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pico Technology

PicoScope® 6000E Series

Ultra-deep memory oscilloscopes

QUICK START GUIDE

快速入门指南

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English

Introduction

Thank you for purchasing a PicoScope 6000E Series PC oscilloscope. This guide explains how to install the PicoScope software and connect the oscilloscope to your computer. It also contains important safety information and advice on accessing user manuals and technical support.

This guide covers the following models. Documentation for other Pico products is available from picotech.com/downloads.

	Analog channels	Resolution	Bandwidth	Capture memory (shared between active channels)
PicoScope 6824E	8	8, 10 or 12 bits, FlexRes®	500 MHz	4 GS (2 GS at 10-/12-bit)[1]
PicoScope 6424E	4	8, 10 or 12 bits, FlexRes®	500 MHz	4 GS (2 GS at 10-/12-bit)[1]
PicoScope 6804E	8	8 bits, fixed	500 MHz	2 GS
PicoScope 6404E	4	8 bits, fixed	500 MHz	2 GS
PicoScope 6403E	4	8 bits, fixed	300 MHz	1 GS

[1] *For more information on maximum capture duration and permitted channel combinations, refer to the* PicoScope 6000E Series Data Sheet.

This oscilloscope is intended for the measurement of electrical signals up to the limits specified in this guide and in the *PicoScope 6000E Series Data Sheet*. For safe limits of accessories, please refer to the documentation supplied by the manufacturer.

For further information on the software, please refer to the *User's Guide* available from the Help menu within the the PicoScope software. For technical data relating to the oscilloscope itself, see the *PicoScope 6000E Series Data Sheet*, available from picotech.com/downloads.

We recommend that you use this document in the order it is presented:

Step 1: Install the PicoScope software
Step 2: Read the oscilloscope safety and conformance information
Step 3: Connect the oscilloscope

Kit contents

Your PicoScope 6000E Series oscilloscope is supplied with the items shown below. If any are missing, please contact your supplier.

Item	Quantity	Order code for replacements
PicoScope 6000E Series oscilloscope	1	N/A
PicoScope 6000E Series Quick Start Guide (this document)	1	Free download
PS016 12 V, 7 A power supply with 1 to 4x IEC leads (region-dependent)	1	PQ247
USB 3.0 cable, 1.8 m	1	TA155
Carry case	1	PA208
P2056 500 MHz 10:1 passive probe with readout pin (with 500 MHz oscilloscopes)	4 (2x dual pack)	TA437 (single pack) TA480 (dual pack)
P2036 300 MHz 10:1 passive probe with readout pin (with 300 MHz oscilloscopes)	4 (2x dual pack)	TA436 (single pack) TA479 (dual pack)

Step 1: Install the PicoScope software

1.1 System requirements

To ensure that the software operates correctly, you must use a computer with the system requirements shown in the table below. The performance of the oscilloscope will improve with a more powerful PC, and will benefit from a multi-core processor.

	Specifications
Operating system	Microsoft Windows 8 or 10, 32-bit and 64-bit versions Linux: Ubuntu or openSUSE, 64-bit only[2] macOS, 64-bit only[2]
Processor	As required by the operating system
Memory	
Free disk space	
Ports	USB 3.0 recommended USB 2.0 compatible

[2] *PicoScope 6 for Linux and PicoScope 6 for macOS are beta software.*

1.2 Installing the software

1. Go to picotech.com/downloads, select **PicoScope 6000 Series** from the list on the left, then select your model and the latest **PicoScope** software from the lists that appear. Download and run the installer.
2. In the PicoScope installer, select the language you wish to use.
3. Follow the on-screen instructions to install the software. Do not connect the oscilloscope device until the installation is complete.
4. You can try out the software with a demo device now, by clicking the new **PicoScope** icon on your desktop.

For more information on the software, please refer to the *A to Z of PC Oscilloscopes* at picotech.com/library or the software *User's Guide*, which you can download from picotech.com/downloads or access from the Help menu within the software

Step 2: Safety and conformance information

To prevent possible electrical shock, fire, personal injury, or damage to the product, carefully read this safety information before attempting to install or use the product. In addition, follow all generally accepted safety practices and procedures for working with and near electricity.

The product has been designed and tested in accordance with the European standard publication EN 61010-1: 2010 (Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use) and EN 61010-2-030: 2010 (Requirements for Testing and Measuring Circuits). The product left the factory in a safe condition.

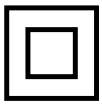
The following safety descriptions are found throughout this guide:

A **WARNING** identifies conditions or practices that could result in injury or death.

A **CAUTION** identifies conditions or practices that could result in damage to the product or equipment to which it is connected.

2.1 Symbols

These safety and electrical symbols may appear on the product or in this guide.

Symbols	Description	
	Direct current	
	Alternating current	
	Earth (ground) terminal	The terminal can be used to make a measurement ground connection. The terminal is NOT a safety or protective earth.
	Chassis terminal	
	Equipment protected throughout by double insulation or reinforced insulation	
	Possibility of electric shock	
	Caution	Appearance on the product indicates a need to read this Safety and all operation instruction.
CAT	EN 61010 overvoltage category	
	Do not dispose of this product as unsorted municipal waste	

WARNING

To prevent injury or death use the product only as instructed. Protection provided by the product may be impaired if used in a manner not specified by the manufacturer.

2.2 Maximum input/output ratings

Observe all terminal ratings and warnings marked on the product.

The table below and markings on the product indicate the full scale measurement range and overvoltage protection range for each oscilloscope model. The full scale measurement ranges are the maximum voltages that can be accurately measured by the instrument. The overvoltage protection ranges are the maximum voltages that will not damage the instrument.

WARNING

To prevent electric shock, do not attempt to measure voltages outside of the specified full scale measurement range.

All models	Full-scale measurement range	Overvoltage protection (DC + AC peak)			
		Input channels	Aux trigger	10 MHz reference clock input	Signal generator
1 MΩ input	±20 V	±100 V	±20 V	±5 V	±20 V
50 Ω input	±5 V	5.5 V RMS			

⚠ WARNING

Signals exceeding the voltage limits in the table below are defined as “hazardous live” by EN 61010.

Signal voltage limits of EN 61010-1: 2010		
±70 V DC	33 V AC RMS	±46.7 V pk max.

PicoScope 6000E Series oscilloscopes must not be used to directly measure hazardous live voltages.

To prevent electric shock, take all necessary safety precautions when working on equipment where hazardous live voltages may be present.

The following accessories can safely connect to and allow measurement of hazardous live voltages, up to either the instrument’s full-scale measurement voltage multiplied by the applicable attenuation ratio or the accessory’s marked maximum operating voltage, whichever is the lower:

- P2036 and P2056 10:1 passive high-impedance oscilloscope probes
- All Pico Technology-supplied high-voltage active probes

Do not exceed the voltage rating marked on any accessory. If an accessory is not marked with a voltage rating on either the connector, cable or body, or if a protective finger guard is removed, then do not exceed the EN 61010 “hazardous live” limits above. When connecting one or more accessories and the instrument together, the lowest voltage rating in the chain applies to the whole chain.

⚠ WARNING

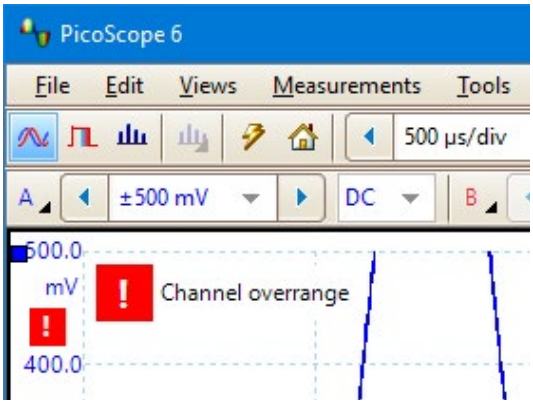
To prevent injury or death, the oscilloscope must not be directly connected to the mains (line power). To measure mains voltages, use only a differential isolating probe that is specifically CAT rated for mains or high energy use, such as the TA041 listed on the Pico website.

The maximum voltage marked on a CAT-rated accessory must never be exceeded, regardless of whether or not the accessory is being used for mains or high-energy measurements.

To prevent injury or death, do not use the product or an accessory if it appears to be damaged in any way, and stop use immediately if you are concerned by any abnormal operations.

A signal voltage exceeding the current full-scale measurement range is detected and indicated on the measurement display. A red warning icon will appear in the upper left corner and next to the relevant channel’s vertical axis.

In these conditions, displayed waveforms and measurements may be incorrect and the condition may be hazardous. Reduce input sensitivity to achieve a within-range measurement and if the condition persists, to prevent injury or death, disable or otherwise safely disconnect from the source of overvoltage.



⚠ CAUTION

Exceeding the voltage rating on any cable, connector or accessory can cause permanent damage to the oscilloscope and other connected equipment.

2.3 Grounding

⚠ WARNING

The oscilloscope's ground connection through the USB cable is for measurement purposes only. The oscilloscope does not have a protective safety ground.

Never connect the ground input (chassis) to any electrical power source. To prevent personal injury or death, use a voltmeter to check that there is no significant AC or DC voltage between the oscilloscope ground and the point to which you intend to connect it.

⚠ CAUTION

Applying a voltage to the ground input is likely to cause permanent damage to the oscilloscope, the attached computer, and other equipment.

To prevent measurement errors caused by poor grounding, always use the high-quality USB cable supplied with the oscilloscope.

2.4 External connections

⚠ WARNING

To prevent injury or death, use only the power cord and adaptor supplied with the product. These are approved for the voltage and plug configuration in your country.

External DC power supply

	Voltage (V)	Current (A pk)	
		Oscilloscope only	Oscilloscope + powered accessories
PicoScope 6824E	12	5	7
PicoScope 6424E	12	4.5	6.5
PicoScope 6804E	12	4.5	6.5
PicoScope 6404E	12	4	6
PicoScope 6403E	12	3.5	5.5

2.5 Environment

⚠ WARNING

To prevent injury or death, do not use in wet or damp conditions, or near explosive gas or vapor.

⚠ CAUTION

To prevent damage, always use and store your oscilloscope in appropriate environments.

	Storage	Operating	Quoted accuracy
Temperature	–20 to +60 °C	0 to 40 °C	15 to 30 °C after 20 minutes' warm-up
Humidity (non-condensing)	5 to 95 %RH	5% to 80% RH	
Altitude	Up to 2000 m		
Pollution degree	EN 61010 pollution degree 2: "only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is expected"		

2.6 Care of the product

The product contains no user-serviceable parts. Repair, servicing and adjustment require specialized test equipment and must only be performed by Pico Technology or an approved service provider. There may be a charge for these services unless covered by the Pico five-year warranty.

Inspect the instrument and all probes, connectors, cables and accessories before use for signs of damage.

⚠ WARNING

To prevent electric shock do not tamper with or disassemble the oscilloscope, case parts, connectors or accessories.

When cleaning the product, use a soft cloth and a solution of mild soap or detergent in water. To prevent electric shock, do not allow liquids to enter the oscilloscope casing, as this will compromise the electronics or insulation inside.

⚠ CAUTION

Do not block the air vents at the back or front of the instrument as overheating will damage the oscilloscope.

Do not insert any objects through the air vents as internal interference will cause damage to the oscilloscope.

2.7 Conformance

FCC notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to **Part 15 of the FCC Rules**. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference which the user will be required to correct at their own expense.

CE notice

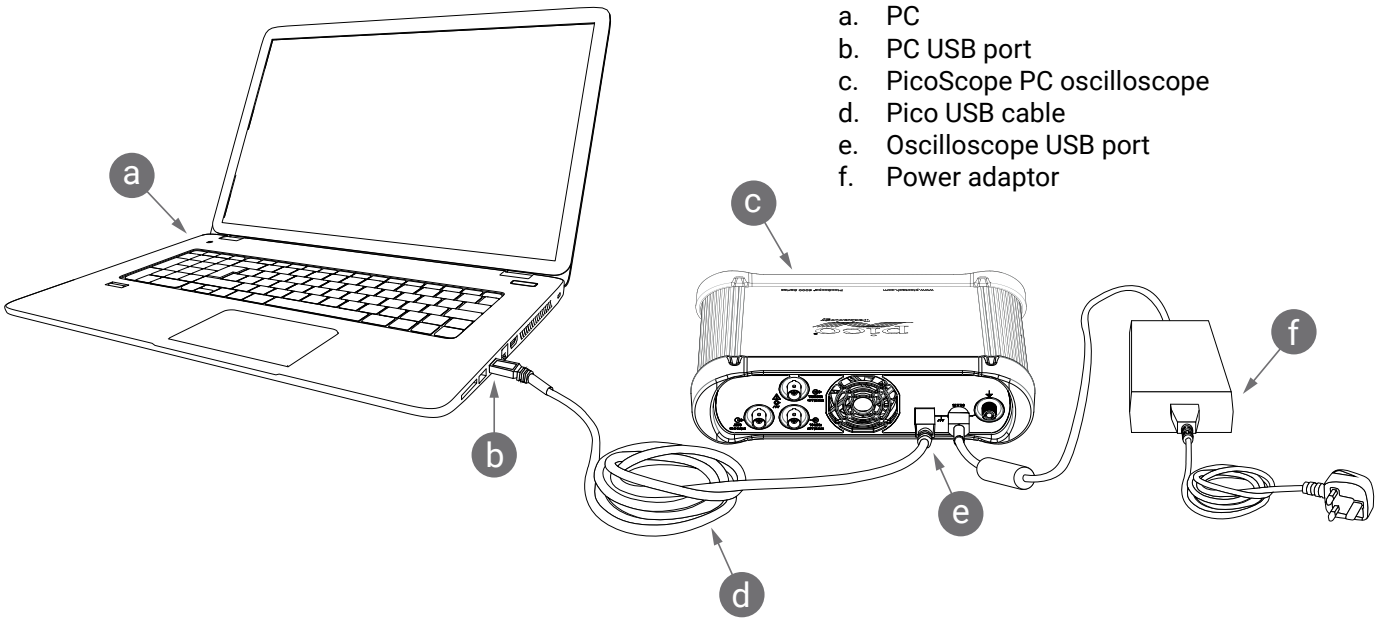
This PicoScope 6000E Series oscilloscopes have been designed and tested in accordance with the following European Union directives: 2014/30/EU (EMC), 2014/35/EU (LVD), 2012/19/EU (WEEE) and 2011/65/EC (RoHS), and left the factory in a safe condition.

For more information, please refer to your product's EU declaration of conformity, available for free download from picotech.com/downloads.

Step 3: Connect your oscilloscope

Make sure you have already installed the PicoScope software before you connect the oscilloscope. The oscilloscope will not work without the software.

1. Connect the power cord to the power adaptor and plug it into a mains power socket. Then connect the DC power cable to the back of the oscilloscope and switch on the mains power.
2. Connect the oscilloscope to your PC using the USB cable supplied. See the connection diagram below for more information.



a. PC
b. PC USB port
c. PicoScope PC oscilloscope
d. Pico USB cable
e. Oscilloscope USB port
f. Power adaptor

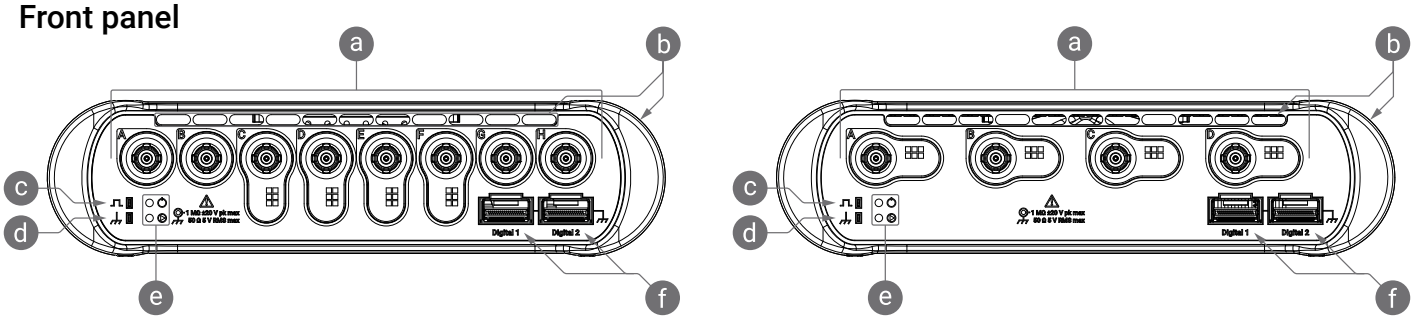
3. Wait for your computer to install the oscilloscope. While doing so, it will display a message or icon in the taskbar telling you it has found the device.
4. Run the PicoScope software.
5. If you wish to use a probe, connect one to Channel A. Touching the metal tip of the probe should cause a small 50 or 60 Hz signal to appear in the PicoScope window.

*External noise may interfere with your measurements if the PicoScope is used with a computer which does not have a ground connection. If this is the case, connect the oscilloscope ground terminal (see **3.1 Inputs and outputs**) to an external ground point (for example on the system you are testing) to provide a ground reference for the oscilloscope.*

3.1 Inputs and outputs

For detailed specification information, please refer to the specification table in the *PicoScope 6000E Series Data Sheet*.

Front panel



a. Oscilloscope analog inputs – BNC(f)[3]. See maximum input voltage marked on front panel of oscilloscope. Detects readout pin on 10:1 attenuated probes such as P2036 and P2056.

b. Air vents for cooling fan. Do not block when oscilloscope is in use. Note presence of vents on side of oscilloscope, in addition to front panel.

c. Probe compensation output. 1 kHz square wave. See probe *User's Guide* for compensation instructions.

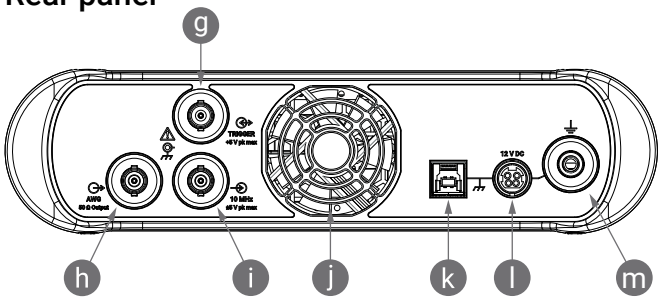
d. Probe compensation ground

e. Power (⏻) and status/trigger (⏵) LEDs

f. Digital interface ports, compatible with TA369 MSO pods (sold separately). Refer to *MSO pod user's guide*.

[3] *Intelligent probe interface on Channels A to D of PicoScope 6400E models and Channels C to F of PicoScope 6800E models.*

Rear panel



g. AUX trigger I/O. Allows you to trigger the scope from an external source.

h. Arbitrary waveform generator (AWG) output – BNC(f). Do not apply an external voltage to this output.

i. 10 MHz clock reference input – BNC(f)

j. Air vent for cooling fan. Do not block when oscilloscope is in use.

k. USB 3.0 Type-B socket.

l. 12 V DC input. Use only the power supply provided.

m. Ground terminal. Accepts bare wire or 4 mm (banana) plug.

简体中文

简介

感谢您购买 PicoScope 6000E 系列 PC 示波器。本手册解释如何安装 PicoScope 软件及如何将示波器连接到计算机。它还包含有关访问用户手册和技术支持的重要安全信息和建议。

本手册涵盖以下型号。其他 Pico 产品的文档可从 picotech.com/downloads 获取。

	模拟通道	分辨率	带宽	捕捉内存(在有源通道之间共享)
PicoScope 6824E	8	8、10 或 12 位, FlexRes®	500 MHz	4 GS (10-/12 位时为 2 GS) [1]
PicoScope 6424E	4	8、10 或 12 位, FlexRes®	500 MHz	4 GS (10-/12 位时为 2 GS) [1]
PicoScope 6804E	8	8 位, 固定	500 MHz	2 GS
PicoScope 6404E	4	8 位, 固定	500 MHz	2 GS
PicoScope 6403E	4	8 位, 固定	300 MHz	1 GS

[1] **有关最大捕捉持续时间和允许的通道组合的更多信息, 请参阅** PicoScope 6000E 系列数据表。

此示波器用于测量本指南和 **PicoScope 6000E 系列数据页**中指定的最高限值的电信号。有关附件的安全限值, 请参见厂商提供的文档。

有关软件的更多信息, 请参阅《**用户指南**》, 可从 PicoScope 软件的"帮助"菜单获取。有关与示波器本身相关的技术数据, 请参见 **PicoScope 6000E 系列数据页**, 可用从 picotech.com/downloads 获取。

我们推荐您按照文档编写的顺序来使用此文档:

步骤 1: 安装 PicoScope 软件
步骤 2: 阅读示波器安全和合规信息
步骤 3: 连接示波器

套件内容

您的 PicoScope 6000E 系列示波器提供有以下所示物品。如果缺少任何一项, 请与您的供货商联系。

项目	数量	替换产品订购代码
PicoScope 6000E 系列示波器	1	不适合
PicoScope 6000E 系列快速入门指南 (本文档)	1	免费下载
PS016 12 V、7A 电源, 带 1 至4 根 IEC 导线(取决于地区)	1	PQ247
USB 3.0 线缆, 1.8 米	1	TA155
便携箱	1	PA208
P2056 500 MHz 10:1 带读数针脚的无源探针(500 MHz示波器)	4(2x 双包装)	TA437(单包装) TA480(双包装)
P2036 300 MHz 10:1 带读数针脚的无源探针(300 MHz示波器)	4(2x 双包装)	TA436(单包装) TA479(双包装)

步骤 1: 安装 PicoScope 软件

1.1 系统要求

为了确保软件正确运行，必须使用具有下表显示的系统要求的计算机。计算机的配置越高（采用多核处理器），示波器的性能就越好。

	规格
操作系统	Microsoft Windows 8 或 10，32 位和 64 位版本 Linux：Ubuntu 或 openSUSE，仅限 64 位[2] macOS，仅限 64 位[2]
处理器	如操作系统所需
内存	
可用磁盘空间	
端口	推荐 USB 3.0 兼容 USB 2.0

[2] **PicoScope 6 for Linux 和 PicoScope 6 for macOS 为测试软件。**

1.2 安装软件

1. 转到 picotech.com/downloads，从左侧列表中选择 **PicoScope 6000 系列**，然后从出现的列表中选择型号和最新的 **PicoScope** 软件。下载并运行安装程序。
2. 在 PicoScope 安装程序中，选择您要使用的语言。
3. 按照屏幕上的说明安装软件。安装完成前，不要连接示波器设备。
4. 您现在可以使用演示设备来试用该软件了，方法是单击桌面上新的 **PicoScope** 图标。

有关该软件的更多信息，请参见 **PC 示波器的 A 至 Z**（位于 picotech.com/library 或在**软件用户指南**中），这些信息您都可以从 picotech.com/downloads 下载或从软件内部的“帮助”菜单访问。

步骤 2: 安全和合规信息

为防止可能发生的电击、火灾、人身伤害或产品损坏，请仔细阅读这些安全信息，然后再尝试安装或使用本产品。此外，在使用和靠近电时，遵循 所有普遍接受的安全措施和程序。

本产品根据欧洲标准出版物 EN 61010-1: 2010（测量、控制和实验室使用电气设备的安全要求）和 EN 61010-2-030: 2010（测试和测量电路要求）设计和测试。该产品出厂时状态安全。

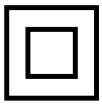
本指南包含下列安全说明：

警告 表示存在可能造成人身伤害或死亡的条件或做法。

小心 表示存在可能造成相连产品或设备损坏的条件或做法。

2.1 符号

这些安全和电气符号可能出现在产品上或本指南中。

符号	描述	
	直流电	
	交流电	
	接地接线柱	该接线柱可用于接地测量。该接线柱不是安全或保护性接地。
	机箱接线柱	
	设备由双重绝缘或加强绝缘装置全程保护	
	可能存在电击风险	
	小心	出现在产品上表示需要阅读本安全和所有操作说明。
CAT	EN 61010 过压类别	
	请勿将此产品当作未分类的城市垃圾处理	

警告

为防止人身伤害或死亡，请仅依照指示使用此产品。若以制造商未指定的方式使用，则可能削弱产品提供的保护功能。

2.2 最大输入/输出额定值

遵循产品上标注的所有终端额定值和警告。

以下表格和产品上的标志表示每种示波器型号的全量程测量范围和过压保护范围。全量程测量范围是可由仪器准确测量的最高电压。过压保护范围是不会损坏仪器的最高电压。

警告

为防止电击，切勿尝试测量位于指定的全量程测量范围以外的电压。

所有型号	全量程测量范围	过压保护(DC + AC 峰值)			
		输入通道	辅助触发器	10 MHz 参考时钟输入	信号发生器
1 MΩ 输入	±20 V	±100 V	±20 V	±5 V	±20 V
50 Ω 输入	±5 V	5.5 V RMS			

⚠ 警告

超过下表中的电压限值的信号在 EN 61010 标准中被定义为“危险带电”。

EN 61010-1: 2010 的信号电压限值		
±70 V DC	33 V AC RMS	±46.7 V pk 最大值

PicoScope 6000E 系列示波器不能用于直接测量危险带电电压。

为防止电击,操作可能存在危险电压的设备时,请采取所有必需的安全预防措施。

以下附件可安全连接到危险带电电压并进行测量,最大电压可为设备的全量程测量电压乘以适用的衰减率或附件所标记的最大工作电压中的较低者:

- P2036 和 P2056 10:1 无源高阻抗示波器探针
- Pico Technology 提供的所有高电压有源探针

切勿超出任何配件上标注的电压额定值。如果配件在连接器、电缆或器体上未标注有电压额定值,或如果保护性护指板已拆卸,切勿超出以上的 EN 61010“危险带电”限值。当将一个或多个附件与仪器相连接时,连接中的最低额定电压适用于整个连接电路。

⚠ 警告

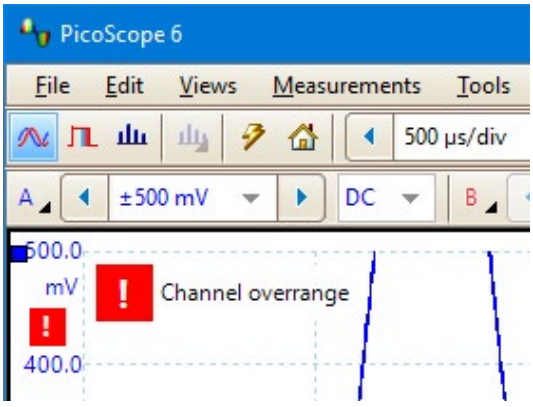
为防止人身伤害或死亡,示波器不得直接与主电源(线路电源)连接。要测量主电源电压,请使用具有特别针对主电源和高电能应用的 CAT 额定值的差分隔离探针,如 Pico 网站上列出的 TA041 等。

无论附件用于主电源还是高电能测量,切勿超出 CAT 额定值附件上标记的最大电压。

为防止人身伤害或死亡,请勿使用出现任何损坏的产品或附件;如果您担心出现任何异常操作,请立即停止使用。

检测到一个超过当前满刻度测量范围的信号电压,并显示在仪表板测量显示器上。红色警告图标将出现在左上角及相关通道垂直轴的旁边。

在这些状况下,显示的波形和测量值可能不正确,这种情况可能有危险。请减小输入灵敏度来获得范围内的测量结果,如果该情况继续,为了防止受伤或死亡,请禁用或安全断开过压电源。



⚠ 小心

超出任何电缆、连接器或附件的电压可能会对示波器和其他连接的设备造成永久损坏。

2.3 接地

⚠ 警告

示波器通过 USB 电缆的接地连接仅是为了便于测量。示波器无防护性安全接地装置。

切勿将接地输入（机箱）连接到任何电源。为防止人身伤害或死亡，请使用电压表检查示波器的接地端与要连接的点之间是否存在明显 AC 或 DC 电压。

⚠ 小心

向接地输入施加电压很可能对示波器、连接的电脑和其他设备造成永久损害。

为防止接地不良引起测量误差，请始终使用示波器随附的高质量 USB 线缆。

2.4 外部连接

⚠ 警告

为了避免伤亡，请仅使用随产品一起提供的电源线和适配器。这些电源线和适配器已获批用于您所在国的电压和插座配置。

外部 DC 电源

	电压 (V)	电流 (A pk)	
		仅限示波器	示波器 + 供电附件
PicoScope 6824E	12	5	7
PicoScope 6424E	12	4.5	6.5
PicoScope 6804E	12	4.5	6.5
PicoScope 6404E	12	4	6
PicoScope 6403E	12	3.5	5.5

2.5 环境

⚠ 警告

为避免伤亡，请勿在潮湿条件下或在爆炸气体或蒸汽附近使用。

⚠ 小心

为防止损坏，请始终在适当的环境中使用和存储示波器。

	存储	工作	引述的精度
温度	–20 至 +60 °C	0 至 40 °C	20 分钟预热后为 15 至 30 °C
湿度 (非冷凝)	5 至 95 %RH	5% 至 80% RH	
海拔	最高 2000 米		
污染度	EN 61010 污染等级 2:“仅出现非导电性污染,除了偶尔存在由冷凝造成的临时导电性外。”		

2.6 产品照管

本产品不含可由用户维修的部件。维修、维护和调整需要专用测试设备,只能由 Pico Technology 或经许可的服务提供商执行。如果不在 Pico 五年质保范围内,这些服务可能需要收费。

使用之前,请检查设备和所有探针、连接器、线缆和配件,查找是否存在损坏迹象。

⚠ 警告

为防止触电,不要随意改动或拆卸示波器、箱体部件、连接器或附件。

清洁产品时,请使用软布以及温和肥皂溶液或洗涤剂水。为了防止电击,切勿让示波器外壳流进液体,否则会损坏内部的电子元件或绝缘件。

⚠ 小心

不要阻塞设备前面或后面的通风孔,因为过热会造成示波器损坏。

请勿通过通风孔插入任何物体,因为内部干扰将会造成示波器损坏。

2.7 合规性

FCC 通告

本设备已经过测试并发现其符合 A 类数字设备(根据 **FCC 规则第 15 部分**)的限值标准。这些限值的设计是为了在设备运行于商业环境中时,能够对有害干扰提供合理的保护。本设备产生、使用和可能辐射射频能量,如果不按说明手册进行安装和使用,可能会对无线电通信造成有害干扰。在住宅区域运行此设备可能会导致有害干扰,需要用户自行出资对此进行纠正。

CE 通告

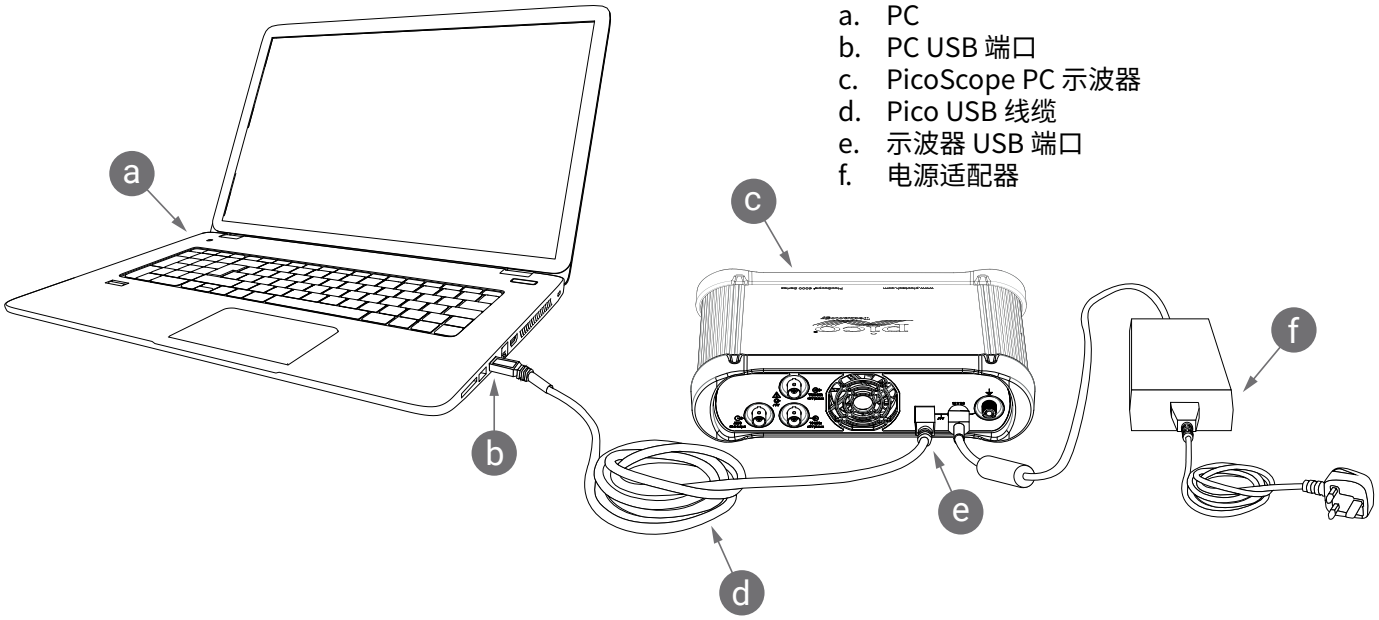
本 PicoScope 6000E 系列示波器根据以下欧洲指令设计和测试:2014/30/EU (EMC)、2014/35/EU (LVD)、2012/19/EU (WEEE) 和 2011/65/EC (RoHS),出厂时状态安全。

有关更多信息,请参见您产品的欧盟合规性声明,该声明可从 picotech.com/downloads 免费下载。

步骤 3: 连接示波器

连接示波器之前，确保您已安装了 PicoScope 软件。示波器在没有软件的情况下无法工作。

1. 将电源线连接到电源适配器并将它插入主电源插座。然后将 DC 电源线连接到示波器的背面，并打开主电源。
2. 使用配套提供的 USB 电缆将示波器连接至您的 PC。有关更多信息，请参见以下连接图。



a. PC
b. PC USB 端口
c. PicoScope PC 示波器
d. Pico USB 线缆
e. 示波器 USB 端口
f. 电源适配器

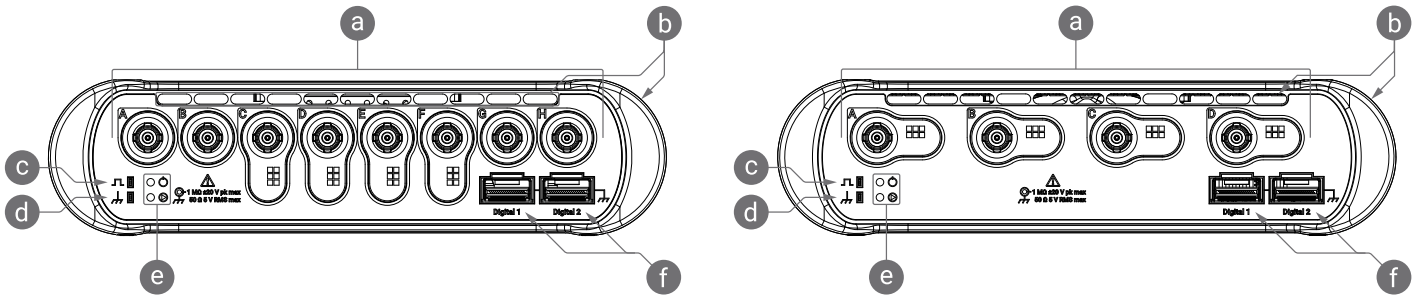
3. 等待计算机安装示波器。安装过程中，工具栏上会显示告知您已找到设备的消息或图标。
4. 运行 PicoScope 软件。
5. 如果希望使用探针，将探针连接到通道 A。触摸探针的金属探头会产生一个 50 或 60 Hz 的信号，出现在 PicoScope 窗口中。

如果 PicoScope 与未带有接地的计算机一起使用，外部噪音可能会干扰您的测量。如果是这种情况，请将示波器的接地接线柱（参见 3.1 输入和输出）连接到外部接地点（例如位于您正在测试的系统上），以便为示波器提供接地参考。

3.1 输入和输出

有关详细的规格信息，请参见 **PicoScope 6000E 系列数据页**中的规格表。

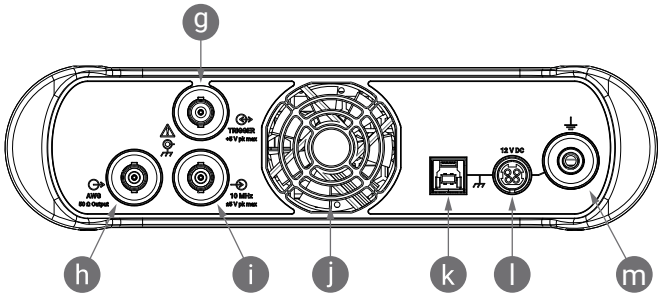
前面板



a. 示波器模拟输入–BNC(f)[3]。请查看示波器前面板上标记的最大输入电压。检测 P2036 和 P2056 等 10:1 衰减探针上的读数针脚。
b. 冷却风扇的通风口。示波器使用中切勿阻塞。注意，除了前面板，示波器侧面也有通风口。
c. 探针补偿输出。1 kHz 方波。请参见探针《**用户指南**》获取补偿说明。
d. 探针补偿接地
e. 电源 (⏻) 和状态/触发 (⏵) LED
f. 数字接口端口，与 TA369 MSO Pod（单独出售）兼容。请参阅 **MSO Pod 用户指南**。

[3] **PicoScope 6400E 型通道 A 至 D 和 PicoScope 6800E 型通道 C 至 F 上的智能探针接口。**

后面板



g. 辅助触发 I/O。允许您从外部源触发示波器。
h. 任意波形发生器 (AWG) 输出 – BNC(f)。不能将外部电压应用到此输出。
i. 10 MHz 时钟参考输入 – BNC(f)
j. 冷却风扇的通风口。示波器使用中切勿阻塞。
k. USB 3.0 B 型插座。
l. 12 V DC 输入。请仅使用提供的电源。
m. 接地接线柱。接受裸线或 4 mm（香蕉）插头。

有用信息

文档

PicoScope 6000E 系列数据页包含有示波器的最新规格。您可以从 picotech.com/downloads 下载该数据页及与示波器相关的其他所有文档的 PDF 副本。

《**P2036 300 MHz 和 P2056 500 MHz 探针用户指南**》随探针一起提供。可从我们的网站下载数字副本：访问 picotech.com/accessories/passive-oscilloscope-probes，能够列表中选择您的探针，然后向下滚动找到下载链接。

软件升级和更新

PicoScope 软件会自动检查更新，如果有任何可用的更新，将通知您。或者，您可以从 picotech.com/downloads 免费下载所有 Pico 软件的最新版本。

编写您自己的软件

可从 picotech.com/downloads 下载 PicoSDK®，这是具有您开发自己定制程序时可能需要的所有驱动程序和其他文件的一个 Windows 软件开发工具包。

Linux 驱动程序软件包可从 picotech.com/downloads/linux 下载。

相关文件已包括在用于 macOS 的 PicoScope 软件下载中，可用从 picotech.com/downloads 获取。

Pico 还在 GitHub 上维护有各种编程语言的示例库，位于 github.com/picotech。

技术支持

可从 Pico Technology 技术支持网页 (picotech.com/tech-support) 和“测试和测量论坛” (picotech.com/support) 找到定期更新的技术支持信息。您也可以发送电子邮件至 support@picotech.com 或致电 **+44 (0) 1480 479 164** 与我们的团队直接联系。

ISO 9001 合规证明

如果您需要 PicoScope 6000E 系列示波器的合规证明 (CoC)，可以与我们的技术支持团队联系获取电子版 PDF 副本。请提供产品型号和序列号，二者均打印在产品的底座上。

质保与退回

此 PicoScope 示波器针对材料和工艺缺陷，提供有五年的返厂保修期。有关更多信息，请访问 picotech.com/about。

由 Pico Technology 提供的附件可能有不同的保修期。有关详细信息，请查看产品的用户指南。