

压电陶瓷点火器规格书

Piezoelectric Ceramic Specification

产品名称 (Product Name): Piezoelectric Ceramic Igniter

产品型号 (Product No.): JYYQ610-2A2/B6T

版本号 (Version): A/10

1. 适用范围(Applicable scope)

该产品规格书仅适用于 JYYQ610-2A2/B6T 型按压式压电陶瓷点火器。

This product specification is only applicable to JYYQ610-2A2/B6T type pressing piezoelectric ceramic igniter

2. 引用标准及规范(Citing Standards and Specifications)

GB/T 191-2008 包装储运图示标志(Packaging, storage and transportation icons)

GB/T 4857.3 包装 运输包装件基本试验 第 3 部分: 静载荷堆码试验方法

Packaging - Basic tests for transport packages - Part 3: Static load stacking test method

GB/T 4857.5 包装 运输包装件 跌落试验方法(Packaging Transport packages - Drop test method)

YQ/K-BZ-01-A/0 JYYQ610 系列检验标准(JYYQ610 series inspection standard)

3. 原理与用途(Principles and Application)

利用压电效应为理论基础、以压电陶瓷为介质而生产的手动点火装置。通过对两块压电陶瓷猛烈撞击(在按下按钮时)来产生瞬间的直流高压电弧。

The manual ignition device is produced with piezoelectric effect as the theoretical basis and piezoelectric ceramics as the medium. A momentary DC high voltage arc is created by slamming two piezo ceramics (when a button is pressed).

用于各种燃气具, 如燃气灶、燃气热水器、燃气冰箱、烤箱、暖炉等。

It is used for various gas appliances, such as gas stoves, gas water heaters, gas refrigerators, ovens, heaters, etc.

4. 产品说明(Product Description)

4.1 此款压电陶瓷点火器是一种用来点燃燃烧气体的点火器。

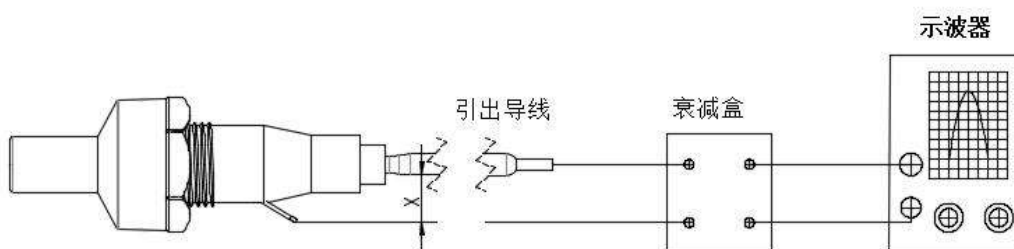
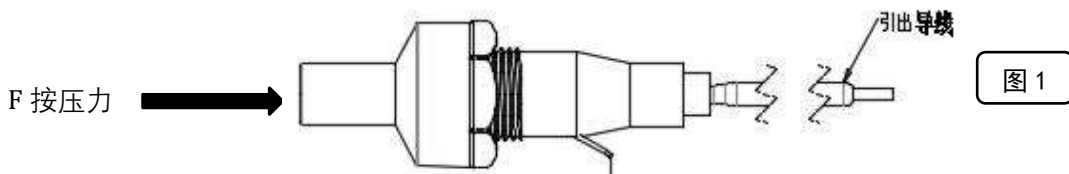
This piezoelectric ceramic igniter is an igniter used to ignite combustion gases.

4.2 产品实物图(Product Pic) (图 1)



图 1 YQ10-2A2 型实物图片

4.3 结构与配合尺寸(Structure and Fitting Dimensions)



安装检测示意图

图 2

图 3

1. 安装环境不能有腐蚀性气体，在规定的范围内使用；

The installation environment cannot have corrosive gas, and it should be used in the specified environment

2. 安装时产品必须接地；

The product must be grounded during installation

3. 引出端如接点火瓷针，其针尖的放电距离要求控制在 4-5mm；

If the lead-out end is connected to a porcelain needle, the discharge distance of the needle tip is controlled within 4-5mm;

4. 引出端如导线长度 L 与电压是反比例关系，如图所示；

The lead-out terminal, such as the wire length L, is inversely proportional to the voltage, as shown right Pic;

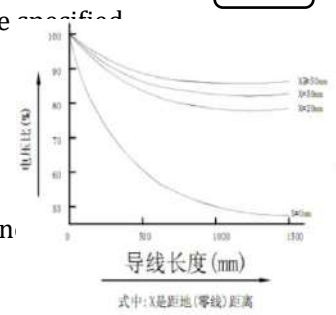
5. 导线离地线越近，电压衰减越大

The closer the wire is to ground, the greater the voltage attenuation;

6. 按压打击时，力的方向须垂直。如上图所示

When pressing the blow, the direction of the force must be vertical; shown the above Pic.

7. 导线长度对电压的影响，如下表(Effect of Wire Length on Voltage, shown as below)



导线长度 mm Wire Length	0	100	200	300	400	500	600	700	800	900	1000	1100	1100 衰减率 Attenuation rate
点火器 1 电压 kv	25.9	25.3	24.7	24.2	23.6	23.0	22.7	22.1	21.5	20.8	20.1	19.6	20.46%
点火器 2 电压 kv	23.8	23.5	23.0	22.6	22.3	21.8	21.3	20.8	20.3	19.8	19.2	18.7	21.43%

注：建议使用导线长度(Recommended wire length)L: 100-800mm。

5 结构与配合尺寸

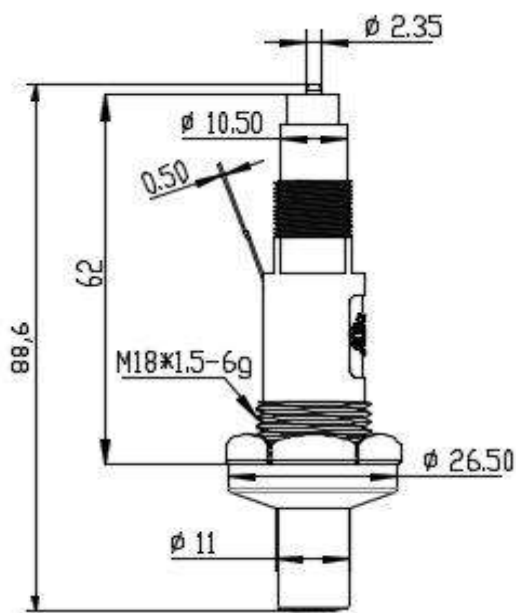


图 3 YQ610-2A2 型安装配合尺寸图

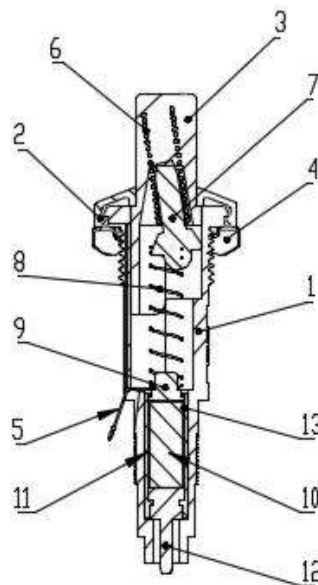


图 4 YQ610-2A2 型组装结构图

表 2 点火器组装结构说明

Table 2 Description of igniter assembly structure

No	Parts Name	Parts Spec	Qty
1	外壳-out Case	JYYQ610-2A-WK	1
2	盖帽-Cover	JYYQ610-GM	1
3	按钮-Button	JYYQ610-2AN-2	1
4	固定螺母-- fixed nut	JYYQ610-24M	1
5	点火片- igniter	JYYQ610-2DH	1
6	打击弹簧- strike spring	JYYQ610-15G	1
7	击锤- hammer	JYYQ610-JC-2	1
8	复位弹簧- return spring	JYYQ610-3A-F	1
9	铁头-Iron Head	JYYQ610-E-TT	1
10	压电晶体 Piezoelectric Ceramic	JYY686#φ6.35×16	1
11	晶体套 Piezoelectric Ceramic Tube	JYYQ610-AT-JTT	1
12	铁尾 Iron Tail	JYYQ610-L-TE	1
13	填充胶- Filling glue	E44 环氧树脂- epoxy resin	Appropriate amount

6 产品要求(product requirement)

No.	Item	Descripton	Remrk
1	外观要求 Appearance	产品外观良好，无破损、污渍、毛刺等。 The appearance of the product is good, no damage, stains, burrs, etc.	
2	结 构 Sturicture	1.产品尺寸应符合标注的尺寸要求； The product size should meet the marked size requirements 2.各使用部件需符合要求。 Each used part must meet the requirements	
3	机械性能 mechanical property	按压顺畅无卡涩，按压操作力：≤3.5kg； Press smoothly without jamming, pressing operation force: ≤3.5kg;	检测仪器：立式测力计 Testing instrument: vertical dynamometer
4	产品性能 Performance	测试 1.初始输出电压：打击 5 次最小值≥19KV； Test 1. Initial output voltage: minimum value of 5 blows ≥ 19KV; 测试 2.测试点火距离 5mm,打击 10 次不断火。 Test 2. Test the ignition distance of 5mm, and strike 10 times without firing.	检测仪器： Tektronix TDS2002 示波器 Tektronix P6015A 高压探头
5	耐久 Durability	1.环境温度（Temp）：25℃左右，环境湿度（humidity）：50-70%RH.	检测仪器： YQ610 耐久机

		<p>2.打击频率 (Strike frequency): ≤ 30 次/分钟, 耐久次数: 10000 次;</p> <p>3.耐久后输出电压 (Output voltage after endurance): 打击 5 次(Hitting 5 times), 平均值 (Ave) $\geq 15KV$;</p> <p>测试点火距离 5mm, 连续打击 10 次断火次数≤ 2 次。 The test ignition distance is 5mm, and the number of consecutive strikes is 10 times and the number of interruptions is less than or equal to 2 times.</p>	可调式火炬夹具
6	绝缘性 Insulation	<p>在常温下, 导体通过 500V 直流电, 导体和绝缘层之间的阻抗 $\geq 100M\Omega$。 At normal temperature, the conductor passes through 500V DC, and the impedance between the conductor and the insulating layer is $\geq 100M\Omega$.</p>	检测仪器: 数字兆欧表
7	抗潮湿性 humidity resistance	<p>在 60°C/95%潮湿条件下经过 1 小时后, 恢复到室温, 输出电压衰减率$\leq 15\%$。 After 1 hour at 60°C/95% humidity, return to room temperature, output voltage decay rate $\leq 15\%$</p>	检测仪器: 恒温恒湿试验箱
8	抗冷热性 heat resistance	<p>POM 料: 在最大 80°C环境下放置 1 小时的条件下塑胶件无明显外部变化, 输出电压最大衰减$\leq 20\%$, 恢复到正常温度后, 输出电压衰减率$\leq 15\%$; 在最小-20°C环境下放置 1 小时的条件下塑胶件无明显外部变化, 恢复到正常温度后, 输出电压衰减率$\leq 15\%$。 POM material: Under the condition that the plastic parts are placed at a maximum of 80 °C for 1 hour, there is no obvious external change, and the maximum output voltage attenuation is $\leq 20\%$. After returning to normal temperature, the output voltage attenuation rate is $\leq 15\%$; in the minimum -20 °C environment There is no obvious external change in the plastic parts under the condition of 1 hour, and the output voltage decay rate is less than or equal to 15% after returning to normal temperature.</p> <p>尼龙料: 在最大 150°C环境下放置 1 小时的条件下塑胶件无明显外部变化, 输出电压最大衰减$\leq 20\%$, 恢复到正常温度后, 输出电压衰减率$\leq 15\%$; 在最小-20°C环境下放置 1 小时的条件下塑胶件无明显外部变化, 恢复到正常温度后, 输出电压衰减率$\leq 15\%$。 Nylon material: The plastic parts have no obvious external changes under the condition of being placed at a maximum of 150 °C for 1 hour, and the maximum output voltage attenuation is $\leq 20\%$. After returning to normal temperature, the output voltage attenuation rate is $\leq 15\%$; in the minimum -20 °C environment There is no obvious external change in the plastic parts under the condition of 1 hour, and the output voltage decay rate is less than or equal to 15% after returning to normal temperature.</p>	<p>检测仪器:</p> <p>1.干燥箱 2.恒温恒湿试验箱</p> <p>Testing equipment: 1. Drying box 2. Constant temperature and humidity test box</p>

7.包装要求(Packaging Requirements)

7.1 若客户无特别要求, 均按如下包装方法包装:

If the customer has no special requirements, they are packaged according to the following packaging methods

7.2 主要材料(Main Material) : 瓦楞纸箱 (corrugated box) ;

7.3 外箱尺寸 (Carton Dimension) : 410mm×340mm×150mm;

7.4 包装数量(Package Qty): 按实际包装数量为准(According to the actual packaging quantity);

7.5 在外箱上正确填写好“产品型号”、“数量”、“产品批号”的信息.

(Correctly fill in the information of "product model", "quantity" and "product batch number" on the outer carton.)

8 产品注意事项(Product Notes)

8.1 在运输、安装过程中, 较强的振动和碰撞都会使点火系统出异常, 影响点火性能;

In the process of transportation and installation, strong vibration and collision will make the ignition system abnormal and affect the ignition performance;

8.2 搬运时应严禁滚动、抛掷和手钩作业.

Rolling, throwing and hand hooking operations are strictly prohibited during handling

8.3 产品应放置在干燥通风、周围无腐蚀性气体的仓库内, 且外箱堆码不应超过 5 层.

The product should be placed in a dry and ventilated warehouse without corrosive gas around, and the outer box should not be stacked more than 5 layers.

8.4 在安装使用过程中严禁高强度外力挤压导致点火器变形, 安装需完全固定至点火器不晃动;

In the process of installation and use, it is strictly forbidden to deform the igniter caused by high-strength external force extrusion, and the installation must be completely fixed until the igniter does not shake;

8.5 引出导线需与点火器连接紧密无缝隙, 且尽量减少导线与金属接触面积, 将电压衰减率降至最低, 利于点火。

The lead wire should be connected with the igniter tightly and without gap, and the contact area between the wire and the metal should be minimized to minimize the voltage decay rate, which is conducive to ignition.