

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-G2/B2

版本号 (Version): A/0

| 版本 Version | 日期 Date | 版本更新记录 Version History Record | 修订 Revision |
|---------------|------------|----------------------------------|----------------|
| A/0 | 2018-10-23 | 初版 Original Version | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

目录-Content

1. 适用范围- Applicable scope
2. 引用标准及规范- Reference standards and specifications
3. 原理与用途- Principle and Application
4. 产品说明- Product Description
5. 结构与配合尺寸-Structure and Dimensions
6. 产品要求- Product requirement
7. 包装要求- Packaging Requirements
8. 产品注意事项- Product Notes

1. 适用范围(Applicable scope)

该产品规格书仅适用于 JYYQ610-G2/B2 型按压式压电陶瓷点火器。

This product specification is only applicable to JYYQ610-G2/B2 igniter series

2. 引用标准及规范 (Reference 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 3

Basic tests for packaging and 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(Transport packaging drop test method)

YQ/K-BZ-11-A/3 YQ610 系列检验标准(Series of inspection standards)

3. 原理与用途(Principle 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。

A manual ignition device produced using the piezoelectric effect as the theoretical basis and using piezoelectric ceramics as the medium. An instantaneous DC high-voltage arc is created by violently striking two pieces of piezoelectric ceramic (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。

They are 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。

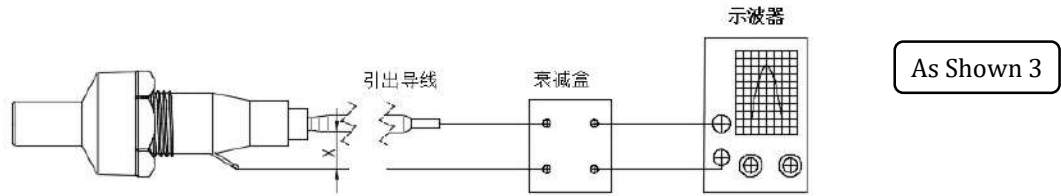
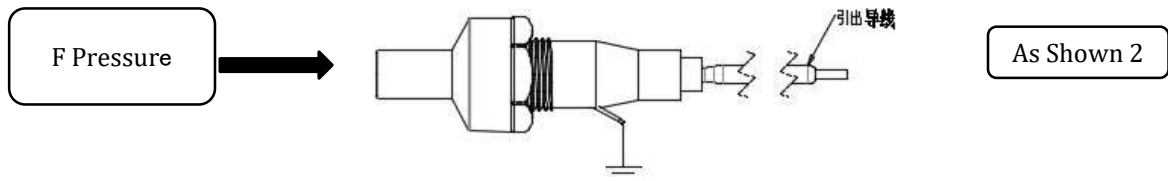
This piezoelectric ceramic igniter is an igniter used to ignite combustion gases

4.2 产品实物图(Product Real Picture): (图 1-As Shown 1)

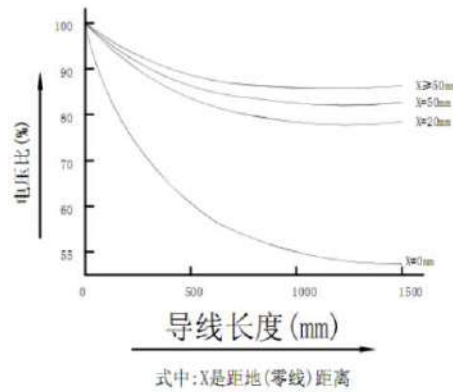


YQ610-G2/B2 As Shown 1

4.3 安装要求(Installation Requirements)



安装检测示意图



As Shown 4

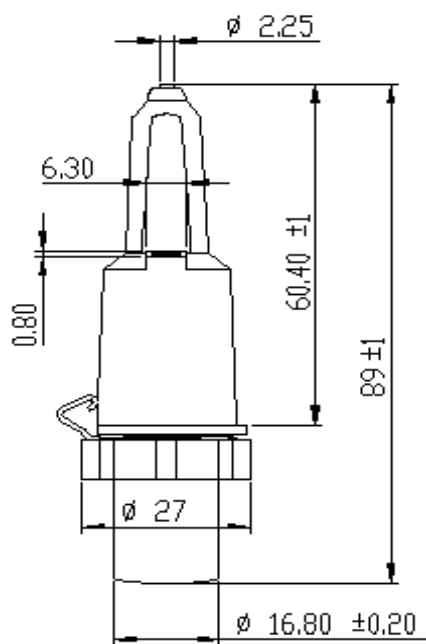
- 4.3.1.安装环境不能有腐蚀性气体，在规定的环境中使用；
The installation environment must be no corrosive gases and must be used in specified environments.
- 4.3.2.安装时产品必须接地；
The product must be grounded during installation
- 4.3.3.引出端如接点火瓷针，其针尖的放电距离要求控制在 4-5mm；
If the lead end is connected to an ignition needle, the discharge distance of the needle tip is required to be controlled at 4-5mm;
- 4.3.4 引出端如导线长度 L 与电压是反比例关系，如图 3 所示；
The lead-out end is like a wire, and the length L is inversely proportional to the voltage, as shown 4.
- 4.3.5.导线离地线越近，电压衰减越大，如图 3 所示；
The closer the wire is to the ground wire, the greater the voltage attenuation, as shown 3;
- 4.3.6.按压打击时，力的方向须垂直；如图 2 所示；
When pressing and striking, the direction of force must be vertical; as shown 2;
- 4.3.7.导线长度对电压的影响，如下表
The effect of wire length on voltage is as shown in the table 1 below

Table 1

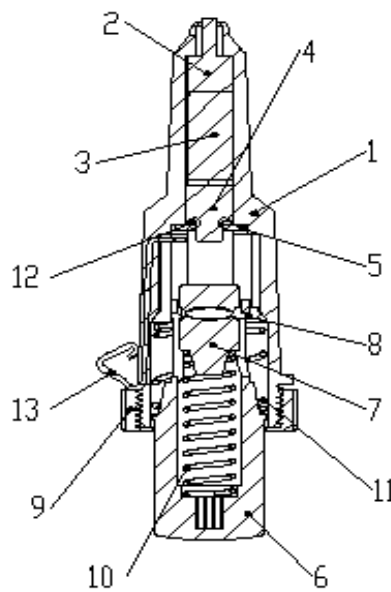
| Wire Length Mm | 0 | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1100 衰减率 |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|
| 点火器 1 电压 KV | 25.9 | 25.3 | 24.7 | 24.2 | 23.6 | 23.0 | 22.7 | 22.1 | 21.5 | 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% |

备注：建议使用导线长度 L: 100-800mm
 Note: Recommended wire length L: 100-800mm

5 结构与配合尺寸 (Structure and Dimensions)



Shown 5 : JYYQ610-G2/B2 Installation Drawing



Shown 6 JYYQ610-G2/B2 Structure

表 2 点火器组装结构说明
Table 2 Assembly structure instructions

| No. | Part Name | Part Spec | Qty |
|-----|---------------------------|---------------|-----|
| 1 | 外壳-Out Case | YQ610-G2-WK | 1 |
| 2 | 铁尾 Iron Tail | YQ610-G2-TE | 1 |
| 3 | 晶体- piezoelectric crystal | 686#7*16 | 1 |
| 4 | 铁头-Iron Head | YQ610-G-TT | 1 |
| 5 | 接地片-Grounding Plate | YQ610-G-JDP-2 | 1 |
| 6 | 按钮-Button | YQ610-G-2AN | 1 |
| 7 | 击锤-Hammer | YQ610-G-JC | 1 |
| 8 | 横杆-Crossbar | YQ610-G-2HG | 1 |
| 9 | 盖帽-Cover | YQ610-G-2GM | 1 |
| 10 | 打击弹簧-Stike Spring | YQ610-G-G | 1 |
| 11 | 复位弹簧-Reset Spring | YQ610-G-F | 1 |
| 12 | 橡胶圈-Rubber Ring | YQ610-G-XJQ | 1 |
| 13 | 接地线- Grounding wire | YQ610-G2-JDX | 1 |

6 产品要求 Product requirement

表 3 产品要求(Table 3 Products Requirements)

| No. | 项目 Item | 说明-Description | 备注 Remarks |
|-----|-----------------------------------|--|--|
| 1 | 外观要求 Appearance | 产品外观良好，无破损、污渍、毛刺等。 The product looks good, without damage, stains, burrs, etc. | |
| 2 | 结 构 Structure | 1)产品尺寸应符合(图 5)中标注的尺寸要求; The product size should meet the size requirements marked in (Shown 5) 2)各使用部件需符合(表 2)中要求。 Each part must meet the requirements in (Table 2) | |
| 3 | 机械性能 Mechanical Performance | 按压顺畅无卡涩， 按压操作力: ≤6kg; Press smoothly without jamming, pressing operation force: ≤6kg; | 检测仪器: 立式测力计 Testing instrument: Vertical dynamometer |
| 4 | 产品性能 Product Performance | 测试 1.初始输出电压: 打击 5 次最小值≥19KV Initial output voltage: 5 blows, minimum value ≥ 19KV 测试 2.测试点火距离 5mm,打击 10 次不断火。 The test ignition distance is 5mm, and the fire continues after 10 blows. | 检测仪器: Tektronix TDS2002 示波器(Oscilloscope) Tektronix P6015A 高压 探头(High Voltage Divider) |

| | | | |
|---|--------------------------------|---|--|
| 5 | 耐久 Durability test | <p>1.环境温度: 25°C左右, 环境湿度: 50-70%RH; Environment Temp:25°C , Humidity:50-70%R.H, 2.打击频率: ≤30 次/分钟, 耐久次数: 10000 次; Hitting Fr: ≤30times/ min, Totally : 10000times 3.耐久后输出电压(Output Voltage after Durability) ①打击 5 次平均值≥15KV; The average 5times hitting, Voltage ≥15KV; ②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 fire breaks is ≤ 2 times after 10 consecutive strikes.</p> | <p>检测仪器: YQ610 耐久机 可调式火炬夹具 Adjustable torch clamp</p> |
| 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 ≥100MΩ。 At normal temperature, the conductor passes 500V DC, and the impedance between the conductor and the insulation layer is ≥100MΩ.</p> | <p>检测仪器: 数字兆欧表 Testing instrument: digital megger Meter</p> |
| 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≤15%。 After 1 hour under 60°C/95% humidity conditions, the output voltage attenuation rate is ≤15% after returning to room temperature.</p> | <p>检测仪器: 恒温恒湿试 验箱 Testing instrument: constant temperature and humidity test chamber</p> |
| 8 | 抗热性能 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≤20%, 恢复到正常温度后, 输出电压衰减率≤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≤15%。 POM material: The plastic parts have no obvious external changes when placed in a maximum 80°C environment for 1 hour. The maximum output voltage attenuation is ≤20%. After returning to normal temperature, the output voltage attenuation rate is ≤15%; in a minimum -20°C environment There is no obvious external change in the plastic parts after being left for 1 hour. After returning to normal temperature, the output voltage attenuation rate is ≤15%.</p> <p>尼龙料料: 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≤20%, 恢复到正常温度 后, 输出电压衰减率≤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≤15%。 Nylon material: There is no obvious external change in plastic parts when placed in a maximum 150°C environment for 1 hour. The maximum output voltage attenuation is ≤20%. After returning to normal temperature, the output voltage attenuation rate is ≤15%; at a minimum of -20°C There is no obvious external change in the plastic parts after being left in the environment for 1 hour. After returning to normal temperature, the output voltage attenuation rate is ≤15%.</p> | <p>检测仪器(Testing equipment) 1.干燥箱(Drying box) 2.恒温恒湿试验箱 Constant temperature and humidity test chamber</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): 双坑纸箱(Carton);

7.3 外箱尺寸 (Carton Dimension) : 425mm×350mm×340mm;

7.4 包装数量(Package Qty): 500pcs/CTN

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；

During installation and use, it is strictly forbidden to deform the igniter due to high-intensity external force extrusion. 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 must be tightly connected to the igniter without gaps, and the contact area between the wire and metal should be minimized to minimize the voltage attenuation rate, which is beneficial to ignition.