

TEKTRONIX

THS720P

The Tektronix THS720P is a rugged, handheld 100 MHz, 500 MS/s 2-channel oscilloscope and True RMS digital multimeter. Specially designed for electrical and power electronics measurements, it features isolated TekScope IsolatedChannel architecture allowing safe floating measurements up to 600 V RMS. The THS720P integrates advanced power analysis capabilities, automatic harmonic measurements up to the 31st harmonic, 8 ns glitch capture, and a 3-3/4 digit DMM with an integrated TrendPlot data logger.

SPECIFICATIONS

General

Interfaces	RS-232 (optically isolated)
Display	Backlit monochrome LCD (320 × 240 pixels)

Physical

Power Supply	NiCd rechargeable battery pack or external AC adapter
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	177 mm × 217 mm × 51 mm mm
Weight	1.45 kg

Vertical System (Oscilloscope)

Number of Channels	2
Analog Bandwidth (-3 dB)	100 MHz
Calculated Rise Time (10% to 90%)	3.5 ns
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ ± 1% in parallel with 25 pF
Input Sensitivity Range	5 mV/div to 50 V/div (in 1-2-5 sequence)
Vertical Resolution	8-bit
DC Vertical Accuracy	±2%
Maximum Input Voltage	600 V RMS CAT II, 300 V RMS CAT III
Channel-to-Channel Isolation	>100:1 at 100 MHz

Horizontal System & Acquisition

Maximum Real-Time Sampling Rate	500 MS/s
Maximum Record Length	2500 points
Timebase Range	5 ns/div to 50 s/div
Timebase Accuracy	±100 ppm
Acquisition Modes	Sample, Envelope, Average, Peak Detect
Glitch/Peak Detect Width	8 ns

Trigger System

Trigger Sources	CH1, CH2, Ext
Trigger Modes	Auto, Normal, Single
Trigger Coupling	AC, DC, HF Reject, LF Reject, Noise Reject
Trigger Sensitivity	0.5 div (DC to 10 MHz), 1.5 div (10 MHz to 100 MHz)
Trigger Level Range	±10 divisions from screen center
Advanced Trigger Types	Pulse, Video
Video Trigger Formats	NTSC, PAL, SECAM
Trigger Holdoff Range	250 ns to 8 s

Measurements & Analysis

Automatic Waveform Measurements	21 measurements
Cursor Measurements	Delta Time, Delta Voltage, 1/Delta Time
Waveform Math Operations	Addition, Subtraction, Multiplication
Harmonic Analysis	Up to 31st harmonic (fundamental frequency range 30 Hz to 450 Hz)
Datalogger Mode	TrendPlot

Digital Multimeter (DMM) Mode

DMM Resolution	3-3/4 digits (4000 counts)
DMM DC Voltage Ranges	400.0 mV to 880.0 V
DMM DC Voltage Accuracy	±(0.5% + 5 counts)
DMM AC Voltage Ranges (True RMS)	400.0 mV to 640.0 V
DMM AC Voltage Accuracy	±(1.2% + 10 counts)
DMM Resistance Ranges	400.0 Ω to 40.00 MΩ
DMM Resistance Accuracy	±(0.5% + 5 counts) up to 4 MΩ, ±(2.0% + 5 counts) at 40 MΩ
DMM Diode Test Range	2.0 V
Continuity Threshold	Beeps at < 50 Ω

Display & User Interface

Display Type	Backlit Liquid Crystal Display (LCD)
Display Size (Diagonal)	4.7 inches (120 mm)
Display Resolution	320 × 240 pixels
Backlight	Extra bright backlight

Connectivity & Storage

Optically Isolated Interface	Yes (using optical interface cable to RS-232)
Internal Waveform Storage	Save/Recall 10 Waveforms
Internal Setup Storage	Save/Recall 10 Setups

Power & Battery System

Battery Type	Rechargeable NiCd pack
Operating Time on Battery	1.5 hours typical

Environmental & Safety Specifications

Operating Temperature Range	0 °C to +50 °C
Storage Temperature Range	-20 °C to +60 °C
Maximum Operating Altitude	2000 meters
Relative Humidity	95% RH at or below +30 °C, non-condensing
Overvoltage Category Rating	600 V CAT II, 300 V CAT III
Safety Certification	UL3111-1, CSA C22.2 No. 1010.1, EN61010-1

Physical Characteristics

Dimensions (H x W x D)	217 mm x 177 mm x 51 mm
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Standard Accessories & Options

Included Probes	Two P5102 10X 100 MHz 1000 V high-voltage passive probes
Included Test Leads	DMM test leads

Horizontal System

Timebase Modes	Main, Window, Roll
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Digital Multimeter

DMM Diode Test Open-Circuit Voltage	3.0 V
DMM Input Impedance	10 MOhm

Power Measurement & Harmonics

Harmonic Fundamental Frequency Range	30 Hz to 450 Hz
Harmonic Range	1st to 31st harmonic

Oscilloscope Math

Waveform Multiplication	Supported (Ch 1 x Ch 2 for power calculations)
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Datalogger (TrendPlot)

TrendPlot Recording Time	Up to 8 days
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Power Source

AC Adapter Output Voltage	12 V DC
AC Adapter Current Rating	1.2 A

Environmental

Shock Resistance	50 g
Vibration Resistance	2.66 g RMS

Performance

Common Mode Rejection Ratio (CMRR)	>1000:1 at 60 Hz, >100:1 at 1 MHz
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DMM

DMM Display Count	4000 counts (3-3/4 digits)
DMM Analog Bar Graph	40 segments
DMM AC Voltage Frequency Range	50 Hz to 20 kHz

Outputs

Probe Compensator Output	5 V at 1.2 kHz
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Acquisition

Waveform Interpolation	Sin(x)/x
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Interfaces

RS-232 Baud Rates	300, 600, 1200, 2400, 4800, 9600, 19200, 38400 bps
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TECHNOLOGY

Digital Storage Oscilloscope (DSO)

APPLICATIONS

Power electronics testing, electrical maintenance, and field service

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