



R&S®MXO 5 SERIES OSCILLOSCOPE

Next generation oscilloscope: evolved for more challenges

The perfect choice for



Hardware debugging
Serial bus analysis

Power analysis

EMI debugging

Power sequencing

Power integrity

Signal integrity

Key highlights

- ▶ 100 MHz to 2 GHz bandwidth
- ▶ Acquisition rate of over 4.5 million waveforms/s
- ▶ > 45K FFT/s
- ▶ 12 bit ADC at all sample rates
- ▶ 18 bit architecture with HD mode
- ▶ 500 Mpoints per channel standard memory
- ▶ Precise digital trigger

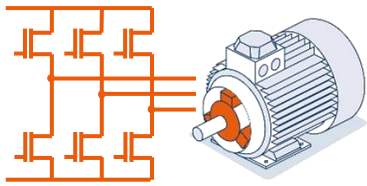
Your benefit	Features
Fast acquisitions	Capture up to 99% of real-time waveforms with minimal dead time
Deep record length	Longer acquisition times without missing signal details
18-bit architecture	High vertical resolution for high precision signal capture
Digital trigger	Trigger that works with up to 18-bit resolution and 0.0001 div sensitivity
SmartGrid and UI	Highly configurable user interface with intuitive design for fast learning curves

Key specifications	R&S®MXO54	R&S®MXO58
Bandwidth (MHz)	350/500 MHz, 1 GHz and 2 GHz	100/200/350/500 MHz, 1 GHz and 2 GHz (≤4 ch)
Max. sample rate	5 GSamples/s (interleaved) 2.5 GSamples/s (all channels)	
Analog channels	4 or 8	
Digital channels	16 standard (dedicated connector)	
Acquisition rate	4.5 million acquisitions/s per channel 18 million acquisitions/s on 4 channels	
ADC resolution	12-bit ADC – all sample rates	
Max. vertical resolution	18-bit in HD-mode	
Standard memory depth	500 Mpoints per channel (Opt. upgrade to 1 Gpoints)	
Segmented memory	Up to 1 million segments with 1 Mpoints capture	
FFT speed	> 45K FFT/s	
FFT capabilities	Log-log display, max/min-hold, peak-lists	
Vertical noise floor	130 μVrms at 1 mV/div, 2 GHz bandwidth	
Vertical offset range	5 V at 1 MΩ coupling	
Arbitrary generator	2 channels, 100 MHz with 625 MSamples/s	
Digital trigger sensitivity	0.0001	
Trigger hysteresis	User selectable	
Trigger jitter	< 1 ps (rms) (meas.)	
Time base accuracy	±0.2 ppm	
Display	15.6" Full-HD display with capacitive touch	
VESA mount support	Yes, with adapter R&S®MXO5-Z7	
Operating system	Linux	
Upgradable	Bandwidth, protocol trigger and decode, arbitrary waveform generator, analysis capabilities	
Warranty	1 year	



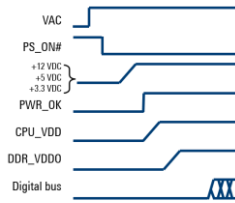
For more information, visit
www.rohde-schwarz.com/product/MXO5

Use case (highlights)



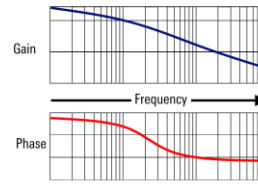
Inverter and drive train analysis

- ▶ More channels to observe voltage and current signals
- ▶ New WBG devices for faster switching
- ▶ Digital trigger with high sensitivity to detect possible shoot-through events
- ▶ Longer record length for monitoring



Power sequencing and integrity

- ▶ Record more power rails longer
- ▶ 18-bit HD for high precision and sensitivity on power ripple
- ▶ Record all power up/down sequences
- ▶ Additional spectrum analysis helps identify spectral noise in debugging



Control loop response of power supply

- ▶ All-in-one tool to observe time and bode plots
- ▶ Start from 0.01 Hz to 100 MHz
- ▶ Amplitude profile and delayed measurement for settling time

Your go-to tool



Serial protocol trigger and decode



Digital voltmeter



Fast spectrum support log-log scale



Math functions



2 arbitrary generators, 1 MHz to 100 MHz



MSO logic analysis



Power analysis quality and harmonics



Frequency response

Rohde & Schwarz continues to roll out newer capability and functions in future to meet ever changing requirements

Probe choices

Rohde & Schwarz offers a wide variety of probe choices for your applications including:

- ▶ Active single ended and differential probes
- ▶ High voltage and current probes
- ▶ Power rail probes
- ▶ Logic probes
- ▶ Near field probes



High voltage probes
▶ page 26



Visit our probe portfolio to find out more

Warranty

Base unit	1 year
All other items	1 year
Extended warranty (1 year, 2 year, ...)	WE1, WE2, ...
Accredited certification coverage (1 year, 2 years, ...)	ACC1, ACC2, ...
Additional service options available for extended warranty coverage	

Ordering information

Step 1: Choose your oscilloscope model

Description	Item
350 MHz, 4 channel oscilloscope	R&S®MX054
100 MHz, 8 channel oscilloscope	R&S®MX058

Accessories included: 700 MHz passive probe (10:1) per channel, accessories bag, quick start guide, power cord

Languages supported: English, German, French, Spanish, Italian, Portuguese, Czech, Polish, Russian, simplified and traditional Chinese, Korean and Japanese.

Step 2: Choose your bandwidth option (Software upgradable)

Upgrade of R&S®MX054 to 500 MHz bandwidth	R&S®MX05-B245
Upgrade of R&S®MX054 to 1 GHz bandwidth	R&S®MX05-B2410
Upgrade of R&S®MX054 to 2 GHz bandwidth	R&S®MX05-B2420
Upgrade of R&S®MX058 to 200 MHz bandwidth	R&S®MX05-B282
Upgrade of R&S®MX058 to 350 MHz bandwidth	R&S®MX05-B283
Upgrade of R&S®MX058 to 500 MHz bandwidth	R&S®MX05-B285
Upgrade of R&S®MX058 to 1 GHz bandwidth	R&S®MX05-B2810
Upgrade of R&S®MX058 to 2 GHz bandwidth	R&S®MX05-B2820

Step 3: Choose your hardware option

Mixed signal option (MSO) with 16 digital channels	R&S®MX05-B1
Arbitrary waveform generator, 100 MHz, 2 channels	R&S®MX05-B6
Additional M.2 SSD	R&S®MX05-B19
Memory option 1 Gpoints	R&S®MX05-B110

Step 4: Choose your software option

Low speed serial triggering and decode	R&S®MX05-K510
Automotive serial triggering and decode	R&S®MX05-K520
MIPI low speed serial decode	R&S®MX05-K550
Automotive Ethernet decode	R&S®MX05-K560
Power analysis	R&S®MX05-K31
Frequency response analysis	R&S®MX05-K36

Step 5: Choose your accessories

Front cover	R&S®MX05-Z1
Soft bag	R&S®MX05-Z3
Transit case	R&S®MX05-Z4
Vesa mount adapter	R&S®MX05-Z7
Rackmount kit	R&S®ZZA-MX05

Rohde & Schwarz GmbH & Co. KG (www.rohde-schwarz.com)

Rohde & Schwarz customer support (www.rohde-schwarz.com/support) Rohde & Schwarz training (www.training.rohde-schwarz.com)

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG | PD 3608.9453.32 | Version 01.10 | May 2024 (cw)

Trade names are trademarks of the owners | R&S®MX05 oscilloscope | Data without tolerance limits is not binding

Subject to change | © 2023 - 2024 Rohde & Schwarz GmbH & Co. KG | 81671 Munich, Germany