# Micsig

# Tablet OscilloscopeSTO Series

- 2/4 Analog Channels
- 100/200MHz Bandwidth
- 70Mpts Memory Depth
- 1 GSa/s Sampling Rate
- 7500mAH Li-ion Battery
- 8" Capacitive Touchscreen



Your Professional Oscilloscope for the Lab or in the Field

## PRODUCT OVERVIEW

Micsig Tablet Oscilloscope STO series STO1000 adopts the newest integrated touch screen technology and newly upgraded hardware and software system, it features 4 analog channels, available with max. 200MHz bandwidth, max. 1G Sa/s sampling rate and 70Mpts of memory depth, waveform capture rate up to 130,000 wfms/s.

With a large 8-inch, 800x600 industrial capacitive touch screen, the STO series can be operated in 3 modes: Full-touch, Physical button panel, and the mixture of both. Equipped with highly sensitive digital trigger system, it supports serial bus triggering and decoding. Combined with Micsig's unique touch algorithm patented technology, the STO series presents unparalleled operating experience to users.



- ► Robust hardware design, intuitive Android operation system
- ► Excellent connectivity: Wi-Fi, HDMI, USB 3.0/2.0 Host, USB Type-C
- $\blacktriangleright$  8" capacitive integrated screen brings premium touch experience
- $\mbox{-}$  Up to 5H battery life & compact size, perfect for field work
- Power-off switch lock, safe to travel and store

- ▶ 32G internal storage to save large data / videos / screenshots
- Standard protocol decoding: UART, CAN, LIN, SPI, I<sup>2</sup>C
- Innovative PC & STOphone App remote control
- ► Support Wi-Fi, USB, computer control and SCPI

#### **Key Specifications**

Model	STO1004	STO2002	
Analog Channels	4	2	
Bandwidth	100MHz	200MHz	
Rise time	≤3.5ns	≤1.75ns	
Sampling Rate (Max.)	1GSa/S		
Memory Depth	70Mpts		
Waveform Capture Rate (Max.)	130,000 wfms/s		
Bandwidth Filter	20MHz, High Pass, Low Pass (to 30KHz)		
Interfaces	Wi-Fi, USB 3.0/2.0 Host, USB-C, Grounding, HDMI, Trigger out		
Display	Industrial 8" TFT-LCD (800*600), 14*10 divisions		
Dimension / Net Weight	265*192*50mm / 1.9kg (with battery)		
Battery	7.4V, 7500mAh, Li-ion battery		



# CHARACTERISTICS & FEATURES





"Joystick": Highly integrated multifunction shortcut keys, delivers quick & accurate control to various operations.



Built-in 7500mAh Li-ion battery, up to 5 hours battery life, Support Power-off lock, more secure to travel with.



 Power button, Grounding plug, Probe Calibration Output, USB3.0/2.0, HDMI, USB-C, Power Supply, Power-off Lock (Note: switch to ON for first-time use)





#### **High Waveform Update Rate**

With a waveform update rate of up to 130,000 wfms/s, the STO series can easily capture unusual or low probability events.



#### **Deep Memory**

Hardware-based Zoom technology and up to 70Mpts memory depth, allow users to move and browse waveforms much easier and quickly zoom in to focus on the area of interest.



#### **Serial Bus Decoding and Analysis**

Support RS-232/422/485/UART, LIN, CAN, CAN FD, I<sup>2</sup>C, SPI serial bus decoding and triggering options, display waveform and data at the same time.



#### **Powerful Trigger Functions**

Support Edge, Pulse, Logic, N Edge, Runt, Slope, Timeout, Video and Serial trigger, most intuitive trigger settings, fast and easy trigger source switching.



#### Fast Storage

A full screen of 70M waveform data can be completely saved in BIN format with one quick click. More than 70% more efficient than traditional oscilloscopes.

# Micsig RUN 280k 105a/s 00s A / 02.28V

#### **Convenient Cursor Measurement**

Touch to open horizontal and vertical cursors, each cursor can be moved separately or simultaneously, brings unmatched user experience.



#### **256-Level Intensity Grading**

The STO series has digital fluorescent display, the resulting intensity-graded trace is brighter for events that occur with more frequency and dims when the events occur with less frequency.



#### **Hardware Digital Filter**

High pass / low pass filter function helps engineers rule out insignificant frequency so to eliminate interference, observe the true state of the signal.



#### **31 Auto Measurements**

All 31 types of automatic measurements can be displayed on one screen, one touch to clear, the best auto measurement on the market.



#### **Color Temperature Display**

It uses the warm and cold color temperature to clearly indicate the waveform frequency. Cool color indicates low waveform frequency, and warm color indicates high waveform frequency.



#### **Statistics Function**

Using statistics to read the current measurement item multiple times, monitor the change trend, the maximum number of readings can reach 10,000.





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#### Soft Keyboard Input

When entering names, IPs, and characters, the STO series can easily click on the soft keyboard to input like a tablet PC.



#### **Channel Label**

When measuring on multiple channels, users can set different labels for different sources to facilitate observation and reading.



#### Large 32GB Internal Storage

Built-in 32G large storage, user can wirelessly access/view massive files like pictures, videos of the oscilloscope via PC and mobile phone.



#### Android Operation System

With industry-first Android based OS, the STO series provides excellent user experience and promising applications.



#### **Remote Control and Demonstration**

The STO series support PC software + Mobile phone App (Android / iOS) remote control via connections of Wi-Fi, USB, able toaccess internet for online upgrade, it also can be projected through HDMI port for demonstrations for training and education purpose.



#### Specifications

Indux CouplingDC. AC, GNDBandwidh Filter20AH2, Nph low pass (30H2-max bandwidh)Input ImpedanceMix2118/14.6.5.45.3.47Varical RecolutionBisDC Gain Accuracy (Amplitude Accuracy)4-2% (MDL Inpu)Input Sensitivity Range1MVdv-1MVdv (MDL Inpu)Of Act A Isolation DC to Maximum Bandwidh4008 (100.1)Offset Range2.5.7 (altenuation X1, 4500m/Vdv), ±2.07 (altenuation X1, ±500m/Vdv)Maximum Input Voltage2.5.7 (altenuation X1, 4500m/Vdv), ±2.07 (altenuation X1, ±500m/Vdv)Offset Range2.5.7 (altenuation X1, ±500m/Vdv), ±2.07 (altenuation X1, ±500m/Vdv)Time Base2.5.7 (altenuation X1, ±500m/Vdv), ±2.07 (altenuati	Vertical System	
Input impedanceIMΩ£1%[I/4.5pF=3pFVertical Resolution8 bitsDC Gain Accuracy (Amplitude Accuracy)<2% (IMΩ Input)Input Sensitivity RangeTmV/div (IMΩ Input)Ch-to-Ch Isolation DC to Maximum Bandwith24088 (IOU.1)Offset Range225 (Idtenuation X1, c500mV/div), ±120V (attenuation X1, 2500mV/div)Maximum Input VoltageCAT I 300Vms (IMΩ Input)Increase Delay Time Range14 divisions ~ 14/ssClock DrIft≤55pm / yearSampling System200pmSampling System200pmSampling System200pmVerageSelectable from 2, 4, 8, 16, 32, 64, 128, 256Pack DetectCapture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4nsNaximum duration at highest sampling rate70msAverageSelectable from 2, 4, 8, 16, 32, 64, 128, 256, ~Trigger ModeAuto, Normal, SingleTrigger System200ss–10sTrigger ModeDC, AC, high frequency reject, low frequency reject, noise rejectTrigger ModeAuto, Normal, SingleTrigger Types200ss–10sEdgePacitive or negative scillow or negative pulses that re >, <, =, # or within a period or lame of ses - 10s.Lipger On width of pacitive or negative scillow of the channel changes to >, < =, #, two value, lake value within the set time range.VideoTrigger on width of pacitive or the scillar changes to >, < =, #, two value, lake value within the set time range.Maximum duration of the channel changes to >, < =, #, two value, lake value within the set time range.Trigger On width	Input Coupling	DC, AC, GND
Vertical Resolution         B bis           DC Gain Accuracy (Amplitude Accuracy)         <         <         <         <         <         <         <         <         <          <         <           <         <            < <th>Bandwidth Filter</th> <th>20MHz, high low pass (30kHz~max bandwidth)</th>	Bandwidth Filter	20MHz, high low pass (30kHz~max bandwidth)
C Gain Accuracy (Amplitude Accuracy) <c2% (1md="" input)<="" td="">           Input Sensitivity Range         1mVidiv-10Vidiv (1MD Input)           Ch-to-Ch Isolation DC to Maximum Bandwidth         240dB (100.1)           Offser Range         2.5V (attenuation X1, &lt;500mV/div), ±120V (attenuation X1, &gt;500mV/div)           Maximum Input Votage         CAT 1 300Vms (1MD Input)           Horizontal System         1me Base           Time Base         2msdhv-1kkdiv           Time Base Accuracy         4d divisions = 14ks           Clock Drift         545pm / year           Time Base Accuracy         20ptm           Sampling Method         Real-Time           Pack Detect         Capture narrow glitches at all sweep speeds: CH = 1ms, dual CH = 2ms, four CH = 4ms           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ©           Frigger Mode         Auto. Normal, Single           Trigger Goupling         DC, AC, high fraquency reject, low frequency reject, noise reject.           Trigger Topes         Frigger on with of positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, LF reject, LF reject, LF reject, Maximum on and noise registre slopes on any channel. Coupling includes DC, HF reject, LF reject, Maximum on any logic pattern of the channel changes to s., e, =, f, true value, false value within the set time 7 ans.     <th>Input Impedance</th><th>1MΩ±1%  14.5pF±3pF</th></c2%>	Input Impedance	1MΩ±1%  14.5pF±3pF
Input Sensitivity Range         Int/idiv-10V/div (IMQ Input)           Ch-to-Ch Isolation DC to Maximum Bandwidth         240dB (100:1)           Qffset Range         2.5V (attenuation X1, <500mV/div), ±120V (attenuation X1, ≥500mV/div)           Maximum Input Voltage         CAT I 300Vms (IMQ Input)           Horizontal System         CAT I 300Vms (IMQ Input)           Time Base         2ms/div-1ks/div           Time Base Accuracy         2ms/div-1ks/div           Sampling System         Sampling System           Sampling Method         Real-Time           Peak Detect         Capture narrow giltches at all sweep speeds: CH - 1ns, dual CH - 2ns, four CH - 4ns           Maximum diration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞           Envelope         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞           Trigger Mode         Auto, Normal, Single           Trigger Mode         Auto, Normal, Single           Trigger on any channel. Coupling includes DC, HF reject, LF reject, and one reject.           Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.           Puise Width         Trigger on any loop satem of the channel changes to s, <, =, #, true value, false value with the set stime of ses -10s.           Positive or negative slope on any channel. Coupling i	Vertical Resolution	8 bits
Ch-to-Ch Isolation DC to Maximum Bandwidth         240dB (100.1)           Offset Range         2.5V (atteruation X1, <500mV/div), ±120V (atteruation X1, >500mV/div)           Maximum Input Voltage         CAT I 300Vms (1MQ Input)           Horizontal System         2mo/div~1ks/div           Time Base         2mo/div~1ks/div           Time Base Delay Time Range         14 divisions - 14ks           Clock Drift         545ppm / year           Sampling System         230pm           Sampling System         230pm           Sampling Method         Real-Time           Peak Detect         Capture narrow gitches at all sweep speeds: CH - 1ns, dual CH - 2ns, four CH - 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256,           Trigger Mode         Auto, Normal, Single           Trigger Mode         Auto, Normal, Single           Trigger Mode         Auto, Normal, Single           Trigger Outpling         DC, AC, high frequency reject, noise reject.           Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, LF reject, end noise reject.           Puise Width         Trigger on wild of positive or negative puises that res, s, =, # or within a period or inder of the channel changes to s, <, =, #, true value, lalse value withe in dese counding to tiffe	DC Gain Accuracy (Amplitude Accuracy)	<±2% (1MΩ Input)
Offset Range         a2.5V (attenuation X1, <500mV/div), ±120V (attenuation X1, <500mV/div)           Maximum Input Voltage         CAT 1 300Vrms (1MQ Input)           Horizontal System         2ns/div-1ks/div           Time Base         2ns/div-1ks/div           Time Base Delay Time Range         14 divisions ~ 14ks           Clock Drift         5±5ppm / year           Time Base Accuracy         ±20ppm           Sampling System         200pm           Sampling Method         Real-Time           Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Avarage         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, %           Trigger Mode         Auto, Normal, Single           Trigger Outping         DC, AC, high frequency reject, noise reject           Trigger Types         200ns - 10s           Edge         Positive or negative pulses that are >, <, =, ź or within a period of time of 8ns ~ 10s.           Logic         Trigger on with dipositive or negative pulses that are >, <, =, ź or within a period of time of 8ns ~ 10s.           Trigger on with of positive or negative pulses that are >, <, =, ź or within a period of time of 8ns ~ 10s.           Logic         Trigger on with of positive or negative pulses that are >, <, =, ź or within a period of	Input Sensitivity Range	1mV/div~10V/div (1MΩ Input)
Maximum Input Voltage         CAT I 300Vrms (1MΩ Input)           Horizontal System         2ns/div-1ks/div           Time Base         2ns/div-1ks/div           Time Base Delay Time Range         14 divisions ~ 14ks           Clock Drift         s45ppm / year           Time Base Accuracy         ±20ppm           Sampling System         200prm           Sampling Method         Real-Time           Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞           Trigger System         200x- 10s           Trigger Mode         Auto, Normal, Single           Trigger Oraphidf Range         200x- 10s           Trigger Types         200x- 10s           Edge         Positive or negative places that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative pulses that are >, <, =, # or within a period of im of dositive or negative puls	Ch-to-Ch Isolation DC to Maximum Bandwidth	≥40dB (100:1)
Horizontal System         Ime Base         Zns/div-1ks/div           Time Base Delay Time Range         14 divisions - 14ks           Clock Drift         s25pm / year           Time Base Accuracy         ±20pm           Sampling System	Offset Range	±2.5V (attenuation X1, <500mV/div), ±120V (attenuation X1, ≥500mV/div)
Time Base2ns/div-1ks/divTime Base Delay Time Range14 divisions - 14ksClock Drift5±5ppm / yearTime Base Accuracy±20ppmSampling SystemEach TimeDeak DetectCapture narrow glitches at all sweep speads: CH - 1ns, dual CH - 2ns, four CH - 4nsMaximum duration at highest sampling rate70msAverageSelectable from 2, 4, 8, 16, 32, 64, 128, 256EnvelopeSelectable from 2, 4, 8, 16, 32, 64, 128, 256, **Trigger SystemTrigger CouplingTrigger CouplingDC, AC, high frequency reject, low frequency reject, noise rejectTrigger Types200ns- 10sTrigger TypesTrigger on width of positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject	Maximum Input Voltage	CAT I 300Vrms (1MΩ Input)
Time Base Delay Time Range         14 divisions ~ 14ks           Clock Drift         545pm / year           Time Base Accuracy         420pm           Sampling System         Real-Time           Sampling Method         Real-Time           Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256           Envelope         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, *           Trigger System         Variage           Trigger Coupling         DC, AC, high frequency reject, low frequency reject, noise reject           Trigger Coupling         DC, AC, high frequency reject, noise reject           Trigger Types         Ting or on width of positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.           Logic         Trigger on any logic pattern of the channel changes to >, <, =, # or within a period of time range. Any noise reject.           Video         Trigger on video ignals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 1080H, 1080P, etc.           Stopp         Trigger on the time of the vaveform from one level to another level meets the set time or inflager is again.	Horizontal System	
Clock Drift       5±5ppm / year         Time Base Accuracy       ±20ppm         Sampling System       Real-Time         Sampling Method       Real-Time         Peak Detect       Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns         Maximum duration at highest sampling rate       70ms         Average       Selectable from 2, 4, 8, 16, 32, 64, 128, 256         Envelope       Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Trigger System       Auto, Normal, Single         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Holdoff Range       200n- 10s         Trigger Types       Feast Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Fulge       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Types       Edge         Fdge       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range.         Avgring trom the intersoccion of the signal and the trigger level, the trigger is generated mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevant <tr< th=""><th>Time Base</th><th>2ns/div~1ks/div</th></tr<>	Time Base	2ns/div~1ks/div
Time Base Accuracy       ±20pm         Sampling Bystem       Ead-Time         Sampling Method       Real-Time         Peak Detect       Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns         Maximum duration at highest sampling rate       70ms         Average       Selectable from 2, 4, 8, 16, 32, 64, 128, 256         Envelope       Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Trigger System       Trigger Coupling         Trigger Mode       Auto, Normal, Single         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Types       200ns–10s         Edge       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are s, <, =, ≠ or within a period of time of 8ns – 10s.         Logic       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/526, 720P. 1080(). 1080P, etc.         Video       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level, the trigger is generated when the duration above (or below) the trigger level, the trigger is generated when the duration above (or below) the trigger level, the trigger is generated when the duration above (or below) the trigger level feaches the set time         <	Time Base Delay Time Range	14 divisions ~ 14ks
Sampling System           Sampling Method         Real-Time           Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256           Envelope         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ~           Trigger System         Trigger System           Trigger Coupling         DC, AC, high frequency reject, low frequency reject, noise reject           Trigger Coupling         DC, AC, high frequency reject, low frequency reject, noise reject           Trigger Types         200ns-10s           Edge         Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject           Pulse Width         Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ms - 10s.           Video         Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time tased as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mode (AND, OR, NAND, NCR) of all input channels as high, low or irrelevant mo	Clock Drift	≤±5ppm / year
Sampling Method         Real-Time           Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256           Envelope         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ~           Trigger System         Trigger System           Trigger Coupling         DC, AC, high frequency reject, low frequency reject, noise reject           Trigger Holdoff Range         200ms-10s           Trigger Types         Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.           Pulse Width         Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8m < 10s.           Logic         Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range.           Any input can be used as a clock to find patterns on clock edges. Defines the assigned mod (AND, OR, NAND, NOR) dail input channels as high, low or irrelevant           Video         Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 10801, 1080P, etc.           Time Out         Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set time           Slope         Trigger on a p	Time Base Accuracy	±20ppm
Peak Detect         Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns           Maximum duration at highest sampling rate         70ms           Average         Selectable from 2, 4, 8, 16, 32, 64, 128, 256           Envelope         Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞           Trigger System         Trigger System           Trigger Goupling         DC, AC, high frequency reject, low frequency reject, noise reject           Trigger Holdoff Range         200ns~10s           Trigger Types         Edge           Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Prigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.	Sampling System	
Maximum duration at highest sampling rate       70ms         Average       Selectable from 2, 4, 8, 16, 32, 64, 128, 256         Envelope       Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Trigger System       Trigger System         Trigger Mode       Auto, Normal, Single         DC, AC, high frequency reject, low frequency reject, noise reject       200ns-10s         Trigger Holdoff Range       200ns-10s         Trigger Types       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ms - 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range.         Video       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 10801, 1080P, etc.         Time Out       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level to another level meets the set time condition         Stoppe       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Sampling Method	Real-Time
Average       Selectable from 2, 4, 8, 16, 32, 64, 128, 256         Envelope       Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Trigger System       Trigger Mode       Auto, Normal, Single         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Holdoff Range       200ns~10s         Trigger Types       Edge       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.	Peak Detect	Capture narrow glitches at all sweep speeds: CH – 1ns, dual CH – 2ns, four CH – 4ns
Envelope       Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞         Trigger System       Trigger Node       Auto, Normal, Single         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Holdoff Range       200ns~10s         Trigger Types       Edge         Pulse Width       Trigger on negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on any logic pattern of the channel changes to >, <, =, ≠ or within a period of time of 8n s ~ 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range.         Video       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 10801, 1080P, etc.         Time Out       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level teaches the set time condition         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Maximum duration at highest sampling rate	70ms
Trigger System         Trigger Mode       Auto, Normal, Single         Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Holdoff Range       200ns-10s         Trigger Types       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevant         Video       Trigger on the duration above (or below) the trigger level, the trigger is generated when the duration above (or below) the trigger level, the trigger is generated when the duration above (or below) the trigger level meets the set time condition         Stoppe       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Average	Selectable from 2, 4, 8, 16, 32, 64, 128, 256
Trigger ModeAuto, Normal, SingleTrigger CouplingDC, AC, high frequency reject, low frequency reject, noise rejectTrigger Holdoff Range200ns~10sTrigger TypesPositive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.Pulse WidthTrigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.LogicTrigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevantVideoStarting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set timeStopeTrigger on the time of the waveform from one level to another level meets the set time conditionRunt Pulse (Runt)Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Envelope	Selectable from 2, 4, 8, 16, 32, 64, 128, 256, ∞
Trigger Coupling       DC, AC, high frequency reject, low frequency reject, noise reject         Trigger Holdoff Range       200ns-10s         Trigger Types       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevant         Video       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 10801, 1080P, etc.         Slope       Trigger on the time of the waveform from one level to another level meets the set time condition         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Trigger System	
Trigger Holdoff Range       200ns~10s         Trigger Types       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevant         Video       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 10801, 1080P, etc.         Time Out       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set time condition         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Trigger Mode	Auto, Normal, Single
Trigger Types         Edge       Positive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.         Pulse Width       Trigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.         Logic       Trigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevant         Video       Trigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 1080I, 1080P, etc.         Time Out       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set time condition         Slope       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Trigger Coupling	DC, AC, high frequency reject, low frequency reject, noise reject
EdgePositive or negative slope on any channel. Coupling includes DC, HF reject, LF reject, and noise reject.Pulse WidthTrigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.LogicTrigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. 	Trigger Holdoff Range	200ns~10s
Edgeand noise reject.Pulse WidthTrigger on width of positive or negative pulses that are >, <, =, ≠ or within a period of time of 8ns ~ 10s.LogicTrigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevantVideoTrigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 1080I, 1080P, etc.Time OutStarting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set timeSlopeTrigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Trigger Types	
Puise withtime of 8ns ~ 10s.LogicTrigger on any logic pattern of the channel changes to >, <, =, ≠, true value, false value within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevantVideoTrigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 1080I, 1080P, etc.Time OutStarting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set time conditionRunt Pulse (Runt)Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Edge	
Logicwithin the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned mode (AND, OR, NAND, NOR) of all input channels as high, low or irrelevantVideoTrigger on video signals varies according to different video formats, generally PAL/625, SECAM, NTSC/525, 720P, 1080I, 1080P, etc.Time OutStarting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set timeSlopeTrigger on the time of the waveform from one level to another level meets the set time conditionRunt Pulse (Runt)Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Pulse Width	
Video       SECAM, NTSC/525, 720P, 1080I, 1080P, etc.         Time Out       Starting from the intersection of the signal and the trigger level, the trigger is generated when the duration above (or below) the trigger level reaches the set time         Slope       Trigger on the time of the waveform from one level to another level meets the set time         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Logic	within the set time range. Any input can be used as a clock to find patterns on clock edges. Defines the assigned
Slope       Trigger on the time of the waveform from one level to another level meets the set time condition         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Video	
Stope       condition         Runt Pulse (Runt)       Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.	Time Out	
before crossing the first again.	Slope	
N Edge Trigger on the Nth rising/falling edge of the waveform	Runt Pulse (Runt)	
	N Edge	Trigger on the Nth rising/falling edge of the waveform



Waveform Measurements		
Cursors	Horizontal, Vertical, Cross	
Automated Measurements	31 types, of which up to 10 types can be displayed on-screen at any time. Including: Period, Frequency, Rise Time, Fall Time, Delay, Positive Duty Cycle, Negative Duty Cycle, Positive Pulse Width, Negative Pulse Width, Burst Width, Positive Overshoot, Negative Overshoot, Phase, Peak-to-Peak, Amplitude, High, Low, Maximum, Minimum, RMS, Cycle RMS, Mean, Cycle Mean	
Hardware Frequency Meter	6 digits	
Waveform Math		
Dual Waveform	Add, Subtract, Multiply, Divide	
FFT	Spectral magnitude. Set FFT vertical scale to linear RMS or decibel dBV RMS, set FFT window to Rectangular, Hamming, Hanning or Blackman-Harris	
Display System		
Display Type	8-inch TFT LCD multi-point capacitive touch screen	
Display Resolution	800*600 pixels	
Operation Method	Touch, Button, Touch + Button	
Persistence Duration	Auto, 10ms~10s, ∞	
Time Base Mode	YT, XY, Zoom, Roll (scroll waveforms right to left across the screen at sweep speeds slower than or equal to 200 ms/div)	
Expand Benchmark	Center, Trigger position	
Waveform Display	Vectors, Line, brightness adjustable	
Graticules	14 x 10, brightness adjustable	
Waveform Update Rate	130,000 wfms/s	
Clock	Real time, user adjustable	
Language	English, Chinese, German, French, Czech, Korean, Spanish, Italian, Russia etc.	
Storage		
Storage Medium	Local, USB drive	
Internal Storage	32G	
Waveform Storage Format	csv, wav, bin	
Store Waveform Quantity	Unlimited	
Stored Waveform Rename	Support	
Reference Waveform Display	4 waveforms	
Quick Screenshot	Support	
User Setting Storage	10 setups	
User Settings Rename	Support	
USB Flash Drive	Support industry standard flash drives	
Input / Output Ports		
USB3.0 Port	Support one USB mass storage device, read and edit	
USB2.0 Port	One, read and edit	
USB Type-C	One, read and edit	
DC Port	One	
Probe CompenSTOr	1KHz, 2Vpk-pk	
HDMI	HDMI 1.4	

Android/iOS Remote Control Application Support Support

Support

Wi-Fi

SCPI



Power Source		
Power Voltage Range	100~240VAC, 50/60Hz	
Power Consumption	< 60W	
Adapter Output	12V DC, 4A	
Battery	7.4V, 7500mAh Li-ion battery	

Environment	
Temperature	
Operating	0°C ~ 45°C
Non-operating	-40°C ~ 60°C
Humidity	
Operating	5% ~ 85%, 25°C
Non-operating	5% ~ 90%, 25°C
Altitude	
Operating	< 3000m
Non-operating	< 12000m

Physical Characteristics	
Dimensions (W x H x D)	265*192*50mm
Weight	Net: 1.9kg (with battery), Volum Weight: 4.5kg

Standard Accessories	
Passive Probe	Measuring voltage: 10X: < 600V AC pk, one per channel
Power Adapter	One (Localized)
Power Cord	One
Battery (built-in)	7.4V, 7500mAh Li-ion battery
Warranty	Three-year warranty for Base Unit only, probes, battery and related accessories are valid for 180 days

Instrument Options	
Bus Decoding	Standard: UART, LIN, CAN, CAN FD, SPI, I2C; Optional: ARINC-429, MIL-STD-1553B
Recommended accessory (optional)	Customized handbag, hard shell suitcase; High-frequency AC/DC current probe: 50MHz-100MHz, 6A/30A; Low-frequency AC/DC current probe: 800KHz-2.5MHz, 10A/100A ; High-voltage differential probe: 100MHz-500MHz, 700Vpk-7000Vpk; SigOFIT optical-fiber isolated probe: 100MHz - 1GHz, ±6250Vpk, CMRR: DC -180dB.

### Micsig

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