

FNIRSI 2C53T 3-in-1 portable oscilloscope multimeter signal generator



Model: 2C53T

Manufacturer: FNIRSI

EAN: 5907085526973

Product Code: 1298694

R2,530

FNIRSI 2C53T 3-in-1 portable oscilloscope multimeter signal generator

The FNIRSI 2C53T combines the functions of a 2×50 MHz/250 MSa/s oscilloscope with an 8-bit ADC and a 16 kpoint memory buffer per channel (pre-/post-trigger), a multimeter up to 19999, and a 50 kHz signal generator. The input impedance is 1 MΩ || 15 pF with AC/DC/GND switching. A durable ABS housing with silicone overlays, a 2.8-inch 320×240 px screen, and a 3000 mAh battery (up to 4 hours of operation) guarantee mobility and continuous measurements even in difficult conditions. The device is CAT II 300 V certified, with dual ceramic fuses and an overvoltage protection circuit. With waveform recording and firmware updates, you always have control over your results and access to the latest features.

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Color screen and multimeter

The 2.8" display with a resolution of 320×240 px presents waveforms in full color with an "infinite afterglow" function (preserving the signal trace on the screen even after it disappears), keeping the wave trace on the screen. Y-T, Rolling, and X-Y modes (so-called Lissajous figures for analyzing phase differences between signals) facilitate the observation of phase relationships, and high brightness ensures readability in all conditions. The built-in multimeter with a resolution of up to 19999 allows you to measure DC/AC, low and high currents, resistance, capacitance, diodes, temperature, and continuity (buzzer). Intelligent protections protect the user and equipment from overload.

Advanced hardware architecture

The professional combination of ARM + FPGA + high-performance ADC, used in desktop oscilloscopes, ensures fast triggering and accurate signal reproduction. The trigger system offers Edge (rising/falling), Pulse Width, Video, and Slope modes with up to 50% pre-trigger and 50% post-trigger, so even the shortest anomalies are captured without losing detail.

Signal generator

The built-in function generator offers a voltage of up to ± 400 V and a frequency of up to 50 kHz, as well as 13 waveforms (sine, square, triangle, saw, ramp, pulse, noise, etc.) with adjustable offset (signal shift relative to zero) and amplitude in 10 mV/div steps, allowing you to test filters, amplifiers, and analog circuits without additional equipment.

Automatic measurement setting

The AUTO function adjusts the range and triggering with a single button, allowing for immediate waveform viewing without time-consuming configuration. Support for additional Single and Normal modes streamlines work with fast field measurements. One click is all it takes to save a screenshot of the waveform to the oscilloscope's memory or directly to a computer via USB. This facilitates archiving of results and further analysis in any environment.

Isolated measurement channels

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Two completely independent inputs, CH1 and CH2, with a bandwidth of 50 MHz eliminate mutual interference, increasing measurement accuracy. Sampling at 250 MSa/s reproduces PWM pulses and power supply ripple with maximum fidelity.

Rugged design

The silicone-coated ABS (Acrylonitrile Butadiene Styrene – high-strength plastic) housing provides resistance to drops and shocks, and the gold-plated PCB (Printed Circuit Board) tracks are corrosion-resistant. The 3000 mAh battery guarantees up to 3 hours of operation. The fold-out stand allows you to position the device at any angle, while the ergonomic buttons and USB-C port ensure comfortable operation and charging.

Included:

- FNIRSI 2C53T 3-in-1 portable oscilloscope
- 10× measuring probes (1 pc.)
- Probe with alligator clips
- Multimeter leads
- Charging cable
- Carrying bag
- User manual

Product parameters

Screen	2.8-inch HD color display
Resolution	320 × 240
Charging Specifications	USB-C (5 V/1 A)
Battery	3000 mAh lithium-ion
Supported Functions	Oscilloscope, signal generator, multimeter (details in function parameters)

Standby Time	6 hours (laboratory maximum)
Language	Chinese and English
Dimensions	167 × 89 × 35 mm
Weight	300 g

Oscilloscope parameters

Channels	Two-channel
Sampling	250 MSa/s
Analog bandwidth	50 MHz (each channel independently 50 MHz)
Memory depth	1 kpoint
Impedance	1 MΩ
Time base range	10 ns – 20 s
Vertical sensitivity	10 mV/division – 10 V/division (×1)

Maximum measurement voltage ±400 V

Trigger mode	AUTO/Normal/Single
Display mode	Y-T/Rolling/X-Y
Coupling	AC/DC
Trace persistence	OFF, 500 ms, 1 s, ∞
Mathematical functions	8 basic operations + FFT
Waveform capture	Yes
Waveform export	Yes
Cursor measurement	Yes

Signal generator parameters

Channel Single channel

Frequency 1 Hz – 50 kHz

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Amplitude 0.1 – 3.0 V

Multimeter parameters

DC voltage	1.9999 V / 19.999 V / 199.99 V / 1000 V $\pm(0.5\%+3)$
AC voltage	1.9999 V / 19.999 V / 199.99 V / 750.0 V $\pm(1\%+3)$
DC current	19.999 mA / 199.99 mA / 1.9999 A / 9.999 A $\pm(1.2\%+3)$
AC current	19.999 mA / 199.99 mA / 1.9999 A / 9.999 A $\pm(1.5\%+3)$
Resistance	9.999 M Ω / 1.9999 M Ω / 199.99 k Ω / 19.999 k Ω $\pm(0.5\%+3)$; 1.9999 k Ω / 199.99 Ω $\pm(2.0\%+3)$
Capacitance	9.999 mF / 99.99 mF $\pm(5.0\%+20)$
Temperature	-55 $^{\circ}\text{C}$ – 1300 $^{\circ}\text{C}$ (-67 $^{\circ}\text{F}$ – 2372 $^{\circ}\text{F}$) $\pm(2.5\%+5)$
Diode measurement	Yes
Continuity test	Yes

GPSR Link: https://psr-assets.innpro.pl/tools/sg_tools_measuring_tools.pdf, Gross weight: 830, Net weight: 295, Box length: 20,50, Box width: 13,00, Box height: 8,50, Information about data generation: <https://dataact.innpro.pl/fnirsi/5907085526973>, PPWR: <https://ppwr.innpro.pl/fnirsi>