

OD-400 Series Digital Oscilloscopes

100 MHz / 50 MHz Digital Storage Oscilloscopes

- 100 MHz / 50 MHz Bandwidth, 2 Input Channels
- Up to 250 MSa/s Real-Time and 25 GSa/s Equivalent-Time Sampling Rate
- Up to 4K Record Length
- From 2 mV to 10V Vertical Scale
- From 1 ns to 50 s Horizontal Range
- Up to 19 Auto Measurements
- Versatile math functions
- 5.7" Color TFT Display
- USB Host & Device Ports
- Go/NoGo Function
- Data Logger and management software

OD-400 series

The **OD-400** 100 MHz & 50 MHz dual channel digital storage oscilloscope series inherits the passionate design and strong value to traditional **PROMAX** Digital Oscilloscopes. The **OD-400** series features 250 MSa/s real-time sampling rate, 4K memory length, USB remote interface, high resolution color TFT display, and a specially designed user-friendly interface. Quality design and powerful features combine to create a powerful tool for waveform capture and analysis.



100 & 50 MHz versions



Up to 4 Ksa memory storage



Wide view angle color LCD monitor



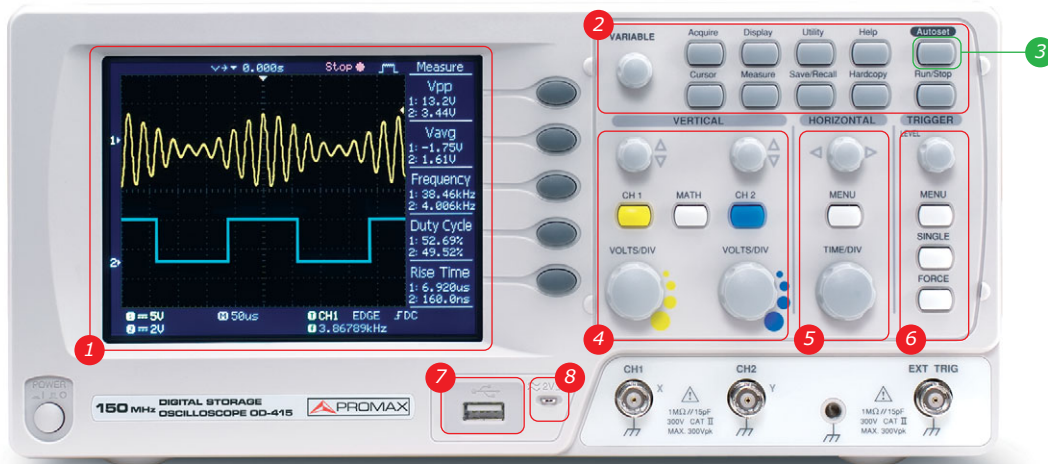
Direct connection to PictBridge printers



Free software for displaying waves, data logging...



Front USB connection for mass storage devices



1 Stunning display

The 5.7" TFT color LCD greatly enhances the **OD-400** digital storage oscilloscopes series display performance letting you see the waveform details clearly from a broad range of view-angle.

2 Function Keys

Function Keys are used to set up some parameters in different functions, such as Acquire, Display, Cursor, Measure,... etc.

3 Autoset Enable/Disable

To help students learn how to use an oscilloscope manually, the Autoset function can be disabled on the **OD-400** digital oscilloscopes series.

4 Vertical Controls

Separate vertical controls for each channel allows for simple and fast operation. There is no longer any need to share one set of vertical controls for both channels.

5 Horizontal System

Horizontal system can configure the horizontal view, move the waveform horizontally, and select the horizontal scale.

6 Advanced Triggers

Quick setting to capture any signal of interest with Normal, Single, Force, Pulse Width and Video line selectable triggers.

7 Memory and interface

Up to 17 waveforms (according to model) can be saved into the internal memory to be recalled later and compared. USB Host port provides a safe environment for data storage and transfer of measurement results, and the USB device port interface allows remote control for direct printing to PictBridge compatible printers.

8 Enhanced CAL signal output

OD-400 digital storage oscilloscopes series has an enhanced 1 kHz calibration signal. Its output frequency is adjustable from 1 kHz to 100 kHz as well as the duty cycle adjustable by 5% ~ 95%.

Quick selection guide



➤ **OD-405**
50 MHz

250 MSa/s sample rate
4 K memory



➤ **OD-410B**
100 MHz

250 MSa/s sample rate
4 K memory

Flexible Probe Factor Setting

To ensure compatibility with a wide range of test probes, probe attenuation ratios of 0.1X to 2000X as well as voltage and current probes are supported with the **OD-400**.

2000x

PictBridge Printer Supported

The **OD-400** series allows to print directly to your printer, making the process as easy as pressing a button!

Auto Measurement Gating

A built-in Autoset function gives engineers remarkable convenience. The new Cursor Gating feature allows for auto measurement.

AUTO

Fast Horizontal Position Mark and Search

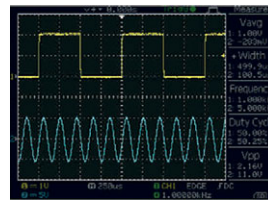
To assist engineers in analyzing complex waveforms quicker, **OD-400** provide Horizontal Page skip and Set Time Mark functionalities.

➤ USB interface and datalogger



The large amount of data, including data logging, screenshots, waveforms and panel setup, can be easily stored into a popular flash disk. The provided free software **FreeWave** allows saving and loading screenshots in different video/data/image formats (WMV, CSV, BMP or JPG), as well as configuring instrument settings and taking remote control of the **OD-400** oscilloscopes series.

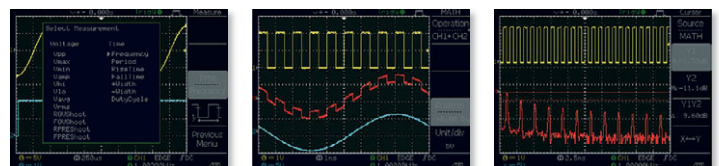
➤ Waveform saving and automatic measurement



Up to 15 waveforms + 2 reference waveforms can be saved into memory for later recall and display, and show them together with 2 live waveforms at the same time for comparison. A snapshot of all time and voltage related Auto Measurement Readings of an input signal can be shown on the screen simultaneously.

➤ Sophisticated measurement functions

Several acquisition mode and 19 auto measurement functions help user to measure the accurate property of waveforms. The advanced auto-set function makes **OD-400** Digital Storage Oscilloscopes Series catch waveform automatically and display waveform quickly. With arithmetic functions, FFT function keeps user being aware of the results by updating value immediately. Without almost extra-calculation **OD-400** Series can provide sufficient information of testing.



SPECIFICATIONS	OD-405	OD-410B		
Vertical			Ext trigger	
Channels	2	2	Range	±15 V
Bandwidth	DC ~ 50 MHz (-3 dB)	DC ~ 100 MHz (-3 dB)	Sensitivity	DC ~ 25 MHz: ~50 mV 25 MHz ~ 100 MHz: ~ 100 mV
Rise Time	< 7 ns approx.	< 3.5 ns approx.	Input Impedance	1 MΩ ±2 %, ~16 pF
Waveform Signal Process	+, -, FFT		Maximum Input	300V (DC + AC peak), CATII
Sensitivity	2 mV/div ~ 10V/div (1-2-5 increments)		Horizontal	
Accuracy	± (3% x [Readout] + 0.1 div + 1 mV)		Range	1 ns/div ~ 50s/div (1-2.5-5 increments)
Input Coupling	AC, DC & Ground		Modes	ROLL: 50 ms/div ~ 50 s/div MAIN, WINDOW, WINDOW ZOOM, ROLL, X-Y
Input Impedance	1 MΩ ±2%, ~16 pF		Accuracy	±0,01 %
Polarity	Normal & Invert		Pre-Trigger	10 div maximum
Maximum Input	300 V (DC + AC peak), CATII		Post-Trigger	1000 div
Offset Range	2 mV/div ~ 50 mV/div: ± 0.4 V 10 mV/div ~ 500 mV/div: ± 4V 1 V/div ~ 5 V/div: ± 40 V 10 V/div: ± 300 V		X-Y mode	
Bandwidth Limit	20 MHz (-3 dB)		X-Axis Input	Channel 1
Trigger			Y-Axis Input	Channel 2
Source	CH1, CH2, Line, EXT		Phase Shift	±3° at 100 kHz
Mode	AUTO, NORMAL, SINGLE, TV, Edge, Pulse width		Signal acquisition	
Coupling	AC, DC, LF rej., HF rej., Noise rej.		Real-Time Sample Rate	250 MSa/s maximum
Sensitivity	DC ~ 25 MHz: Approx. 0.5 div or 5 mV 25 MHz ~ 50/100 MHz: Approx. 1.5 div or 15 div		Equivalent Sample Rate	25 GSa/s maximum
			Vertical Resolution	8 bits
			Record Length	4 K Points maximum
			Acquisition Mode	Normal, Peak Detect, Average
			Peak Detection	10 ns (500 ns/div ~ 50 s/div)
			Average	2, 4, 8, 16, 32, 64, 128, 256
			Cursors and measurement	
			Voltage Measurement	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min} , Rise Preshoot/Overshoot, Fall Preshoot/Overshoot
			Time Measurement	Freq, Period, Rise Time, Fall Time, Positive Width, Negative Width, Duty Cycle
			Cursors Measurement	Voltage difference between cursors (ΔV), Time difference between cursors (ΔT)
			Auto Counter	Resolution: 6 digits Accuracy: ±2 % Signal source: All available trigger source except the Video trigger mode
			Adjustable probe compensation signal	
			Frequency Range	1 kHz ~ 100 kHz, 1 kHz/STEP
			Duty Cycle Range	5% ~ 95%, 5% / STEP
			Control panel function	
			Autoset	Adjust Vertical VOLT/DIV, Horizontal TIME/DIV, and Trigger level automatically
			Save Setup	Up to 15 sets of measurement conditions
			Save Waveform	15 sets of waveform
			Display	
			TFT LCD Type	5.7 inch
			Display Resolution	320 x 234 dots (horizontal x vertical)
			Display Graticule	8x10 divisions
			Display Brightness	Adjustable
			Interface	
			USB Device	USB 1.1 & 2.0 full speed compatible
			USB Host	Image (BMP), waveform data (CSV) and setup (SET)
			Power source	
			Line Voltage Range	AC 100 V ~ 240 V, 48 Hz ~ 63 Hz, Auto selection
			Miscellaneous	
			Multi-Language Menu	Available
			Online Help	Available
			Accessories	
			Included	User manual, power cord, probes
			Dimensions & weight	310 (W) x 142 (H) x 140 (D) mm, approx. 2.5 kg

Please visit www.promaxelectronics.com to get more information or contact our distributor: