



# OD-400 Series Digital Oscilloscopes

100 MHz / 60 MHz / 25 MHz Digital Storage Oscilloscopes

100 MHz



- Large 5.6-in TFT Color Display
- 100 / 60 / 25 MHz Bandwidth
- 2 input channels
- 250 MS/s Real-Time and 25 GS/s Equivalent-Time Sampling
- 4 kPoints Record length per channel
- Save/Recall of 15 front panel settings & waveforms
- 19 Automatic Measurements
- Built-in 6 digit real-time frequency counter
- Three Math Functions: "+", "-" and "FFT"
- Advanced trigger: Pulse Width, TV Line
- Multi-Language Support & Built-in Help Menu
- PC Interface support: SD card and USB Device

# Advanced functions for the basic line

PROMAX ELECTRONICA is announcing to the global market the new digital storage oscilloscope OD-400 series. The OD-400 are a general purpose 2-channel oscilloscopes and originally designed to meet requirement in education and industrial fields without special DSO features. This series provides three selective bandwidths of 25 MHz, 60 MHz and 100 MHz. The TFT color LCD display without any defect pixel, users will enjoy better measurement experience!

OD-400 series offers dual sampling mode, giving users two options for 250 MS/s Real-Time sampling or 25 GS/s high-speed Equivalent sampling rate. What's more, with high-speed wave handling capability, more advanced triggering functions, and 2.5 kg light-weight design, it is a powerful functional oscilloscope with the best price than ever.

Ultimately, the OD-400 are considered for the replacement of analog oscilloscope and further promoted as a personal DSO affordable to any situation such as each student in educational labs, service technicians, or industrial field needing big quantity.



Data transfer & remote control using a PC

Front SD card slot for easy saving & recalling data

Wide angle view screen: 5.6" TFT LCD display

## Quick selection guide



OD-400  
100 MHz

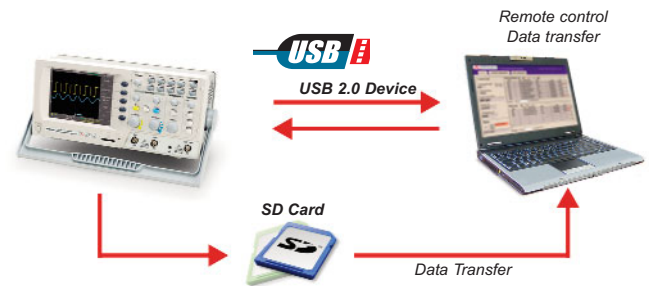


OD-460  
60 MHz



OD-425  
25 MHz

## Memory and Interface



Up to 17 waveforms on the screen could be saved into the internal memory for later recall, and 2 saved reference waveforms plus 2 live ones could be shown on the screen at the same time for comparison. SD card mass storage and USB device port are supported, providing storage/transfer of measurement data and remote control for diversified solutions.

## Enhanced CAL signal output

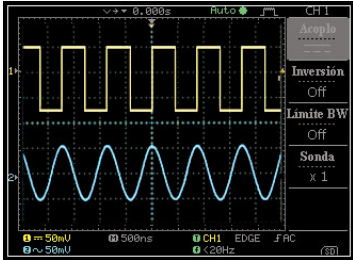
OD-400 series have an enhanced 1 kHz calibration signal. Its output frequency is adjustable from 1 kHz to 100 kHz as well as the duty cycle adjustable by 5%~95%.





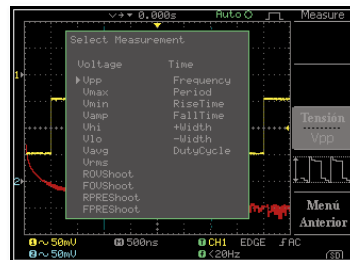
2 channels ● Equivalent-Time Sampling Rate 25 GS/s  
 Real-Time Sampling Rate 250 MS/s ● 4k Points per channel ● Record length  
 5.6" Color TFT LCD ● SD Card Slot ● USB Device Connector ● Calibration Output

### Easy to use



The 19 Auto Measurement functions, FFT Measurement, Advanced Triggering, Multi-Language Screen Menu and On-Line Help manual are all standard features of the OD-400 series.

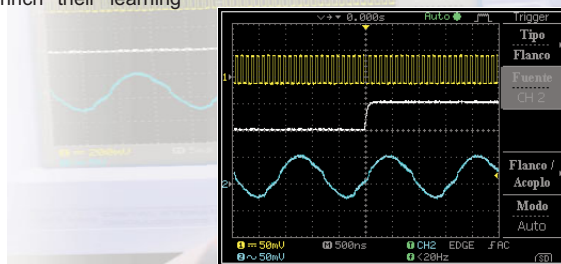
### Automatic measurement function



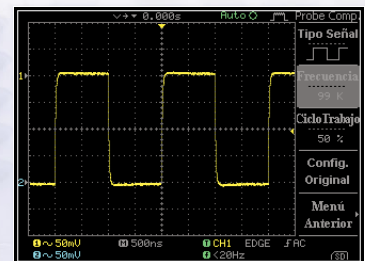
The Auto Measurement function shows the snapshot of all voltage and time related readings of an input signal simultaneously on the display.

### Autoset-Disable Function

For educational purposes, instructors might not want to use autoset function on the DSO when they are teaching how to use oscilloscope for the measurement. The OD-400 series can disable the Autoset function, enabling students to manually operate oscilloscope functions to further enrich their learning experience.



Saved waveforms can be shown together with live waveforms for reference



Enhanced Calibration signals

Save & Recall data from external memory card

SPECIFICATIONS	OD-425	OD-460	OD-410
<b>Bandwidth (-3 dB)</b> <b>Bandwidth Limit</b> <b>External Trigger Sensitivity</b> <b>Rise Time</b>	DC coupling: DC ~ 25 MHz AC coupling: 10 Hz ~ 25 MHz None ~ 50 mV < 14 ns	DC coupling: DC ~ 60 MHz AC coupling: 10 Hz ~ 60 MHz 20 MHz (-3 dB) 0.5 div or 5 mV (DC ~ 25 MHz) ~ 100 mV (25 MHz ~ 60 MHz) < 5.8 ns	DC coupling: DC ~ 100 MHz AC coupling: 10 Hz ~ 100 MHz 20 MHz (-3 dB) 0.5 div or 5 mV (DC ~ 25 MHz) ~ 100 mV (25 MHz ~ 100 MHz) < 3.5 ns
<b>VERTICAL</b> <b>Sensitivity</b> <b>Accuracy</b> <b>Bandwidth</b> <b>Rise Time</b> <b>Input Coupling</b> <b>Input Impedance</b> <b>Polarity</b> <b>Maximum Input</b> <b>Math Operation</b> <b>Offset Range</b>	2 mV/div ~ 5V/div (1-2-5 increments) ± (3 % x  Readout  + 0.1 div + 1 mV) 25, 60, 100 MHz depending on model Depending on model (see above) AC, DC, Ground 1 MΩ ± 2%, ~ 16 pF Normal & Invert 300 V (DC+AC peak), CAT II Add, Subtract, FFT 2 mV/div ~ 50 mV/div: ± 0-4 V 10 mV/div ~ 500 mV/div: ± 4 V 1 V/div ~ 5V/div: ± 40 V	<b>CURSORS AND MEASUREMENT</b> <b>Voltage</b> <b>Time</b> <b>Cursors</b> <b>Auto Counter</b>	Vpp, Vamp, Vavg, Vrms, Vhi, Vlo, Vmax, Vmin, Rise Preshoot/Overshoot, Fall Preshoot/Overshoot Freq, Period, Rise Time, Fall Time, + Width, - Width, Duty Cycle Voltage difference (ΔV) and Time difference (ΔT) between cursors. Reciprocal of ΔT in Hertz (1/ΔT) Resolution: 6 digits, Accuracy: ~ 2% Signal source: all available trigger source except the Video trigger
<b>TRIGGER</b> <b>Sources</b> <b>Modes</b> <b>Coupling</b> <b>Sensitivity</b> <b>TV Trigger Sensitivity</b>	CH1, CH2, Line, EXT Auto, Normal, Single, TV, Edge, Pulse Width AC, DC, LFrej, HFrej, Noise rej Depending on model (see above) 0.5 div of synchronization signal	<b>TRIGGER FREQUENCY COUNTER</b> <b>Resolution</b> <b>Frequency Range</b> <b>Accuracy</b> <b>Signal Source</b>	6 digits 20 Hz minimum to rated bandwidth ± 2% All trigger source except the Video trigger
<b>EXTERNAL TRIGGER</b> <b>Range</b> <b>Sensitivity</b> <b>Input Impedance</b> <b>Maximum Input</b>	DC: ± 15V // AC: ± 2 V Depending on model (see above) 1 MΩ ± 2%, ~ 16 pF 300 V (DC+AC peak), CAT II	<b>CONTROL PANEL FUNCTION</b> <b>Autoset</b> <b>Save/recall</b>	Automatically adjust Vertical Volt/div, Horizontal Time/div, and Trigger level Up to 15 sets of measurement conditions and waveforms
<b>HORIZONTAL</b> <b>Range</b> <b>Modes</b> <b>Accuracy</b> <b>Pre-Trigger</b> <b>Post-Trigger</b>	1 ns/div ~ 10 s/div, 1-2-5 increment Main, Window, Window Zoom, Roll, X-Y ± 0.01% 10 div maximum 1000 div	<b>DISPLAY</b> <b>LCD</b> <b>Resolution (dots)</b> <b>Gratidue</b> <b>Display Contrast</b>	5.6 inch, TFT, brightness adjustable 234 (Vertical) x 320 (Horizontal) 8 x 10 divisions Adjustable
<b>X-Y MODE</b> <b>X-Axis Input</b> <b>Y-Axis Input</b> <b>Phase Shift</b>	Channel 1 Channel 2 ± 3° at 100 kHz	<b>INTERFACE</b> <b>USB Slave Connector</b> <b>SD Card Slot</b>	USB 1.1 & 2.0 full speed compatible (printers and flash disk not supported) Image (BMP), waveform data (CSV), and setup (SET)
<b>SIGNAL ACQUISITION</b> <b>Real-Time Sampling</b> <b>Equivalent Time Sampling</b> <b>Vertical Resolution</b> <b>Record Length</b> <b>Single Shot</b> <b>Acquisition</b> <b>Peak Detection</b> <b>Average</b>	250 Ms/s maximum 25 GS/s maximum 8 bits 4 k points 4 k points record, 25 MHz bandwidth Normal, Peak Detect, Average 10 ns (500 ns/div ~ 10 s/div) 2, 4, 8, 16, 32, 64, 128, 256	<b>PROBE COMPENSATION SIGNAL</b> <b>Frequency range</b> <b>Duty cycle</b> <b>Amplitude</b>	1 kHz ~ 100 kHz adjustable, 1 kHz step 5% ~ 95% adjustable, 5% step 1 Vpp ± 3%
		<b>POWER SOURCE</b> <b>Line Voltage</b> <b>Power Consumption</b> <b>Fuse Rating</b>	100 V ~ 240 V AC, 47 Hz ~ 63 Hz 18 W, 25 VA maximum 1 A slow, 250 V
		<b>OPERATING ENVIRONMENT CONDITIONS</b> <b>Ambient temperature</b> <b>Relative humidity</b>	0 ~ 50 °C ≤ 80% @ 35 °C
		<b>STORAGE ENVIRONMENT</b> <b>Ambient temperature</b> <b>Relative humidity</b>	-20 ~ 70 °C ≤ 80% @ 70 °C
		<b>MECHANICAL FEATURES</b> <b>Dimensions</b> <b>Weight</b>	140 (D) x 142 (H) x 310 (W) mm Approx. 2.5 kg

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