

# LabMax-Pro SSIM

## Laser Power and Energy Meter

The LabMax-Pro represents the next generation of Coherent's groundbreaking LabMax line. This power meter combines the power and versatility of the LabMax, with two new higher speed sampling modes when used with PowerMax-Pro technology (Patent Pending). High speed mode increases the continuous sampling rate to 20 kHz, enabling analysis of laser pulse trains common in medical and micro welding applications. Snapshot mode provides burst sampling at a rate of 625 kHz, enabling users to view the rise time and pulse shape, while integrating the energy of modulated lasers which are common in various commercial cutting and drilling applications.

High speed sampling mode can improve processes in numerous applications. For example, it has also been used to speed up diode testing with faster LIV curve sampling combined with higher sampling resolution.

In the traditional 10 Hz sampling mode, PowerMax-Pro sensors provide an instant power reading, much like a photodiode but at very high powers. Legacy thermopiles and optical sensors are also compatible with the 10 Hz sampling mode, just like in past meters.

The product includes a new Windows-based PC application that enables a wide range of analysis functions including statistics and histogram, trending, tuning, data logging, as well as a new ability to zoom in on detailed pulse shapes and pulse bursts with cursors and energy integration using PowerMax-Pro technology. The software interface allows for flexible sizing of informational panes within the application, in which contents are auto-sized dynamically as the panes are adjusted, allowing the user to size the information of greatest importance.

Data is analyzed on the PC through USB or RS-232 interfaces through the Windows PC application, or directly through host commands.

In addition to PC interfacing, LabMax-Pro SSIM also includes an analog output with user-selectable voltages of 0 to 1V, 2V, or 4V. Triggering can be achieved with an external trigger input or an internal trigger that is user adjustable.

The meter is configured as a module for direct PC control and is compatible with PM model thermopiles and PowerMax-Pro sensors.



**Superior Reliability & Performance**

### LabMax-Pro SSIM Features:

- **Laser power and energy meter**
- **Compatible with PowerMax-Pro and PM Model thermopiles, LM model position-sensing thermopiles, LM-2 & OP-2 optical sensors, and EnergyMax DB-25 pyroelectric energy sensors**
- **High speed sampling for laser pulse analysis and energy integration**
- **Operation up to 10 kHz every pulse with pyroelectric sensors**
- **USB and RS-232 interfaces**
- **Windows PC application**
- **Direct host commands support OEM integration**
- **Windows 7 and 8 compatible (32 and 64-bit)**

### LabMax-Pro SSIM Applications:

- **Production/QA**
- **Engineering & Scientific**
- **Commercial OEM Integration**

[www.Coherent.com/LabMax-Pro-SSIM](http://www.Coherent.com/LabMax-Pro-SSIM)

# LabMax-Pro SSIM

## Laser Power and Energy Meter

### Device Specifications

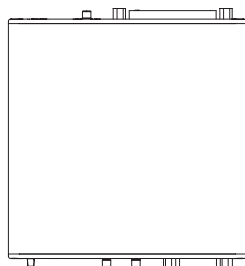
LabMax-Pro SSIM	
Measurement Resolution (%) (full-scale)	
at 10 Hz speed	0.1
at 20 KHz high speed	0.2
Sensor Compatibility	PM Model Thermopile; PowerMax-Pro; LM Model Thermopile, OP-2 & LM-2 Optical, DB-25 EnergyMax pyroelectric
Measurement Range	Sensor dependent (reference sensor specifications)
Accuracy (%)	
Digital Meter	±1
System	Meter + sensor
Analog Output	±1
Calibration Uncertainty (%) (k=2)	±1
Power Sampling Rate	
Pyroelectric (Hz)	10,000
LM-2/OP-2 Optical (Hz)	10
Thermopile (Hz)	10
PowerMax-Pro - Low Speed (Hz)	10
PowerMax-Pro - High Speed (Hz)	20,000
PowerMax-Pro - Snapshot Mode (Hz)	625,000
Analog Output (VDC)	0 to 1, 2, or 4.096 (selectable)
Analog Output Resolution (mV)	1
Analog Output Update Rate (kHz)	19
Measurement Analysis	Trending, tuning, histogram, data logging, statistics (min., max., mean, range, std. dev., dose, stability), pulse shape and pulse energy (with PowerMax-Pro in High Speed and Snapshot mode), long pulse Joules with thermopiles, beam position with LM Model thermopiles
Computer Interface	USB and RS-232
Pulse Triggering	Internal and External
Temperature	
Operating Range	5 to 40°C (41 to 104°F)
Storage Range	-20 to 70°C (-68 to 158°F)
Instrument Power (external supply)	90 to 260 VAC, 50/60 Hz
Compliance	CE, RoHS, WEEE
Dimensions	105 x 105 x 32 mm (4.1 x 4.1 x 1.3 in.)
Weight	0.3 kg (0.6 lbs.)
Front Panel	Power switch USB hi-speed port (mini B connector) Trigger output (SMB connector) Analog output (SMB connector) RS-232 port (DB-9F connector)
Rear Panel	DB-25 sensor port External trigger input (SMB connector, 3 to 5 Vin, 2 to 10 mA, 50 ohm AC, 300 ohm DC impedance) Power jack (12VDC - center positive)
Part Number <sup>1</sup>	1268881

<sup>1</sup> Meter supplied with AC power adapter, power cord, USB cable, BNC-to-SMB trigger cable, software and driver CD, and certificate of calibration.

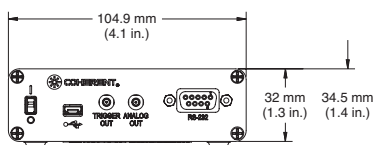
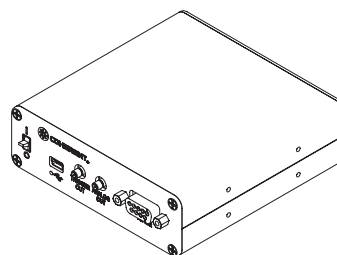
# LabMax-Pro SSIM

## Laser Power and Energy Meter

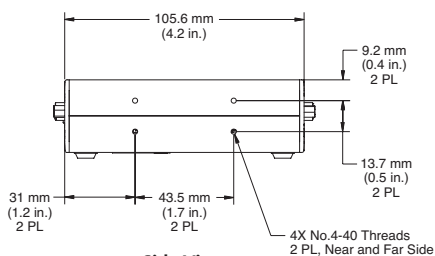
### Mechanical Specifications



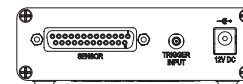
Top View



Front View



Side View



Rear View



**COHERENT®**

[www.Coherent.com](http://www.Coherent.com)

**Coherent, Inc.,**  
27650 SW 95th Avenue  
Wilsonville, OR 97070  
phone (800) 343-4912  
(408) 764-4042  
fax (408) 764-4646  
e-mail LMC.sales@Coherent.com

Benelux	+31 (30) 280 6060
China	+86 (10) 8215 3600
France	+33 (0)1 8038 1000
Germany/Austria/ Switzerland	+49 (6071) 968 333
Italy	+39 (02) 31 03 951
Japan	+81 (3) 5635 8700
Korea	+82 (2) 460 7900
Taiwan	+886 (3) 505 2900
UK/Ireland	+44 (1353) 658 833

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 LabMax-Pro SSIM laser power and energy meters. 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.

 **Boston**Electronics

[www.boselec.com](http://www.boselec.com)  
[shop.boselec.com](http://shop.boselec.com)  
[boselec@boselec.com](mailto:boselec@boselec.com)  
617.566.3821