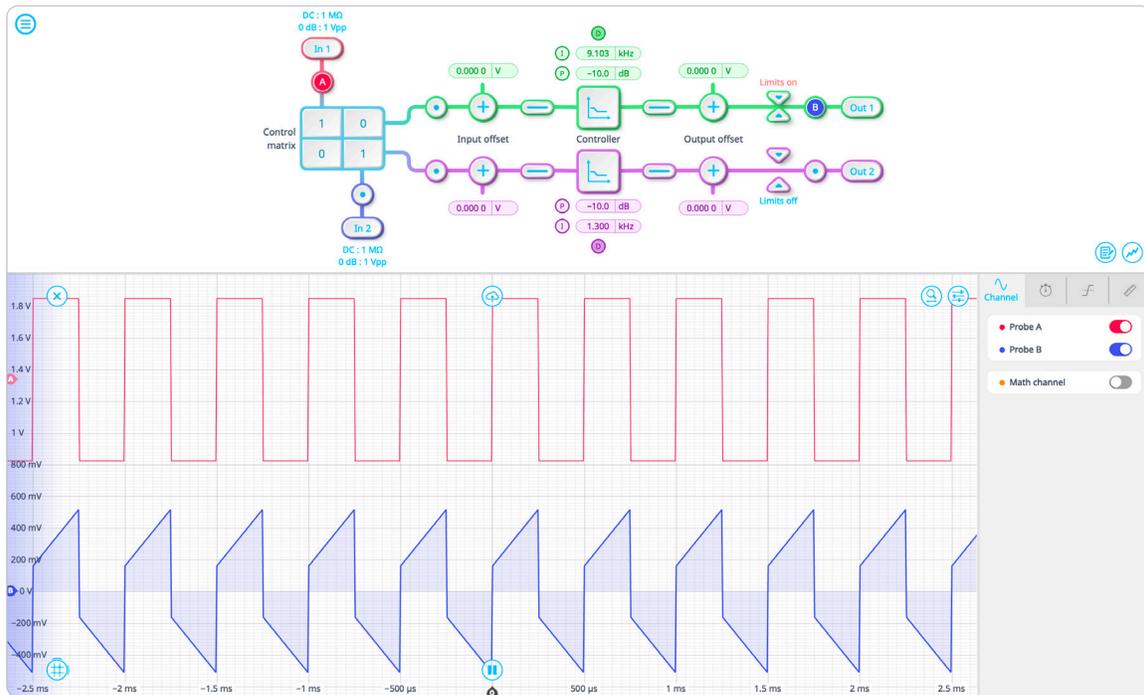




The Moku:Lab PID Controller features two fully configurable PID controllers with a DAC sampling rate of 1 GSa/s. This enables them to be used in applications requiring both low- and high-feedback bandwidths such as laser temperature and current stabilization. The PID Controller can also be used as a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



<b>Versatile input</b> 2 inputs with MIMO	<b>DAC sampling rate</b> 1 GSa/s	<b>DAC resolution</b> 16-bits	<b>Phase lag</b> 30° at 100 kHz	<b>Gain configuration</b> Real time	<b>Advanced mode</b> Multi-section builder
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## 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 real time
- 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  $\mu$ V
- Gain profiles: Proportional (P), integral (I), differential (D), double-integral (+), 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