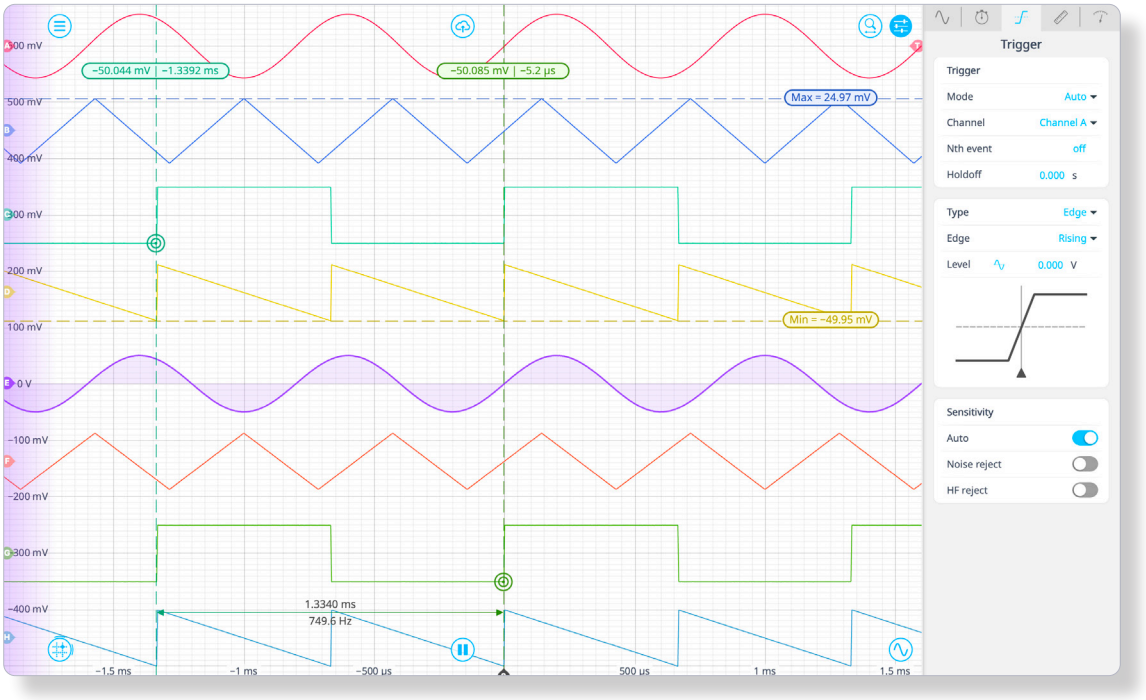
Moku:Delta Instrument Datasheet

Oscilloscope



The Moku:Delta Oscilloscope features eight analog input channels with a 5 GSa/s sampling rate and 2 GHz bandwidth, utilizing a hybrid 14-bit and 20-bit ADC frontend to achieve a noise floor below 10 nV/√Hz. Built-in sine wave generator channels enable real-time stimulus-response and loopback measurements. Onboard clock with 1 ppb stability provides high-precision timebase, with support for external 10 MHz or 100 MHz reference inputs and a GPS-disciplined oscillator. Full API integration with Python and MATLAB facilitates automated test workflows.



Sampling Rate	Bandwidth	ADC Resolution	Input Impedance	Input Noise	Sine Wave Generator
Up to 5 GSa/s	**2 GHz**	**14-bits and 20-bits**	**50 Ω / 1 MΩ**	**< 10 nV/√Hz**	**4 Channels up to 2 GHz**

Features

- Eight analog inputs with 2 GHz bandwidth
- Exceptional low-frequency noise performance of < 10 nV/√Hz
- Dual-ADC design with blended ADC technology
- Ultra stable 1 ppb onboard oscillator with onboard GPS receiver for GPS-disciplined oscillator capability
- Integrated high-speed signal generator channels with analog bandwidths up to 2 GHz
- Built-in Math channel functions: Add, subtract, multiply, divide, XY mode, integrate, differentiate, FFT, min hold, max hold, and equation editor

Specifications

- Sampling rate: 5 GSa/s on 8 channels
- Input Impedance: 50 Ω or 1 MΩ
- Input noise: < 10 nV/√Hz
- Input coupling: AC or DC
- Input bandwidth:
  - 50 Ω: 2 GHz
  - 1 MΩ: 1 MHz
- Input range:
  - 50 Ω: 100 mVpp, 1 Vpp, or 10 Vpp
  - 1 MΩ: 1 Vpp, or 40 Vpp
- Output bandwidth:
  - 1 Vpp: 2 GHz
  - 10 Vpp: 100 MHz
- Memory depth: up to 134,217,728 points

Applications

- Automated system test
- Circuit design and characterization
- Jitter/clock analysis
- Photo detector alignment
- Signal monitoring and analysis
- Quantum optics
- RF and microwave signal characterization
- Time-domain reflectometry (TDR)
- Semiconductor test

© 2025 Liquid Instruments. All trademarks are property of their respective owners.

Note: All Moku:Delta specifications are subject to change.