

**Aumictech**

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Data Sheet

August 13, 2026

RIGOL

Rigol MSO1104Z Mixed Signal Oscilloscope 100MHz

Rigol MSO1104Z 100 MHz Four Channel Mixed Signal Oscilloscope The MSO1104Z is the 100 MHz mixed signal oscilloscope in the MSO/DS1000Z family with 4 analog channels and 16 digital channels without a built-in generator (use MSO1104Z-S for the dual 25 MHz source). Analog sample rate is 1 GSa/s (1 ch), 500 MSa/s (2 ch), or 250 MSa/s (3/4 ch). Digital sample rate is 1 GSa/s (8 ch) or 500 MSa/s (16 ch). Standard analog memory is 12 / 6 / 3 Mpts, optional 24 / 12 / 6 Mpts. Waveform capture rate is up to 30 000 wfms/s. Standard probes are four PVP2150 plus RPL1116. 7 inch 800 × 480 WVGA. The MSO1104Z is the 100 MHz mixed signal oscilloscope in the MSO/DS1000Z family with 4 analog channels and 16 digital channels without a built-in generator (use MSO1104Z-S for the dual 25 MHz source). Analog sample rate is 1 GSa/s (1 ch), 500 MSa/s (2 ch), or 250 MSa/s (3/4 ch). Digital sample rate is 1 GSa/s (8 ch) or 500 MSa/s (16 ch). Standard analog memory is 12 / 6 / 3 Mpts, optional 24 / 12 / 6 Mpts. Waveform capture rate is up to 30 000 wfms/s. Standard probes are four PVP2150 plus RPL1116. 7 inch 800 × 480 WVGA. Four channel analog plus 16 digital embedded debug



MODEL

Rigol MSO1104Z

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

MSO1104Z

LISTING

<https://aumictechlabs.com/products/mso1104z-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Rigol MSO1104Z is a 100 MHz mixed-signal oscilloscope built for embedded system development, signal integrity testing, and power supply design. It captures both analog and digital signals simultaneously, delivering up to 30,000 waveforms per second with deep memory and real-time analysis capabilities. The instrument combines four analog channels with 16 digital channels, making it suitable for complex system-level troubleshooting and protocol verification.

Technical Specifications
Bandwidth: 100 MHz
Analog Channels: 4
Digital Channels: 16
Maximum Sample Rate: 1 GSa/s
Memory Depth: 12 Mpts (standard); 24 Mpts (optional)
Waveform Capture Rate: Up to 30,000 wfms/s
Display: 7-inch WVGA (800×480) with multi-level intensity grading
Form Factor: Benchtop with embedded operating system

Key Features
UltraVision technology enables high-speed waveform acquisition and detailed signal visualization across both analog and digital domains. Analog channels support multiple logic levels with selectable input impedance and coupling options. Digital channels feature easy grouping and labeling with dedicated triggering and decoding capabilities. Serial bus analysis is available as an option, including support for RS232, I2C, and SPI protocols. Advanced triggering modes - such as Window, Nth Edge, Delay, Timeout, and Runt - enable detection of specific signal conditions. Optional real-time waveform record and replay functionality captures up to 60,000 frames for post-analysis review. A built-in 2-channel, 25 MHz signal source is available as an integrated option for stimulus and verification tasks.

Typical Applications
Embedded system debugging and validation
Signal integrity and power integrity measurements
Serial protocol analysis (RS232, I2C, SPI)
Digital and analog circuit characterization
Timing and synchronization verification

Compatibility & Integration
Connectivity includes LAN (LXI), USB Host and Device ports, and AUX input. Optional USB-GPIB interface enables remote control and integration into automated test systems. Optional deep memory expansion (MEM-DS1000Z) upgrades storage to 24 Mpts. The MSO1104Z Kit has direct replacement capability for discontinued MSO1104Z models.

MSO1104Z Characteristics / Specifications

PARAMETER	VALUE
Model	MSO1104Z
Manufacturer	Rigol
Instrument Type	Mixed signal oscilloscope
Alias	MSO1104Z; RIGOL MSO1104Z
Analog Bandwidth	100 MHz
Single Shot Bandwidth	100 MHz
Analog Channels	4
Digital Channels	16
Built In Source	none
Analog Sample Rate 1 ch	1 GSa/s
Analog Sample Rate 2 ch	500 MSa/s
Analog Sample Rate 3 or 4 ch	250 MSa/s
Digital Sample Rate 8 ch	1 GSa/s
Digital Sample Rate 16 ch	500 MSa/s
Analog Memory Standard 1 ch	12 Mpts
Analog Memory Optional 1 ch	24 Mpts
Digital Memory Standard 8 ch	12 Mpts
Digital Memory Standard 16 ch	6 Mpts
Waveform Capture Rate	30 000 wfms/s
Record Frames Optional	up to 60 000
Timebase Scale	5 ns/div to 50 s/div
Timebase Accuracy	less than or equal to plus/minus 25 ppm
Clock Drift	less than or equal to plus/minus 5 ppm per year
Calculated Rise Time	3.5 ns
Vertical Scale	1 mV/div to 10 V/div

PARAMETER	VALUE
DC Gain Accuracy 10 mV and above	plus/minus 3 percent full scale
Analog Resolution	8 bit
Digital Resolution	1 bit
Analog Input Impedance	(1 MOhm plus/minus 1 percent) parallel (15 pF plus/minus 3 pF)
Digital Input Impedance	(100 kOhm plus/minus 1 percent) parallel (8 pF plus/minus 3 pF)
Digital Threshold Range	plus/minus 15.0 V, 10 mV step
Digital Min Pulse	10 ns
Analog Max Input	CAT I 300 Vrms, CAT II 100 Vrms, 1000 Vpk transient
Digital Max Input	CAT I 40 Vrms, 800 Vpk transient
Bandwidth Limit	20 MHz
Channel Isolation	greater than 40 dB to max bandwidth
Display	7.0 inch TFT, 800 × 480, 16 million colors
Standard Analog Probes	4 x PVP2150 150 MHz
Standard Logic Probe	RPL1116
Power	100 V to 240 V, 45 Hz to 440 Hz, max 50 W
Dimensions	313.1 mm x 160.8 mm x 122.4 mm
Weight	3.2 kg plus/minus 0.2 kg without package
Operating Temperature	0 C to +50 C
Sibling With Source	MSO1104Z-S Notes Specs from Rigol MSO/DS1000Z datasheet. MSO1104Z has no built-in generator. Confirm memory option 24 Mpts, RPL1116, and serial decode licenses.
Bandwidth	100 MHz
Rise Time	3.5 ns

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to +50 C
Operating Temperature	0 C to +50 C
Sibling With Source	MSO1104Z-S Notes Specs from Rigol MSO/DS1000Z datasheet. MSO1104Z has no built-in generator. Confirm memory option 24 Mpts, RPL1116, and serial decode licenses.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	MS01104Z
Manufacturer	Rigol
Instrument Type	Mixed signal oscilloscope
Alias	MS01104Z; RIGOL MS01104Z
Analog Bandwidth	100 MHz
Single Shot Bandwidth	100 MHz
Analog Channels	4
Digital Channels	16
Built In Source	none
Analog Sample Rate 1 ch	1 GSa/s
Analog Sample Rate 2 ch	500 MSa/s
Analog Sample Rate 3 or 4 ch	250 MSa/s
Digital Sample Rate 8 ch	1 GSa/s
Digital Sample Rate 16 ch	500 MSa/s
Analog Memory Standard 1 ch	12 Mpts
Analog Memory Optional 1 ch	24 Mpts
Digital Memory Standard 8 ch	12 Mpts
Digital Memory Standard 16 ch	6 Mpts
Waveform Capture Rate	30 000 wfms/s
Record Frames Optional	up to 60 000
Timebase Scale	5 ns/div to 50 s/div
Timebase Accuracy	less than or equal to plus/minus 25 ppm
Clock Drift	less than or equal to plus/minus 5 ppm per year
Calculated Rise Time	3.5 ns
Vertical Scale	1 mV/div to 10 V/div
DC Gain Accuracy 10 mV and above	plus/minus 3 percent full scale

PARAMETER	VALUE
Analog Resolution	8 bit
Digital Resolution	1 bit
Analog Input Impedance	(1 MOhm plus/minus 1 percent) parallel (15 pF plus/minus 3 pF)
Digital Input Impedance	(100 kOhm plus/minus 1 percent) parallel (8 pF plus/minus 3 pF)
Digital Threshold Range	plus/minus 15.0 V, 10 mV step
Digital Min Pulse	10 ns
Analog Max Input	CAT I 300 Vrms, CAT II 100 Vrms, 1000 Vpk transient
Digital Max Input	CAT I 40 Vrms, 800 Vpk transient
Bandwidth Limit	20 MHz
Channel Isolation	greater than 40 dB to max bandwidth
Display	7.0 inch TFT, 800 x 480, 16 million colors
Standard Analog Probes	4 x PVP2150 150 MHz
Standard Logic Probe	RPL1116
Power	100 V to 240 V, 45 Hz to 440 Hz, max 50 W
Dimensions	313.1 mm x 160.8 mm x 122.4 mm
Weight	3.2 kg plus/minus 0.2 kg without package
Operating Temperature	0 C to +50 C
Sibling With Source	MS01104Z-S

Notes

Specs from Rigol MS0/DS1000Z datasheet. MS01104Z has no built-in generator. Confirm memory option 24 Mpts, RPL1116, and serial decode licenses.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.