

PID-01

HIGH-SPEED SERVO CONTROLLER

PID-01 is a high-speed servo controller that is digitally controlled using an integrated touchscreen. It provides Proportional, simple Integrator, and double Integrator functions. It features ultralow voltage noise, high open-loop gain, and a large bandwidth.

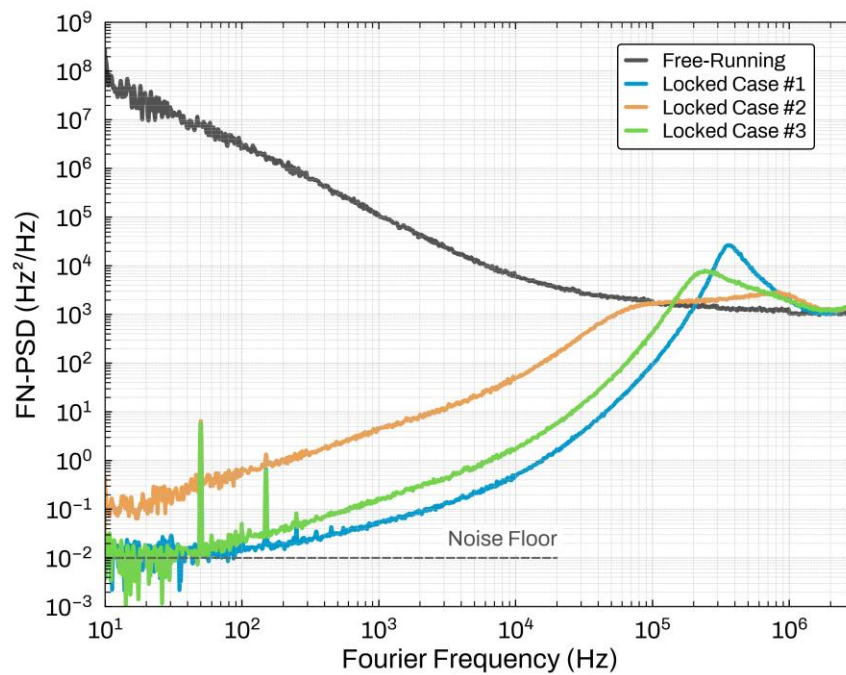


SPECIFICATIONS

- Input voltage noise: 5 nV/ $\sqrt{\text{Hz}}$
- Control bandwidth: > 30 MHz
- Output offset range: - 2 V / + 2 V
- Input offset range: - 2 V / + 2 V
- Voltage offset resolution: 100 μV
- External ramp function
- Open-loop gain: 200 dB
- Loop delay: 24 ns
- Proportional Gain: OFF, from - 28 dB to 23 dB (0.2 dB increments)
- Simple Integrator: OFF, from 100 Hz to 10 MHz (16 settings)
- Double Integrator: OFF, from 100 mHz to 1 MHz (16 settings)
- Product dimensions: 155 x 150 x 112 mm³
- Product weight: approx. 1.5 kg
- Interface: Touchscreen
- Output impedance: 50 Ω
- Input impedance: 50 Ω
- Input voltage range max: - 5 V / + 5 V
- Output voltage range max: - 4.5 V / + 4.5 V
- Output/input connectors: SMA female



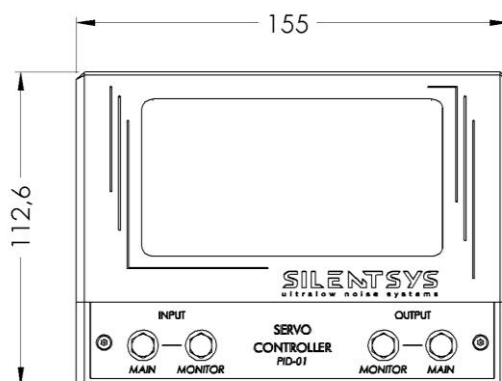
PERFORMANCES



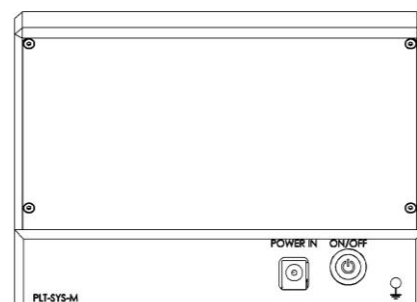
In-loop laser frequency noise measured with FSPN-26 from Rohde & Schwarz using three different configurations of the PID-01.

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]



FUNCTIONAL DIAGRAMS

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.

