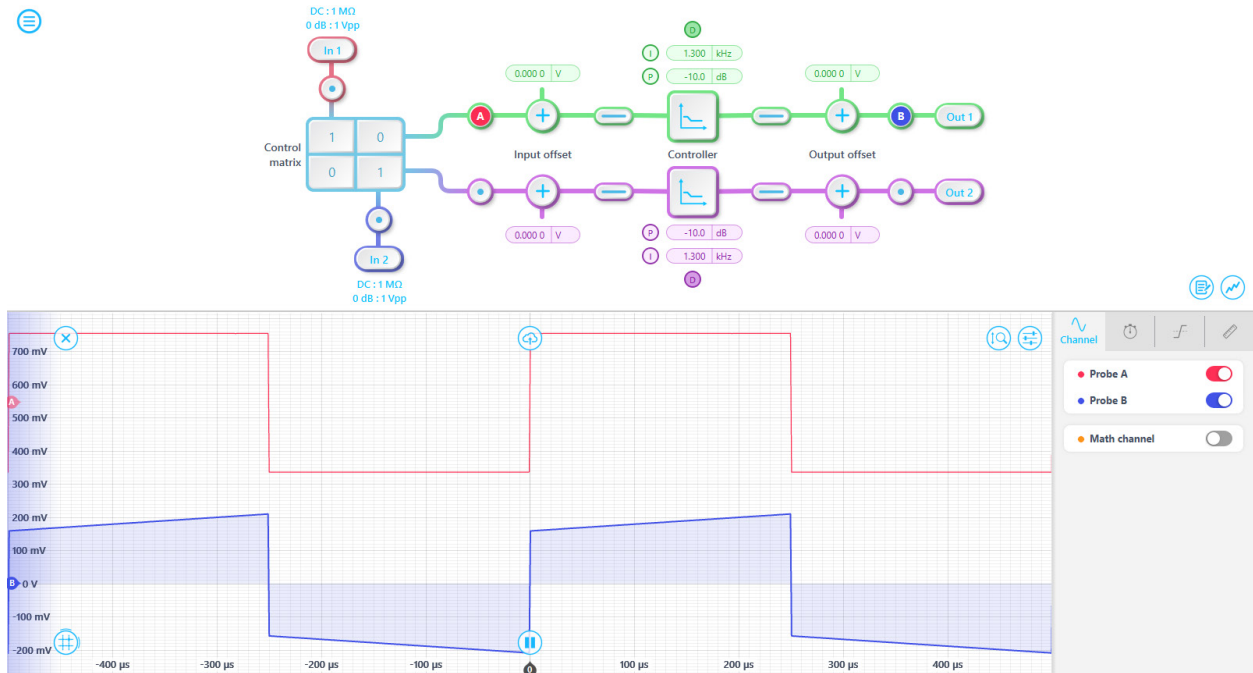




The Moku:Lab PID Controller features two fully configurable PID controllers with a DAC sampling rate of 1 GSa/s. This enables them to be used in applications requiring both low and high feedback bandwidths such as laser temperature and current stabilization. The PID Controller can also be used as a lead-lag compensator by saturating the integral and differential controllers with independent gain settings.



Versatile input
2 inputs with MIMO

DAC sampling rate
1 GSa/s

DAC resolution
16-bits

Phase lag
30° at 100 kHz

Gain configuration
Real-time

Advanced mode
Multi-section builder

Features

- 2 input channels, 2 output channels, and 2 independent PID controllers with control matrix for MIMO
- Design your control system's frequency response using the interactive Bode plot in realtime
- Block diagram view of the digital signal processing with built-in probe points for signal monitoring
- Advanced multi-section PID builder with single or double integrators and differentiators with low- and high-frequency gain saturation

Specifications

- Input voltage range: 1 Vpp or 10 Vpp
- Control matrix linear gain: -20 to +20
- Input/output offset range: -1 to +1 V
- Offset precision: 100 μ V
- Gain profiles: Proportional (P), integral (I), differential (D), double-integral (I+), integral saturation (IS), differential saturation (DS)
- Proportional gain: -60 dB to 60 dB
- Integrator crossover frequency: 1.25 Hz to 125 kHz
- Differentiator crossover frequency: 12.5 Hz to 1.25 MHz

Applications

- Feedback and control systems design
- Laser frequency stabilization
- Temperature regulation
- Scan heads/sample stage positioning
- Pressure, force, flow rate, and other controls