

## 继电器规格书

品名 (ITEM) : 电磁继电器

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型号 (MODEL) : ZK4100 OXX-1Z

ZK4100 OXX-1H

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客户 (CUSTOMER) :

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发行部门 (ISSUER) : 技术部

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发行日期 (DATE OF ISSUED) : 2022-10-2

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### Customer Approval (客户批准)

STAMPING AREA (盖章处)

## 1 产品类型 (TYPE MODEL)

### 1.1 型号 (TYPE)

ZK4100-012-1Z ZK4100-012-1H

### 1.2 触点形式 (CONTACT ARRANGEMENT)

1Z:1 组转换型 1H:1 组常开型

### 1.3 触点材料 (CONTACT MATERIAL)

铜基银合金(AgSnO<sub>2</sub>/Cu)

## 2 线圈参数 (COIL PARAMETER)

额定电压 (RATED VOLTAGE) DC (V)	线圈电阻 (COIL RESISTANCE) ±10% (Ω)	线圈最大允许电压 (MAX. ALLOWABLE COIL VOLTAGE) (at 23°C)	线圈消耗功率 (COIL OPERATING POWER) (W)
5	70	额定电压 X130%	约 0.36W
12	400		
24	1600		
5	125	额定电压 X130%	约 0.2W
12	720		
24	2880		

## 3 触点规格 (CONTACT SPECIFICATION)

### 3.1 触点额定值 (CONTACT RATING)

NO: 3A 250VAC / 3A 24VDC(阻性 Resistive)

### 3.2 触点额定电流 (RATED CONTACT CURRENT)

NO: 3A

### 3.3 最大分断能力 (MAX CONTACT CAPACITY)

750VA

## 4 性能 (PERFORMANCE)

### 4.1 接触电阻 (CONTACT RESISTANCE )

≤100mΩ (6VDC, 1A)

### 4.2 吸合电压 (OPERATE VOLTAGE)

DC: ≤75%×额定电压 The rated voltage (at 23°C)

### 4.3 释放电压 (RELEASE VOLTAGE)

DC: ≥10%×额定电压 The rated voltage (at 23°C)

### 4.4 动作时间 (OPERATE TIME) ≤5ms

#### 4.5 释放时间(RELEASE TIME) $\leq 5\text{ms}$

#### 4.6 寿命(LIFE)

1) 电气寿命(ELECTRICALLY):  $1 \times 10^5$  次(阻性负载, 10 次/每分钟)  
 $1 \times 10^5 \text{ ops min (Resistive load, 10 ops/minute)}$

2) 机械寿命(MECHANICALLY):  $1 \times 10^7$  次(无负荷下, 300 次/每分钟)  
 $1 \times 10^7 \text{ ops min (At no load, 300 ops/minute)}$

#### 4.7 介质耐压(DIELECTRIC STRENGTHS) 漏电流 1mA (LEAK CURRENT 1mA)

1) 触点与触点间(BETWEEN CONTACTS): 750VAC, 1minute

2) 线圈与触点间(BETWEEN COIL TO CONTACTS): 1000VAC, 1minute

#### 4.8 振动(VIBRATION)

1) 误动作(ERROR OPERATION): 以三个方向振动 5 分钟, 误动不超过 1ms (振幅 1.5mm, 10~55Hz)。

No error operation than 1ms Max. when vibrate it from 3 directions for 5 minutes (Amplitude 1.5mm, 10~55Hz).

2) 振动耐久性(ENDURANCE): 以三个方向振动 2 小时, 无结构故障(振幅 1.5mm, 10~55Hz)。

No construction trouble when vibrate it from 3 directions for 2 hours (Amplitude 1.5mm, 10~55Hz).

#### 4.9 冲击(HOCK)

1) 误动作(ERROR OPERATION): 以三个方向冲击 3 次, 触点误动作不超过 1ms (最高加速度  $98\text{m/s}^2$  持续时间 11ms)。

No error operation by contact more than 1ms Max. When shocks is from 3 directions 3 times (at peak acceleration  $100 \text{ m/s}^2$  Duration 11ms).

2) 耐冲击(ENDURANCE): 以三个方向冲击 3 次, 无结构故障(最高加速度  $980\text{m/s}^2$  持续时间 6ms) 无结构故障。

No construction trouble when shocks is from 3 directions 3 times (at peak acceleration  $980 \text{ m/s}^2$  Duration 6ms).

#### 4.13 引脚强度(TERMINAL STRENGTH)

在引脚端施加 5N 的力, 持续 10 秒, 表面及结构上无损伤。

No construction and exterior trouble when push into any terminals by 5N for 10esc.

#### 4.14 高温试验(THERMAL PROOF)

在  $85^\circ\text{C}$  恒温状态下放置 240 小时, 然后在常温下放置 2 小时, 无结构及性能损伤。

Not any trouble on construction and characteristic when leave in  $85^\circ\text{C}$  240 hours after that, leave it in standard condition for 2 hours.

#### 4.15 低温试验(COLD PROOF)

在  $-55^\circ\text{C}$  恒温状态下放置 24 小时, 然后在常温下放置 2 小时, 无结构及性能损伤。

Not any trouble on construction and characteristic when leave in  $-55^{\circ}\text{C}$  24 hours after that , leave it in standard condition for 2 hours .

#### 4.16 潮湿试验 (HUMIDITY PROOF)

在  $40^{\circ}\text{C}$  , 湿度 85% 恒温状态下放置 24 小时, 然后在常温下放置 2 小时, 无结构及性能损伤, 绝缘电阻  $\geq 10\text{ M}\Omega$ 。

Insulation resistance  $10\text{ M}\Omega$  min . Not any troubles on construction and characteristic when leave in  $40^{\circ}\text{C}$  , humidity 85% 24 hours after that , leave it in standard condition for 2 hours .

#### 4.17 温度急变试验 (THERMAL SHOCK)

在温度  $-40^{\circ}\text{C}$  及  $85^{\circ}\text{C}$  恒温状态下各放置 1 小时为 1 个循环, 共 10 个循环后在正常环境下放置 2 小时, 无结构及性能损伤。

Not any troubles on construction and characteristic when leave it in  $-40^{\circ}\text{C}$  and  $85^{\circ}\text{C}$  temp. room for 1h each. That is one cycle. After 10 cycles has done, Leave it on standard condition for 2 hours.

#### 4.18 耐焊接热 (SOLDERING THERMAL)

在  $350\pm 10^{\circ}\text{C}$  的锡温中浸锡  $3.5\pm 0.5$  秒或在  $260\pm 5^{\circ}\text{C}$  锡温中浸锡  $10\pm 1$  秒, 无结构及性能损伤。

Not any troubles on construction and characteristic. When dipped into soldering bath  $350\pm 10^{\circ}\text{C}$   $3.5\pm 0.5\text{sec}$  or  $260\pm 5^{\circ}\text{C}$   $10\pm 1\text{sec}$ .

#### 4.19 可焊性 (SOLDERABILITY)

在  $235\pm 5^{\circ}\text{C}$  的锡温中浸锡  $2\pm 0.5$  秒, 试验后焊锡的浸锡面积应大于 95%。

Not any problems solder dipped at  $235\pm 5^{\circ}\text{C}$   $2\pm 0.5\text{sec}$ .

### 5 标志 (MARKING)

#### 5.1 外壳颜色 (CRUST COLOR)

黑色

#### 5.2 标志位置 (MARKING POSITION)

顶面 (side Surface)

#### 5.3 字符颜色 (INK COLOR)

激光刻字 (灰白色)

### 6 测试条件 (STANDARDS TEST CONDITION)

#### 6.1 温度 (TEMPERATURE)

$-40^{\circ}\text{C}\sim 85^{\circ}\text{C}$

#### 6.2 湿度 (HUMIDITY)

45%~85%

#### 6.3 测试方向 (DIRECTION OF MEASUREMENT)

引线脚向下 (Terminal down position is standard position)

## 7 使用条件 (OPERATING CONDITION)

### 7.1 温度 (TEMPERATURE)

-40~+85°C, 无冻结、凝露环境(However, no freeze and no dew condensation)

### 7.2 湿度 (HUMIDITY)

45~85%

### 7.3 安装方向 (MOUNTING DIRECTION)

引脚向下 (Terminal down position is standard position)

## 8 储存条件 (STORAGE CONDITION)

### 8.1 温度 (TEMPERATURE)

-40~+85°C, 无冻结、凝露环境(However, no freeze and no dew condensation)

### 8.2 湿度 (HUMIDITY)

45~85%

### 8.3 环境 (ENVIRONMENT)

- 1) 产品或包装箱避免放置在有腐蚀性的气体中, 如硫化氢气体或含盐空气中。

Store in locations where the product or container is not expose to corrosive gas such As hydrogen sulfide gas or salty air.

- 2) 无尘场所。

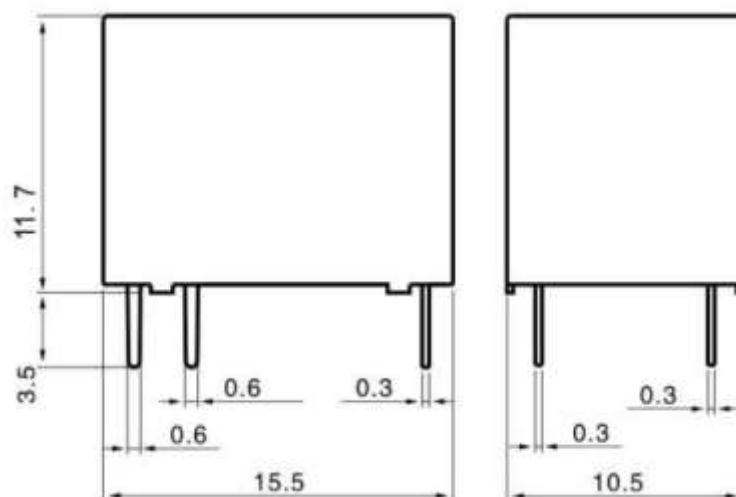
Store in location where no visible dust exists.

- 3) 避免阳光直射。

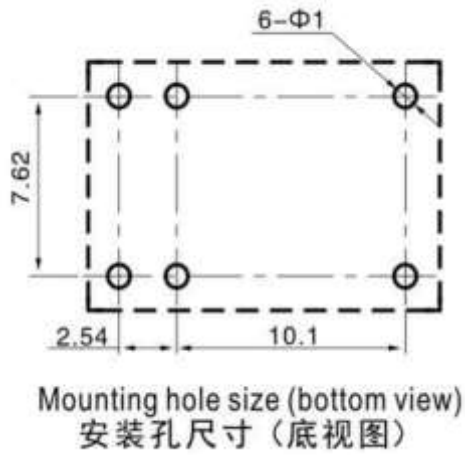
Store in location not subject to direct sunlight.

附件:

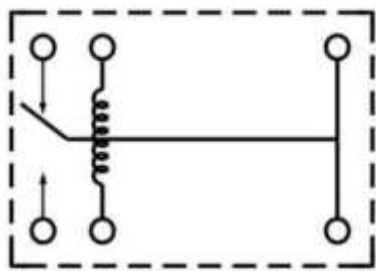
A 外形尺寸说明



B 安装尺寸（底视图）:

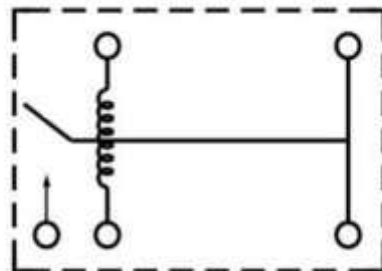


C 接线图（底视图）:



Wiring diagram (bottom view)  
接线图（底视图）

1C 型



Wiring diagram (bottom view)  
接线图（底视图）

1H 型