



# 浙江珠城科技股份有限公司

ZHEJIANG ZUCH TECHNOLOGY CO., LTD

产品系列  
Product Series

110 直插自锁系列

文件名称  
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产品规格书  
Product specification

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## 110 直插自锁系列 (110 Self-locking Series)

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## 1、范围 scope

本规格书规定本公司 110 直插自锁系列（非自锁）产品。

This specification covers the 110 Self-locking series products.

## 2、相关标准 Related Standards

注：本规格书为系列产品通用，当规格书参数要求与产品图纸发生冲突时，以产品图纸中的要求为准，当规格书参数与参考标准内容冲突时，以本规格书中的要求为准。

Note: This specification is for one full series normal version. If this specification have any conflicting items with products drawings, should take product drawings as right one. If any parameter is this specification conflict with reference standard, should take the parameter in this specification as right one.

### 参考文件：Reference standard.

GB17196-1997 连接铜导线用的扁形快速连接端头

Connecting devices-Flat quick-connect terminations for electrical copper conductors-Safety requirements

UL 310 快速连接端子

Quick connect terminal

IEC 61210 连接铜导线用的扁形快速连接端头

Connecting devices-Flat quick-connect terminations for electrical copper conductors-Safety requirements

## 4、参数范围 Parameter Ratings

额定电压 Rated Voltage	250V AC/DC	
额定电流 Rated Current	适用电线 Wire Size	电流 AC Current AC
	22AWG	2.5A
	20AWG	4A
	18AWG	7A
	16AWG	10A
	14AWG	15A
	12AWG	18A
	10AWG	20A
温度范围 Operation temperature range	-40°C ~ 105°C	



### 4、产品性能 Performance Specification

产品应满足电气,机械和环境性能要求, 测试方法及判断标准如 4.1、4.2、4.3.

所有测试在室温进行,除非另有说明.

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in 4.1,4.2 and 4.3.

All tests shall be performed in the room temperature, unless otherwise specified.

#### 4.1 电气特性 Electrical Requirements

序号 COD	项目 Test project	测试方法及条件 Test methods and conditions	标准规格 standard
4.1.1	外观 appearance	目测 Checking by eye 视力: 1.0 以上 Eyesight: > 1.0 照明: (200-300) 1x Lamp: (200-300) 1x 目测距离: 0.3-0.5m Space: 0.3-0.5m	符合产品图面及产品功能要求
			Meets requirements of product Drawing
4.1.2	接触电阻 Contact Resistance	端子公母对插后, 通过 20mV 电压, 10mA 的电流, 测试公母端接触电阻	3 毫欧 Max.(初始值) 6 毫欧 Max.(试验后)
		Mate connectors: apply a maximum voltage of 20 mV at rated current of 10 mA	3mΩ Max.(Initial) 6mΩ Max.(final)
4.1.3	温升 Temperature Rise	将产品串联在额定电压、电流的电路中, 测量端子与导线连接处的温升值.	$\Delta 30^{\circ}\text{C}$ Max.
		Measure temperature rising at wire crimped by applied current to all positions.	$\Delta 30^{\circ}\text{C}$ Max.
		<p>温度及热循环测试的连接及排列</p> <p>典型的测试板</p> <p>固紧标准公端子详图</p>	



4.1.4	周期性载流 (热循环) thermal cycle	完成 4.1.3 测试操作后继续进行周期性载流测试，共测试 500 个循环周期，每个循环周期包含 45 分钟通电和 15 分钟断电，测试电流如下：		第 500 循环的温升应不会比第 24 循环的温升高 15°C，而且两者的温升都不应高于 85°C
		After the testing No.4.1.3 finished, apply periodic current loading testing with total 500 cycles, 45 Minutes loading current and 15 minutes outage for one cycle, Loading current as following table		The temperature of No. 500 cycle can not be higher more than 15°C comparing with No. 24 cycle. The temperature of two cycles can not be higher than 85°C.
		适用电线 Wire Size	电流 Current	
		22AWG	5A	
		20AWG	8A	
		18AWG	14A	
		16AWG	20A	
		14AWG	30A	
		12AWG	36A	
10AWG	40A			

### 4.2 机械特性 Mechanical Requirements

4.2.1	振动 Vibration	振幅：1.5mm 振频率：10-55-10 Hz/1 分钟 持续时间：X-Y-Z 各 2 小时	接触电阻：≤6 毫欧 振动过程中，电路瞬间时间不超过 1μsec.	
		Amplitude:1.5mm peak to peak Sweep:10-55-10 Hz in one minute Duration:2 hours in each X-Y-Z axis	Contact Resistance: ≤6mΩ No electrical discontinuity greater than 1μsec.	
4.2.2	压着抗张强度 Crimp Tensile Strength	在实验装置夹头上固定实验样品，以 25±6mm/分钟的速度沿连接的轴线方向施加拉力  The experimental sample is fixed on the chuck of the experimental device, and the tension is applied along the axis direction of 25 + 6mm/minutes	适用电线 Wire Size	抗张强度 Tensile Strength
			22AWG	36N Min.
			20AWG	58N Min.
			18AWG	89N Min.
			16AWG	133N Min.
			14AWG	223N Min.
			12AWG	331N Min.
4.2.3	插拔力 (通用) Insertion Force Extraction Force (注：依要求选用 Select according to requirements)	在实验装置夹头上固定实验样品，以 25±6mm/分钟的速度沿连接的轴线方向施加插入力和拔出力  The experimental samples are fixed on the chuck of the experimental device, and the insertion force and extraction force were applied along the axis direction of 25 + 6mm/minutes	<b>插入力 Insertion Force</b>	
			60N Max.	
			<b>拔出力 Extraction Force</b>	
			初次 Initial	第 6 次 6th Time
			60N Min.	20N Min.



4.2.4	插拔力 (UL 标准) Insertion Force Extraction Force (注: 依要求选用 Select according to requirements)	在实验装置夹头上固定实验样品, 以 25±6mm/分钟的速度沿连接的轴线方向施加插入力和拔出力	<b>插入力 Insertion Force</b>	
		The experimental samples are fixed on the chuck of the experimental device, and the insertion force and extraction force were applied along the axis direction of 25 + 6mm/minutes	65N Max.	
			<b>拔出力 Extraction Force</b>	
			初次 Initial	第 6 次 6th Time
			76N Max.	20N Min.

### 4.3 环境特性 Environmental Requirements

4.3.1	热冲击 Heat Shock	端子公母端插接后置于实验装置中进行循环测试, 共进行 5 次循环, 单次循环条件如下:	接触电阻: ≤6 毫欧 外观: 无损伤		
		The male and female terminals of the terminal are inserted into the experimental device to be tested in circulation, and 5 cycles are carried out	Contact Resistance: ≤6mΩ Appearance: No Damage		
		单次循环参数 Single cycle parameter		/	
		温度 Temperature	时间 Time		
		+105+3/-0°C	30 分钟 30 minute		
		室温 room temperature	5 分钟 5 minute		
		-40+0/-3°C	30 分钟 30 minute		
室温 room temperature	5 分钟 5 minute				
4.3.2	耐湿性 Humidity	端子公母端插接后置于实验装置中进行测试 温度: 40°C 湿度: 90-95% 持续时间: 96 小时	接触电阻: ≤6 毫欧 外观: 无损伤		
		The male and female terminals are inserted into the experimental device to be tested Temperature: 40°C Humidity: 90-95% Duration: 96 hour	Contact Resistance: ≤6mΩ Appearance: No Damage		



4.3.3	盐水喷雾 Salt spray	端子公母端插接后置于实验装置中进行测试 盐水浓度: 5% 温度: 35+1/-2°C 持续时间: 48 小时	接触电阻: ≤6 毫欧
		The male and female terminals are inserted into the experimental device to be tested Salt concentration:5% Temperature: 35+1/-2°C Duration: 48 hour	Contact Resistance: ≤6mΩ

### 5、测试分组 Test Sequences

NO.	项目 Item	实验顺序 Sequence of Test								
		A	B	C	D	E	F	G	H	I
4.1.1	外观 appearance	1	1	1	1	1,4	1,4	1		
4.1.2	接触电阻 Contact Resistance		2,4			3	3	3		
4.1.3	温升 Temperature Rise	2								
4.1.4	周期性载流 (热循环) thermal cycle	3								
4.2.1	振动 Vibration		3							
4.2.2	压着抗张强度 Crimp Tensile Strength				2					
4.2.3 4.2.4	插拔力 Insertion Force Extraction Force			2						
4.3.1	热冲击 Heat Shock					2				
4.3.2	耐湿性 Humidity						2			
4.3.3	盐水喷雾 Salt spray							2		

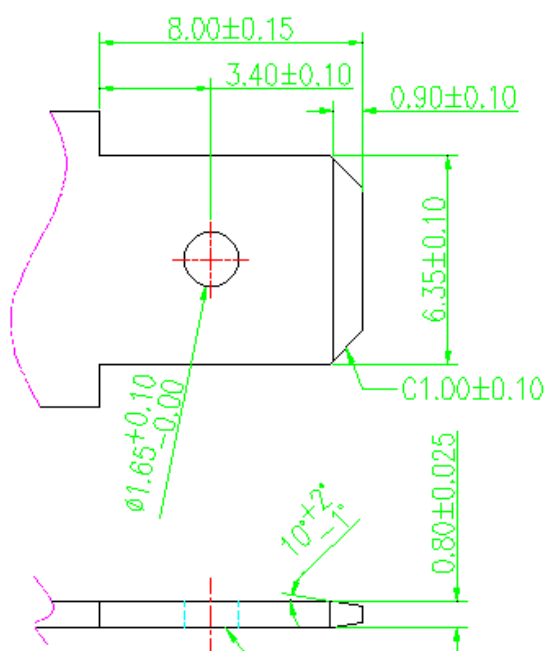


### 6、插片标准 Tab Standards (参考 for reference only)

#### 6.1 250 系列 (250 Series)

带限位系列

With over-insertion protection



无限位系列

Without over-insertion protection

