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User Manual

隔离附件 (ISFE)

版本号: V1.1



www.siglent.com

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简介

■ 应用环境：

- 即插即用，示波器选件。
- USB5V供电，功耗小于1W，方便使用。
- 单通道隔离电压1000Vrms，通道间隔离电压2000Vrms。
- 可以用来测量不共地信号；家用220V交流信号；三相交流电信号等。
- 使用本产品实现普通示波器通道间隔离，被测信号与大地的隔离。

■ 规格参数：

- 输入最大电压： $\pm 600\text{Vpk}$
- 工作电压： $5\text{V} \pm 5\%$ ，USB供电
- 工作电流：约200mA
- 输出电压范围： $-3\text{Vpk} \sim 3\text{Vpk}$
- 衰减比例：200:1
- 隔离通道到大地最大电压：1000Vrms
- 隔离通道间最大电压：2000Vrms
- 输入阻抗： $9\text{M}\Omega$
- 带宽：1MHz

安全说明

了解下列安全性预防措施，以避免人身伤害，并防止本产品或与其相连接的任何其它产品受到损坏。为了避免可能发生的危险，请务必按照规定使用本产品。

禁止将模块的输出端（金属BNC）与高压信号连接，否则会导致示波器损坏或者使用者触电！

防止火灾或人身伤害

当探头或测试导线与电源线相连接时，请勿随意插拔。

将产品接地

使用前，检查探头，测试线，是否有机械性损伤，如果有请更换。

请勿输入超过额定范围的电压

请勿开盖操作

如盖板或面板已卸下，请勿操作本产品。

使用适当的保险丝

只可使用符合本产品规定类型和额定值的保险丝。

怀疑产品出现故障时，请勿操作

如怀疑本产品有损坏，请让合格的维修人员进行检查。

避免电路外露

被测信号处于活跃状态时请勿接触外露的接头和元件。

勿在潮湿环境下操作

保持产品表面清洁和干燥

请勿在易燃易爆环境中操作

安全术语和标记

本产品上使用的术语 本产品上会出现如下术语：

DANGER：表示标记附近有直接伤害危险存在。

WARNING：表示标记附近有潜在的伤害危险。

CAUTION：表示对本产品及其他财产有潜在的危险。

本系列产品上使用的标记

本产品上可能出现如下标记：



警告
高压



保护性
终端

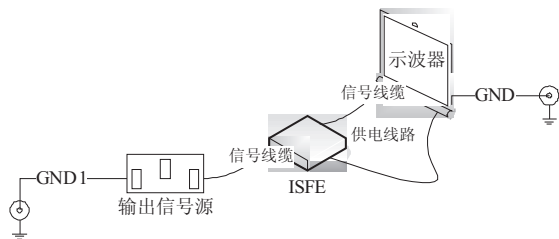


小心
请参阅用户手册

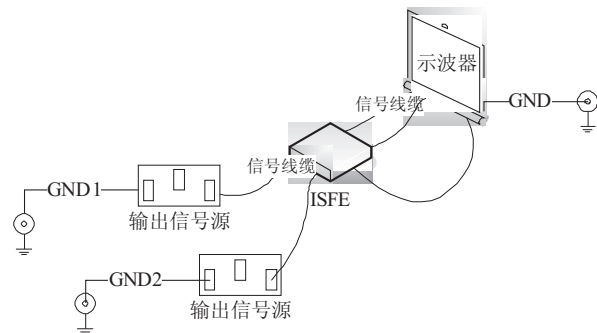


双层
绝缘

应用说明



浮地信号测量



实现示波器通道隔离

接口说明

介绍隔离模块的所有外部接口及其功能，使用前请认真阅读，避免使用不当造成触电：

◆ 隔离端外部接口BNC

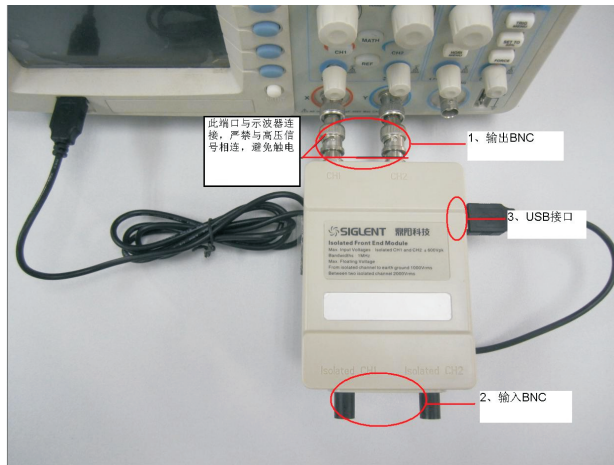
隔离端接口共两个，采用黑色"塑胶材质"的BNC插头；标有 Isolated CH1, Isolated CH2字样；此接口通过电缆线或者探头与被测量的高压信号连接。

◆ 共地端外部接口BNC

共地端外部接口共两个，为"金属材质"的BNC插头；标有 CH1, CH2字样；此接口可以通过转接头或者同轴电缆线与示波器的通道连接，严禁将此接口与高压信号连接。

◆ USB接口

USB接口，与示波器USB接口连接，用于隔离附件供电。



接口示意图

◆ 调零接口

隔离附件面板背面可滑动调零旋钮。

操作规程

本产品主要用于高压信号测量，请使用者务必按照本操作规程使用！

◆ 调零

首先将隔离附件与示波器的通道正确连接，将示波器的接地端子接地；然后使用USB连接线将示波器USB口与隔离附件USB口连接；

打开示波器并将交直流选取置于直流档位；

调节幅度旋钮置100mV档位，调节隔离附件背部的调零旋钮，使零电平线居中；调节示波器幅度旋钮置20mV档位，微调；

◆ 测量

在被测源断电时，将测试探头或者线缆连接到隔离附件；各个接口的连接方法请参照上述接口说明；确认所有连线均已连接好之后，才可给被测设备上电；

注意在测量过程中请勿碰触隔离附件裸露在外面的金属，不要在测量过程中断开或者连接连线。

◆ 断开连接

确认被测信号端（隔离模块的隔离输入端）没有电压电流之后，方可断开连接。

服务与支持

◆ 保修概要

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STATEMENT

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INTRODUCTION

◆ Applications:

- A accessory for oscilloscope, plug and play
- Less than 1W power dissipation, USB power supply
- 1000Vrms form each channel to earth ground, 2000Vrms between channels
- Providing isolation from ground and isolation between channels allowing you to take floating measurements

◆ Specifications:

- MAX. Input Voltage: $\pm 600\text{Vpk}$
- Voltage Rating: $5\text{V} \pm 5\%$
- Current Rating: 200mA
- Output Voltage: $-3\text{Vpk} \sim 3\text{Vpk}$
- Attenuant Fator: 200:1
- Max Voltage form Channl to Earth Gound: 1000Vrms
- Max Voltage Between Channels: 2000Vrms
- Input Impedance: $9\text{M}\Omega$
- Bandwidth: $\leq 1\text{MHz}$

Safety Information: Read First

Carefully read the following safety information before using the device.

Do not connect the Output BNC to high voltage, otherwise it will cause electric shock or oscilloscope damage.

To avoid electrical shock or fire:

Do not hot plug the device.

Ground the device to earth ground

Before using, inspect voltage probes, test leads and accessories for mechanical damage and replace if damaged.

Do not apply voltage that is outside of the rating range..

Do not operate the device with covers or panels removed.

Use proper fuse to protect the operator

Servicing described in this manual is to be done only by qualified service personnel. To avoid electrical shock, do not service the device unless you are qualified.

Do not touch the exposed metal when connecting with active voltage source

Do not operate in damp conditions.

Keep the surface clean and dry.

Do not operate in an explosive atmosphere.

Safety Terms and Symbols

Terms in this Manual.

These terms may be appeared in this manual:

DANGER: indicates an injury hazard that may immediately happen.

WARNING : indicates an injury hazard that may not immediately happen.

CAUTION: indicates a poteential damage to the instrument or other property might occur.

Symbols on the Product.

The following symbols may appear on the product:



Hazardous
Voltage



Protective
Earth Terminal

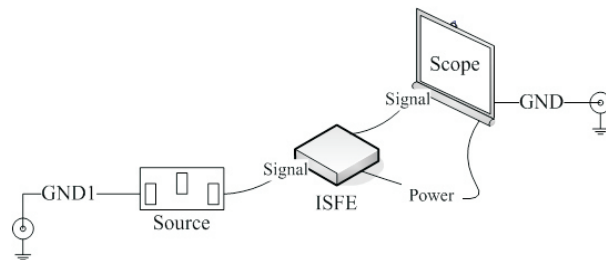


Refer to the
instruction

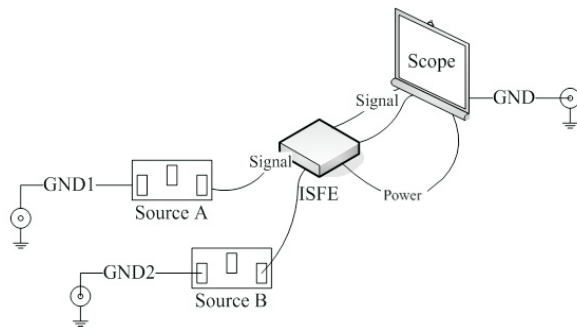


Double
Insulated

Applications



Floating signal measurement



Use ISFE to isolate the channels of scope

Interface

Read this part before you make any connection, to avoid electrical shock:

◆ Input BNC

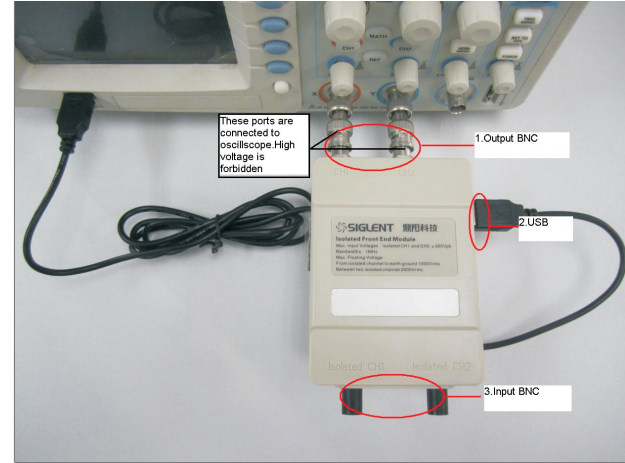
Two input BNC jacks (black) have no exposed metal and are fully insulated to protect against electrical shock. This part can be connected with source through proper probes or wires.

◆ Output BNC

The output BNC jacks made of metal. While the device powered on, do not contact them. These parts are supposed to connect with scope.

◆ USB Host

Power supply interface. This interface is used to power the device on.



◆ Adjusting Knob

Adjust the knob at the back side of the device, make the level to zero.

Operations

This device is used to test high voltage that may cause electrical shock, please operate it follow the steps below.

◆ Adjust

Ground the device to earth ground.

Conect the device to scope and power on.

Set the scope to 100mv/div(DC Coupling). Adjust the konb at the back side and make the level to zero.

◆ Measurment

Connect the device, scope and source before powering them on.

Don't contact any exposed metal while the electrical loops are active.

◆ Disconnect

Make sure that the source, device and scope are powered off before disconnected.

Service and Support

Warranty

Siglent Technologies warrants each SIGLENT manufactured and sold product against defects in material and workmanshio under normal use and service for a period of three years from shipment(accessories one year). SIGLENT will either repair or, at our option, replace any product returned to our authorized service center within this period according to the princioles in warranty card. If you need service or complete accessories of warranty card, please contact the nearest SIGLENT office in your region.

The warranty above replaces all other

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Contact us

If you need any technical support or other help, you can contact SIGLENT service department directly.

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