



OFD-PRO



OPTICAL FREQUENCY DISCRIMINATOR

The OFD-PRO system smartly delivers a voltage signal that is proportional to the frequency fluctuations of the input laser beam. This turn-key module is suitable for laser frequency noise characterization and/or for laser frequency stabilization to drastically reduce its optical full width at half maximum linewidth. The OFD features ultralow noise performances that can successfully achieve frequency noise levels as low as $0.01 \text{ Hz}^2/\text{Hz}$, while remaining in a compact and user-friendly package. It contains more functionalities than the OFD-ALPHA and has improved temperature stability and vibrations isolation.

SPECIFICATIONS

- Number of channels: 1 or 2
- Laser type: single-frequency continuous wave
- Available wavelengths: 385 nm – 2200 nm (to be defined on order)
- Optical power in: typ. 200 μW before saturation
- Optical input: typ. FC/APC connection
- Free Spectral Range (FSR): typ. 2 MHz to 2 GHz
- Frequency noise floor limit: typ. $< 0.01 \text{ Hz}^2/\text{Hz}$
- Typical laser linewidth achievable: up to Hz-level
- External control of the optical module temperature
- Servo controller: included
- Input frequency modulation: included
- Electrical output voltage range: $\pm 3 \text{ V}$ max
- Electrical output connector: SMA female
- Interface: touchscreen
- Product weight: 8.2 kg
- Product dimensions: $360 \times 360 \times 88 \text{ mm}^3$

PERFORMANCES

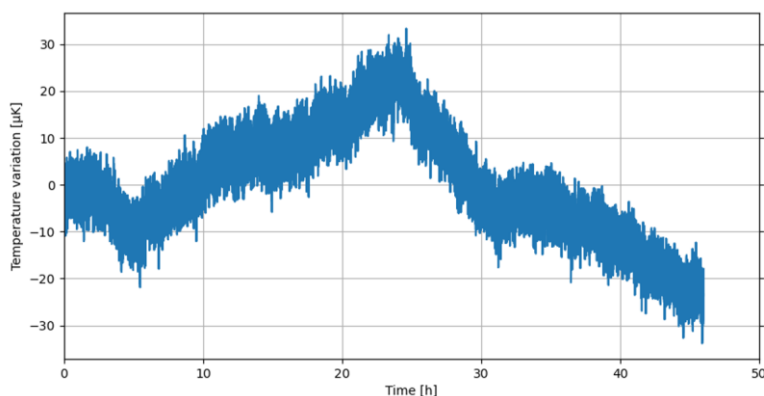


Fig.1: Out-of-loop measurement of the temperature stability of OFD-PRO using ACQ-01.

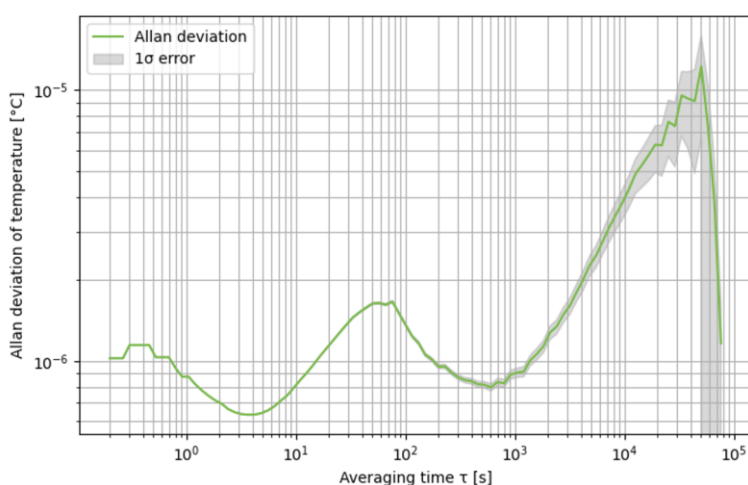
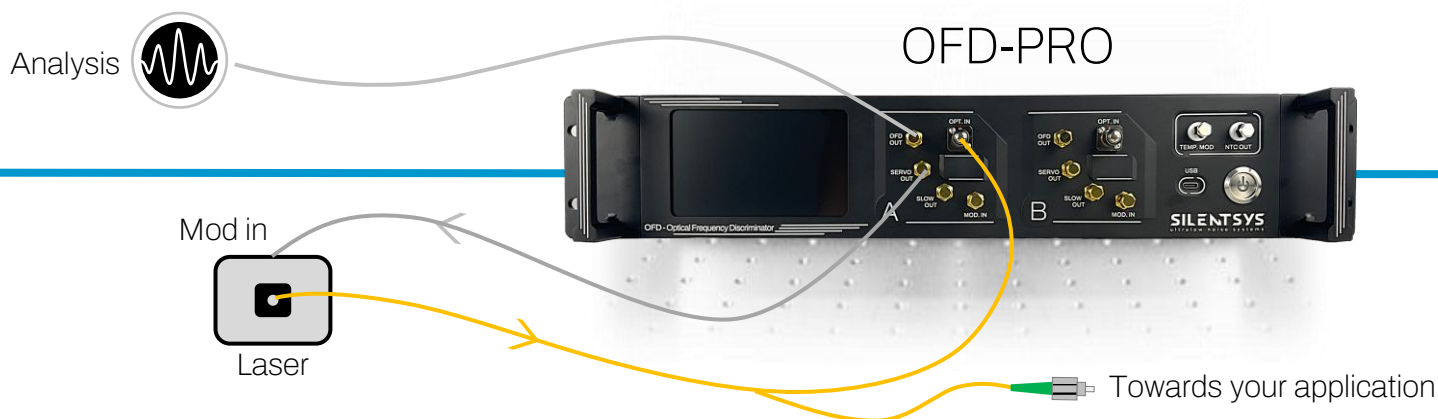


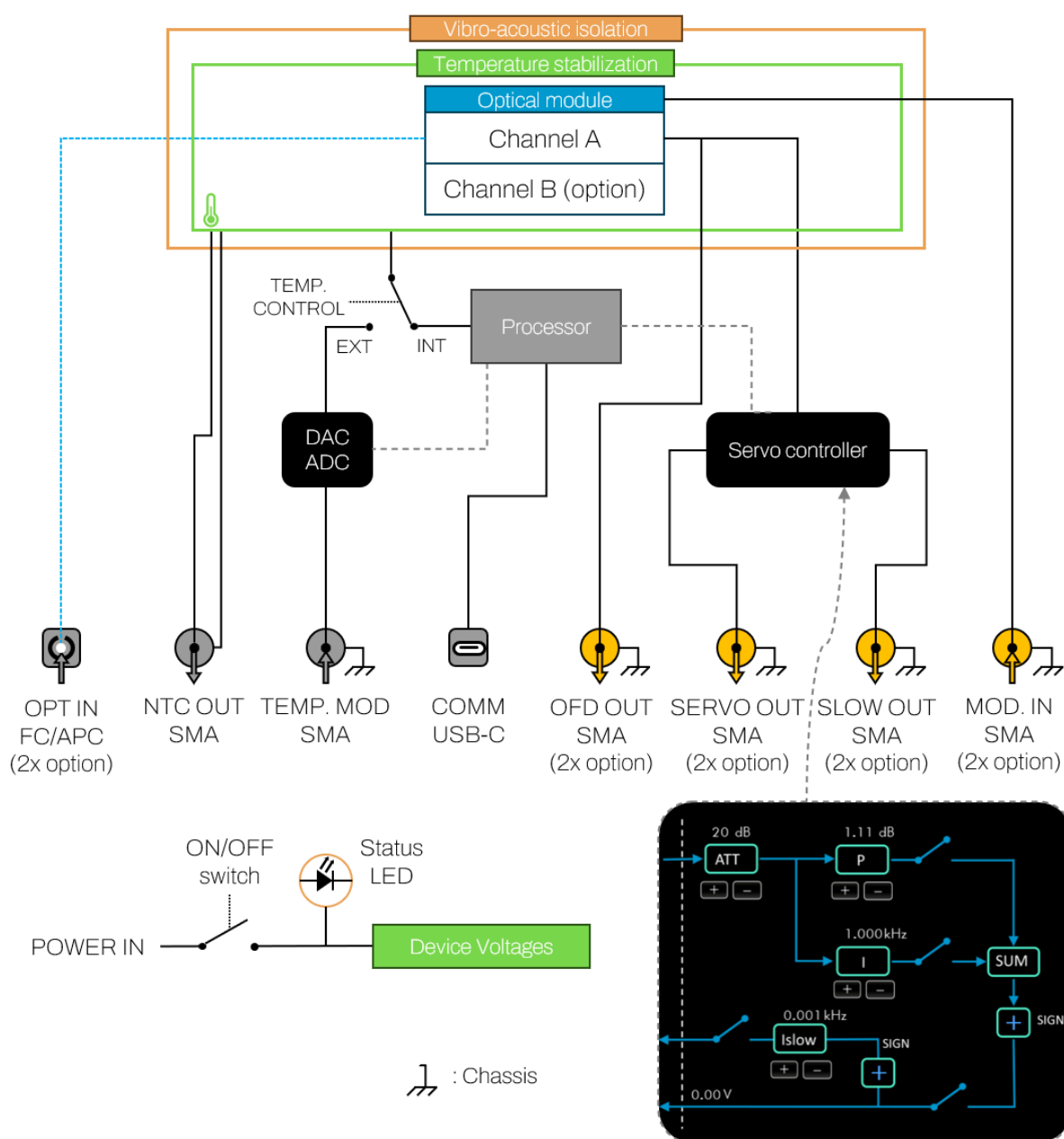
Fig.2: Out-of-loop measurement of the temperature stability (Allan deviation) of the OFD-PRO using ACQ-01.

HOW-TO-USE



FUNCTIONAL DIAGRAM

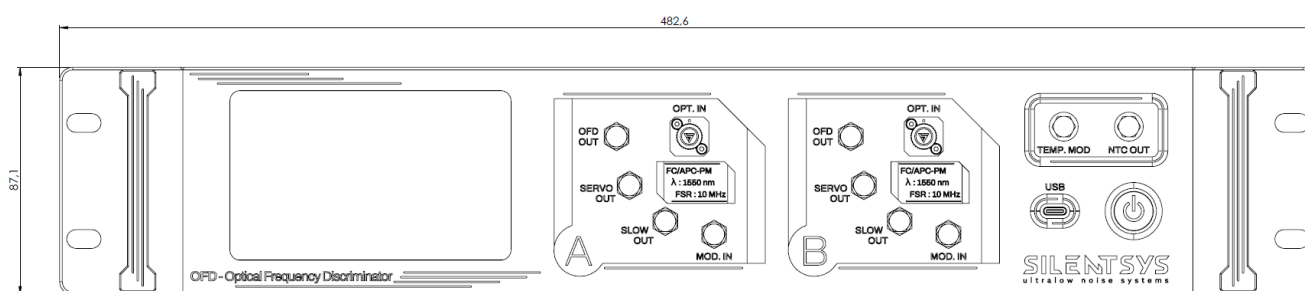
The functional diagram is a simple view of what the instrument does. It enables a fast and simple understanding of the internal functionalities in respect to the system inputs and outputs.



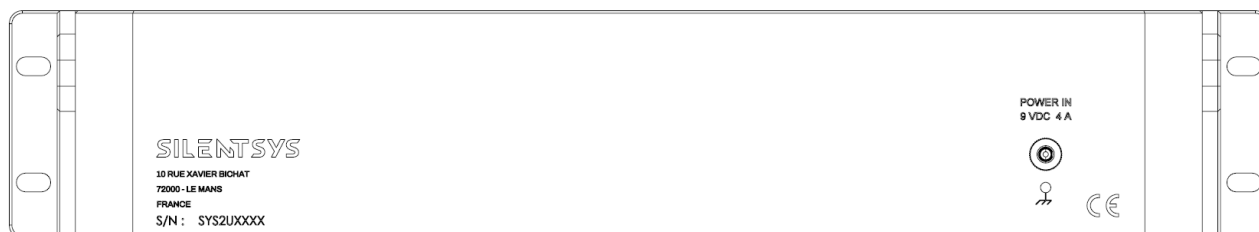


DRAWINGS

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]