

TEKTRONIX

MSO56

The Tektronix MSO56 is a 6-channel Mixed Signal Oscilloscope from the 5 Series MSO family. Featuring 6 FlexChannel™ inputs, it allows each channel to be configured as one analog channel or eight digital logic channels using TLP058 probes, supporting up to 48 digital channels. Equipped with a 15.6-inch Full HD capacitive multi-touch display, a 12-bit ADC, 6.25 GS/s real-time sample rate, and up to 125 Mpoints record length, the MSO56 provides exceptional visibility and signal integrity for complex embedded systems analysis.

SPECIFICATIONS

General

Display	15.6-inch TFT color capacitive multi-touch screen, 1920 x 1080 (FHD) resolution
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Physical

Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	454 mm x 309 mm x 204 mm mm
Weight	11.4 kg kg

Vertical System - Analog Channels

Input Channels	6 FlexChannel inputs
Analog Bandwidth (-3 dB)	350 MHz, 500 MHz, 1 GHz, 2 GHz (option dependent)
Vertical Resolution	12-bit ADC (up to 16-bit in High Res mode)
ADC Bits	12 bits
Input Coupling	AC, DC
Input Impedance	1 MΩ ±1% with 13 pF ±1.5 pF, 50 Ω ±1%
Input Sensitivity Range (1 MΩ)	500 μV/div to 10 V/div in 1-2-5 sequence
Input Sensitivity Range (50 Ω)	500 μV/div to 1 V/div in 1-2-5 sequence
Maximum Input Voltage (1 MΩ)	300 V RMS, CAT II
Maximum Input Voltage (50 Ω)	5 V RMS

Vertical System - Digital Channels (FlexChannel)

Digital Channels (Maximum)	Up to 48 digital channels (8 per FlexChannel using TLP058 probes)
Input Channels per Logic Probe	8 channels (TLP058)
Threshold Range	±40 V
Threshold Accuracy	±(100 mV + 3% of threshold setting)
Toggle Rate	500 MHz

Acquisition & Trigger System

Real-Time Sample Rate	6.25 GS/s on all analog and digital channels
Interpolated Sample Rate	500 GS/s
Maximum Waveform Capture Rate	>500,000 waveforms/s
Acquisition Modes	Sample, Peak Detect, High Res, FastAcq, Envelope, Average, Roll
Trigger Modes	Auto, Normal, Single
Trigger Coupling	DC, HF Reject, LF Reject, Noise Reject
Standard Trigger Types	Edge, Pulse Width, Runt, Timeout, Window, Logic, Setup & Hold, Rise/Fall Time, Parallel Bus, Sequence
Bus Triggering Support	I2C, SPI, RS-232/422/485/UART, CAN, LIN, FlexRay, USB 2.0, Ethernet, I2S, LJ, RJ, TDM (optional)

Waveform Measurements & Math

Automated Measurements	36 standard measurements
Waveform Math Functions	Basic waveform arithmetic, FFT, Advanced equation editor

Digital Voltmeter & Trigger Frequency Counter

DVM Resolution	4-digit
DVM Voltage Measurements	AC RMS, DC, DC+AC RMS
Trigger Frequency Counter Resolution	8-digit

Arbitrary / Function Generator (Optional)

Arbitrary/Function Generator Maximum Frequency	50 MHz (optional)
AFG Supported Waveforms	Arbitrary, Sine, Square, Pulse, Ramp, Triangle, DC Level, Gaussian, Lorentz, Exponential Rise/Fall, Sin(x)/x, Random Noise, Haversine, Cardiac

Display & User Interface

Display Size	15.6 in (396 mm)
Display Resolution	1920 x 1080 (High Definition)
Touchscreen Technology	Capacitive multi-touch

Connectivity & Interfaces

Remote Access	e*Scope® web browser interface
Probe Interface System	TekVPI

Power Supply & Physical Characteristics

Form Factor	Benchtop
Kensington Security Slot	Yes

Timebase & Horizontal System

Timebase Range	200 ps/div to 1000 s/div
Timebase Delay Range	-10 divisions to 5000 s
Channel Deskew Range	±125 ns
Timebase Accuracy	±2.5 ppm

Environmental & Safety

Operating Altitude	Up to 3000 m (9843 ft)
Non-Operating Altitude	Up to 12000 m (39370 ft)

Power & Mechanical

Maximum Power Consumption	400 W
VESA Mount Standard	100 mm x 100 mm

General & System

Operating System Option	Embedded OS standard; optional Windows 10 IoT Enterprise (Option 5-WIN)
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Power

Line Voltage / Frequency	100 V to 240 V AC (±10%) at 50/60 Hz; 115 V AC (±10%) at 400 Hz
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Environmental

Operating Humidity	5% to 90% RH up to +40 °C; 5% to 55% RH from +40 °C to +50 °C, non-condensing
Operating Vibration	0.31 gRMS, 5 Hz to 500 Hz, 10 minutes per axis, 3 axes

Arbitrary/Function Generator

AFG Sample Rate	250 MS/s
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Inputs & Outputs

Auxiliary Output Signal	0 V to 2.5 V into 50 Ω, 3.3 V LVCMOS into 1 MΩ
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TECHNOLOGY

Digital Storage / Mixed Signal Oscilloscope (MSO)

APPLICATIONS

Embedded systems design, power electronics characterization, automotive electronics, digital debug, signal integrity analysis

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