

LabMax Touch

Laser Power and Energy Meters

The Coherent LabMax Touch is a full featured laser power and energy measurement instrument that makes extensive data acquisition and analysis capabilities easy to access through an intuitive, touchscreen interface. For example, measurement data and analytics—including live display, statistics, trending, tuning, histogram, and beam position information—are all reached with just a gesture or two on the display.

LabMax Touch provides full compatibility with the entire, comprehensive catalog of Coherent laser power and energy sensors. This includes thermopile, pyroelectric, and semiconductor sensors, plus our unique PowerMax Pro sensors for rapid power measurement of high-power beams.

The standard LabMax Touch samples up to 25 kHz with pyroelectric energy sensors and 10 Hz with power sensors. The LabMax Touch Pro model increases sample rate to 1 MHz with PowerMax-Pro sensors and adds advanced analytics like integrated energy and laser pulse width.

Features and Benefits

- Compatible with thermopile, optical, pyroelectric, and transverse thermoelectric sensors
- High-speed sampling up to 1 MHz with transverse thermoelectric and 25 kHz with pyroelectric sensors
- 7" touchscreen LCD
- USB, RS-232, and Ethernet PC interfaces
- Dual USB ports (for flash drive or mouse)
- HDMI output (for external monitor)
- External trigger input
- Trigger, Analog, and TTL outputs
- Compatible with Coherent Meter Connection PC software
- Windows 10 compatible
- ISO 17025 accredited

Applications

- R&D and Laboratory
- Scientific
- Manufacturing
- Quality Assurance
- Field Service



DEVICE SPECIFICATIONS¹

	LabMax Touch	LabMax Touch Pro
Sensor Compatibility ³	Thermopile, Optical, Pyroelectric, and Transverse Thermoelectric	
Measurement Range	1 μ W to 30 kW, with 100 nW resolution in lowest range using corresponding thermopiles 100 pW to 5 W with 10 pW resolution in lowest range using corresponding optical sensors 10 nJ to 100 J with 1 nJ resolution in the lowest range using corresponding pyroelectric detectors 1 mW to 3 kW, with 100 μ W resolution in lowest range using corresponding transverse thermoelectric sensors	
Display Resolution	3 to 5 digits (user selectable)	
Meter Accuracy (%)	± 1	
System Accuracy	Meter accuracy + sensor accuracy	
Calibration Uncertainty (%) (k = 2)	± 1	
Channel Sampling Rate (Hz)		
Thermopile	10	
Optical	10	
Pyroelectric	25,000	
PowerMax Pro (Hz)	10	10 to 1,000,000
Analog Output (VDC)	0.02 to 1, 2, or 4 (selectable)	
Analog Output Resolution (mV)	0.1	
Analog Output Accuracy (%)	± 0.04 (25% to full scale) ± 0.26 (5% to 25% of full scale) ± 1 (min to 5% of full scale)	
Analog Output Update Rate (Hz)	500	
Measurement Analysis	Trending, tuning, histogram, data logging, statistics (min., max., mean, range, std. dev., dose, stability)	LabMax Touch features + Pulse analysis, Pulse shape, and high speed analytics with PowerMax-Pro Sensors
Display	1024 x 600 pixel color TFT LCD, 7" diagonal, capacitive touch-screen, LED backlight	
Computer Interface	Ethernet, USB and RS-232	
Pulse Triggering	Internal and External	
Battery Operating Temp. Range	0 to 40°C [32 to 104°F (0 to 95% RH, non-condensing)]	
Power Adapter Operating Temp. Range	0 to 50°C [32 to 122°F (0 to 95% RH, non-condensing)]	
Storage Temperature Range	-20 to 60°C [-4 to 140°F (0 to 95% RH, non-condensing)]	
Instrument Power (external supply)	90 to 260 VAC, 50/60 Hz	
Compliance	CE, RoHS, WEEE, ISO 17025	
Dimensions	23.8 x 16.2 x 5.1 cm (9.37 x 6.38 x 2.01 in.)	
Weight	1190 g (2.62 lbs)	
Top Panel and Front Panel	2x Type A USB ports	
Top Panel	Illuminated power switch Miniature USB PC Interface port Ethernet RJ-45 port RS-232 port (2.5 mm stereo AUX socket) HDMI output Power supply input (12 VDC)	
Right Panel	Multi Output (Analog, Trigger, and 5V TTL) (3.5 mm AUX Socket) Trigger Input (3.5 mm AUX Socket) DB-25 sensor port	
Part Number	PN 2256258	PN 2256259

¹ Meter supplied with AC power adapter, power cord, USB cable, 2.5mm stereo AUX to DB9 RS-232 cable, 3.5mm AUX to BNC Trigger-in cable, Multi-Output cable (analog out, trigger out, flag out), and certificate of calibration.

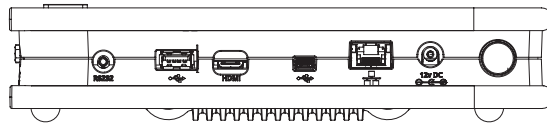
² Coherent Meter Connection PC Software and User Manuals are available for download from Coherent website.

³ Cat5 Ethernet cable and HDMI cable are customer supplied.

MECHANICAL SPECIFICATIONS

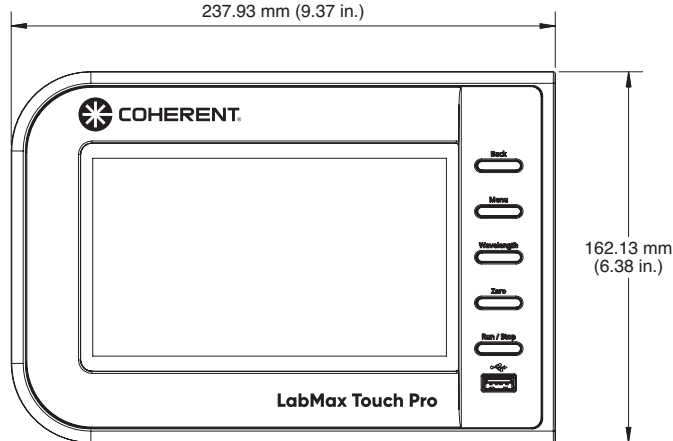
LabMax Touch

Top View

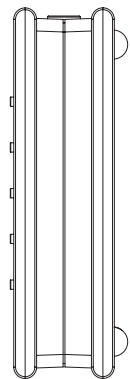


Front View

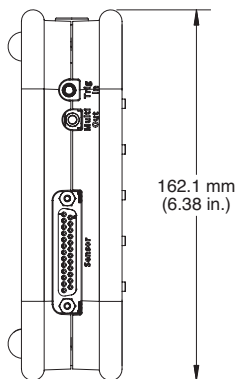
237.93 mm (9.37 in.)



Right Side View



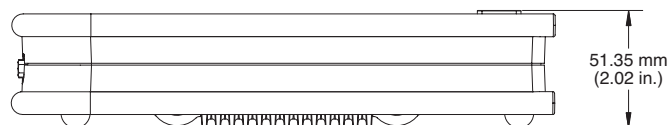
Left Side View



162.1 mm
(6.38 in.)

162.13 mm
(6.38 in.)

Bottom View



51.35 mm
(2.02 in.)



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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 LabMax Touch Meters. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative.

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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

LabMax-Pro SSIM

Laser Power and Energy Meter

Device Specifications

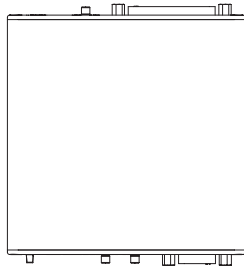
		LabMax-Pro SSIM
Measurement Resolution (%) (full-scale)		
at 10 Hz speed		0.1
at 20 KHz high speed		0.2
Sensor Compatibility		PM Model Thermopile; PowerMax-Pro; LM Model Thermopile, OP-2 & LM-2 Optical, DB-25 EnergyMax pyroelectric
Measurement Range		Sensor dependent (reference sensor specifications)
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 ¹		1268881

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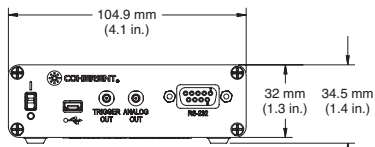
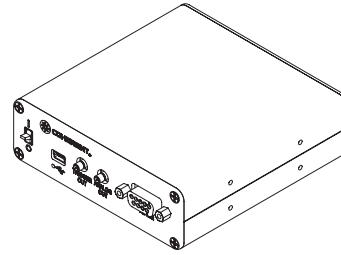
LabMax-Pro SSIM

Laser Power and Energy Meter

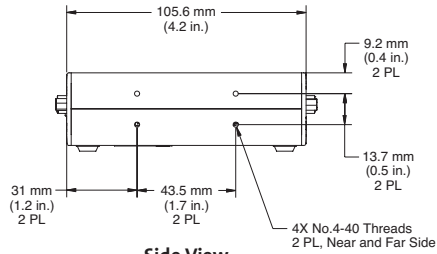
Mechanical Specifications



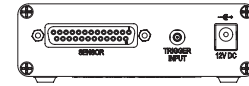
Top View



Front View



Side View



Rear View



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