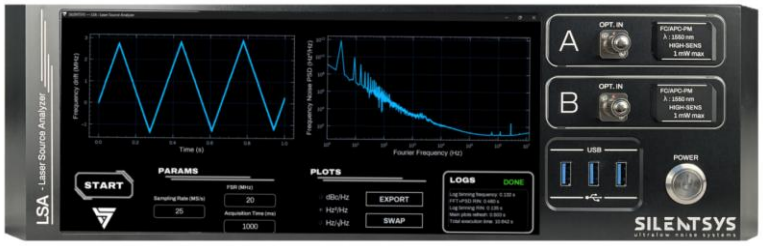
LSA



LASER SOURCE ANALYZER

The LSA module is a plug-and-play laser source analyzer. It can measure the temporal evolution of the laser's emission frequency, the frequency/phase noise spectrum in three different units, the temporal evolution of the laser's power, and the relative intensity noise spectrum (RIN), while allowing exporting raw data and plots, in a form compatible with a 19-inch 3U rack.

SPECIFICATIONS

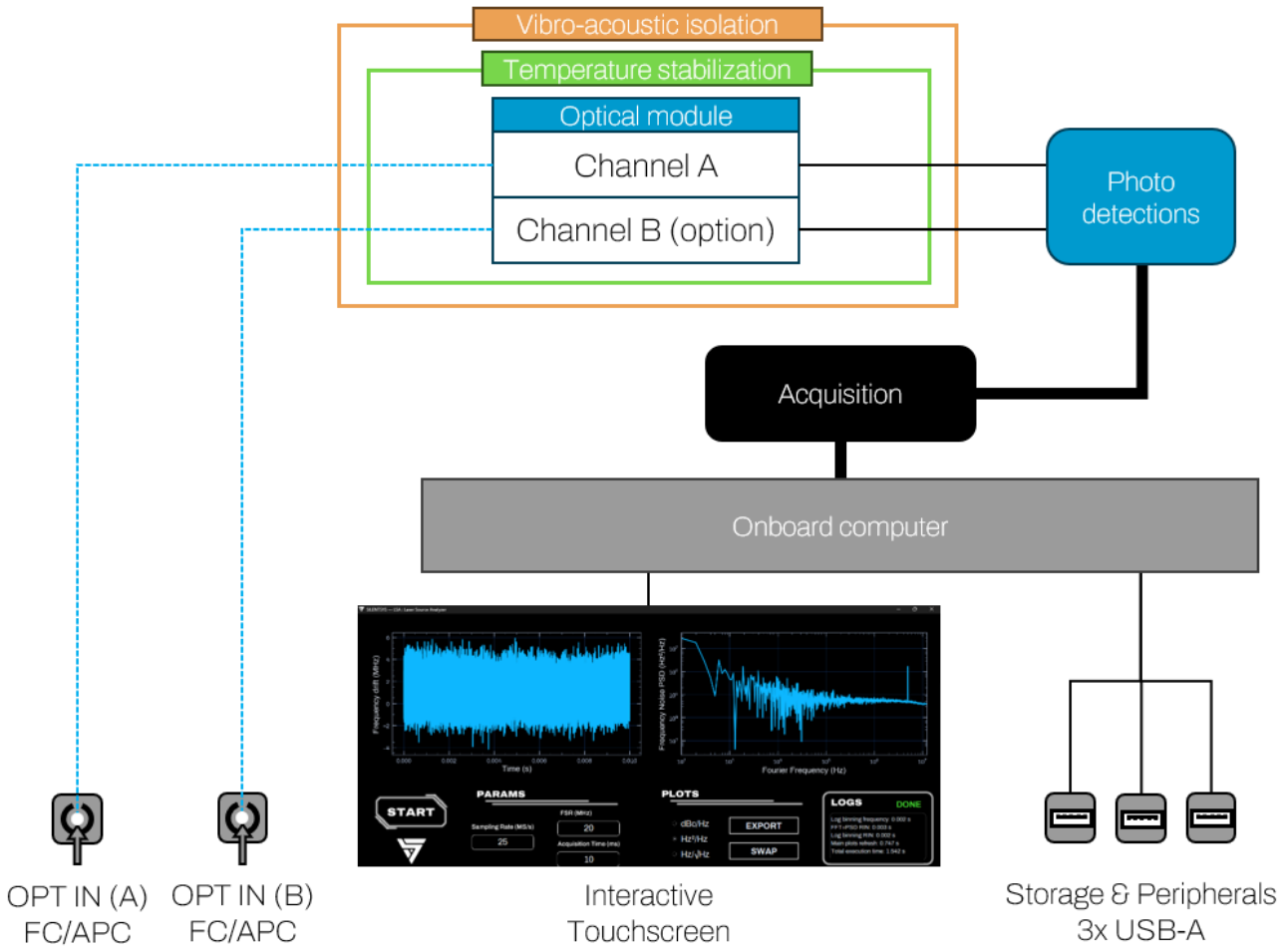
- Number of channels: 1 or 2
- Wavelength range: 385 nm – 2200 nm (to be defined at the order)
- Input power range: mW to µW
- Laser type: Single mode continuous wave
- Input fiber type: FC/APC, PM slow axis (others on request)
- Max Frequency noise bandwidth: 50 MHz
- Measurement quantities: Laser frequency fluctuations (Hz), Laser power fluctuations (mW), Laser frequency/phase noise PSD (Hz^2/Hz, $Hz/\sqrt{Hz}$, dBc/Hz), Laser relative intensity noise PSD (dB/Hz)
- Time to measure and display the data:

  10 Hz to 12.5 MHz → 2 to 3 sec
  10 Hz to 50 MHz → 5 to 6 sec
  1 Hz to 50 MHz → 50 to 60 sec
- Dynamic range: >> 300 dB (typ. for phase noise in dBc/Hz)
- Minimum measurable intrinsic linewidth*: 0.03 Hz
- Minimum measurable RIN: -155 dB/Hz (with 500 µW input power)
- Interface: Capacitive Touchscreen QLED 10.4 inch
- Output connectors: USB for data transfer
- Product dimensions: 440 x 380 x 135 mm^3
- Product weight: 15 kg

*This value corresponds to π*white frequency noise, but it does not always have a physical meaning. Read more in our white paper.

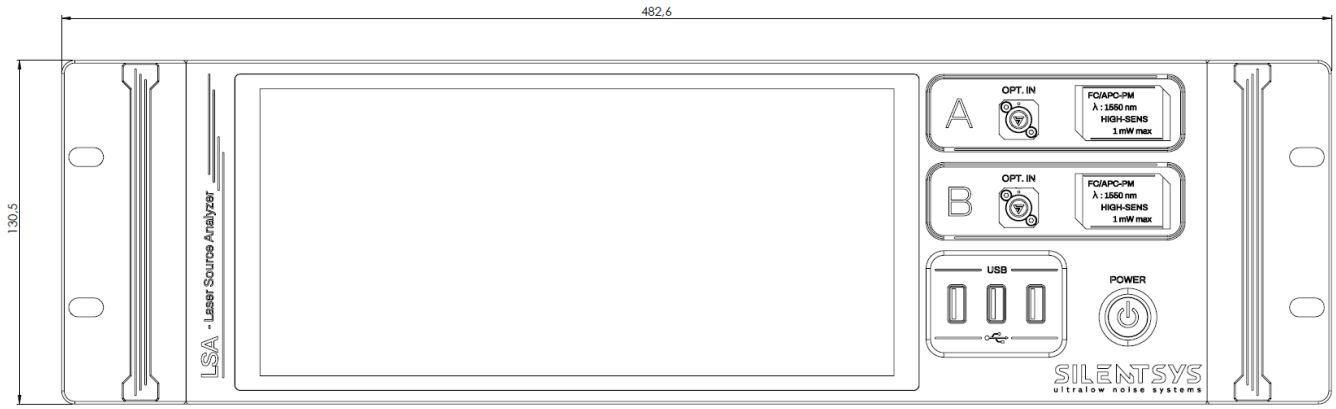
FUNCTIONAL DIAGRAM

The functional diagram is a simple view of what the instrument does. It enables a fast and simple understanding of the internal functionalities in respect to the system inputs and outputs.



DRAWINGS

The dimensions of the device are presented here with a simplified view. It also shows the connections from the front and back view of the instrument.



FRONT

BACK

Dimensions are in [mm]