LabMax Meters

Laser Power and Energy Meters

Features

- Compatible with all LM-model and PM-model thermopile and optical sensors
- Beam position display with quadrant thermopiles (LM-model)
- Pulse energy from single shot to 10 kHz with energy sensors
- PC interfacing via USB, GPIB or RS-232, plus analog output
- Datalog to onboard memory, USB flash stick or directly to PC
- Advanced interface with tiltable display and 0° to 180° kickstand for flexible positioning
- Li-ion rechargeable battery
- Installable applications software and full LabVIEW® drivers for remote control

Mechanical Specifications

* LabVIEW is a registered trademark of National Instruments.
## LabMax™ Meters
### Laser Power and Energy Meters

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's LabMax meters are compliant with the EU Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) Directives. They also meet the intent of Directive 89/336/EEC for Electromagnetic Compatibility (CE). CE compliance was demonstrated per testing to EN 61326, Electromagnetic Compatibility Product Family Standard for Measurement, Control and Laboratory Equipment.

Coherent offers a limited warranty for all LabMax meters. For full details of this warranty coverage, please refer to the "Warranty Information for Instruments" webpage under the Service section of our website at www.Coherent.com or contact your local Sales or Service representative.

### Device Specifications

<table>
<thead>
<tr>
<th></th>
<th>LabMax-TOP w/GPIB</th>
<th>LabMax-TOP</th>
<th>LabMax-TO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement Resolution</strong></td>
<td>0.1 % of full-scale</td>
<td>3.4, or 5 digits</td>
<td>3.4, or 5 digits</td>
</tr>
<tr>
<td><strong>Displayable Resolution</strong></td>
<td>3 or 4 digits pyroelectric; 3, 4, or 5 digits</td>
<td>thermopile and optical (selectable)</td>
<td>Pyroelectric; 3, 4, or 5 digits</td>
</tr>
<tr>
<td><strong>Measurement Range</strong></td>
<td>Sensor dependent (reference sensor specifications)</td>
<td>3, 4, or 5 digits</td>
<td>3, 4, or 5 digits</td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td>±1.0% ±2LSD</td>
<td>Meter accuracy + sensor accuracy</td>
<td>±1.0%</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>±1.0%</td>
<td></td>
<td>±1.0%</td>
</tr>
<tr>
<td><strong>Power Sampling Rate (Hz)</strong></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maximum Repetition Rate (Hz)</strong></td>
<td>10,000 sampling (1000 Hz every pulse)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimum Positional Resolution (mm)</strong></td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>112 x 78 mm backlight graphic LCD; 480 x 320 pixels. Adjustable contrast and viewing angle</td>
<td></td>
<td></td>
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<tr>
<td><strong>Measurement Analysis</strong></td>
<td>Min., max., mean, range, std. dev., stability, trending, tuning, beam position</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Computer Interface</strong></td>
<td>GPIB, USB and RS-232</td>
<td>USB and RS-232</td>
<td></td>
</tr>
<tr>
<td><strong>Pulse Triggering</strong></td>
<td>Internal and external (selectable)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Analog Output (VDC)</strong></td>
<td>0 to 1, 2 or 4 (selectable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Analog Output Update Rate</strong></td>
<td>Up to 1000 Hz for pyroelectric; 10 Hz for thermopile and optical</td>
<td></td>
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<tr>
<td><strong>Temperature</strong></td>
<td>Operating Range: 5° to 40°C (41° to 104°F); Storage Range: -20° to 70°C (-4° to 158°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Instrument Power</strong></td>
<td>90 to 260 VAC, 50/60 Hz</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Instrument Batteries</strong></td>
<td>4400 mAH rechargeable Li-ion pack</td>
<td></td>
<td></td>
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<tr>
<td><strong>Regulations Met</strong></td>
<td>CE, RoHS, WEEE</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dimensions (H x W x D)</strong></td>
<td>152 x 229 x 53 mm (6.0 x 9.0 x 2.1 in.)</td>
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<td></td>
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<tr>
<td><strong>Weight</strong></td>
<td>1.04 kg (2.3 lbs.)</td>
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</tbody>
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### Front Panel
- **PWR**: Turn meter on and off
- **ZERO**: Reset ambient offset for thermal and optical sensors
- **MEASURE**: Main measure mode including statistics
- **TUNE**: View tuning features
- **TREND**: Display measured values over a period of time and log data to file
- **SETUP**: Set up meter parameters
- **HELP**: Onboard context-sensitive help available from any screen
- **BACKLIGHT**: Toggle backlight on and off
- **KNOB**: Turn knob to change settings; press knob to save settings

### Left Side Panel
- USB flash drive port, USB PC interface port, RS-232 PC interface port, DB-25 sensor port, power jack

### Rear Panel
- Analog output
- External trigger input

### Part Numbers (RoHS)
- LabMax-TOP w/GPIB: 1104620
- LabMax-TOP: 1104622
- LabMax-TO: 1104619

*M Meter supplied with 4400 mAH Li-ion battery, AC power adapter, power cord, 1.8-meter USB cable, RS-232 adapter, USB flash drive, three RCA-to-BNC adapters, user manual, software and driver CD, soft carrying case, and certificate of calibration. LabMax-TOP w/GPIB also includes a GPIB cable.

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