



ENGLISH

# Datasheet

## Digital Storage Oscilloscope

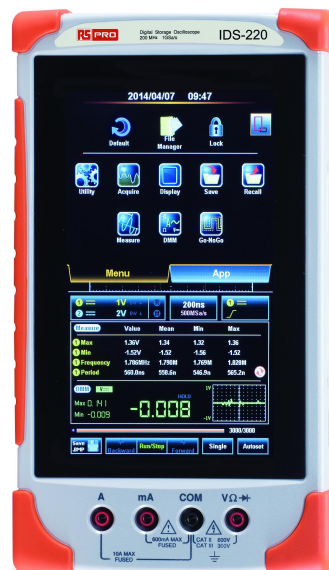
Stock No. : Model :

124-1951 **IDS-320**

123-3546 **IDS-220**

124-0231 **IDS-307**

123-3545 **IDS-207**



### FEATURES

- 200/70MHz Bandwidth Selections, Two Input Channels
- 1GSa/s Maximum Sample Rate
- Maximum 5M/1M Memory Depth Per Channel
- 7" 800 x 480 Full Touch Panel Capacitive LCD Multi-Point Control, Landscape and Portrait Display
- Built-In 50,000/5,000 Counts DMM
- 30,000 Consecutive Waveform Records Logging Function, Replay Measurement Results Any Time
- Temperature Measurement and Logging Function
- Built-In Engineering Calculator, SMD Resistance Coding, Color Coding Info, and Attenuator Calculation Application Software
- Optional Differential Probe to Achieve Isolation Effect



The brand new portable 7" full touch panel capacitive LCD, featuring multi-point touch panel method which allows engineers to move waveform position, adjust waveform size, and set trigger conditions easily, subverts the traditional handheld instrument. With this unique feature, engineers can retrieve DUT's signals easily under the complex working environment. Landscape or portrait measurement display not only clearly shows waveforms under full screen status but also combines multi-functional measurement environment to achieve unimaginable measurement results.

Built-in, the second to none, the longest 5M sample memory depth helps engineers diagnose waveforms in great details. The long memory depth can record detailed waveform data and help engineers reproduce the original waveforms while engineers are conducting long observation or retrieving detailed transient signals. Any delicate changes of analog waveforms can be clearly presented in front of engineers when they adjust time scale from long to short that leaves no measurement problems unanswered.

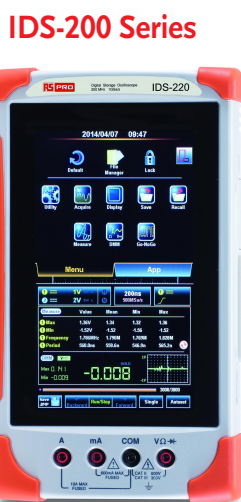
Built-in 50,000 counts (IDS-300) or 5,000 counts (IDS-200) DMM helps engineers accurately measure DUT's electric parameters including not only measurements of D.C. voltage, A.C. voltage, D.C. current, A.C. current, resistance and diode polarity, but also temperature measurement and monitoring. The analysis of trend diagrams further completes test and measurement. DMM can simultaneously work with oscilloscope to conduct multi-measurement tasks.

Normally, engineers wish to effectively record intermittent signals while retrieving a series of signals during a long period of time. IDS-300/IDS-200's built-in 30,000 consecutive waveform records logging function not only records 30,000 waveform records in a long period of time but also replays the recorded data that allows engineers to identify intermittent problems occurred during the recorded time. Leave no problems unidentified.

Engineers need to isolate power and solve corresponding grounding issue while conducting circuit debugging. One of the criteria engineers must overcome is to maintain system grounding and isolation safety in the strict test and measurement environment such as no grounding system or no isolation. IDS-300/200 provide optional differential probe to effectively assist engineers in solving isolation and grounding problems that elevates the efficiency and safety of test and measurement.

Engineers often need some calculation tool software to conduct circuit design and debugging analysis during the R&D process. IDS-300/200 oscilloscopes, with the built-in standard engineering calculator, allow engineers to verify parameters during the test and measurement process. While using unknown resistance, engineers can obtain resistance value via color coding calculation software. If any attenuator was designed in the circuit, IDS-300/200 can also provide corresponding attenuator model and attenuation value calculation.

## 200/70 MHZ Digital Storage Oscilloscope



IDS-300/200 Series Rear Panel

### SELECTION GUIDE

MODEL	IDS-320	IDS-307	IDS-220	IDS-207
<b>Bandwidth</b>	200MHz	70MHz	200MHz	70MHz
<b>Sample Rate</b>	1GSa/s	1GSa/s	1GSa/s	1GSa/s
<b>Memory Length</b>	5M pts	5M pts	1M pts	1M pts
<b>DMM Count</b>	50,000	50,000	5,000	5,000
<b>Temperature Measurement</b>	✓	✓	-	-

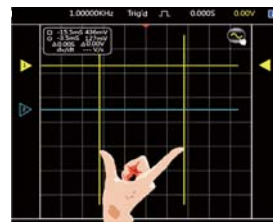
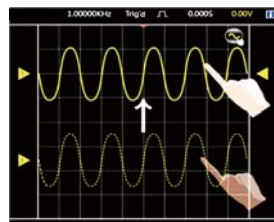
## A. BRIEF ELABORATION



IDS-200/300 Series oscilloscopes, with two analog signal input channels, have standard advanced and economical models which come with 70MHz and 200MHz bandwidth. The maximum sample rate per channel is 1GSa/s and memory depth is 5Mpts. Both series oscilloscopes are equipped with 50,000 counts DMM which can simultaneously measure and monitor A.C. and D.C. voltage and current, and temperature. Trend diagrams in a long period of time can also be drawn that allows engineers to effectively monitor standard electric parameters while measuring basic

circuit signals. Engineers are aware of RS PRO oscilloscopes' thoughtful designs through diversified application software. Advanced DMM function and GO/NOGO template editing facilitate users in conducting advanced diversified measurement functions. Engineering calculator, attenuator calculation analysis, and resistance value calculation analysis help users apply auxiliary functions that demonstrate the concept of powerful and comprehensive technological integration.

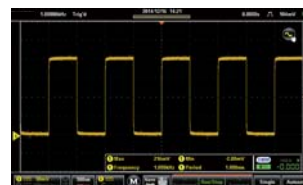
## B. FULL TOUCH PANEL CAPACITIVE LCD



IDS-200/300 series oscilloscopes adopt full touch panel capacitive LCD. In the era of smart phone explosion, RS PRO can also usher users into the full touch panel measurement era. With only one finger, users not only can move waveform up and down but also the trigger line position. Two-point touch panel is also applied. Engineers can use two fingers to

adjust vertical voltage level and to enlarge or narrow time division scale. The brand new touch panel and swift response renew your measurement concept. Additionally, one finger drag menu selection allows users to follow their intuition to locate required measurement functions, and to save and retrieve diagrams and data anytime anywhere.

## C. PORTRAIT/LANDSCAPE DISPLAY



IDS-200/300 series oscilloscopes allow portrait and landscape display. Engineers have different requirements under different environments. When field test and measurement is necessary engineers often need portrait display to conduct measurement due to environment limitation and the emphasis of integrated functions. Waveform measurement and

DMM can be simultaneously operated. When indoor test and measurement is required engineers often need stable measurements and large screen which is answered by landscape display. 7" full measurement screen can also be applied as a stable desk-top oscilloscope.

**D. SIMULTANEOUS APPLICATION OF OSCILLOSCOPE AND DMM**



Traditional oscilloscopes can not meet users' requirements of conducting integrated system circuit measurement. One extra DMM is often required to work with traditional oscilloscopes to handle enormous test requirements. IDS-200/300 series oscilloscopes integrate the functions of oscilloscope and DMM to conduct simultaneous measurement. In the analysis of system circuit waveforms, IDS-200/300 can also use DMM to measure basic voltage and current of the peripheral components that provides users with very powerful test integration.

**E. 30,000 WAVEFORM RECORDS REPLAY FUNCTION**

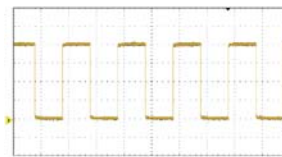


IDS-200/300 series oscilloscopes have built-in 30,000 waveform records replay function. With this function, engineers can monitor circuit in a long period of time. When 30,000 waveform records are completed history records can be replayed repeatedly. Any intermittently appeared abnormal waveforms can be identified by this function which provides users with a very powerful search and debugging weapon.

**F. BRIEFING MATERIAL COMPILATION**



Engineers or students often compile briefing material for work or class requirements. The completeness and convenience of briefing often determine users' performance. IDS-200/300 series oscilloscopes provide very strong briefing material compilation function. Before compiling briefing material, users can select different test and background

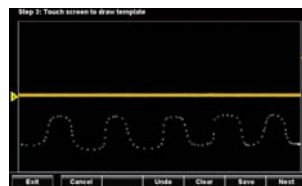


conditions such as date, time and cursor. In addition, measurement parameters can also be determined based upon different requirements. This customer-made function not only shows the complete waveforms but also provides peripheral parameters to become the key communication bridge for work and class requirements.

**G. GO/NOGO TEMPLATE EDITING**

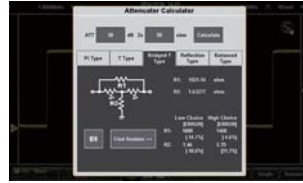


Many component or system manufacturers require GO and NOGO product analysis for quality control or production. IDS-200/300 series oscilloscopes have the same GO/NOGO function as that of RS PRO other oscilloscopes. This function establishes corresponding waveform templates based on waveforms measured to conduct GO or NOGO



results calculation. Additionally, IDS-200/300 have template editing function. Users not only can edit template freely according to test or environment conditions but also set templates with different ceiling and floor boundaries, making GO/NOGO function more diversified and user-friendly.

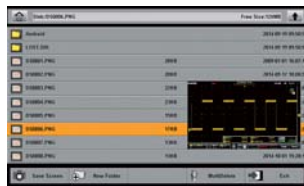
**H. TOOLS ELECTRICAL ENGINEERS OFTEN APPLIED**



IDS-200/300 series oscilloscopes have built-in diversified application software to provide users with very thoughtful auxiliary tools. In the tedious circuit design process, engineering calculator software provides mathematical calculation functions from basic to advanced allowing engineers to thoroughly understand circuit response and parameter

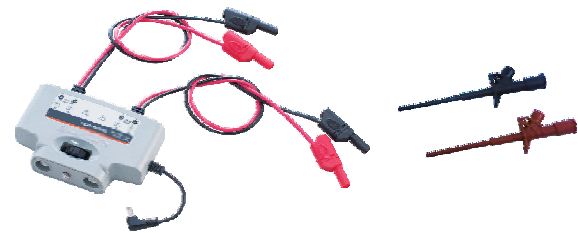
value. Resistance calculation software not only provides accurate resistance value for different surface embedded resistance codes but also color coding resistance value enquiry function. It is a very powerful auxiliary tool for users from students to senior electrical engineers

**I. IMAGE STORAGE AND PREVIEW FUNCTION**



IDS-200/300 series oscilloscopes can record screen images and preview images. In many complex test and measurement environments, when engineers can not observe images from his or her computer immediately after images were stored the image preview function allows users to make sure file is correct right away. Pre-observation operation is also very convenient to users.

**J. OPTIONAL DIFFERENTIAL PROBE**



In many strict test and measurement environments, system power isolation and grounding problem have become one of the key issues. Bad isolation and grounding will have serious impact on circuit system safety. Optional differential probe of IDS-200/300 series oscilloscopes can achieve equivalent isolation results for measurement system and there is no grounding problem. Under today's economic constraints, using differential probe to achieve isolation result is one of the best choices.

**K. USED AS USB COMPONENT**



Once engineers finished waveform measurement and report compilation, IDS-200/300 series oscilloscopes can be used as USB storage component to retrieve and store files. Briefing speaking, users can use USB connecting cable to connect IDS 200/300 with the PC or handheld device to retrieve any required files for follow-up actions. Today, smart phone is ubiquitous, measurement results can be transmitted via smart phone that saves a lot of troubles.

**L. TEMPERATURE MEASUREMENT AND LOGGING FUNCTION**



IDS-200/300 series oscilloscopes' built-in temperature measurement and logging function allows users to conduct systematic temperature measurement and logging for electric components and electric systems. This function can collocate with different temperature measurement probes. B,E,J,K,N,R,S,T thermal coupling measurement probes are also supported to conduct Celsius and Fahrenheit scaled temperature measurement. Users can also use trend plot editing to conduct temperature monitoring in a long period of time. It is a simple and convenient measurement tool for quality assurance and test departments.



## SPECIFICATIONS

		IDS-307	IDS-320	IDS-207	IDS-220
VERTICAL	Channels	2 (BNC-Shield)			
	Input Impedance	1MΩ 2%, 16.5pf approx.			
SIGNAL ACQUISITION	Maximum Input	CAT II 300VRMS			
	Input Coupling	AC, DC, GND			
	Bandwidth	DC~70MHz(-3dB)	DC~200MHz (-3dB)	DC~70MHz (-3dB)	DC~200MHz (-3dB)
	Rise Time	<5ns	<1.75ns	<5ns	<1.75ns
	Sensitivity	2mV/div~10V/div (1-2-5 increments)			
	Accuracy	±(3% x Readout + 0.1 div + 1mV)			
	Bandwidth Limit	20MHz(-3dB)			
	Polarity	Normal, Invert			
	Offset Position Range	2mV/div~50mV/div : ±0.4V; 100mV/div~500mV/div : ±4V; 1V/div~5V/div : ±40V; 10V/div : ±300V			
	Realtime Sample Rate	1GSa/s			
Memory Depth	5Mpoints per ch		1Mpoints per ch		
Acquisition Mode	Average : 2~256 waveforms; Peak detect : 10ns; sin(x)/x or ET				
Replay Wfms.	30,000 wfms.				
TRIGGER	Source	Ch1 or Ch2			
	Trigger mode	Auto, Normal, Single, Force			
	Trigger type	Edge, Pulse Width, Video, Alternate			
	Trigger Holdoff	10ns ~ 10s			
	Coupling	AC, DC, LFR, HFR, NR			
HORIZONTAL	Sensitivity	DC~25MHz : approx. 0.5div or 5mV; 25MHz~ 70/100/200MHz : approx. 1.5div or 15mV			
	Range	5ns~100s/Div (1-2-5 increments)			
	Roll	100ms/div ~ 100s/div			
XY MODE	Pre-trigger	10 div max.			
	Post-trigger	1,000 div max(depend on time base)			
	Accuracy	±20ppm over any > 1ms time interval			
CURSOR AND MEASUREMENT	Phase Shift	±3° at 100KHz			
	Cursors	Voltage difference between cursors(ΔV), Time difference between cursors(ΔT), frequency measure(1/ΔT)			
	Auto-measurement	36 sets.			
	Auto-counter	6 digits. Range: 2Hz to rated bandwidth			
Autoset					
TEMPERATURE MEASUREMENT		Available		Non-Available	
MISCELLANEOUS	Multi-Language Menu	Available			
	On-line Help	Available			
	Time and Clock	Available			
BATTERY	Battery power	Li-polymer 6100mA/hr, 7.4V (Built-in)			
	Charge time	2.0 hour (75%)			
	Operation time	4.1 hour, depending on operating condition.			
PROBE COMPENSATION		2V, 1kHz, 50% Duty cycle			
INTERFACE	USB	USB Device (Isolation)			
	Internal Flash Disk	120MB			
DISPLAY	Type	7 inch			
	Display Resolution	480 x 800 pixels			
	Display Direction	Landscape & Portrait			
	Backlight Control	Manual adjustable, ECO mode			
	Touch Panel	Capacitive			
DMM	Digit Level	50,000 counts		5000 counts	
	DC Voltage	CAT II 600VRMS, CAT III 300VRMS			
	Range	50mV, 500mV, 5V, 50V, 500V, 1000V 6 ranges			
	Accuracy	IDS-320/307:50mV,500mV,5V,50V,500V±(0.05%+5digits); IDS-220/207:50mV,500mV,5V,500V,1000V±(0.1%+5digits) 10MΩ			
	Input Impedance	50mA, 500mA, 10A 3 ranges			
	DC Current	IDS-320/307:50mA ~ 500mA, 2 range , ±(0.1% + 5 digits), 10A±(0.5% + 1 digit)			
	Range	IDS-220/207:50mA~500mA, 10A 3 ranges, ±(0.5% + 1 digit)			
	Accuracy	50mV, 500mV, 5V, 50V, 700V 5 ranges			
	AC Voltage	50mV, 500mV, 5V, 50V, 700V ±(1.5% + 15 digits) at 50Hz~1kHz			
	Range				
	Accuracy				
	AC Current	50mA, 500mA, 10A 3 ranges			
	Range	50mA, 500mA, ±(1.5% + 15 digits) at 50Hz~1kHz; 10A ±(3% + 15 digits) at 50Hz~1kHz *Measurement range:>10mA			
	Accuracy				
	RESISTANCE	500Ω, 5KΩ, 50KΩ, 500KΩ, 5MΩ 6 range			
Range	500Ω, 5KΩ, 50KΩ, 500KΩ ( 0.3% + 3 digits); 5MΩ ( 0.5% + 5 digits) *Measurement range:50Ω~5MΩ				
Accuracy					
Diode Test	Maximum forward voltage 1.5V, Open voltage 2.8V				
Temperature	-50°C ~ +1000°C				
Range	0.1°C				
Resolution	B, E, J, K, N, R, S, T *Specifications do not include probe accuracy. Temperature specifications only apply to the <a href="#">GDS-320/310/307</a> ,				
Thermocouple	< 15 Ω				
Continuity Beep					
Functions	Auto Range, Max, Min, Hold, Trend plot				
POWER ADAPTOR	Line Voltage	AC 100V~240V, 47~63Hz, Power Consumption 40W; DC Output : 12V/3A, Double Shield			
OPTION	Differential Probe	Dual-channel, 40MHz, CAT II 600V			
DIMENSIONS & WEIGHT		240.2(W) x 136.0(H) x 59.7(D) mm; Approx. 1.5 Kg			

Specifications subject to change without notice.

## ORDERING INFORMATION

IDS-320	200MHz, 2 Channels, Digital Oscilloscope
IDS-307	70MHz, 2 Channels, Digital Oscilloscope
IDS-220	200MHz, 2 Channels, Digital Oscilloscope
IDS-207	70MHz, 2 Channels, Digital Oscilloscope

## ACCESSORIES

Quick start guide x 1, User manual CD x 1 ,Power cord x 1	GSC-010	Soft Carrying Case
GTP-150B-2 150MHz Probe, Suitable for IDS-307/207	GSC-011	Soft Carrying Bag
GTP-250B-2 250MHz Probe, Suitable for IDS-320/220	GAP-001	AC-DC Adaptor
GTL-207 Multimeter Test Lead x 2	GWS-001	Wrist Strap

## OPTIONAL ACCESSORIES

GDP-040D 40MHz Dual-channel Differential Probe	GCL-001	Vertical Calibration Cable
GPF-700 Protective Films for 7" Touch Screen	GTL-131	Test Clip, Suitable for GDP-040D
GTL-253 USB Cable, USB 2.0, A-mini B Type, 1400mm		

## FREE DOWNLOAD

OpenWave 200	Software
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