</sup> 1 Day Ship program: eligible for next business day shipment.



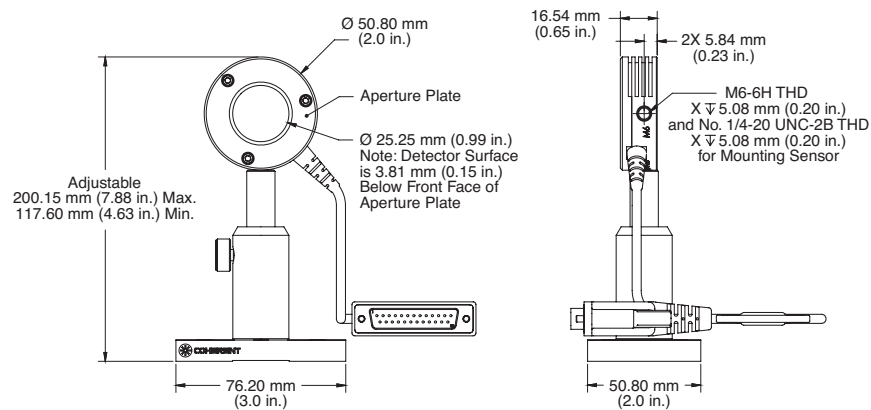
## Excimer Laser EnergyMax Sensors Datasheet

### MECHANICAL SPECIFICATIONS

#### J-50MUV-248 and -193



#### J-25MUV-248 and -193



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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 EnergyMax 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.  
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