



OI-HZO51

AC / DC CURRENT PROBE



User's Guide

SAFETY

The following symbols appear on the product:



Attention! Refer to Manual.



Application around and removal from UNINSULATED HAZARDOUS LIVE conductors is permitted.



Double/Reinforced Insulation.



Complies with the relevant European standards.



Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler for disposal.

To avoid electric shock:

- Use caution during installation and use of this product; high voltages and currents may be present in the circuit under test.
- This product must be used only by qualified personnel practicing applicable safety precautions.
- Do not use the product if damaged.
- Always connect the probe to the scope device before installing it around the conductor.
- Do not hold the probe anywhere beyond the tactile barrier: see Fig. 1.

SPECIFICATION

Electrical data

(All accuracies stated at 23 °C ± 1 °C)

Nominal current	200 / 2000 A AC peak or DC
Measuring range (s)	200 / 2000 A
Overload capacity	2200 A (60 s)
Output sensitivity	10 / 1 mV/A
Accuracy ¹⁾ (0 – 200/1500 A)	± 1% of rdg ± 100 / ± 500mA
Accuracy ¹⁾ (1500 – 2000 A)	± 5% of reading
Resolution	± 100 / ± 500 mA
Gain variation	± 0.15% of reading/°C

Frequency range DC to 20 kHz (-1 dB)

.....	$I_{RMS} \times f \leq 400,000$
Power supply	9 V Alkaline battery
.....	PP3, MN 1604
.....	or IEC6LR61
Load impedance (minimum)	> 100 kΩ and ≤ 100 pF

General data

Conductor size	32 mm diameter
Output cable and connectors	2 m long coax terminated with safety BNC connector
Operating temperature	0 °C to +50 °C
Storage temperature with Battery removed	-20 °C to +85 °C

¹⁾Accuracy quoted is for conductor in centre of aperture

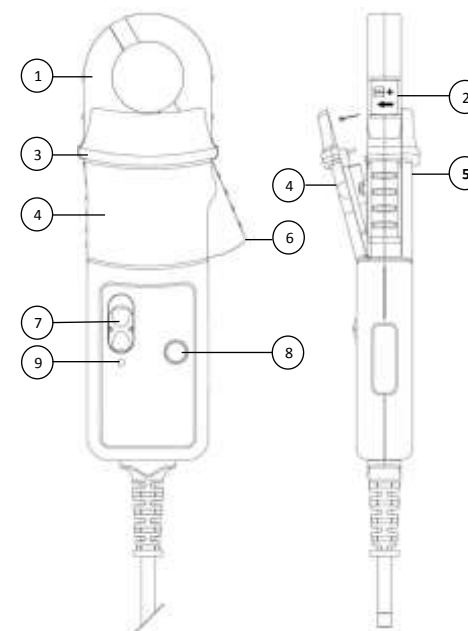


Fig 1

1. Jaws
2. Conventional current direction
3. Tactile Barrier
4. Battery cover
5. Battery cover screw
6. Jaw trigger
7. ON/OFF and Range switch
8. Auto zero button
9. LED

OPERATING INSTRUCTIONS

Switch On

When the probe is switched on to the required measuring range, the **green LED** will illuminate. The LED starts flashing when the battery voltage is too low for normal operation and warns the user that it requires changing. This procedure is described below.

Auto Zero

The output zero offset voltage of the probe may change due to thermal shifts and other environmental conditions. Select the required measuring range and to null the output voltage depress the Auto Zero button. Ensure that the probe is away from the current carrying conductor whilst the probe is being nulled.

Current Measurement

1. Switch on the probe by selecting the required measuring range and check that the green LED is lit.
2. Connect the output lead to the oscilloscope,
3. Zero the probe using the Auto Zero button.
4. Clamp the jaws of the probe round the conductor ensuring a good contact between the closing faces of the jaws.
5. Observe and take measurements as required. Positive output indicates that the current flow is in the direction shown by the arrow on the probe.

Auto Power OFF

In order to save battery life, the probe will automatically switch itself off after approximately 10 minutes. To disable the Auto power off function, Switch Off the probe and Switch On whilst pressing the auto zero button. The red LED will illuminate and the probe will stay ON until switched off again.

Battery Replacement

The green or red LED will flash when the minimum operating voltage is approached. Refer to Fig 1. Use the following procedure:

SAFETY WARNING

Before removing the battery cover, ensure that the probe is disconnected from the oscilloscope and remote from any live electrical circuit.

Unclamp the probe from the conductor, turn it off using the **On - Off** switch and disconnect the output leads, from external equipment.

Loosen the captive screw which secures the battery cover. Lift the cover through 30° and pull it clear of the probe body as shown in Fig 1. Replace the battery and re-fit the battery cover and fasten the screw.

Fit only Type 9 V PP3 Alkaline (MN 1604).

SAFETY STANDARDS

EN 61010-1

EN 61010-2-032

300V Cat III, Pollution Degree 2

EMC Standards

EN 61326-2-2

ROHS and WEEE compliant

This product is designed to be safe under the following conditions:

- indoor use
- altitude up to 2000 m
- temperature 0 °C to +50 °C
- maximum relative humidity 80% for temperatures up to 31 °C decreasing linearly to 40% relative humidity at 50 °C.

Use of the probe on **uninsulated conductors** is limited to 300 V AC RMS or DC. and frequencies below 1 kHz.

Safety in its use is the responsibility of the operator, who must be a suitably qualified or authorized person. Ensure that your fingers are behind the tactile barrier (see Fig. 1) when using the probe. Always inspect the probe and lead for damage before use.

To avoid electric shock, keep the probe clean and free of surface contamination.

Use a cloth moistened with isopropyl alcohol to clean the probe. Make sure that the probe is completely dry before using it.

WARRANTY

Your current probe is guaranteed for one year from the date of purchase against defective material or workmanship. If the probe fails during the warranty period, we shall, at our discretion, repair or replace it with a new or reconditioned unit provided we are satisfied that the failure is due to defective material or workmanship. To make a claim under warranty, return the probe to us, postage prepaid, with a description of the defect.

Goods alleged by the buyer to be defective shall not form the subject of any claim for injury, loss, damage, or any expense howsoever incurred, whether arising directly or indirectly from such alleged defects other than death or personal injury resulting from the seller's negligence.

No condition is made or to be implied, nor is any warranty given or to be implied as to the life or wear of goods supplied or that they will be suitable for any particular purpose or for use under specific conditions, notwithstanding that such purpose or conditions may be made known to the seller.



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OI-HZO51

交流/直流电流探头



用户手册

安全性

产品上标有以下符号：



注意！请参阅本手册。



不允许在未绝缘的带电危险导体周围进行操作或将其移除。



双层加强绝缘。



符合相关欧洲标准。



请勿将本产品作为未分类的市政垃圾处理。请咨询合格的回收机构进行处置。

为避免触电：

- 安装及使用本产品时请务必谨慎。被测电路中可能存在高电压和大电流。
- 本产品仅限具备相应资质且严格遵守适用安全防护措施的人员使用。
- 如产品损坏，请勿使用。
- 在探头钳入导体之前，务必先将探头连接至测试设备，如示波器。
- 务必确保探头已从任何带电电路中移除，并在拆卸电池盖前断开所有导线连接。
- 切勿将探头置于触感隔离物之外的任何位置（参见图1）。

规格说明

电气数据

（所有准确度均在 23°C ± 1°C 条件下测试）

额定电流	200 / 2000A 交流峰值或直流
测量范围	200 / 2000A
过载能力	2200A (60秒)
输出灵敏度.....	10 / 1 mV/A
精度 ¹⁾ (0~200/1500A)	± 1%读数 ±100 / ±500mA
精度 ¹⁾ (1500~2000A)	± 5%读数
分辨率.....	± 100 / ± 500mA
增益变化.....	± 0.15%读数/°C
频率范围	DC~20kHz (-1dB)
.....	$I_{RMS} \times f \leq 400000$

电源.....	9V碱性电池
.....	PP3, MN 1604
.....	或 IEC6LR61
负载阻抗（最小值）	> 100kΩ且≤ 100pF

通用指标

导体直径:	32mm;
输出电缆及连接器:	2米长同轴电缆，终端为安全绝缘BNC公头；
工作温度:	0°C ~ +50°C
电池取出后的储存温度范围:	-20°C ~ +85°C

¹⁾所引用的精度指孔径中心导体的精度。

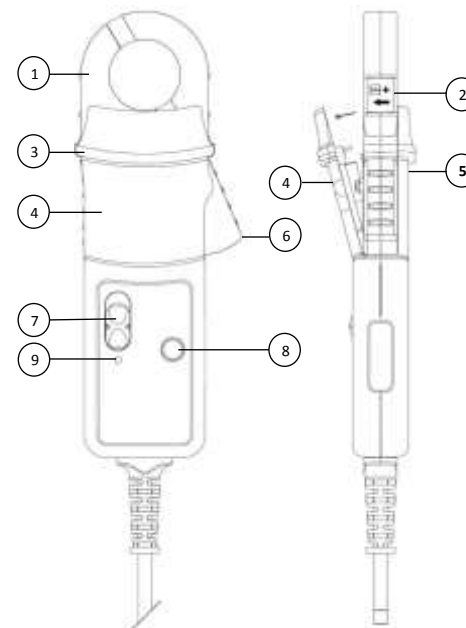


图 1

1. 钳口
2. 传导电流方向
3. 触感隔离物
4. 电池盖
5. 电池盖螺钉
6. 钳口扳机
7. 电源开关
8. 自动归零按钮
9. LED灯

操作说明

开机

当探头切换至所需测量范围时，**绿色LED**将亮起。当电池电压过低无法正常工作时，**LED**会开始闪烁，提醒用户更换电池。具体操作步骤如下：

自动归零

探头的输出零偏电压可能因热效应及其他环境因素而发生变化。请选择所需的测量范围，并按下自动归零按钮以将输出电压调至零。在进行归零操作时，务必确保探头远离载流导体。

当前测量值

1. 使用开/关开启探头，并检查绿色LED是否亮起。
2. 将输出导线连接至示波器。
3. 使用自动归零按钮将探头归零。
4. 将探头钳口环绕导体固定，确保钳口闭合面之间形成良好接触。
5. 按要求观察并进行测量。正输出表明电流方向与探头箭头所示方向一致。

自动关机

为延长电池寿命，探头将在约10分钟后自动关闭。如需禁用自动关机功能，请先关闭探头，然后在按下“自动归零”按钮的同时重新开启。此时红色LED灯将亮起，探头将持续保持开启状态直至再次关闭。

电池更换

当接近最低工作电压时，绿色或红色LED将闪烁（参见图1）。请按照以下步骤操作：

安全警告

在拆卸电池盖之前，请确保探头已从示波器上断开连接，并远离任何带电电路。

将探头从导体上卸下，使用**开关**将其关闭，并断开输出导线与外部设备的连接。

松开固定电池盖的定位螺钉。将盖板旋转30°并如图1所示将其从探头本体上拉出。更换电池后，重新安装电池盖并拧紧螺钉。

仅可使用9伏电池类型的PP3碱性电池（MN 1604）。

安全标准

EN 61010-1

EN 61010-2-032

300V CAT III，污染等级为2级

EMC标准

EN 61326-2-2

符合 ROHS 和 WEEE 标准

本产品设计在以下条件下均具有安全性：

- 室内使用
- 海拔高度最高可达 2000 米。
- 温度范围：0°C ~ +50°C
- 最高相对湿度为80%，适用于最高温度+31°C；温度在+50°C时，相对湿度线性下降至40%。

该探头在**未绝缘导体**上使用，仅限于300V交流均方根电压或直流电压，且交流频率低于1kHz。

使用过程中，安全性由操作人员负责，操作人员必须具备相应资质或经授权。使用探头时，请确保手指位于触感隔离物后方（见图1）。使用前务必检查探头及导线是否存在损坏。

为避免电击，需保持探头清洁且表面无污染。

使用浸有异丙醇的布擦拭探头。使用前务必确保探头完全干燥。

保修

您当前购买的探头自购买之日起享有为期一年的保修服务，保修范围涵盖材料或工艺缺陷。若探头在保修期内出现故障，且北京海洋兴业科技股份有限公司确信故障系由材料或工艺缺陷所致，将根据实际情况予以维修或更换为全新或翻新部件。如需申请保修，请将探头连同故障描述一并寄回北京海洋兴业科技股份有限公司（邮费已付）。

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