

# RIGOL

## 用户手册 User's Guide



## PLA2216 有源逻辑探头 PLA2216 Active Logic Probe

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## General Safety Summary

- ✚ Connect and disconnect the probe properly.
- ✚ Observe all terminals ratings.
- ✚ Do not touch exposed connections and components after power on.
- ✚ Do not operate with suspected failures.
- ✚ Do not operate without covers.
- ✚ Do not operate in an explosive atmosphere.
- ✚ Do not operate in wet conditions.
- ✚ Keep product surface clean and dry.
- ✚ Pay attention to handling safety.

## Product Overview

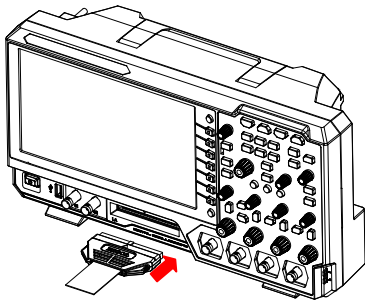
Being a high-performance active logic probe, PLA2216 connects the digital signals under test to the MSO5000 series digital oscilloscope to realize the logic analyzer function.

The 16 digital channels (D0-D15) of PLA2216 are divided into two channel groups (D0-D7 and D8-D15) each of which includes signal interfaces and ground interfaces. All the channels are marked with different numbers on the label of the probe input to identify different channels. PLA2216 provides 16 input signal leads and 16 ground leads to realize flexible connection of signals and reference ground.



## The Using Method of the Logic Probe

- 1. Connect PLA2216 to the oscilloscope:** connect the probe output to the digital signal input terminal at the front panel of the oscilloscope as shown in the figure below.



- 2. Connect the signals under test to PLA2216:** users can connect any number ( $\leq 16$ ) of the signals under test to PLA2216 probe input

according to the test need. Note that the amplitude of the input signal should not exceed the maximum working voltage range of the probe. PLA2216 provides two connection methods to realize convenient and flexible detection.

- ◆ Method one: users can connect the signals under test through the probe leads separately. You can easily identify the corresponding channel of each signal by the channel label on the probe leads and the label of the probe input, as shown in Figure 1.

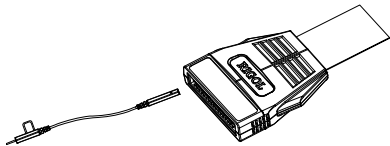


Figure 1

**Note:** If crosstalk or ground bounce occurs during use, it might be caused when channels share a single ground lead. So you are

recommended to add a ground wire to the signal lines of each channel and twist them.

- ◆ Method two: on the basis of method one, you can connect a grabber to each lead and connect it to the device under test as shown in Figure 2.

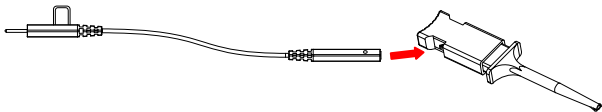


Figure 2

- 3. Set the probe:** press **LA** at the front panel of the oscilloscope to enter the digital channel setting menu. Users can view and set the following parameters under this menu: threshold level (the threshold levels of D7-D0 and D15-D8 can be adjusted independently), waveform size (applicable to all the channels; wherein, item Large is

only available when the number of active channels is no more than 8), channel label and so on.

**Note:** When the probe is connected to the oscilloscope for the first time or the temperature change is more than 5 degrees, you are recommended to calibrate the probe zero using the calibration function in the LA menu (press **LA** → **Threshold** → **Calibration**) and please disconnect all the connections to the PLA2216 input terminal during the calibration.

- 4. Function Check:** after finishing the above operations, the signal under test will be displayed on the corresponding digital channel on the oscilloscope screen. If no signal is displayed, please adjust the oscilloscope to select proper general settings (such as the trigger source, trigger level and trigger mode). If signal is still not displayed, please check the electric connection and parameter settings again or please try to use other probe (such as analog probe) to check the signal state of the test point.

## Probe Specifications

Input channels	16
Threshold range	$\pm 15$ V
Threshold accuracy	$\pm (100 \text{ mV} + 3\% \text{ of threshold setting})$
Max input voltage	$\pm 40$ V (peak)
Max input dynamic range	$\pm 10$ V + threshold setting
Min voltage swing	500 mVpp
Min detectable pulse width	5 ns
Input impedance	About $10^1 \text{ k}\Omega$
Input capacitance	About 8 pF
Cable length	About 90 cm
Lead length	About 25 cm
Operation environment	$0^\circ\text{C} \sim 50^\circ\text{C}$ , 0~80%RH
Storage environment	$-20^\circ\text{C} \sim 60^\circ\text{C}$ , 0~90%RH



## Accessories

<b>Item</b>	<b>Description</b>	<b>Quantity</b>
1	Main Cable	1
2	Lead	32 (2×16)
3	Grabber	32
4	Chinese and English User's Guide	1
5	PLA2216 Packing Box	1

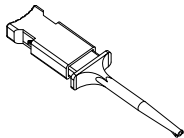
## Accessories Sketch Map



Main Cable



Lead



Grabber

## Contact Us

If you have any problem or requirement when using our products or this manual, please contact **RIGOL**.

E-mail: [service@rigol.com](mailto:service@rigol.com)

Website: [www.rigol.com](http://www.rigol.com)

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