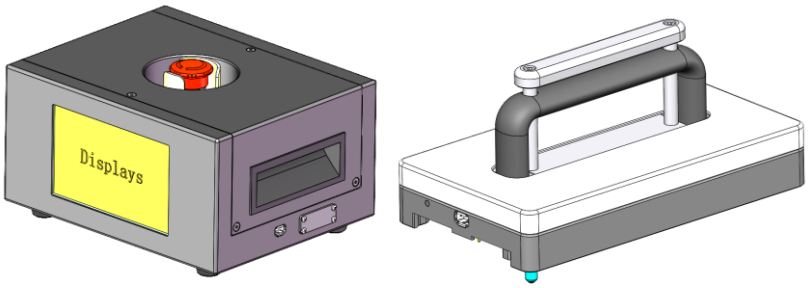
EDS Fixture

使用说明书

Operation Original Instructions



Suzhou Secote Precision electronic Co.,Ltd.

No. 585, Songjia Road, Guoxiang Street, Wuzhong District, Suzhou,

Jiangsu Province 215128, P.R.China

前 言 Preface

感谢您使用苏州赛腾精密电子股份有限公司生产的 EDS Fixture。

Congratulations and thank you for using EDS Fixture manufactured by Suzhou secote Precision electronic Co.,Ltd.

在安装和使用之前，请仔细阅读本手册。若您不遵守本手册的说明而造成的人身伤害、机器损坏及其他财物损失我们将不承担责任。如有疑问，请与我们联系，我们将及时、热情地为您提供服务。

Please read this manual carefully before installing and using. If you do not abide by this manual that result in human hurt, machine damaged or some other losses, we will not responsible for them. If you have any questions, please contact us, we will provide you in time and warm service.

本手册主要对 EDS Fixture 的结构特征、工作原理、安装与调试、使用与维护、故障分析与排除，以及运输、贮存等方面作出说明。主要器件的技术资料等，将以其他随机附（文）件方式向您提供。

This manual mainly explains the structure characteristics, working principle, installation and debugging, use and maintenance, fault analysis and elimination, transportation and storage of EDS Fixture. We will provide you with the technical data of the main devices by other accompanying documents.

本手册适用于 EDS Fixture。

This manual is suitable for EDS Fixture.

本手册中出现的产品外观图或其他图例等若与实际产品有所不同，使用时以实际产品为准。

Compared the manual with actual products, if there are some differences in the attached images and other images like menu screen ,it will subject to the actual product during operation.

公司的产品技术会不断创新，产品手册也会随之更改。以后的所有更改，均不另行通知。

With constant technology innovation of our company, operation manual will change in correspondence. Data afterwards are subject to change without notice.

目 录

0 关键提示 Key Remind

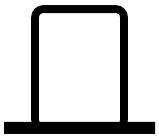
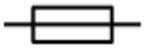
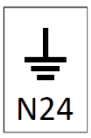
0.1 安全和警告标识 Safety and warning identification

本手册中，将在不同地方出现表 0.1-1 中列出安全和警告提示，请务必注意。

Please pay special attention to the safety warning mark as Table 0.1-1 in this manual.

表 0.1-1 安全和警告提示

Table 0.1-1 Safety & Alarm remind

	触电危险，可能导致死亡或重伤 Warning: Electric shock may cause death or serious injury.
	机械伤害危险，可能导致死亡或重伤 Warning: mechanism hurt, may cause death or serious injury.
	危险警告，可能导致伤害 Warning: Dangerous, may cause hurt.
	按钮标识，表示按钮的按下状态 Button label: indicates the pressed status of the button.
	按钮标识，表示按钮的弹起状态 Button label: indicates the unpressed status of the button
	保险丝标识，用于标示本治具的保险丝参数 Fuse label: used to mark the fuse parameters of the fixture
	保护接地标识 Protection grounding mark
	功能接地标识 Functional grounding mark

0.2 遵守本手册的规定是保障您人身和财产安全、设备质量保障和正常运行的前提。

Abiding by the regulations of this manual is the precondition that safeguards your health, property, quality and normal running.

0.3 本手册提供了 EDS Fixture 正确安装、使用和维护的重要资料，请在设备安装位置附近妥善保 管。

This manual includes the important information of correct installation, using and maintenance for the EDS Fixture. Please keep it safe.

0.4 本手册未尽事宜，将会以操作说明书等其它形式呈现。

Matters not covered in this manual will be presented in other forms such as operating instructions.

1 安全说明 Safety introduction

下列安全说明涉及 EDS Fixture 的运输与储存、安装与调试、使用与维护保养，忽略这些安全说明可能造成人身伤害或财产（设备/原料/产品）损失。

The following safety introduction includes EDS Fixture delivery & storage, installation & debugging, using & maintenance which may cause human injury or property loss (equipment, raw material or product) when ignore these safety instruction.

同时请注意本手册中各章节中的补充性安全说明。

Meanwhile, please pay attention to the complementary safety introduction in per chapter or parts in this manual.

如果设备以制造商未指定的方式使用，设备提供的保护可能会受到损害。

The protection provided by the device may be compromised if it is used in a way not specified by the manufacturer.

1.0 概述 General description

设备运行时有：带电部件；设备停机时有：带电部件。

When the equipment is running: live parts; When the equipment is down: live parts

非受到培训的专业人员不可进行以下操作：

Professional trained personnel do the following work:

——运输 Delivery

——储存 Storage

——安装/装配 Installation

——使用 Using

——维护保养 Maintenance

——维修 Maintain

进行这些操作之前，请仔细阅读以下文件资料：

Please read the following documents before the above work:

——本手册的附图 Attached drawings

——其他随机文件 Other documents with machine

——设备标志牌 Equipment mark plate

——有关设备的特别规定和要求 Special regulation and requirements about the equipment.

——有关安全和事故防范的国家/地方性规定 Country or regional regulation of prevention accidents and safety

以下情形会导致严重人身伤害和物资损失：

The following matters will cause serious injury and property loss.

——不正确的搬运 incorrect convey

——不正确的安装 incorrect installation

——使用或操作不正确 incorrect using or operation

——擅自拆除必要的安全防护装置 dismantle safety protection devices

——擅自拆开设备进行检修 Disassemble equipment for maintenance without authorization

1.1 运输与储存 Delivery and Storage

确认运输过程中的产品防护，在收货之后请立即检查包装箱是否完好，若有损坏请立即通知运输单位和本公司，此为产品运输过程索赔的前提。

Confirm the product protection during the transportation process. After receiving the goods, please check whether the packing box is intact. If there is any damage, please notify the transportation unit and the company immediately.

请严格遵守有关产品搬运的说明，否则可能导致人身伤害或设备损坏。

Transit must be in conjunction with the relative regulation to avoid damaging the equipment.

设备长期存放请遵照本手册中设备“长期存放”的规定，应在标明的地方加注足够的润滑油或润滑脂，并做好防锈措施。长期存放时应特别做好电气控制箱的防护。

The devices should be lubricated and anti-rust in case of being placed for a long time according to the regulations and the protection of the control cabinet.

1.2 安装与调试 Installation & Debugging

请仔细阅读本手册中有关设备安装的说明。

Please read the installation sheet prior to installation.

本设备的安装与调试应由本公司或本公司代理商的专业人员进行，在上述人员未到达现场之前，请不要拆解包装箱，此为您有关产品索赔的前提之一。

The installation and commissioning of the equipment shall be carried out by the professional personnel of our company or our agent. Please do not disassemble the packing box before the above-mentioned personnel arrive at the scene. This is one of the prerequisites for your claim for the product.

调试过程中出现任何不正常的现象（尖锐噪声、超范围的温升），应立即停机检查，直至找出原因并排除。

Operator should stop the machine and check for any abnormal functioning such as noise, temperature rise out of range, etc.

1.3 使用与维护保养 Used and Maintenance

设备使用过程中存在带电部件，操作过程请谨遵本手册的规定，以免使用过程中造成触电伤害或机械伤害。

The equipment consists of electronic components, tail-wagging components, reciprocate linear motion parts, negative pressure parts, the operator should go upon the platform to operate according to the operation manual to avoid electric shock, mechanical injure or falling.

设备运行过程中出现任何不正常的现象（尖锐噪声、超范围的温升），应立即停机检查，直至找出原因并排除，必要时请与本公司联系。

Operator should stop the machine and check for any abnormal functioning such as noise, temperature rise out of range, etc. If necessary please contact us.

设备清洁过程可能涉及带电部件，请谨遵本手册的规定，以免造成触电。

The cleaning process may involve live parts. Please follow the instructions in this manual to avoid electric shock.

设备维护保养或故障排除过程可能涉及带电部件，请谨遵本手册的规定，以免造成触电、机械伤害或碰（砸）伤。

Live parts may be involved in equipment maintenance or troubleshooting. Please follow the instructions in this manual to avoid electric shock, mechanical injury, or collision.

1.4 接地保护 Ground protection

为避免触电安全隐患，本治具在使用过程中需要确保可靠接地。

In order to avoid electric shock safety hazards, the fixture needs to ensure reliable grounding during use.

本治具外壳为金属材质，在内部已可靠接地，使用中需要确保电源线中的地线是可靠接地的，否则治具外壳有带电的风险。

The cover of the fixture is made of metal and has been reliably grounded internally. Ensure that the ground wire in the power cable is reliably grounded during use; otherwise, the cover of the fixture may be charged.

治具内部接地方法如下图：

The internal grounding method of the fixture is shown below:

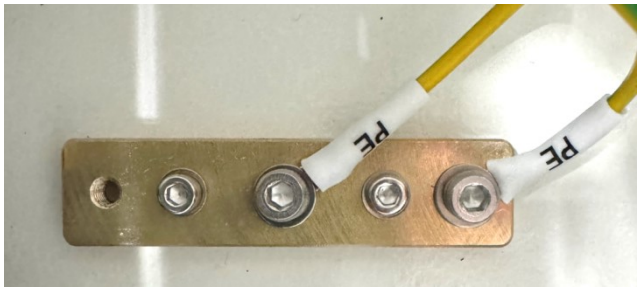


图 1.4-1 治具内部接地图示

Pic1.4-1 Internal grounding diagram of fixture

1.5 其它说明 Others

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

请注意，未经合规责任方明确批准的更改或修改可能会使用户无权操作设备。

Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference; and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation,

Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1)L'appareil ne doit pas produire de brouillage;

(2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2 设备概述 General Description

2.1 概述 General description

本设备的核心功能是输出电流可设置的恒流电源，适用于特定消费类电子产品（手机、平板电脑、笔记本电脑等）的售后维修店、产品维修、生产车间，辅助手机、笔记本电脑等的维修。

The core function of this device is a constant current power supply with adjustable output current, which is suitable for after-sales repair shops, product repair, production workshops of specific consumer electronic products (mobile phones, tablets, laptops, etc.), assisting the maintenance of mobile phones, laptops, etc.

2.2 产品特点 Features

2.2.1 结构特点 Structural features

EDS Fixture 主要由 Base、Charge plate、Interposer plate、Repair sled，以及 Cable 组成，系统框图如下：

EDS Fixture mainly consists of Base, Charge plate, Interposer plate, Repair sled and Cable. The system block diagram is as follows:

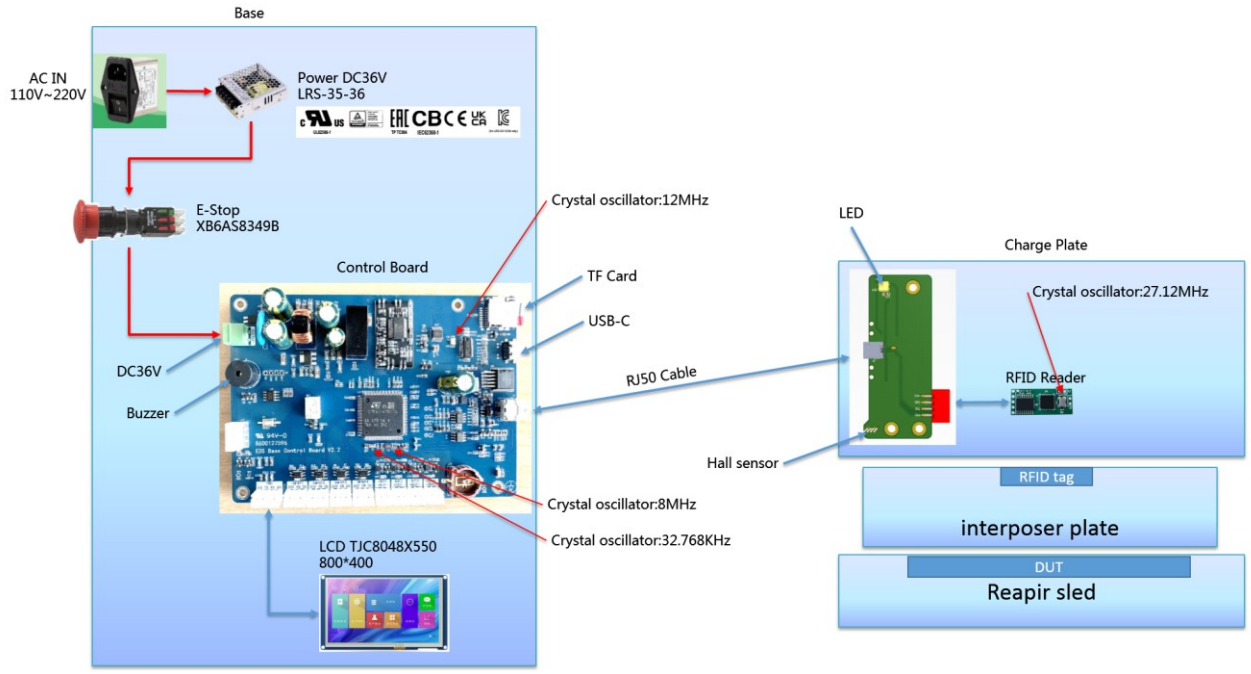


图 2.2-1 系统构成

Pic2.2-1 System block

Base 主要由金属外壳、LCD、急停开关、开关电源、控制板等构成，控制板中的电源模块可以产生最大 30V、1-50mA 的恒流电源。

Base is mainly composed of metal shell, LCD, SCram switch, switching power supply, control board, etc. The power module in the control board can generate the maximum 30V, 1-50mA constant current power supply.

Charge plate 主要由 POM 材料构成，顶部安装有把手，内部安装了 RFID Reader、RFID 天线，并且在内部还安装了一个 Hall 传感器，用于检测是否与 Repair sled 扣合成功，RFID 用于识别机种并读取参数。

The Charge plate is mainly composed of POM material, with a handle installed on the top, RFID Reader and RFID antenna installed inside, and a Hall sensor installed inside, which is used to detect whether it is successfully

connected with the Repair sled, RFID is used to identify machine types and read parameters.

Interposer plate 的结构比较简单，主要安装了金属弹片、RFID 标签，其中金属弹片用于将来自于 Charge plate 的电源传导到产品中，RFID 标签用于存储产品的机种名称和参数。

Interposer plate structure is relatively simple, the main installation of metal shrapnel, RFID tag, in which the metal shrapnel is used to transfer the power from the Charge plate to the product, RFID tag is used to store the product model name and parameters.

Repair sled 是产品载具，用于放置和固定产品，安装有磁铁，用于扣合检测。

The Repair sled is a product sled that is used to place and secure the product and is fitted with magnets for snap detection.

本治具为手动操作类治具，不含有自动运行的部件。

The fixture is a manually operated fixture and does not contain automatic operating parts.

2.2.2 上料方式 Load DUT

本治具为手动上料方式，首先将产品放入修复板内，然后盖上插入板，最后盖上充电板并确保到位，即完成上料。

This fixture is a manual feeding method, first put the product into the repair plate, and then cover the insert plate, and finally cover the charging plate and ensure that it is in place, that is, complete the feeding.

2.2.3 下料方式 Unload DUT

产品操作完成后，取下 Charge plate 和 Interposer plate 后取出产品即可。

After the product is charged, remove the Charge plate and Interposer plate and take out the product.

2.2.4 设备材质 The equipment material

本设备的制造材料主要有：防静电 ABS、SUS304、POM、磷青铜、丁青橡胶、防静电 POM、SUS440C、AL6061-T6、钣金件等。

The main manufacturing materials of this equipment are: anti-static ABS, SUS304, POM, phosphor bronze, butyl blue rubber, anti-static POM, SUS440C, AL6061-T6, sheet metal parts and so on.

2.3 适用的环境和工作条件 Circumstance and Working conditions

2.3.1 工作环境 Circumstance

a) 环境温度：正常工作的环境在 5℃～40℃

Temperature: The ambient temperature should be within 5℃～40℃

b) 湿度：当环境温度为 40℃时，工作环境的相对湿度不超过 50%，较低温度下可允许较大湿度（如环境温度为 20℃时，工作环境的相对湿度不超过 90%）。

Humidity: The relative humidity≤50% when the ambient temperature reach to 40℃ and lower temperature allow high humidity (e.g. ambient temperature in 20℃ the humidity≤90%).

2.3.2 工作条件 Working conditions

a) 电源条件 : AC 100~240V 50/60Hz

Power supply: AC 100~240V 50/60Hz

b) 整机运行噪声小于 65dB(A)

The working noise≤65dB(A)

2.3.3 设备报废 Equipment scrapping

设备经多年使用后将会被报废，报废物资的处理请遵守当地法律法规的规定。设备中有些部份可以回收其残值，如：

When the equipment is discarded as useless, the useless parts treatment should be according to the local laws and regulations, and the reclaim parts of the equipment as following:

——电控箱箱体、弹簧、磁铁等可作为废铁；

Electrical control box body, spring, magnet, etc. can be used as scrap iron

——其他塑料件作为废旧塑料。

Other plastic material as scrap plastic

2.4 适用场合 Application

本设备适用于特定消费类电子产品（手机、平板电脑、笔记本电脑等）的售后维修店、产品维修、生产车间，辅助手机、笔记本电脑等的维修操作。

This device is suitable for specific consumer electronic products (mobile phones, tablets, laptops, etc.) after-sales repair shop, product repair, production workshop, to assist mobile phones, laptops, etc.

3 结构与工作原理 Structure Feature and Working Principle

本章中插图仅为阅读本手册时的参考图例，是对器件清单的补充，使用中以实物为准。

The figures used here is reference only, subject to equipment on site.

3.1 治具外观与组成

Fixture appearance and composition

本治具主要由 Base Box、Charge plate、Interposer plate、Repair sled 等构成，正面照如下图：

This fixture is mainly composed of Base Box, Charge plate, Interposer plate, Repair sled, etc. The front picture is as follows:

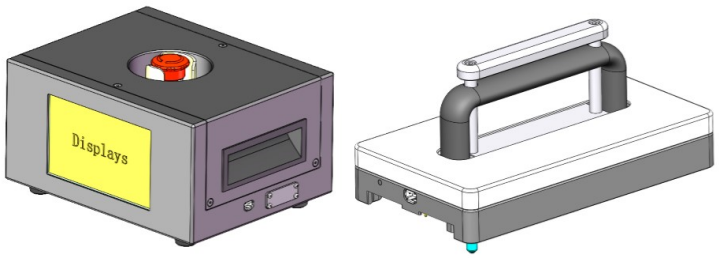


图 3.1-1 治具正视图

Pic 3.1-1 Front view of fixture

治具系统构成如下：

The fixture body explosion diagram is as follows

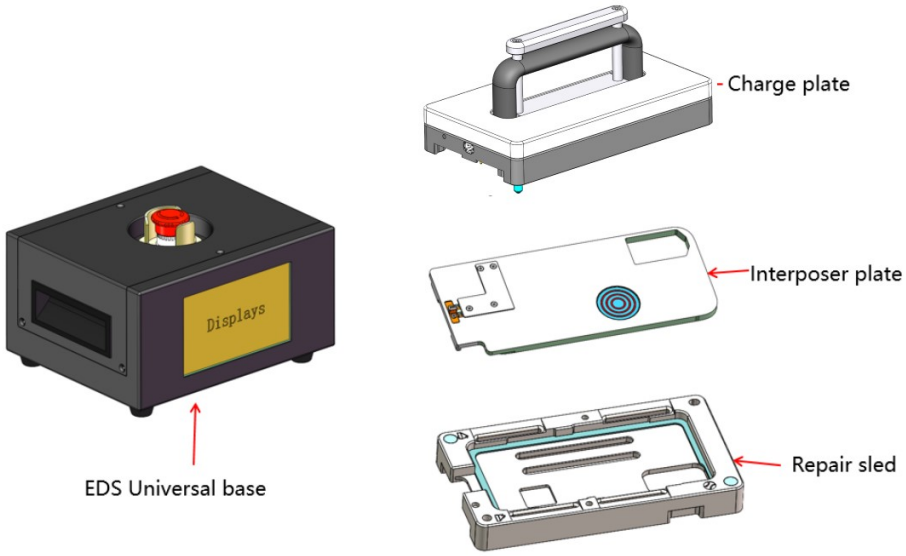


图 3.1-2 治具系统构成

Fixture explosion diagram

3.2 电控箱组成介绍 Electric control box composition introduction

3.2.1 电控箱主要由电源、PCBA、触摸屏、插头、地线、急停开关等构成，爆炸图如下：

The electric control box is mainly composed of power supply, PCBA, touch screen, plug, ground wire, emergency stop switch, etc. The explosion diagram is as follows

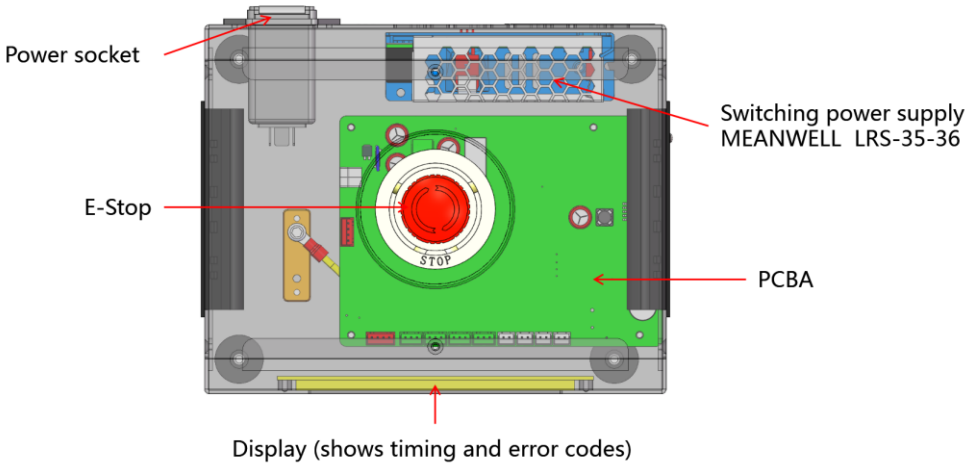


图 3.2-1 电控箱爆炸图

Pic 3.2-1 Electric control box explosion diagram

3.3 充电板组成介绍 Charging board composition introduction

3.3.1 充电板主要由盖板、把手、元器件、销钉、磁铁、天线、POM 块、弹簧等构成，爆炸图如下：

The charging board is mainly composed of cover plate, handle, components, pins, magnets, antennas, POM blocks, springs, etc. The explosion diagram is as follows:

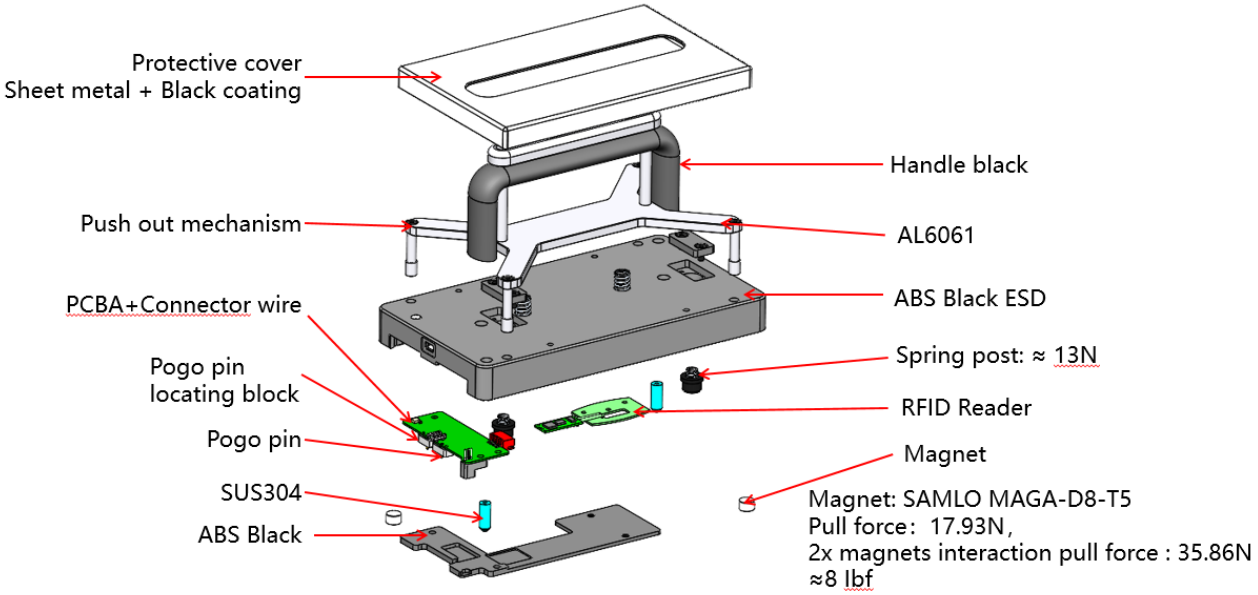


图 3.3-1 充电板爆炸图

Pic 3.3-1 Charge plate explosion diagram

3.4 插入板组成介绍 Interposer composition introduction

3.4.1 插入板主要由中间板、压块版、弹片等构成，爆炸图如下：

The interposer plate is mainly composed of an intermediate plate, a block plate, shrapnel, etc. The explosion diagram is as follows:

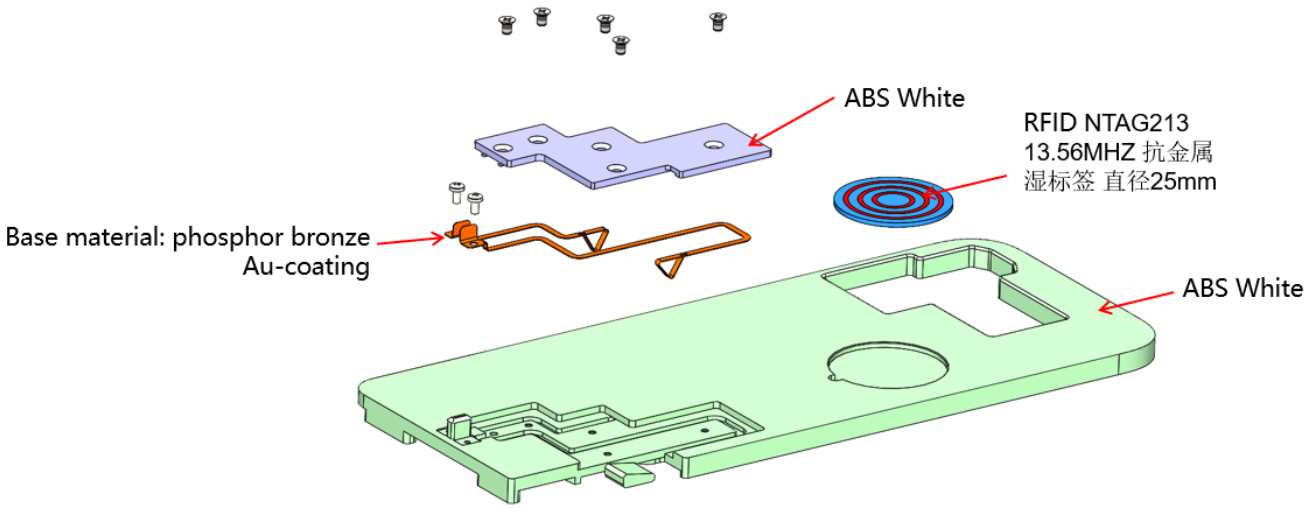


图 3.4-1 插入板爆炸图

3.5 修复板组成介绍 Repair sled introduction

3.5.1 修复板主要由 holder、橡胶垫、磁铁吸、磁铁、弹簧、铜套、铜套定位块等构成，爆炸图如下：

The Repair sled is mainly composed of holder, rubber pad, magnet magnet, magnet, spring, copper sleeve, copper sleeve positioning block, etc. The explosion diagram is as follows:

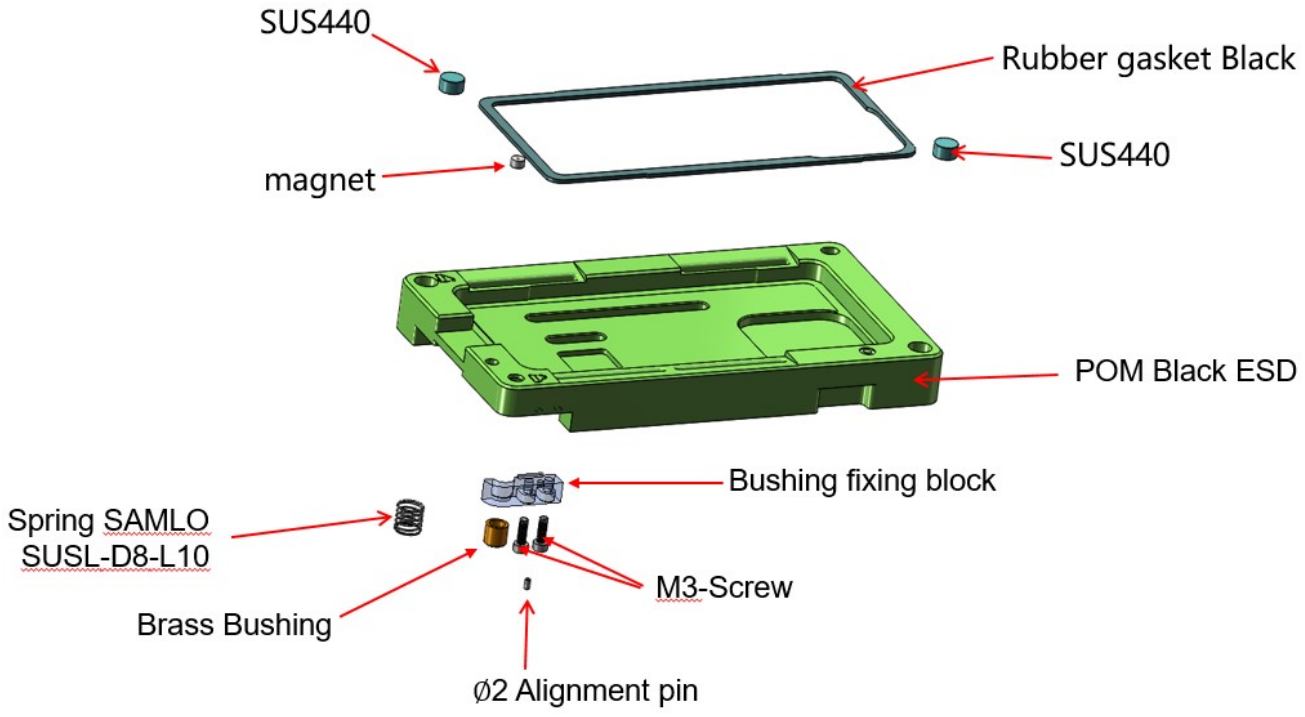


图 3.5-1 修复板爆炸图

3.6 电气控制系统 Electric controls system

本手册所述仅为原理说明，使用时以实物与随机电气文件为准。

It is only for principle ，please follow the real and the electrical documents attached.

电系统控制系统结构如下图：

The electrical system control system structure is shown below：

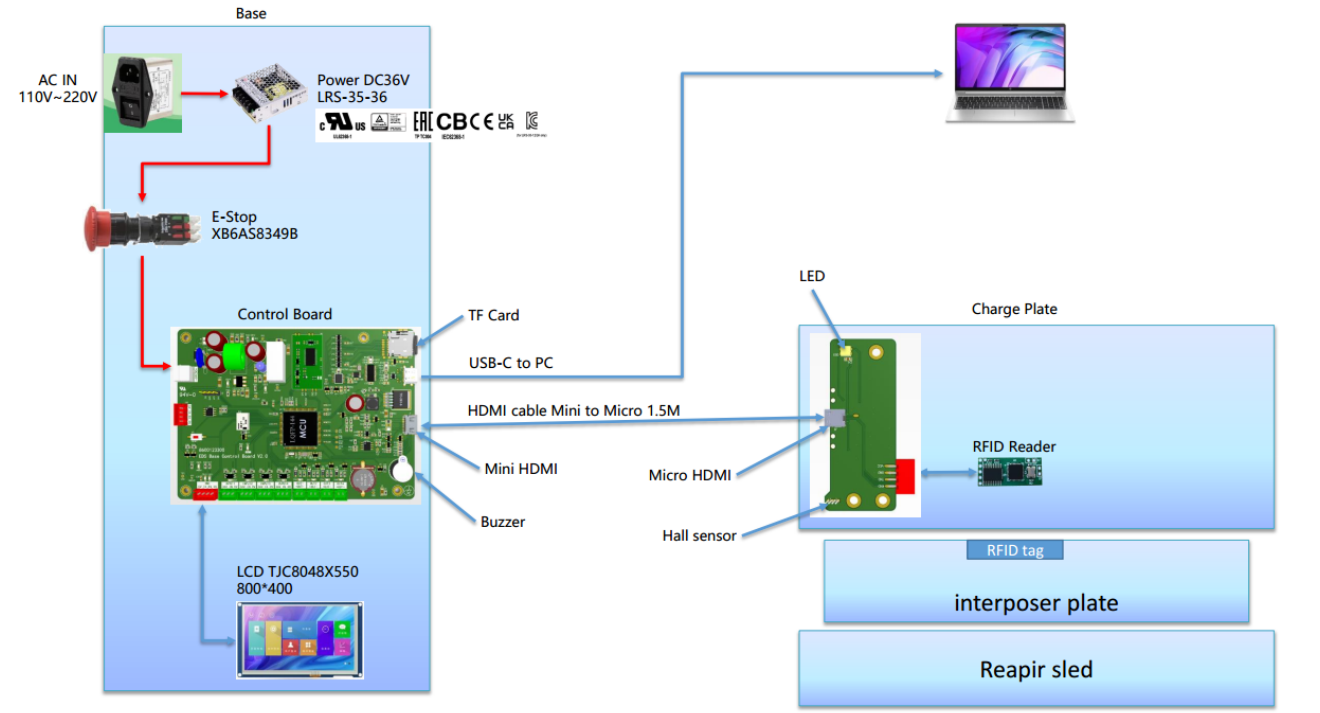


图 3.6-1 电气控制系统

Pic 3.6-1 Electric controls structure

本系统结构包含电控箱、充电板、插入板、修复板，仅是对控制系统的原理说明，不代表设备中实际使用的元件型号和数量。

The system structure includes electric control box, charging board, insert board and repair board, which is only a description of the principle of the control system, and does not represent the actual type and quantity of components used in the equipment.

3.6.1 电控箱系统介绍 Control box system introduction

控制箱包含电源插座、急停按钮、触摸屏、开关电源、控制板、充电板，RFID 控制板等，作为控制中枢，可以读取或写入 RFID 信息、控制 LED 状态、检测磁铁有无、读取实时电流、通过硬件电路实现过流保护等功能。

The control case contains a power socket, emergency stop button, touch screen, switching power supply, control board, charging board, RFID control board, etc., as a control center, you can read or write RFID information, control LED status, detect whether there are magnets, read real-time current, and realize overcurrent protection through hardware circuits.

控制箱中安装了一个开关电源，输出电压为 36V，该开关电源用于为控制板供电。

A switching power supply with an output voltage of 36V is installed in the control box, which is used to supply power to the control board.

控制板包含电源接口、输入输出接口、触摸屏通讯接口、USB 接口、HDMI 接口等，支持 USB 通讯和触摸屏通讯，它们均可以获取治具的所有状态，并控制所有执行部件。

The control board includes power interface, input and output interface, touch screen communication interface,

USB interface, HDMI interface, etc., support USB communication and touch screen communication, they can obtain all the status of the fixture, and control all the executive parts.

控制箱中包含急停按钮，通过按下或松开急停按钮实现对控制板的供电与否。当松开急停按钮时控制板得电，当按下急停按钮时控制板失电。

The control box contains an emergency stop button. By pressing or releasing the emergency stop button, the control board can be powered or not. When the emergency stop button is released, the control board gets power, and when the emergency stop button is pressed, the control board loses power.

ESD Charge Board 采用硬件方法实现了多项功能，包括过流保护、磁铁检测以及 LED 状态指示控制。当产品的供电电流超过规格电流时，该板会自动断开对产品的供电，以保护产品免受损坏。此外，当 Charge Plate 靠近 Repair Sled 时，它能检测到 Repair Sled 内部的磁铁，从而触发充电功能。通过 HDMI 线连接到 EDS Control Board，可以控制 EDS Charge Board 上的 LED 灯，以显示不同的状态。

ESD Charge Board uses a hardware approach to implement a number of functions, including overcurrent protection, magnet detection, and LED status indication control. When the power supply current of the product exceeds the specification current, the board will automatically disconnect the power supply to the product to protect the product from damage. In addition, when the Charge Plate is near the Repair Sled, it can detect the magnet inside the Repair Sled, which triggers the charging function. Connected to the EDS Control Board through an HDMI cable, the LED lights on the EDS Charge Board can be controlled to display different states.

RFID Control Board 通过 RFID 技术实现读取和写入机种信息的功能。在自动测试模式下，当 RFID Control Board 读取到机种信息时，会执行对应机种的测试程序。

RFID Control Board uses RFID technology to read and write machine type information. In the automatic test mode, when the RFID Control Board reads the machine type information, it will execute the test program of the corresponding machine type.

4 外形尺寸及主要技术参数 Dimension and main technical parameters

4.1 治具外形尺寸 dimensions of the fixture

电控箱外形尺寸如下：

The external dimensions of the control box are as follow:

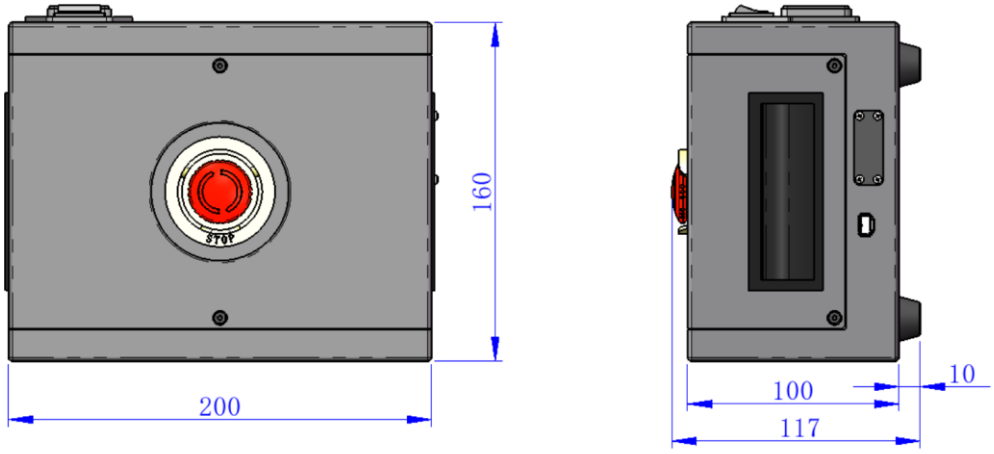


图 4.1-1 电控箱外形尺寸

Pic 4.1-1 Control box dimensions

4.2 主要技术参数 Main technical parameters

控制箱和机箱的主要参数见下表：

The main parameters of the control box and chassis are shown in the following table:

表 4.2-1 主要技术参数

Table 4.2-1 Main technical parameters

序号 NO.	项目 Item	参数 Parameter	备注 Remark
1	电压 Voltage	AC 100-240V	
2	频率 Frequency	50/60 Hz	
3	功率 Power	7W	
4	工作环境 Work environment	环境温度 Environment temperature：5℃～40℃ 相对湿度 Relative humidity：<50% 海拔高度 Altitude：<2000M	
5	满载电流 Full-load current	<0.1A@110V <30mA@220V	
6	短路电流 Short-circuit current	4A	
7	运行噪声 Noise	<65dB	
8	输出特性 Output characteristic	Voltage：30V Max Current：50mA Max	
9	重量 Weight	2.6KG	
10	尺寸 Size	L200mm*W160mm*H118mm	
11	无线频率 Wireless frequency	13.56MHz	RFID
12	最大发射功率 Output power	-20 dBμA/m @10m (H-field)	RFID

4.3 铭牌 Nameplate

电控箱铭牌如下图：

The nameplate of this control box is as follows:

Refer to Control Box Label Artwork

图 4.3-1 电控箱铭牌

Pic 4.3-1 Name plate of Control box

铭牌信息请以实物为准

The nameplate information is based on the actual object

5 安装与调试 Installation and Debugging

	本机应由专业人员安装！ Must be installed by the professional personnel. 在提供了接地标志的地方，须正确接地，并进行接地通路试验，读数不大于 4Ω，否则必须校正； Correct ground connection for the position marked, and do the circuit test of ground connect with value≤4Ω. 开始安装前应保证起重设备是适当的，这些装置应具有有效的测试证书； Check hoisting devices good condition prior to installation and the devices should have effective test certificates. 禁止使用不完好和不匹配的工具。 It is prohibited to use no good or unsuitable tools.

5.1 设备安装 Equipment installation

5.1.1 安装技术要求 Technical requirements for installation

安装环境 设备的安装环境要符合以下要求：

Installation environment,The installation environment must meet the following requirements:

a) 治具重约 2.6KG，需放置在平整的地板上使用。

The fixture weighs about 2.6KG and should be placed on a flat floor for use.

b) 设备安装平面不得倾斜、松软或不规则。

Cannot be tilted, soft or unregular

c) 请于设备安装位置四周保留适当空间，以便以后维修、检查作业。

Keep proper space around the install position for future maintenance and inspection

d) 为了确保设备的稳定以及寿命，请勿将设备安装在热源及阳光照射处。

To make sure the stability and life cycle, please do not install the machine under the hot source and sunshine.

5.1.2 安装 Installation

a) 拆开包装箱后，取出治具放置到操作桌面上

After unpacking, take out the fixture and place it on the operating table

b) 调整治具底部四个脚垫使治具处于水平状态

Adjust the four foot cups at the bottom of the fixture to make the fixture in a horizontal state.

c)连接并打开电源 Connect power supply.

d) 通过 HDMI 线连接 EDS Control Board 和 EDS Charge Board。

Connect the EDS Control Board and EDS Charge Board through an HDMI cable

e) 松开急停按钮。Release the emergency stop button

f) 安装检查，纠正不适当处。

Check the installation and correct the wrong points.

5.2 安装注意事项 Attentions for installation

5.2.1 本设备的安装与调试应由本公司或本公司代理商的专业人员进行，在上述人员未达现场之前，请不要拆解包装箱，此为您有关产品索赔的前提之一。

The installation and debugging should be performed by professional personnel from our company or our agent. Please do not unpack the package until the professional personnel comes to the spot. It is one precondition of claiming compensation for the product.

5.2.2 安装现场即为设备工作现场，现场环境应符合 2.3 的规定。

The installation site is the device work site, and the site environment must comply with the requirements in 2.3.

5.2.3 安装之前请先确认设备现场供电是否符合本机技术要求（见表4.2-1 和2.3 的要求）。

Before installation, ensure that the onsite power supply meets the technical requirements of the device (see Table 4.2-1 and 2.3 requirements).

5.2.4 不要把设备放在很难操作断开装置的位置。

Do not place the device in a position where it is difficult to operate the disconnect device.

5.2.5 安装过程中的搬运请参阅第 9 章“搬运与储存”。

Delivery during the installation process please sees “Delivery and Storage”. in chapter 9.

5.3 设备调试 Equipment debugging

设备安装完成后，在使用之前，应首先进行调试，以检查设备是否能够正常工作。

After the installation of the equipment, before use, you should first debug to check whether the equipment can work normally.

设备的调试操作可通过触摸屏进行，触摸屏使用方法不在本手册中讲述。

The debugging operation of the equipment can be carried out through the upper computer software. The use method of the upper computer software is not described in this manual.

拆除机架附属物有可能造成人身伤害或设备损坏！

Remove the subassemblies will result in injury or damage.

安装或调整、维修本部份时应防止机械伤人！

Keep from hurting by belt when installing, debugging or maintenance.

非专业人员不得进行调试作业！

Only professional personnel do debugging.

6 设备使用 操作 Operating procedure

6.1 设备启动及使用操作程序、方法 Operating procedure

6.1.1 设备使用前检查 Checking before debugging

表 6.1 使用前检查项目

Table 6.1 Check before debugging

检查项目Item	要求requirement	方法method
系统接地 ground connect	接地和保护接地电阻不大于4Ω Ground connect and protect ground connect resistances ≤4Ω	以欧姆表检测 Test with OHM meter
各安装联接 Per install connecting	牢固可靠 Fasten and reliable	感官检查 Sensory check
接通电源 Connect power supply	AC100~240V 50/60Hz	万用表检测 Multimeter check
设备工作区域 working area	无影响工作的杂物或无关人员 No sundries or idle persons	

6.1.2 连接电源 Connect the power

本治具出货时不会附带电源线，使用时请根据使用场所的插座类型选择匹配的电源线。

The fixture will not be delivered with a power cord. Please select a power cord according to the type of socket in the place where you are using it.

本治具的电源插座如下图：

The power socket of the fixture is shown as follows:

图 6.1-1 电源插座

Pic 6.1-1 Power socket

与本治具相匹配的电源线插头类型如下图：

The type of power cord plug matched by this fixture is shown as follows:

图 6.1-2 电源线插头

Pic 6.1-2 Power cable plug

用电源线连接插座和治具的电源插座。

Connect the power socket to the socket and fixture with the power cord.

6.1.3 开机 Start the machine

a) 将电源开关拨到“ -- ”/ON 位置，松开急停按钮点亮触摸屏，通过 HDMI 线连接 EDS 。

Switch the power switch to "--" /ON, as shown below:

图 6.1-3 电源开关

Pic 6.1-3 power switch

6.2 上料 Loading

a) 将产品放入修复板腔内。

Place the product into the repair plate cavity.

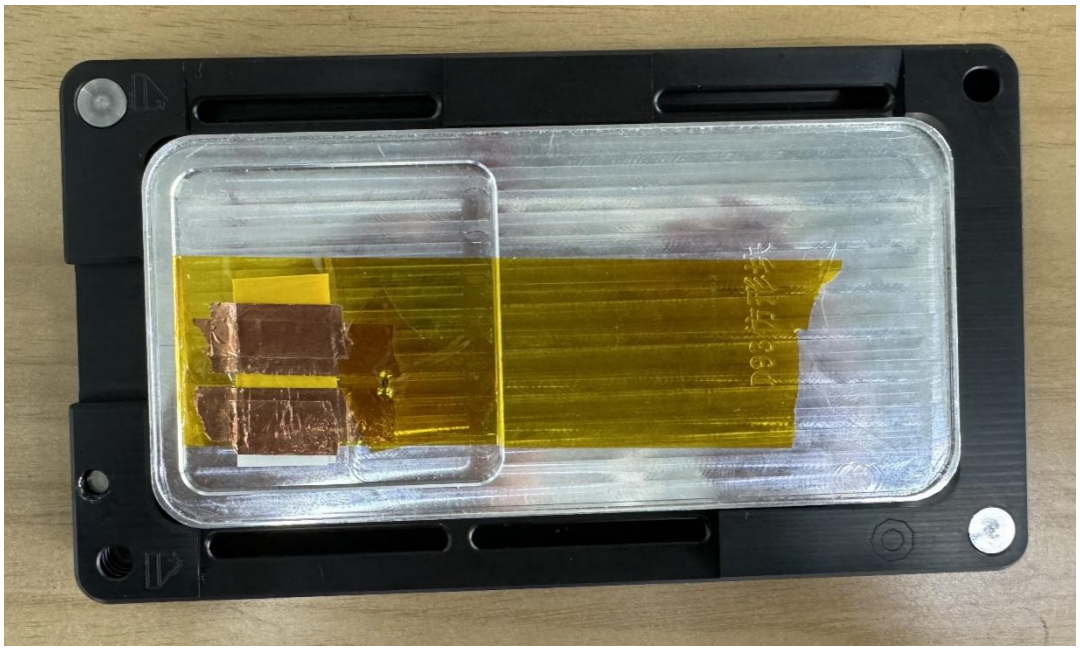


图 6.2-1 放入修复板

Pic 6.2-1 Insert repair sled

b) 将插入板合上

Close the interposer plate

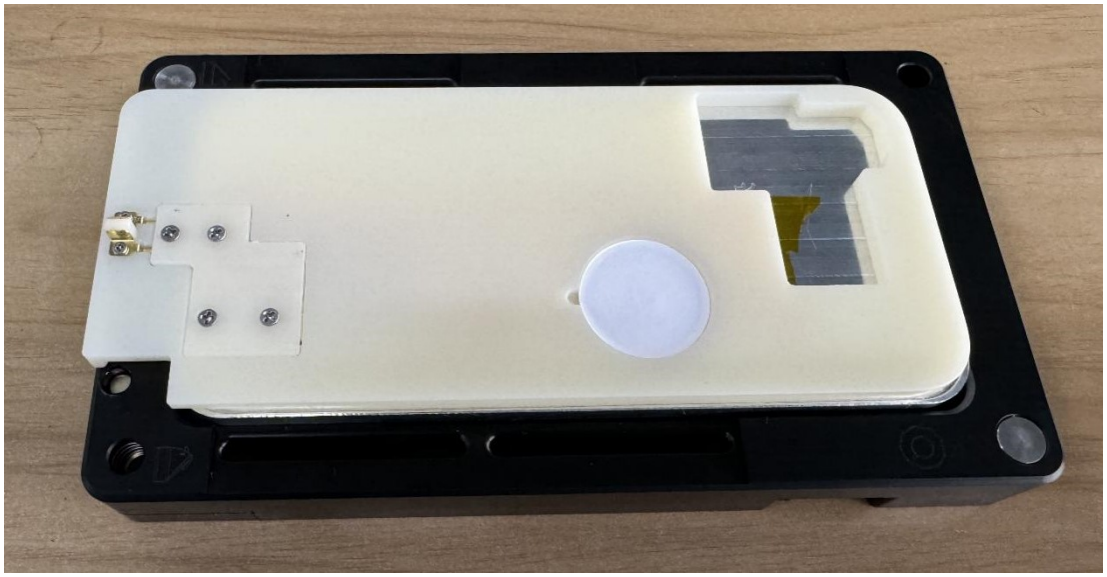


图 6.2-2 插入板合上

Pic 6.2-2 Close the interpoer plate

c) 将充电板合上 Close the charging pad

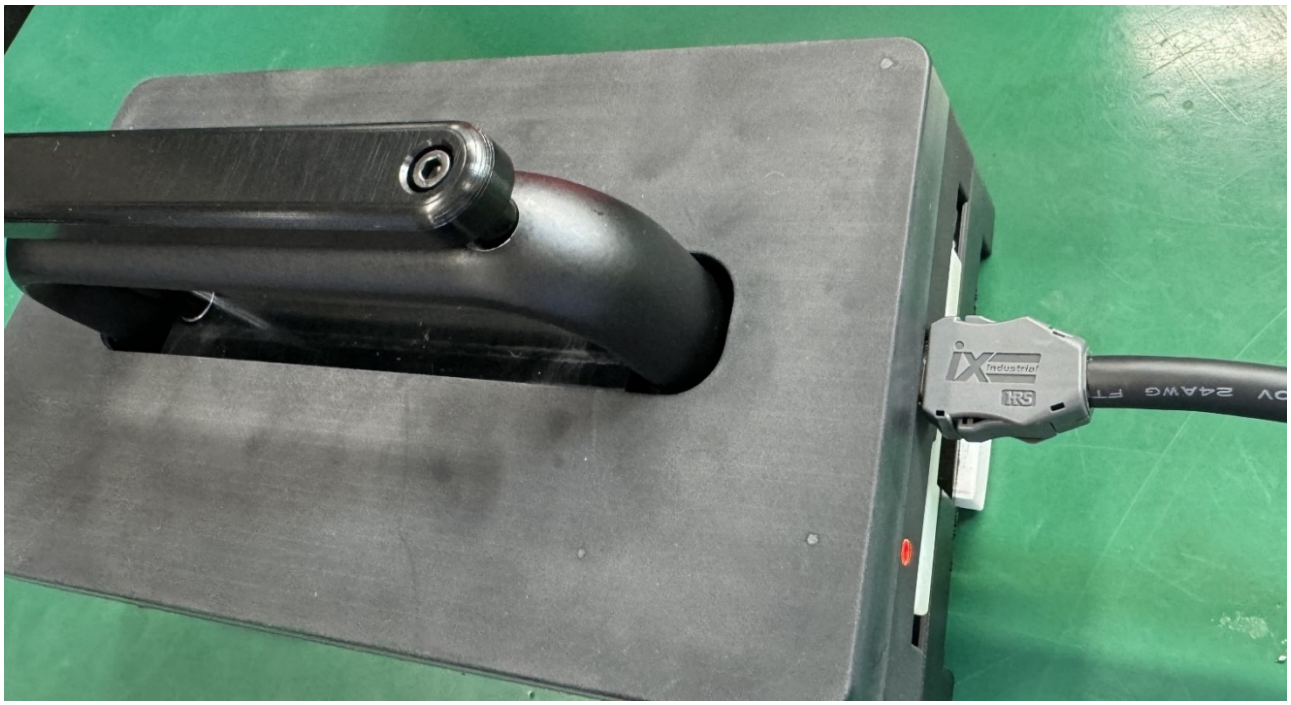


图 6.2-3 充电板合上

d) 后续操作步骤在触摸屏上进行。Perform subsequent operations on the touch screen.

6.3 作业中断控制 Interrupt control

本设备运行过程中，可通过按下急停按钮来终止运行并关断 EDS Control Board 的电源。

During the operation of the device,can stop the operation and turn off the power supply of the EDS Control Board by pressing the emergency stop button.

6.4 下料 Unloading

a) 取下充电板。Remove the charging pad

b) 取下插入板。Remove the insert plate

c) 从修复板上取下产品。Remove the product from the repair plate

6.5 断电 Power Off

设备使用结束，请将电源开关拨到“ 0 ”/OFF 位置，并拔下电源线。

When the device is used, switch the power switch to 0 /OFF and remove the power cable.

拔下 RJ50 连接线。

Remove the RJ50 cable.

7 故障分析与排除 Failure analysis and solution

本设备运行时，可通过串口或者触摸屏通讯，可获取设备的运行状态。根据通讯协议，触摸屏可以向设备发送命令，设备执行命令时若遇到异常情况，会反馈异常信息，触摸屏可能会显示这些异常信息，以便于操作和维护人员采取相应措施。

When the device is running, you can communicate through the serial port or touch screen to obtain the running status of the device. According to the protocol, touch You can touch the screen to send commands to the device. If the device encounters an exception when executing commands, the device will report an exception information. The touch screen may display the exception information to facilitate operation and maintenance personnel to take appropriate measures

出现故障时，系统所有运行会被立即中止，工作人员应及时进行故障分析排除。

When a fault occurs, all operations of the system will be suspended immediately, and the staff should analyze and eliminate the fault in time.

7.1 常见故障现象 Common fault phenomena

对于设备能够正常运行，但由于一些特殊条件导致命令无法执行的情况，本手册不将其列为故障现象，因为这种情况设备会反馈命令执行失败的原因，你可以根据设备的反馈信息采取相应措施。

If the device works properly but the command cannot be executed due to some special conditions, the fault is not listed in this document. In this case, the device will report the cause of the command execution failure. You can take corresponding measures according to the feedback of the device.

本治具常见的故障现象如下表：

The following table describes the common fault phenomena of the fixture:

表 7.1-1 常见故障现象

Tab 7.1-1 Common fault phenomena

故障代码 Fault code	故障现象 fault phenomena	处理策略 Processing strategy
E01	EEPROM 异常 The EEPROM device is abnormal	联系电子工程师 Contact EE
E02	RFID 离线 The RFID reader is offline	联系电子工程师 Contact EE
E03	RFID 读卡器通讯异常 The RFID reader is abnormal	联系电子工程师 Contact EE
E04	无卡 No RFID card found	联系电子工程师 Contact EE
E05	卡异常 The RFID card is abnormal	联系电子工程师 Contact EE

E06	空卡 The RFID card is empty	联系电子工程师 Contact EE
E07	未定义的机种 Undefined model name	联系电子工程师 Contact EE
E08	DUT 脱离 The DUT is disconnected	联系电子工程师 Contact EE
E09	DUT 电阻异常 The DUT load is abnormal	联系电子工程师 Contact EE
E10	Base 过流 Base Over Current	联系技术人员 Contact EE
E11	Charge plate 过流 Charge plate Over Current	联系技术人员 Contact EE
E12	电流异常，过低 Current anomaly	联系技术人员 Contact EE
E13	电压异常 Voltage anomaly	联系技术人员 Contact EE
E20	打开电源开关，触摸屏无法上电 Turn on the power switch, the fixture cannot be powered on	详见如下说明
E21	触摸屏无法通过控制治具 The computer cannot control the fixture via USB	详见如下说明

7.2 故障分析与排除 Failure analysis and troubleshooting

常见故障现象的原因分析及排除方法如下：

The causes and troubleshooting methods of common faults are as follows:

7.2.1 E20: 打开电源开关，触摸屏无法上电。

Turn on the power switch, the fixture cannot be powered on

检查步骤 Inspect steps:

a) 检查电 源线是否插紧，若未插紧，则适当用力紧固。

Check whether the power cables are tightly inserted. If they are not tightly inserted, tighten them properly.

b) 确认给设备供电的插座上有电且满足供电需求。

Make sure the socket is energized and meets the power supply requirement.

c) 应使用的电源线为设备匹配的电源线，从插座和设备拔掉电源线，使用万用表检查电源线导通性，若不导通，更换一根正常的电源线。

Ensure that the power cable used is matched with the device. Remove the power cable from the socket and device, and use a multimeter to check the connectivity of the power cable. If the power cable does not work, replace it with a normal one.

d) 在电源线未供电的情况下，确认电源开关的保险丝是否烧坏。

When the power cable is not powered, check whether the fuse of the power switch is burned out

e) 控制箱的急停按钮是否被按下，若急停按钮被按下应顺时针旋转使之处于松开状态。

Whether the emergency stop button of the control box is pressed. If the emergency stop button is pressed, rotate it clockwise to release it

f) 当进行过以上步骤都不能解决异常时，请联系专业技术人员或赛腾售后处理。

If the fault cannot be solved after the preceding steps, contact professional technical personnel or Secote after-sales service.

注意：Notes：

a) 如果保 险丝故障，请首先检查治具是否存在短路现象，若有异常，请专业技术人员维修；

If the fuse is faulty, please first check whether there is a short circuit phenomenon fixture, if there is abnormal, please professional and technical personnel maintenance.

b) 如果要更换保险丝，请务必使用同型号的保险丝，保险丝型号请查阅第 12 章设备主要易损件清单。

If you want to replace the fuse, be sure to use a fuse of the same model. Please refer to the list of main vulnerable parts of the equipment in Chapter 12 for the fuse model.

7.2.2 E21: 触摸屏无法控制治具或点击触摸屏无反应

The fixture has no action after pressing the Reset button

检查步骤：Inspect steps:

a) 检查触摸屏的 XH 端子是否插接良好。

Check if the emergency stop button is pressed, if pressed, turn the emergency stop button clockwise to release the emergency stop state.

b) 检查 EDS Control Board 的端子(与触摸屏连接)是否插接良好。

Check whether the terminals of the EDS Control Board (connected to the touch screen) are properly connected.

c) 检查 EDS Control Board 和触摸屏连接的线是否有松动现象。

Check whether the cable connecting the EDS Control Board to the touch screen is loose.

d) 检查 EDS Control Board 的端子(和触摸屏连接)的 TXD 是否和触摸屏的 TXD 连接。

Check whether the TXD of the EDS Control Board terminal connected to the touch screen is connected to the TXD of the touch screen

7.3 注意事项 matters need attention

故障分析及排除过程中，请切断电源开关，并拔掉 AC 电源线，确保不会发生触电危险。

During fault analysis and rectification, cut off the power switch and remove the AC power cable to avoid electric shock.

部分分析与排除故障的操作可能需要在设备通电的状态下进行，此时应小心触电风险和机械伤害风险。

Part of the analysis and troubleshooting operations may need to be carried out while the equipment is powered on, which should be careful of the risk of electric shock and mechanical injury.

本设备含有 36V 的开关电源，维修过程中，务必注意防止触电。

This equipment contains a 36V switching power supply, during the maintenance process, be sure to pay attention to prevent electric shock.

(1)电气控制系统的维修、维护保养须由专业人员进行！

Maintenance for the electric control system must be performed by qualified personnel.

(2)不得用潮湿的手触碰电器控制系统的任何部件!

Keep your wet hands away from the HMI and the inverter.

所有设备故障应由专业人员检修，故障排除后应进行确认！

All the equipment failures must be checked and repaired by the qualified personnel. Should confirm them after solution.

8 维护及保养 Maintenance

8.1 概述 Description

本部分所包含的内容是为确保人员和设备安全和有效操作所必须进行的预防性维护程序。

This part, as a preventive maintenance procedure, must be taken to insure the safety and the effective operation.

执行维护工作的人只能是称职的工程技术人员或已经接受过此设备维护培训的人员。

The maintenance operator should be the qualified technological personnel or the persons who have been taken the maintenance training for the equipment.

在本机机器防护面板（罩）打开之前，必须保证供气和供电与本机都隔离断开。

Before opening the defending panel plate, must be cut off the air supply and power supply.

8.2 维护和保养计划 Maintenance plan

详尽的维护和保养计划请参考表 8.2，如不适用可忽略。

Please refer to Table 8.2 for detailed maintenance and maintenance plans, which can be ignored if not applicable.

表8.2 维护和保养计划

Table 8.2 Maintenance plan

NO.	保养程序 Maintenance program	保养内容 Maintenance content	每天 Everyday	每周 Every week	每月 Per mensem	每年 Per annum
1	M1	清洁 Cleaning	V			
2	M2	外观检查 Visual inspection	V			
3	M3	整机功能检查 Functional check		V		
4	M4	急停功能检查 Check the emergency stop function		V		

按期进行维护和保养，将会使您的设备拥有更长的寿命和维持较高的性能。

Regular maintenance and maintenance will make your equipment have a longer life and maintain high performance.

8.3 保养程序 Maintenance program

8.3.1 M1: 清洁 Cleaning

日常使用完毕，请对设备做清洁工作，设备保持干净有利于提高设备的使用寿命。

Please clean the equipment after daily use. Keeping the equipment clean is beneficial to prolong the service life of the equipment.

a)整理设备内部及周围的物品。

Organize items in and around the equipment.

b) 用干净的抹布擦拭设备表面，可以蘸取适量的酒精，切不可使用有腐蚀性的液体，否则可能会损伤设备。

Wipe the surface of the device with a clean cloth and dip it in appropriate amount of alcohol. Do not use corrosive liquids, otherwise, the device may be damaged.

c) 设备表面经过喷漆或烤漆工艺处理，严禁使用有机溶剂擦拭。

The surface of the equipment should be painted or painted. Do not wipe it with organic solvent.

8.3.2 M2: 外观检查 Visual inspection

设备使用前进行外观检查，有利于提前发现异常，避免造成更大的损失。

Check the appearance of the device before use to detect anomalies in advance and avoid greater losses.

a) 检查设备外观是否有明显异常

Check whether the appearance of the device is abnormal

b) 检查 USB 接口、HDMI 接口是否有破损等异常现象

Check whether the USB port and HDMI port is damaged

c) 检查设备的放置是否稳固

Check whether the device is securely placed.

8.3.3 M3: 整机功能检查 Functional check

a) 检查感应功能（天线、RFID）是否有明显异常

Check the sensing function (antenna, RFID) for obvious abnormalities

b) 检查弹片压合情况是否有异常

c) Check for abnormal shrapnel compression

d) 检查弹簧力度是否正常

e) Check whether the spring force is normal

8.4 长期存放时的维护与保养 Maintenance for long time

长期停放时应切断电源。

The power supply should be cut off for long-term storage.

以纸箱或其他包装物对设备进行包装，设备包装前将载具取出。

Pack the equipment in cartons or other packaging, and take out the carrier before packing the equipment;

设备应储存在通风、干燥、无腐蚀性介质、无振动的环境中。

It should be stored in ventilation, dry, no rust and vibration environment.

在定期检查包装、湿度的情况下，可最多储存 3 年。

It can be stored for up to 3 years if the packaging and humidity are checked regularly.

长期存放后，重新安装或开机前应再次进行设备性能确认。

After long time storage, re-install or confirm capability before turn on.

8.5 其他说明 Others

其他配套元器件的维护和保养请参阅相应的器件说明书。

Maintain of other components refer to operation manual of parts.

9 设备的搬运与贮存 Carrying and Storage

9.1 包装 Package

工厂验收测试（FAT）完成以后，对设备进行包装。

After the factory acceptance test (FAT) is completed, the equipment is packaged.

包装形式不限于纸箱、木箱等。

The packing form is not limited to carton, wooden case, etc.

9.2 搬运 carrying

治具整体重量约 2.6KG，搬运时务必注意安全。

The overall weight of the fixture is about 2.6KG, and be sure to pay attention to safety when handling.

9.3 运输 Transport

本设备适宜陆运和海运。

It can be shipped by land and sea.

陆运时装车应注意包装箱上的标志，包装箱不得倒置、侧放和倾斜过多。装车时还应采取适当的防护措施，以避免设备在运输过程中受潮、受振和受冲击。

When transported by land, pay attention to the package label, all the parts of the equipments, exclude base part, require the package case should not be converted, side lay down and incline too much. When loaded in the van, should take suitable protection measure to avoid wet, vibrating and impacting during the transportation.

海运时遵照海运相关规范即可。

For sea way, transport according to the relative regulation.

9.4 贮存 Storage

设备应贮存于干燥、通风、无腐蚀性介质、无振动的室内。

It should be stored in the dry、ventilated and with no corrosive medium room.

必要时，可放置到纸箱等盒子内贮存，并在箱体内放置干燥剂。

When necessary, can be placed in cartons and other boxes for storage, and placed in the box desiccant.

非封闭环境贮存时，请注意做好防尘、防潮处理

When storing in non-enclosed environment, please pay attention to dust proof and moisture proof treatment.

10 开箱及检查 Unpacking and check

10.1 开箱注意事项 Unpacking Attentions

10.1.1 开箱现场应有本公司或本公司产品代理商的安装服务人员。

It should have the installation service personnel from manufacturer or its agent in the unpacking spot.

10.1.2 开箱前应仔细检查包装是否完好，件数、名称规格与运单是否一致。

Before unpacking, check the package, quantity, product name and model whether conform to the packing list.

10.2 检查内容 check items

10.2.1 随机文件（一般包括：装箱单、合格证明书、使用说明书、检验报告、随机附件清单）。

Documents with machines(include: packing list, up to grade certificate, operation manual, inspection report, attached list, etc.).

10.2.2 根据装箱单上记载的内容逐件核对查验，并作好记录；

Check the items according to the packing list one by one and make a record.

10.2.3 检查设备外表是否受碰、磕、剧烈振动等引起的变形、划伤等。

Check the appearance of the machine whether has distortion, scuffing caused by knocking and strongly vibration

11 附件 Attachment

名称 Name	型号 Model	规格 Spec	备注 Remark
无			

12 设备主要易损件清单 Main damage parts

本设备易损件清单见下表：

The vulnerable parts list of the equipment is shown in the following table:

表 12-1 易损件清单

Tab 12-1 Vulnerable parts list

名称 Name	规格 Spec
探针 Pogo pin	磷青铜 Phosphor bronze
磁铁 Magnet	国产 MAGA-D5-T3 钴 Domestic MAGA-D5-T3 cobalt
保险丝 Fuse	力特 0218004.MXBP 4AΦ5-20MM 玻璃管 Litt 0218004.MXBP 4AΦ5-20MM glass tube