

铁芯接地测试仪

Core Grounding Tester

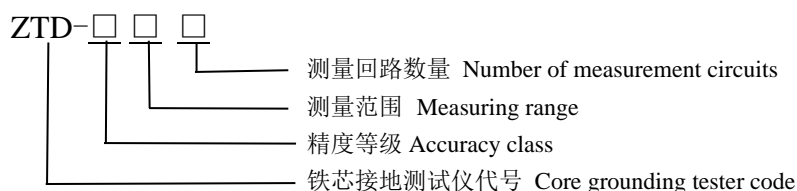
一. 产品简介(Product introduction)

变压器在运行时，绕组的电场和磁场共同作用使铁芯的各部件（包括夹件等）具有不同的电位，若铁芯未可靠接地，则因电位不同而可能产生断续放电现象，损坏其绝缘；另一方面，如果变压器铁芯出现多点接地情况，则每两个接地点间通过铁芯自身和接地线路形成一个闭合回路，其中交链的磁通将在回路中感应出环流，使铁芯局部过热，严重时会造成局部烧损，严重威胁变压器的安全运行。

When a transformer is in operation, the electric field and magnetic field of the windings jointly cause different potentials among the various components of the iron core (including clamps, etc.). If the iron core is not reliably grounded, due to the different potentials, intermittent discharge phenomena may occur, damaging its insulation. On the other hand, if the iron core of the transformer has multiple grounding points, a closed circuit is formed between each pair of grounding points through the iron core itself and the grounding lines. The magnetic flux linked in this circuit will induce a circulating current in the circuit, causing local overheating of the iron core. In severe cases, it can lead to local burnout, seriously threatening the safe operation of the transformer.

二. 型号、规格、结构、特点(Model, specification, structure, characteristics)

2.1、型号及说明(Model and description)



*说明：ZTD-表示铁芯接地测试仪，1-表示精度等级 $\pm 1\%$ ，10-表示测量范围0-10A,3代表三路测量。

*Description: ZTD - represents the core grounding tester. 1 - indicates the accuracy level of $\pm 1\%$. 10 - indicates the measurement range of 0 - 10A. 3 - represents three channels of measurement.

标注实例：ZTD-1103，表示为：精度等级 $\pm 1\%$ ，测量范围0-10A，三路测量的铁芯接地测试仪。

ZTD-1103 is represented as: accuracy class $\pm 1\%$, measurement range 0-10A, a three-channel core grounding tester for measurement.

2.2、主要技术参数及性能(Main technical parameters and performance):

2.2.1. 测量对象：变压器铁芯及夹件电流；

Measurement object: Current of transformer core and clamping parts;

2.2.2. 测量范围：AC 0~10A;

Measurement range: AC 0 ~10A;

2.2.3. 工作电源：AC 80~250V;

Working power supply: AC 80~250V ;

2.2.4. 耐受电压：500V;

Withstand voltage: 500V;

2.2.5.过载能力：10 倍最大额定电流；

Overload capacity: 10 times the maximum rated current;

2.2.6.工作环境：温度 $-30\sim 50^{\circ}\text{C}$ ，湿度 $<80\%$ ；

Working environment: Temperature -30 to 50°C , humidity $< 80\%$.

2.2.7.仪表信号：4~20mA；

Instrument signal: 4~20mA

2.2.8.通讯信号传输模式：采用 MODBUS 协议的 RTU（远程数据终端）传输模式；

Communication signal transmission mode: Utilizes the RTU (Remote Data Terminal) transmission mode based on the MODBUS protocol;

2.2.9.通讯传输距离：0~1000m；

Communication transmission distance: 0 ~1000 meters;

2.2.10.通讯规约：符合 Modbus 协议规范的 RS485 信号；

Communication protocol: RS485 signal conforming to the Modbus protocol specification;

2.2.11.报警开关信号输出容量：AC 220V /7A，DC 220V/ 1A；

Alarm switch signal output capacity: AC 220V / 7A, DC 220V / 1A;

2.3、外形及安装尺寸图(Shape and installation dimension drawing)

2.3.1、铁芯接地测试仪外形尺寸图见图 2；

The diagram of the external dimensions of the iron core grounding tester is shown in Figure 2.

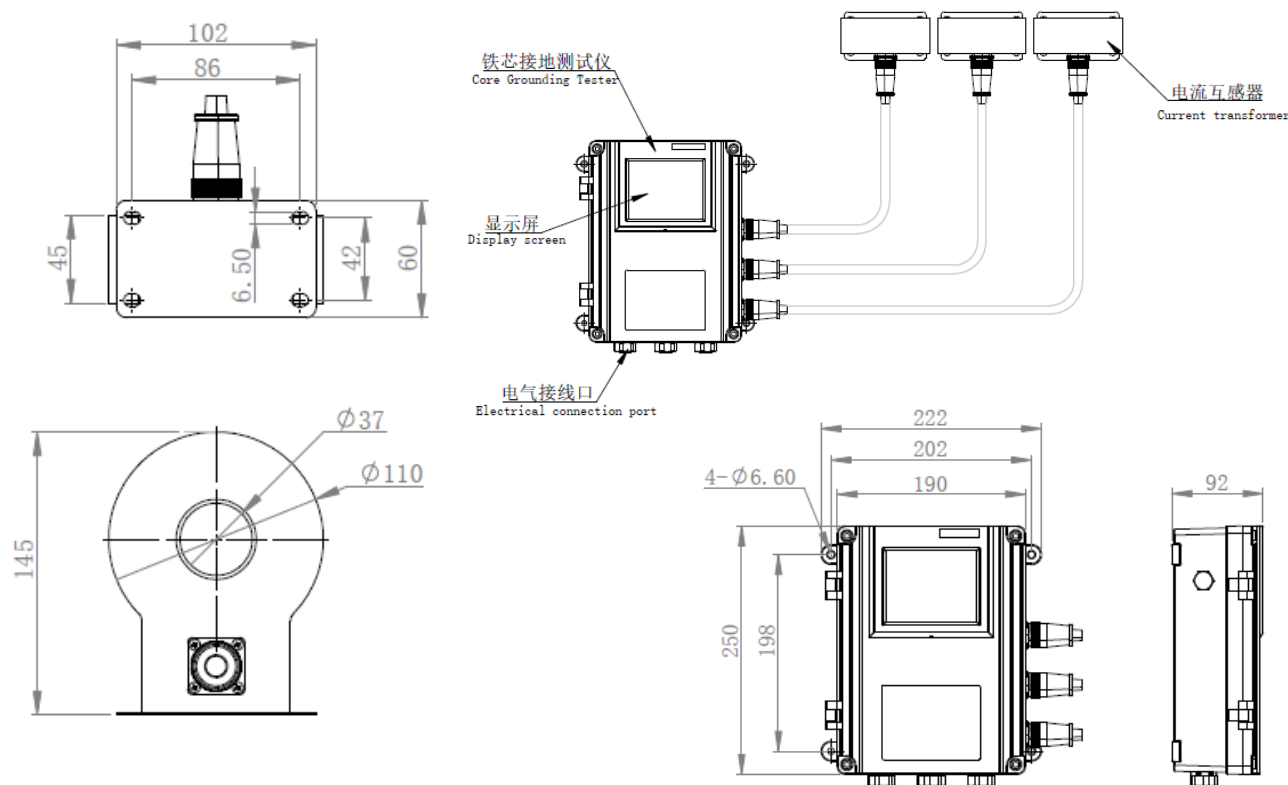


图 2 铁芯接地测试仪外形图

Figure 2 Iron core grounding tester schematic diagram

2.4、电气接线原理图及功能详解(Electrical wiring schematic diagram and detailed function explanation)

