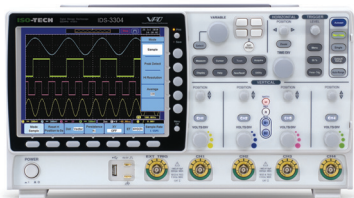# ISO-TECH

Quick Start Guide
Digital Storage Oscilloscope
IDS-3000 Series

(EN)

Limited Warranty

This meter is warranted to the original purchaser against defects in material and workmanship for 3 years from the date of purchase. During this warranty period, RS Components will, at its option, replace or repair the defective unit, subject to verification of the defect or malfunction. This warranty does not cover fuses, disposable batteries, or damage from abuse, neglect, accident, unauthorized repair, alteration, contamination, or abnormal conditions of operation or handling. Any implied warranties arising out of the sale of this product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. RS Components shall not be liable for loss of use of the instrument or other incidental or consequential damages, expenses, or economic loss, or for any claim or claims for such damage, expense or economic loss. Some states or countries laws vary, so the above limitations or exclusions may not apply to you. For full terms and conditions, refer to the RS website

The information in this manual was correct at the time of printing. However we continue to improve our products and therefore reserve the right to change the specifications, equipment, and maintenance procedures at any time without notice.

Full instruction manual downloadable from:
www.iso-techonline.com

SAFETY INSTRUCTIONS

This chapter contains important safety instructions that you must follow during operation and storage. Read the following before any operation to insure your safety and to keep the instrument in the best possible condition.

Safety Symbols

These safety symbols may appear in this manual or on the IDS-3000.

⚠ WARNING	Warning: Identifies conditions or practices that could result in injury or loss of life.
⚠ CAUTION	Caution: Identifies conditions or practices that could result in damage to the IDS-3000 or to other properties.
⚡	DANGER High Voltage
⚠	Attention Refer to the Manual
⏚	Protective Conductor Terminal
⏛	Earth (ground) Terminal
🗑	Do not dispose electronic equipment as unsorted municipal waste. Please use a separate collection facility or contact the supplier from which this instrument was purchased.

Safety Guidelines

General Guideline

⚠ CAUTION

- Make sure the BNC input voltage does not exceed 300V peak.

- Never connect a hazardous live voltage to the ground side of the BNC connectors. It might lead to fire and electric shock.

- Do not place any heavy object on the IDS-3000.

- Avoid severe impact or rough handling that leads to damaging the IDS-3000.

- Do not discharge static electricity to the IDS-3000.

- Use only mating connectors, not bare wires, for the terminals.

- Do not block the cooling fan opening.

- Do not perform measurement at a power source or building installation site (Note below).

- Do not disassemble the IDS-3000 unless you are qualified.

(Measurement categories) EN 61010-1:2001 specifies the measurement categories and their requirements as follows. the IDS-3000 falls under category II.

- Measurement category IV is for measurement performed at the source of low-voltage installation.

- Measurement category III is for measurement performed in the building installation.

- Measurement category II is for measurement performed on the circuits directly connected to the low voltage installation.

- Measurement category I is for measurements performed on circuits not directly connected to Mains.

Power Supply	• AC Input voltage: 100 ~ 240V AC, 48 ~ 63Hz, auto selection. Power consumption: 96VA.
⚠ WARNING	• Connect the protective grounding conductor of the AC power cord to an earth ground, to avoid electrical shock.

Cleaning the IDS-3000	
	• Disconnect the power cord before cleaning.
	• Use a soft cloth dampened in a solution of mild detergent and water. Do not spray any liquid.
	• Do not use chemical containing harsh material such as benzene, toluene, xylene, and acetone.

Operation Environment	
	• Location: Indoor, no direct sunlight, dust free, almost non-conductive pollution (Note below)
	• Relative Humidity: < 80%
	• Altitude: < 2000m
	• Temperature: 0°C to 50°C
	(Pollution Degree) EN 61010-1:2001 specifies the pollution degrees and their requirements as follows. The IDS-3000 falls under degree 2.
	Pollution refers to "addition of foreign matter, solid, liquid, or gaseous (ionized gases), that may produce a reduction of dielectric strength or surface resistivity".
	• Pollution degree 1: No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.
	• Pollution degree 2: Normally only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation must be expected.
	• Pollution degree 3: Conductive pollution occurs, or dry, non-conductive pollution occurs which becomes conductive due to condensation which is expected. In such conditions, equipment is normally protected against exposure to direct

	sunlight, precipitation, and full wind pressure, but neither temperature nor humidity is controlled.
Storage environment	• Location: Indoor
	• Temperature: -10°C to 60°C 40°C /93% RH 41°C ~60°C /65% RH
Disposal	Do not dispose this instrument as unsorted municipal waste. Please use a separate collection facility or contact the supplier from which this instrument was purchased. Please make sure discarded electrical waste is properly recycled to reduce environmental impact.

Power cord for the United Kingdom

When using the oscilloscope in the United Kingdom, make sure the power cord meets the following safety instructions.

NOTE: This lead/appliance must only be wired by competent persons

⚠ WARNING: THIS APPLIANCE MUST BE EARTHED

IMPORTANT: The wires in this lead are coloured in accordance with the following code:

Green/ Yellow: Earth
Blue: Neutral
Brown: Live (Phase)

As the colours of the wires in main leads may not correspond with the coloured marking identified in your plug/appliance, proceed as follows:

The wire which is coloured Green & Yellow must be connected to the Earth terminal marked with either the letter E, the earth symbol ⏚ or coloured Green/Green & Yellow.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Blue or Black.

The wire which is coloured Brown must be connected to the terminal marked with the letter L or P or coloured Brown or Red.

If in doubt, consult the instructions provided with the equipment or contact the supplier.

This cable/appliance should be protected by a suitably rated and approved HBC mains fuse: refer to the rating information on the equipment and/or user instructions for details. As a guide, a cable of $0.75mm^2$ should be protected by a 3A or 5A fuse. Larger conductors would normally require 13A types, depending on the connection method used.

Any exposed wiring from a cable, plug or connection that is engaged in a live socket is extremely hazardous. If a cable or plug is deemed hazardous, turn off the mains power and remove the cable, any fuses and fuse assemblies. All hazardous wiring must be immediately destroyed and replaced in accordance to the above standard.

GETTING STARTED

This chapter describes the IDS-3000 in a nutshell, including its main features and front / rear panel introduction. After going through the overview, follow the Set Up section to properly set up the oscilloscope for first-time use. The Set Up section also includes a starter on how to use this manual effectively.

IDS-3000 Series Overview

Series lineup

The IDS-3000 series consists of 8 models, divided into 2-channel and 4-channel versions.

Model name	Frequency bandwidth	Input channels	Real-time Sampling Rate
IDS-3152	150MHz	2	2.5GSa/s
IDS-3252	250MHz	2	2.5GSa/s
IDS-3352	350MHz	2	5GSa/s
IDS-3502	500MHz	2	4GSa/s
IDS-3154	150MHz	4	5GSa/s
IDS-3254	250MHz	4	5GSa/s
IDS-3354	350MHz	4	5GSa/s
IDS-3504	500MHz	4	4GSa/s

Main Features

Performance
- High sampling rate: up to 5GSa/s real-time (4GSa/s IDS~350X), 100GSa/s equivalent-time
- Deep memory: 25k points record length
- Minimum 2ns peak detection

Features	
	• 2 and 4 channel models
	• Bandwidth up to 500 MHz
	• 5GSa/s (200ps resolution) real-time sampling rate (4GSa/s, 250ps resolution for IDS-350X)
	• 100GSa/s equivalent sample rate
	• VPO waveform processing
	• Large 8'' 800 x 600 high-resolution TFT LCD
	• Unique split window function
	• Flexible application modules
	• Three standard input impedances (50Ω/75Ω/1MΩ)
	• Optional power measurement functions are available for fast analysis of power quality tests
	• Optional analysis software for I^2C, SPI and UART serial signal triggering and decoding
	• 2 and 4 channel models available up to 500 MHz
	• Large 8" color TFT LCD, supporting a large 8 x 10 graticule
	• On-screen Help
	• 64 MB internal flash memory.
	• FreeWave remote control software (free download)

Interface	
	• USB host port: front and rear panel, for storage devices
	• USB slave port(Optional GPIB to USB), RS-232C port: for remote control
	• Calibration output
	• Go-No Go output
	• External trigger input
	• Ethernet port

Accessories

Standard Accessories	Part number		Description
	N/A region dependent		Power cord
Options	Option Number		Description
	DS3-PWR		Power analysis software
	DS3-SBD		Series Bus analysis software
	GPIB to USB adapter		GPIB Interface
Optional Accessories	Part number	Description	
	GTC-001	Instrument cart, 470(W)x430(D)mm (U.S. type input socket)	
	GTC-002	Instrument cart, 330(W)x430(D)mm (U.S. type input socket)	
	GTL-110	test lead, BNC to BNC heads	
	GTL-232	RS-232C cable, 9-pin Female to 9-pin female, Null modem for computer	
	GTL-246	USB cable, USB2.0A-B type cable 4P	
	GDB-03	Demoboard for the IDS-3000 Series DSO	
	GDP-025	25MHz high voltage differential probe	
	GDP-050	50MHz high voltage differential probe	
	GDP-100	100MHz high voltage differential probe	
	GCP-005	40Hz~1kHz current probe	
	GCP-020	200A/40Hz~10kHz current probe	
	GCP-100	100A/DC~100kHz current probe	
	GCP-530	50MHz/ 30A current probe	
	GCP-1030	100MHz/ 30A current probe	

| GCP-206P | Power supply for current probe (2 input channels) |
GCP-425P	Power supply for current probe (4 input channels)
GTP-151R	Passive probe; 150 MHz,10X with readout
GTP-251R	Passive probe; 250 MHz,10X with readout
GTP-351R	Passive probe; 350 MHz,10X with readout
GTP-501R	Passive probe, 500MHz, 10X with readout

Driver

USB driver   LabVIEW driver

Package Contents

Check the contents before using the IDS-3000.

Opening the box
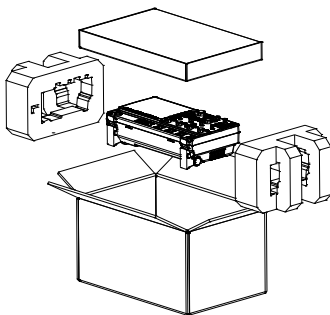
Contents
- Main unit
- Probe set

  GTP-151R for IDS-3152 / IDS-3154
  GTP-251R for IDS-3252 / IDS-3254
  GTP-351R for IDS-3352 / IDS-3354
  GTP-501R for IDS-3502 / IDS-3504

- Power cord

- Quick start guide(this document)

| Note | • The programming manual, PC software, and USB driver are downloadable from the RS component website. Visit www.iso-techonline.com |

Set Up

Tilt Stand

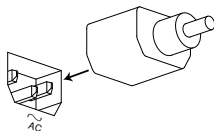| Upright	1.	Turn the legs under the casing as shown below to have the instrument sit upright.
Tilt	2.	To tilt, tilt the legs back behind the casing, as shown below.
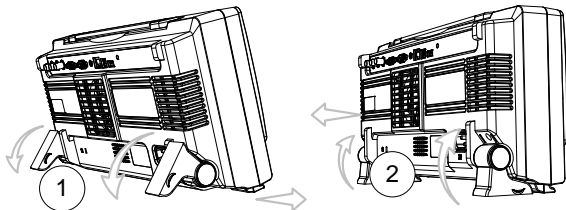
Power Up

Step 3. Connect the power cord to the rear panel socket.

4. Press the POWER key. The display becomes active in ~ 30 seconds.

POWER

- | : ON
  - O: OFF
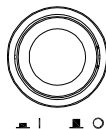
Note   The IDS-3000 recovers the state right before the power is turned OFF. The default settings can be recovered by pressing the Default key on the front panel.

First Time Use

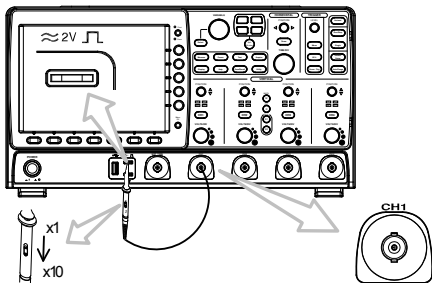|	
Background	This section describes how to connect a signal, adjust the scale, and compensate the probe. Before operating the IDS-3000 in a new environment, run these steps to make sure the instrument performs at its full potential.
1. Power On	Follow the procedures on the previous page.
2. Set the date and time	Press the Utility key followed by the Date & Time soft menu key. The date and time can be set from the side menu in conjunction with the VARIABLE knob and Select key. Please see the user manual for further details.
3. Reset system	Reset the system by recalling the factory settings. Press the *Default* Setup key on the front panel. For details, see the user manual.
4. Install optional software	The optional software packages (Power Analysis, Serial Bus Decode) can be activated. If the optional software has not been purchased, a time trial demonstration can be activated. In addition to the optional software packages, RS component also provides apps that can be downloaded from the RS component website.
5. Connect probe	Connect the probe to the Channel1 input terminal and probe compensation signal output (2Vp-p, 1kHz square wave). Set the probe attenuation to x10 if the probe has adjustable attenuation.

For step 2: Utility / Date & Time

For step 3: Default Setup

For step 4: See the user manual for details.

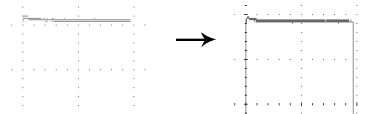|		
6. Capture signal (Autoset)	Press the *Autoset* key. A square waveform appears on the center of the screen. For Autoset details, see the user manual	Autoset
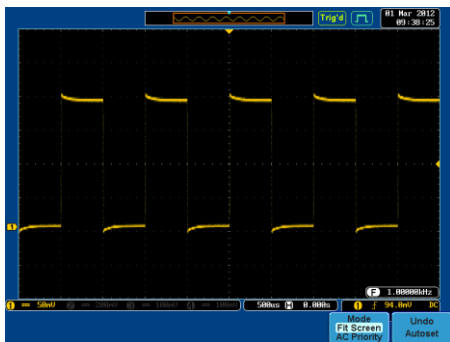
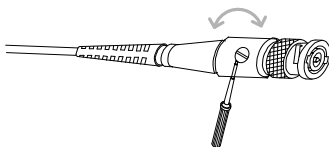|		
7. Select vector waveform	Press the *Display* key, and set the display to *Vector* on the bottom menu.	Display

Dot **Vector**

8. Compensate probe	Turn the adjustment point on the probe to make the square waveform edge flat.

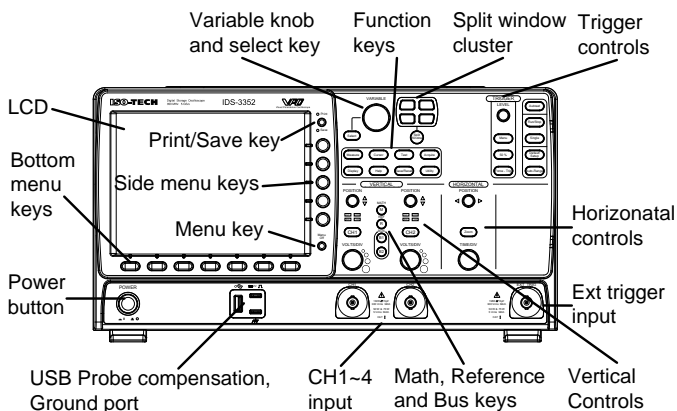|		
Under Compensation	Normal	Over Compensation
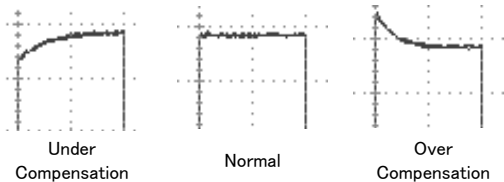
9. Start operation	Continue with other operations. See the user manual for operation details.

Appearance

IDS-3354/3254/3154 Front Panel

Variable knob and select key
Function keys
Split window cluster
Horizontal controls
LCD
Print/Save key
Trigger controls
Bottom menu keys
Side menu keys
Menu key
Vertical controls
Power button
Math and Reference keys
USB Probe compensation, Ground port
Ext trigger input
Bus keys
CH1~4 input
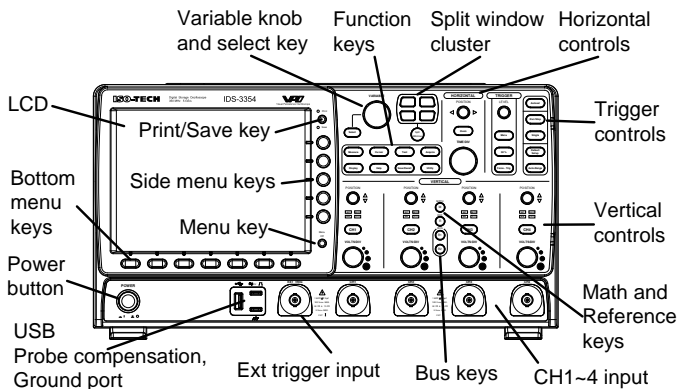
IDS-3352/3252/3152 Front Panel

Variable knob and select key
Function keys
Split window cluster
Trigger controls
LCD
Print/Save key
Bottom menu keys
Side menu keys
Menu key
Horizonatal controls
Power button
Ext trigger input
USB Probe compensation, Ground port
CH1~4 input
Math, Reference and Bus keys
Vertical Controls

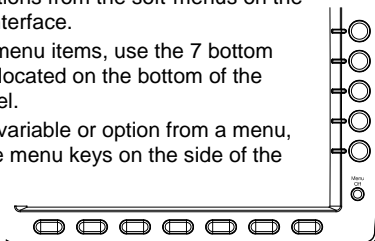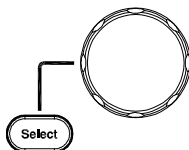|	
LCD display	8" SVGA TFT color LCD. 800 x 600 resolution, wide angle view display.
Menu Key	**Menu Off** Use the menu off key to hide/show the onscreen menu system.
Side Menu keys Bottom Menu keys	The side menu and bottom menu keys are used to make selections from the soft-menus on the LCD user interface. To choose menu items, use the 7 bottom menu keys located on the bottom of the display panel. To select a variable or option from a menu, use the side menu keys on the side of the panel.
Print/Save key	○ **Print** The print/save key is a quick save or quick print key, depending on its configuration. ○ **Save**
Variable knob and Select key	**VARIABLE** The variable knob is used to increase/decrease values or to move between parameters. The select key is used to make selections.

Split Window Cluster
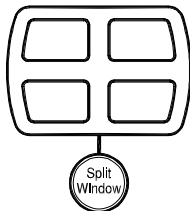
Use the split window key to cycle between single and split screen mode.

Horizontal Controls   The horizontal controls are used to change the position of the cursor, set the time base settings, and to zoom into the waveforms.

Horizontal Position   POSITION

◁ ▷

The position knob is used to position the waveforms vertically on the display screen.

Zoom

Zoom

Press zoom in combination with the horizontal position knob.

TIME/DIV   **TIME/DIV**

The time/div knob is used to change the horizontal scale.

Trigger controls   The trigger controls are used to control the trigger level and options.

Level Knob   LEVEL

Used to set the trigger level.

Trigger Menu key   Menu

Used to bring up the trigger menu.

50% key   50 %

Sets the trigger level to the half way point (50%).

Force - Trig   Force - Trig

Press to force an immediate trigger of the waveform.

Autoset   Autoset

Press the autoset key to automatically set the trigger, horizontal scale and vertical scale.

Run/Stop key	**Run/Stop**	Press to freeze (Stop) or continue (Run) signal acquisition
Single	**Single**	Sets the acquisition mode to single triggering mode.
Default Setup	**Default Setup**	Resets the oscilloscope to default settings.
Auto-Range	**Auto-Range**	Sets the oscilloscope range automatically.
Vertical POSITION	POSITION △ ▽	Sets the vertical position of the waveform.
Channel Menu Key	**CH4**	Press the CH1~4 key to set the channel.
VOLTS/DIV Knob	**VOLTS/DIV**	Sets the vertical scale.
Input Terminals	**CH4**	Accepts input signals. Input impedance, selectable: 50Ω, 75Ω, 1MΩ.
Math key	**M**	Use the math key to set and configure math functions.
Reference key	**R**	Press the reference key to set or remove reference waveforms.
BUS keys	**B1** **B2**	The serial bus decode keys are used for UART, I^2C and SPI serial bus interface decoding. The serial bus decode function is an optional extra.

Function Keys		The function keys are used to enter and configure different functions on the IDS-3000.
Measure	(Measure)	Configures and runs automatic measurements.
Cursor	(Cursor)	Configures and runs cursor measurements.
Test	(Test)	Configures and runs RS component applications and optional functions such as the power analysis measurement software.
Acquire	(Acquire)	Configures the acquisition mode.
Display	(Display)	Configures the display settings.
Help	(Help)	Shows the help menu.
Save/Recall	(Save/Recall)	Used to save and recall waveforms, images and panel settings.
Utility	(Utility)	Configures the print/save key, display time, language and calibration.
USB host port	⟵•⟶	TypeA, 1.1/2.0 compatible. Used for data transfer.
Ground terminal	⟺	Accepts the DUT ground lead for common ground.
Probe compensation output	≈2V ⊓	Outputs 2Vp-p, square wave signal for probe compensation.
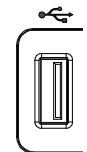
External trigger input

EXT TRIG

Accepts external trigger signals
Input impedance: 1MΩ±3%,
Voltage input: ±15V(peak), EXT
trigger capacitance:~16pF.

Power Switch

POWER

Used to turn the power on/off.

▬ I : ON

▮ O : OFF

▬ I   ▮ O

Rear Panel
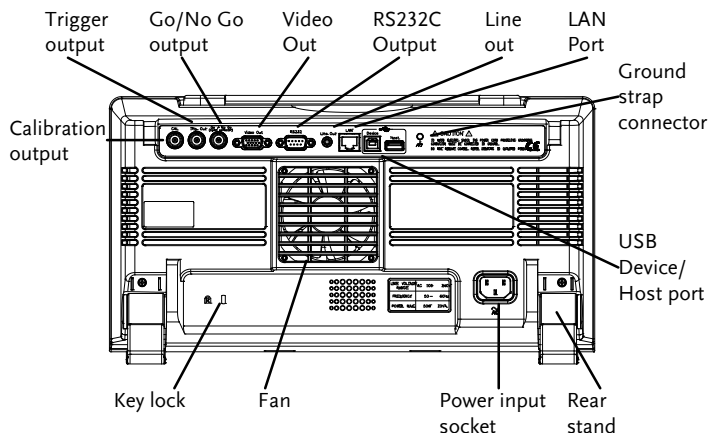
Calibration output	CAL	Outputs the signal for vertical scale accuracy calibration.
Trigger output	Trig. Out	Outputs the trigger timing.
Go-No Go output	Go / No Go (Open collector)	Outputs Go-No Go test results as 10us pulse signal.
Video Out	Video Out	Outputs SVGA resolution to an external display.
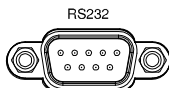
RS232	RS232	RS232 remote control.
Line Out	Line Out	Audio line out.
LAN port	LAN	Ethernet port.
Ground strap connector		For use with a grounding strap.
USB Device Port	Device	The USB device port is used for remote control and for the FreeWave remote control software. USB 1.1/2.0 high speed compatible.
USB Host	Host	The USB host port supports USB flash drives for external memory. USB 1.1/2.0 high speed compatible.
Security Slot		Kensington security slot compatible.
Power Input Socket		Power cord socket accepts AC mains, 100 ~ 240V, 50/60Hz.
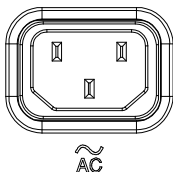
AC

APPENDIX

IDS-3000 Specifications

The specifications apply when the IDS-3000 is powered on for at least 30 minutes under +20°C~+30°C.

Model-specific

IDS-3152	Channels	2 + Ext
	Bandwidth	DC ~ 150MHz (–3dB)
	Rise time	2.3ns
IDS-3154	Channels	4 + Ext
	Bandwidth	DC ~ 150MHz (–3dB)
	Rise time	2.3ns
IDS-3252	Channels	2 + Ext
	Bandwidth	DC ~ 250MHz (–3dB)
	Rise time	1.4ns
IDS-3254	Channels	4 + Ext
	Bandwidth	DC ~ 250MHz (–3dB)
	Rise time	1.4ns
IDS-3352	Channels	2 + Ext
	Bandwidth	DC ~ 350MHz (–3dB)
	Rise time	1ns
IDS-3354	Channels	4 + Ext
	Bandwidth	DC ~ 350MHz (–3dB)
	Rise time	1ns
IDS-3502	Channels	2 + Ext
	Bandwidth	DC ~ 500MHz (–3dB)
	Rise time	700ps
IDS-3504	Channels	4 + Ext
	Bandwidth	DC ~ 500MHz (–3dB)
	Rise time	700ps
The bandwidth of the 75Ω input impedance is limited to 150MHz only.		

Common

Vertical	Resolution	8 bit
		@1MΩ: 2mV~5V/div
		@50/75Ω: 2mV~1V/div
	Input Coupling	AC, DC, GND
	Input Impedance	1MΩ// 15pF
	DC Gain Accuracy	±(3% X |Readout| + 0.1div + 1mV)
	Polarity	Normal & Invert
	Maximum Input Voltage	@1 MΩ: 300V (DC+AC Peak), CAT I
		@50/75Ω: 5 VRMS max
	Offset Position Range	2mV/div ~ 100mV/div : ±0.5V
		200mV/div ~ 5V/div : ±25V
	Bandwidth Limit	Dependent on the oscilloscope bandwidth (BW.
		BW=150: Full/20MHz
		BW=250: Full/20MHz/100MHz
		BW=350: Full/20MHz/100MHz/200MHz
		BW=500: Full/20MHz/100MHz/200MHz/350MHz
	Waveform Signal Process	Add, subtract, multiply, and divide waveforms, FFT, FFTrms
		FFT:Spectral magnitude. Set FFT Vertical Scale to Linear RMS or dBV RMS, and FFT Window to Rectangular, Hamming, Hanning, or Blackman-Harris.
Trigger	Sources	CH1, CH2, CH3, CH4, Line, EXT
	Modes	Auto (supports Roll Mode for 100 ms/div and slower), Normal, Single
	Type	Edge, Pulse Width, Video, Pulse Runt, Rise & Fall, Alternate, Event-Delay(1~65535 events), Time-Delay(10nS~10S), I^{2}C*, SPI*, UART* *optional
		Runt:Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again.
		SPI (optional):Trigger on SS, MOSI, MISO, or MOSI and MISO on SPI buses.

		I²C (optional):Trigger on Start, Repeated Start, Stop, Missing ACK, Address (7 or 10 bit), Data, or Address and Data on I²C buses.
		UART (optional): Trigger on Tx Start Bit, Rx Start Bit, Tx End of Packet, Rx End of Packet, Tx Data, Rx Data, Tx Parity Error, and Rx Parity Error.
	Holdoff range	10nS to 10S
	Coupling	AC, DC, LF rej., Hf rej., Noise rej.
	Sensitivity	IDS-31XX ~ IDS-33XX: DC ~ 50MHz Approx. 1div or 10mV 50MHz ~ 150MHz Approx. 1.5div or 15mV 150MHz ~ 350MHz Approx. 2div or 20mV IDS-350X: DC ~ 50MHz Approx. 1div or 1.0mV 50MHz ~ 150MHz Approx. 1.5div or 15mV 150MHz ~ 350MHz Approx. 2div or 20mV 350MHz ~ 500MHz Approx. 2.5div or 25mV
External Trigger	Range	±15V
	Sensitivity	IDS-31XX ~ IDS-33XX: DC ~ 150MHz Approx. 100mV 150MHz ~ 250MHz Approx. 150mV 250MHz ~ 350MHz Approx. 150mV 350MHz ~ 500MHz Approx. 200mV
	Input Impedance	1MΩ±3%, ~16pF
Horizontal	Range	IDS-31XX, IDS-32XX, IDS-33XX: 1ns/div ~ 100s/div (1-2-5 increments); ROLL : 100ms/div ~ 100s/div IDS-350X: 1ns/div ~ 100s/div (1-2.5-5 increments); ROLL : 100ms/div ~ 100s/div

	Pre-trigger	10 div maximum
	Post-trigger	1000 div maximum. The number of divisions depends on the time division.
	Accuracy	±20 ppm over any ≧1 ms time interval
X-Y Mode	X-Axis Input	Channel 1; Channel 3
	Y-Axis Input	Channel 2; Channel 4
	Phase Shift	±3° at 100kHz
Signal Acquisition	Real Time Sample Rate	150/250/300MHz models: 5GSa/s (MAX) 150/250MHz models with 2CH: 2.5GSa/s 500MHz models: 4GSa/s (MAX), 2GSa/s per channel
	ET Sample Rate	100GSa/s maximum for all models
	Record Length	25k points / channel
	Acquisition Mode	Normal, Average, Peak Detect, High Resolution, Single
	Peak Detection	2nS (MAX)
		Normal: Acquire sampled values. Average: From 2 to 256 waveforms included in average. Peak Detect: Captures glitches as narrow as 2 ns at all sweep speeds Hi Res: Real-time boxcar averaging reduces random noise and increases vertical resolution
Cursors and Measurement	Cursors	Amplitude, Time, Gating available
	Automatic Measurement	28 sets: Vpp, Vamp, Vavg, Vrms, Vhi, Vlo, Vmax, Vmin, Rise Preshoot/Overshoot, Fall Preshoot/Overshoot, Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle, and nine different delay measurements (FRR, FRF, FFR, FFF, LRR, LRF, LFR, LFF, Phase)
	Cursors measurement	Voltage difference between cursors (ΔV) Time difference between cursors (ΔT)
	Auto counter	6 digits, range from 2Hz minimum to the rated bandwidth

Power	Power Quality	V RMS, I RMS, True Power, Apparent
Measurements	Measurements	Power, Reactive Power, Frequency,
(Option)		Power Factor, Phase Angle, V Crest
		Factor, I Crest Factor, (+)V Peak,
		(-)V Peak, (+)I Peak, (-)I Peak, DC
		Voltage, DC Current, Impedance,
		Resistance, Reactance
	Harmonics	Frequency (Hz), Magnitude (%), Mag.
		RMS (A), Phase (°), Limit (A), Limit (%),
		Pass | Fail, Max all , Windows (A), 200%
		Limit, POHC Limit, THD-F, THD-R, RMS,
		Overall, POHC, POHL, Input Power,
		Power Factor, Fundamental Current,
		Harmonic 3, Harmonic 5
	Ripple Measurements	Ripple, Noise
	In-rush current	First peak, Second peak
Control Panel Function	Autoset	Single-button, automatic setup of all channels for vertical, horizontal and trigger systems, with undo autoset
	Auto-Range	allow you to quickly move from test point to test point without having to reset the oscilloscope for each test point
	Save Setup	20 sets
	Save Waveform	24 sets
Display	TFT LCD Type	8" TFT LCD SVGA color display
	Display Resolution	800 horizontal × 600 vertical pixels (SVGA)
	Interpolation	Sin(x)/x & Equivalent Time Sampling
	Waveform Display	Dots, vectors, variable persistence, infinite persistence
	Display Graticule	8 x 10 divisions
Interface	RS232C	DB-9 male connector
	USB Port	2 sets USB 2.0 High-speed host port 1 set USB High-speed 2.0 device port
	Ethernet Port	RJ-45 connector, 10/100Mbps
	SVGA Video Port	DB-15 female connector, monitor output for display on SVGA monitors
	GPIB	GPIB to USB adapter (Option)

	Go-NoGo BNC	5V Max, 10mA CMOS open collector output
	Internal flash disk	64MB
	Kensington Style Lock	Rear-panel security slot connects to standard Kensington-style lock.
	Line output	3.5mm stereo jack for Go/NoGo audio alarm
Power Source	Line Voltage Range	AC 100V ~ 240V , 48Hz ~ 63Hz , Auto selection
	Power Consumption	96VA
Miscellaneous	Multi-language menu	Available
	On-line help	Available
	Time clock	Time and Date ,Provide the Date/Time for saved data
Dimensions	400mm (W) x 200mm (H) x 130mm (D), Approx. 4kg	

Probe Specifications

Model-specific

GTP-151R	Applicable to	IDS-3152 / IDS-3154
	Bandwidth	DC ~ 150MHz
	Rise time	2.3ns
	Input Capacitance	~12pF
	Compensation Range	10 ~ 30pF
GTP-251R	Applicable to	IDS-3252 / IDS-3254
	Bandwidth	DC ~ 250MHz
	Rise time	1.4ns
	Input Capacitance	~12pF
	Compensation Range	10 ~ 30pF
GTP-351R	Applicable to	IDS-3352 / IDS-3354
	Bandwidth	DC ~ 350MHz
	Rise time	1.0ns
	Input Capacitance	~12pF
	Compensation Range	10 ~ 30pF
GTP-501R	Applicable to	IDS-3502 / IDS-3504
	Bandwidth	DC ~ 500MHz
	Rise time	0.7ns
	Input Capacitance	~11.5pF @ 100MHz
	Compensation Range	8 ~ 20pF

Common

Position x 10	Attenuation Ratio	10:1 (fixed) with readout pin
	Input Resistance	10MΩ when used with 1MΩ input oscilloscope
	Maximum Input Voltage	500V CAT I, 300V CAT II (DC+Peak AC) derating with frequency
Operating Condition	Temperature	–0°C ~ 50°C
	Relative Humidity	≤85% @35°C
Safety Standard	EN61010-031 CAT II	

Declaration of Conformity

We declare that the below mentioned product

Type of Product: **Digital Storage Oscilloscope**
Model Number:
IDS-3152, IDS-3252, IDS-3352, IDS-3154, IDS-3254, IDS-3354, IDS-3502, IDS-3504
are herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Law of Member States relating to Electromagnetic Compatibility (2004/108/EEC) and Low Voltage Directive (2006/95/EEC). For the evaluation regarding the Electromagnetic Compatibility and Low Voltage Directive, the following standards were applied:

◎ **EMC**		
EN 61326-1: EN 61326-2-1:	Electrical equipment for measurement, control and laboratory use — EMC requirements (2006)	
Conducted & Radiated Emission EN 55011: 2007+A2: 2007		Electrostatic Discharge EN 61000-4-2: 2009
Current Harmonics EN 61000-3-2: 2006+A1: 2009+A2: 2009		Radiated Immunity EN 61000-4-3: 2006+A1: 2008
Voltage Fluctuations EN 61000-3-3: 2008		Electrical Fast Transients IEC 61000-4-4: 2004+Corr.1: 2006 +Corr2: 2007
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-------------------------		Conducted Susceptibility EN 61000-4-6: 2009
-------------------------		Power Frequency Magnetic Field EN 61000-4-8: 1993+A1: 2001
-------------------------		Voltage Dip/ Interruption EN 61000-4-11: 2004

Low Voltage Equipment Directive 2006/95/EEC	
Safety Requirements	IEC/EN 61010-1: 2001