LW-10 Wavelength Meter

Compact High-Resolution Laser Wavelength Meter

Thanks to its all integrated technology, LW-10 combines high performance and an affordable price within a compact design. Its 20 MHz resolution and 200 MHz absolute accuracy makes it the perfect tool for tunable laser wavelength monitoring on the 630-1100 nm range for lasers such as Ti:Sapphire, DFB, ECDL.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Wavelength range</td>
<td>700 - 1000 nm (optional: 630 - 700 / 1000 - 1100 nm)</td>
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<tr>
<td>Wavelength resolution</td>
<td>20 MHz</td>
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<tr>
<td>Absolute accuracy</td>
<td>200 MHz</td>
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<tr>
<td>Maximum linewidth</td>
<td>30 GHz</td>
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<tr>
<td>Real-time measurement speed</td>
<td>&gt; 20 Hz</td>
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<tr>
<td>Maximum measurement speed</td>
<td>600 Hz</td>
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<tr>
<td>Exposure time</td>
<td>16 µs - 10 s</td>
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<tr>
<td>Input power range</td>
<td>10 nW - 1000 µW</td>
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<tr>
<td>Optical input</td>
<td>FC/APC PM singlemode fiber N.A. 0.12</td>
</tr>
<tr>
<td>Power consumption</td>
<td>11 W - 450 mA @ 24 VDC</td>
</tr>
<tr>
<td>Communication</td>
<td>Gigabit Ethernet</td>
</tr>
<tr>
<td>Dimensions</td>
<td>14.9 x 8.6 x 8 cm</td>
</tr>
<tr>
<td>Weight</td>
<td>1 kg</td>
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</tbody>
</table>

FUNCTIONALITIES with SpectraResolver software

Key features

- 20 MHz resolution
- 200 MHz absolute accuracy
- For pulsed and CW lasers
- User-friendly software
- Compact size

Applications

- For single frequency lasers only (pulsed and CW lasers)
- Narrow-linewidth OPO
- Tunable laser control
- Laser stability control
- Frequency locking

Available options

- Multi-channel
- Laser control analog output (PID)
- Laser spectrum analyzer function

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**SPECIFICATIONS**

- **Wavelength range**: 700 - 1000 nm (optional: 630 - 700 / 1000 - 1100 nm)
- **Wavelength resolution**: 20 MHz
- **Absolute accuracy**: 200 MHz
- **Maximum linewidth**: 30 GHz
- **Real-time measurement speed**: > 20 Hz
- **Maximum measurement speed**: 600 Hz
- **Exposure time**: 16 µs - 10 s
- **Input power range**: 10 nW - 1000 µW
- **Optical input**: FC/APC PM singlemode fiber N.A. 0.12
- **Power consumption**: 11 W - 450 mA @ 24 VDC
- **Communication**: Gigabit Ethernet
- **Dimensions**: 14.9 x 8.6 x 8 cm
- **Weight**: 1 kg

**FUNCTIONALITIES with SpectraResolver software**

- **Compatibility**: Windows 7, 8 & 10
- **Unit change**: nm (vacuum and standard air) / cm⁻¹ / THz
- **Software development kit**: C/C++, Python, DotNet, VIs libraries, TCP/IP
- **Trigger**: Front Trigger

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January 2017, version B. RES1903SP417
LW-10: 20 MHz resolution and 200 MHz absolute accuracy

LW-10 is a very compact and high-resolution laser wavelength meter with robust calibration over time and multiple software interface capabilities, for CW and pulsed lasers in the 700 - 1000 nm range.

Calibration robustness
LW-10 wavelength meter consists of a temperature-controlled waveguide in which a stationary wave is created, sampled and read out by a linear image sensor array (SWIFTS technology). This linear integrated configuration with no moving part demonstrates insensitivity to air pressure variation and unique stability over time. This results in a long-life calibration on the whole wavelength range, more reliable than a frequent recalibration at a single wavelength. LW-10 can be easily moved with no risk of calibration shift. Measurements are not sensitive to small movements of the input fiber.

Applications
LW-10 characteristics are ideal for applications such as tunable laser monitoring (Ti:Sapphire laser, External Cavity Diode Laser (ECDL) and narrow-linewidth OPO), frequency locking (atom cooling, atom trapping and spectroscopy applications) and frequency mixing (THz and DUV generation).

Options
Multi-channel optical switch and laser control analog output devices are available with our SpectraResolver software interface.

Multiple software capabilities
SpectraResolver user-friendly software has been designed so that you can focus on your application. The Gigabit Ethernet connection to a computer allows a very reliable connection. Trigger mode is offered as standard feature. A software development kit is available for integration to your setup including C/C++, Python, DotNet, LabView VIs and TCP/IP.