# LW-10 Wavelength Meter

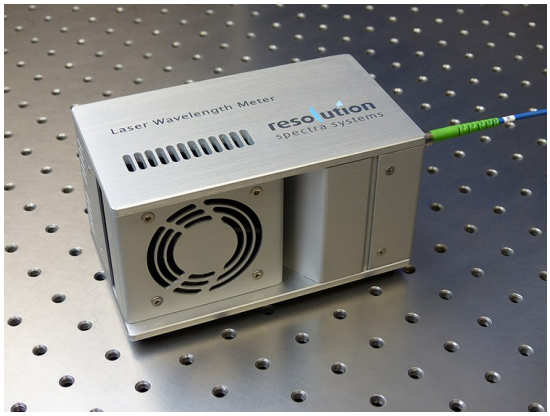
## Compact High-Resolution Laser Wavelength Meter

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.

| SPECIFICATIONS | |
|---|---|
| Wavelength range | 700 - 1000 nm<br>(optional: 630 - 700 / 1000 - 1100 nm) |
| Wavelength resolution [1] | 20 MHz |
| Absolute accuracy [1] [2] [3] [4] | 200 MHz |
| Maximum linewidth | 30 GHz |
| Real-time measurement speed [5] | > 20 Hz |
| Maximum measurement speed | 600 Hz |
| Exposure time | 16 µs - 10 s |
| Input power range [6] | 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 & 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 |

[1] Performance guaranteed on the 700 - 1000 nm range.
[2] T° calibrated on 16-30°C. For quality check, an absolute accuracy calibration procedure is available with SpectraResolver.
[3] Warm-up: best performances are achieved under steady state conditions, typically ambient temperature stable at +/- 0.5°C per hour maximum, constant air flow, LW-10 running for more than 30 minutes. No sensitivity to air pressure variation.
[4] According to 3σ criterion.
[5] Computational speed. Depending on PC hardware and settings.
[6] Coupled in Polarization Maintaining singlemode fiber.




### 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

SWIFTS™ TECHNOLOGY
Patents UJF/INPG/UTT/CNRS

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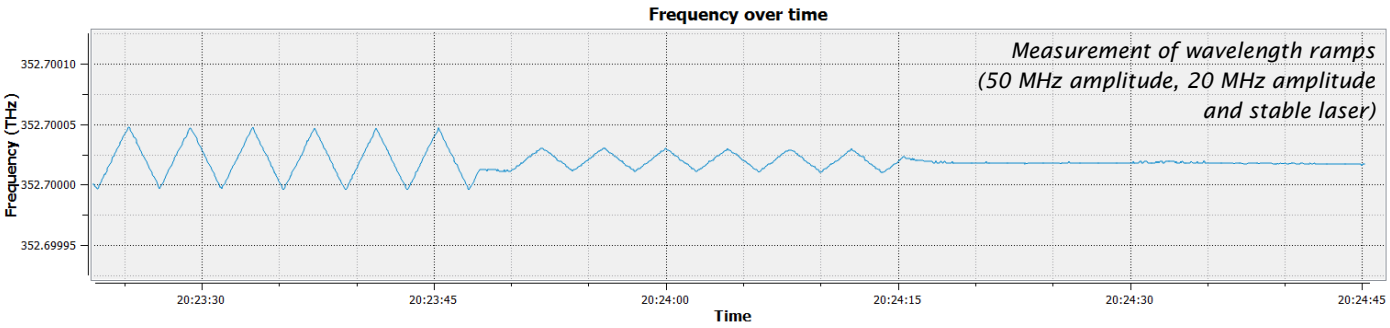
June 2019, version C. RES1903SP417

# 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

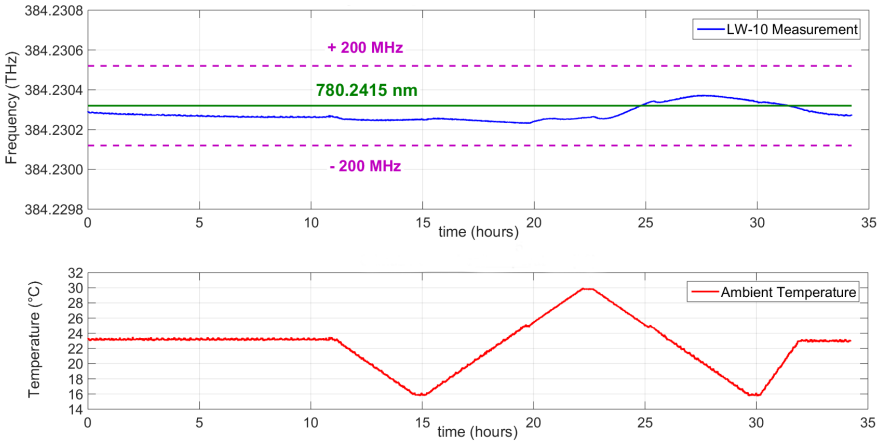
LW-10 wavelength meter consists of a temperature-controlled waveguide in which a stationary wave is created, sampled and read out by a linear image sensor array (SWIFTS technology). This linear integrated configuration with no moving part demonstrates insensitivity to air pressure variation and unique 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

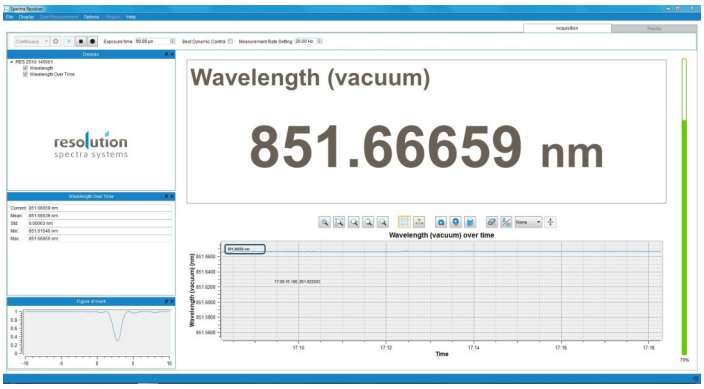
LW-10 characteristics are ideal for applications such as tunable laser monitoring (Ti:Sapphire laser, External Cavity Diode Laser (ECDL) and narrow-linewidth OPO), frequency locking (atom cooling, atom trapping and spectroscopy applications) and frequency mixing (THz and DUV generation).

## Options

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




*Stability over time with temperature variations*




## 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.