ISDS220A(B) **User Guide**

InstruStar Electronic Technology

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contents

PC SYSTEM REQUIREMENTS

- Windows XP，Win7，Win8，Win10

- Pentium or higer processor

- USB2.0 High speed port.

- 512MB RAM

- 1GB hard disk space

1.Introduction

ISDS220A/ISDS220B dual-channel digital oscilloscope, with "low-cost, high-performance" as the design goals. well-designed bandwidth of 60M, 200M sampling rate, 2 channels, alternating support X-T and X-Y alternating pattern of two-channel virtual oscilloscope, spectrum analyzer. Meanwhile, ISDS220B has DDS function. DDS support 5 kinds of waveform output, Sine wave can output up to 20M.

	Oscilloscope	Spectrum Analyzer	DDS	Sweeper
ISDS220A	√	√		
ISDS220B	√	√	√	√

The device communicate with the PC via high speed USB2.0.

2.Feature Description

Digital Oscilloscope	
Channels	2
Impedance	1MΩ 25pF
Coupling	AC/DC
Vertical Resolution	8Bit
Gain Range	-16V ~ 16V（probe X1） -160V ~ 160V（probe X10）
Vertical Accuracy	±3%
Time Base Range	10ns/div-10s/div
Input Protection	Diode，50Vpk
Auto Set	Yes(10Hz to 60MHz)
Trigger Mode	Auto、Normal and Signal
Trigger Type	No, Edge, Pulse
Trigger Level	Yes
Trigger Source	CH1, CH2
Buffer Size	512KB/CH
Bandwidth	60MHz
Max Sample	200MS/s
Vertical Mode	CH1, CH2, ADD, SUB, MUL
Display Mode	X,Y-T 和 X-Y

Measurements	Yes
Wave save	Osc(Private)、Excel and Bmp

Spectrum analyzers	
Channels	2
Bandwidth	60MHz
Algorithm	FFT(18 windows)、correlation、power spectrum
FFT Points	8-1048576/CHN
FFT Measure	Harmonic(1-7)、SNR、SINAD、ENOB、THD、SFDR
Filter Process	FIR filter supports arbitrary range of frequency sampling method , and Rectangle, bartlett, triangular, cosine, hanning, bartlett_hanning, hamming, blackman, blackman_Harris, tukey, Nuttall, FlatTop, Bohman, Parzen, Lanczos, kaiser, gaussand dolph_chebyshev, window method design. IIR filter support "Butterworth", "Chebyshev I", "Chebyshev II", "Elliptic" type of filter design

DDS(Only ISDS220B)	
Wave	Sine, Square(Duty circle variable),Triangle,Up Sawtooth,Down Sawtooth
Amplitude	≥9Vp-p(no load)
Impedance	200Ω±10%
Offset	±2.5V
Frequency Range	1Hz ~ 20MHz(Sine), 1Hz ~ 2MHz(Others)
Frequency Resolution	1Hz
Frequency Steadiness	$\pm1\times10^{-3}$
Frequency Precision	$\pm5\times10^{-3}$
Triangular Wave Linearity	≥98% (1Hz~10kHz)
Sine Wave Distortion	≤0.8% (1kHz)
Square Wave Rising/Falling Time	≤100ns
Square Wave Duty Circle	1%~99%
SWEEP	
Sweep Range	Fs 到 Fe
Sweep Time Range	0.1 ~10 s
Amplitude	0.5Vp-p ~ 10Vp-p

| Sweeper（Only ISDS210B)	
Sweep Range	1Hz~5MHz

Sweep Type	Gain, Phase

Note:
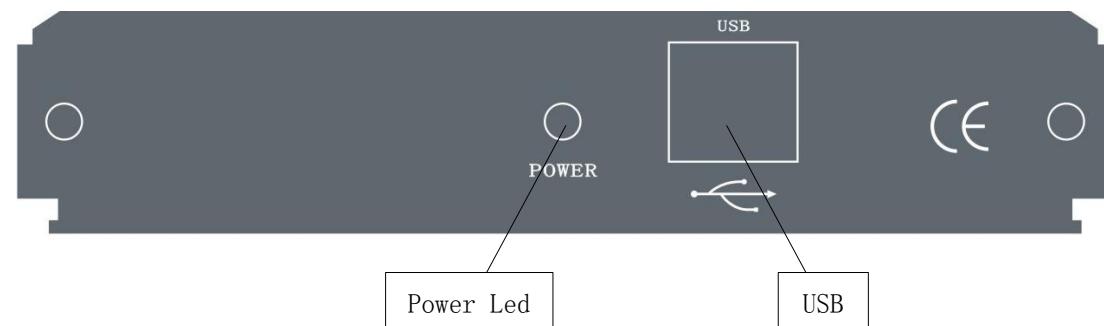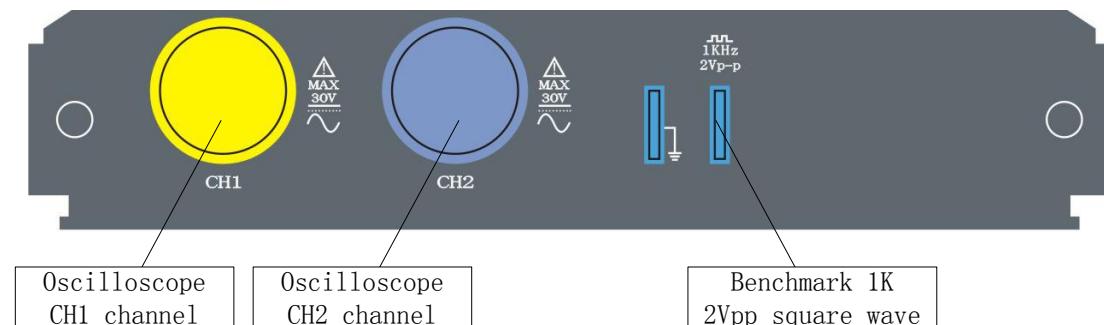
1, The oscilloscope factory calibration, if you are not satisfied with the measurements, can manual calibration, the specific reference oscilloscope instructions.

2, Oscilloscope with probe: X1 can measure -16V to +16V voltage, X10 can measure -160V to +160V.

3, The measurement of the electric supply 220V/110V is different from the normal waveform measurement and needs to be re-measured by an isolated transformer.

3.Software Installation
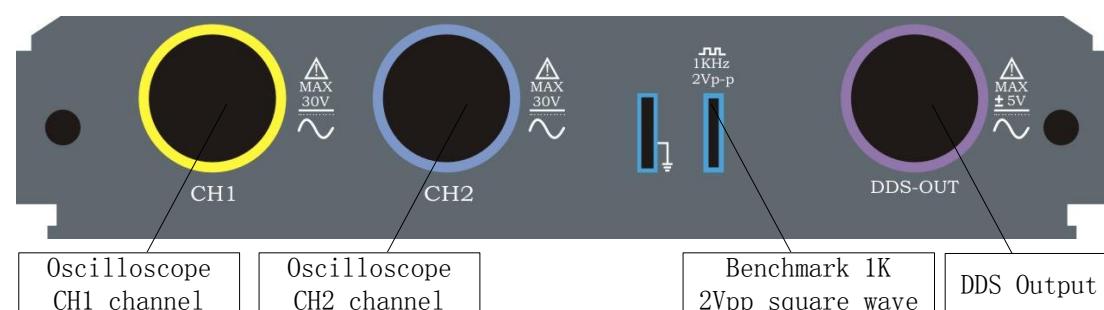
Please refer to the "Software and Driver Installation.pdf".

4.Interface

4.1 ISDS220A

4.2 ISDS220B
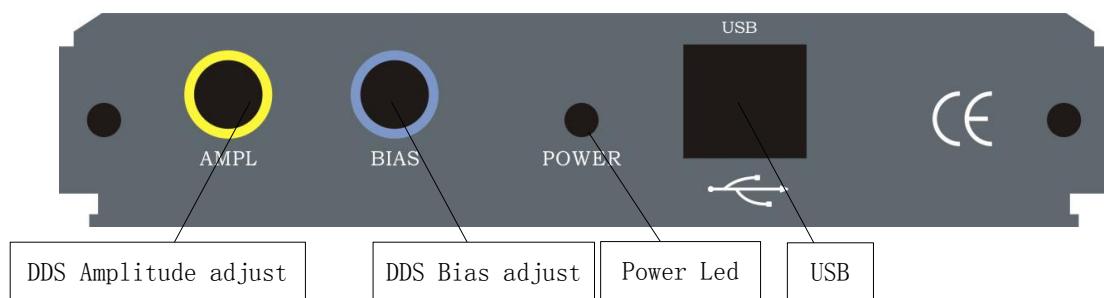
DDS Amplitude adjust   DDS Bias adjust   Power Led   USB

5.Oscilloscope / Spectrum analyzer

Please refer to the "Multi VirAnalyzer User Guide.pdf", "Digital storage oscilloscope (Professional Version).pdf" and "Digital storage oscilloscope (Simplified Version).pdf".