

花样机(摸屏 H)
2016-09

前 言

欢迎您使用本公司的特种缝纫机控制系统。

请您仔细阅读本操作手册，以确保正确的操作、使用特种缝纫机，请按照本手册内注明的方式进行操作，否则，如违规操作所造成损失本公司不承担责任。此外，请将本用户手册妥善保存在安全地点，以便随时查阅。若发生故障须由本公司指定的技术人员或专业人员进行维修。

Forewords






Thank you for using our Computerized Control System for Special Sewing Machine.

It is appreciated that you do read this manual carefully in order to operate the machine correctly and effectively. If the user operates the machine contrary to regulations herein, we will not take responsibility for any loss caused thereby to the user or any third party. Besides, you should keep this manual safely for future use. For any fault or problem of machine, please ask the professionals or the technicians authorized by our company for repair service

安全注意事项






1、安全操作的标志及含义

本使用说明书及产品所使用的安全标志是为了让您正确安全的使用产品，防止您及他人受到伤害。标志的图案和含义如下：

 危险	如果忽视此标记而进行错误的操作，会导致人员的重伤或死亡。
 注意	如果忽视此标记而进行错误的操作，会导致人员的受伤和设备的损坏。
	该符号表示“应注意事项”。三角中的图案表示必须要注意的内容。（例如左边的图案表示：“当心受伤”）
	该符号表示“禁止”
	该符号表示“必须”。圆圈中的图案表示必须要做的内容。（例如左边的图案表示“必须接地”）

2、安全注意事项

 危险	
	打开控制箱时，先关闭电源开关并将电源插头从插座上拔下后，等待至少 5 分钟后，再打开控制箱盖。触摸带有高电压的区域会造成人员受伤。
 注意	
使用环境	
	应避免在强电气干扰源（如高频焊机）的附近使用本缝纫机。 强电气干扰源可能会影响缝纫机的正常操作。
	电源电压的波动应该在额定电压的±10%以内的环境下使用。 电压大幅度的波动会影响缝纫机的正常操作，需配备稳压器。
	环境温度应在 0℃~45℃的范围内使用。 低温或高温会影响缝纫机的正常操作。
	相对湿度应在 35%~85%的范围内，并且设备内不会形成结露的环境下使用。 干燥、潮湿或结露的环境会影响缝纫机的正确操作。
	压缩空气的供气量应大于缝纫机所要求的总耗气量。压缩空气的供气量不足会导致缝纫机的动作不正常。
	万一发生雷电暴风雨时，关闭电源开关，并将电源插头从插座上拔下。雷电可能会影响缝纫机的正确操作。
安装	
	请让受过培训的技术人员来安装缝纫机。






	安装完成前，请不要连接电源。 如果误按启动开关，缝纫机动作会导致受伤。
	缝纫机头倒下或竖起时，请用双手操作。不要用力压缝纫机。 如缝纫机失去平衡，缝纫机滑落到地上会造成受伤或机器损坏。
	必须接地。 接驳地线不牢固，是造成触电或误动作的原因。
	所有电缆应固定在离活动部件至少 25mm 以外处。另外，不要过度弯曲或用卡钉固定得过紧。会引起火灾或触电的危险。
	请在机头上安装安全罩壳。

缝纫	
	本缝纫机仅限于接受过安全操作培训的人员使用。
	本缝纫机不能用于除缝纫外的任何用途。
	使用缝纫机时必须戴上保护眼镜。 如果不戴保护眼镜，断针时机针折断部分可能会弹入眼睛造成伤害。
	发生下列情况时，请立即切断电源。否则误按下启动开关时，会导致受伤。 1. 机针穿线时 2. 更换机针时 3. 缝纫机不使用或人离开缝纫机时
	缝纫过程中，不要触摸任何运动部件或将物件靠在运动部件上，因为这会导致人员受伤或缝纫机损坏。
	如果缝纫机操作中发生误动作，或听到异常的噪声或闻到异常的气味，应立即切断电源。然后请与购买商店或受过培训的技术人员联系。
	如果缝纫机出现故障，请与购买商店或受过培训的技术人员联系。
维护和检查	
	只有经过训练的技术人员才能进行缝纫机的维修、保养和检查。
	与电气有关的维修、保养和检查请及时与电控厂家的专业人员进行联系。
	发生下列情况时，请关闭电源并拔下电源插头。否则误按启动开关时，会导致受伤。 1. 检查、调整和维修 2. 更换弯针、切刀等易损零部件
	在检查、调整和修理任何使用气动设备之前，请先断开气源，并等压力表指针下降到“0”为止。
	在必须接上电源开关和气源开关进行调整时，务必十分小心遵守所有的安全注意事项。
	未经授权而对缝纫机进行改装而引起的缝纫机损坏不在保修范围内。











Safety Matters for Attention






1、 Signs & Definitions of Safety Marks














This User's Manual and the Safety Marks printed on the products are for you to use this product correctly so as to be away from personal injury. The signs and definitions of Marks are as follows:

 Danger	The incorrect operation due to negligence of this Mark will cause the serious personal injury or even death.
 Caution	The incorrect operation due to negligence of this Mark will cause the personal injury and the damage to mechanism.
	This kind of marks indicates "Matters for Attention", and the figure inside the triangle is the content for attention. (E.g. The left figure is "Watch Your Hand!")
	This kind of marks means "Forbidden".
	This kind of marks means "Must". The figure in the circle refers to the thing that has to be done. (E.g. The left figure is "Grounding!")

2、 Safety Matters for Attention

 Danger	
	For opening the control box, please turn off the power and pull out the plug from the socket first, and then wait for at least 5 minutes before opening the control box. Touching the part with high voltage will cause personal injury.
 Caution	
Using Environment	
	Try not to use this sewing machine near the sources of strong electric disturbance like high-frequency welding machine. The source of strong electric disturbance may affect the normal operation of the sewing machine.
	The voltage fluctuation shall be within $\pm 10\%$ of the rated voltage. Large-scaled voltage fluctuation will affect the normal operation of the sewing machine, where a voltage regulator is necessary.
	Working temperature: $0^{\circ}\text{C}\sim 45^{\circ}\text{C}$. The operation of the sewing machine will be affected in environment with temperature beyond the above range.
	Relative Humidity: 35%~85% (No dew inside the machine). Otherwise, the operation of the sewing machine will be affected.
	The supply of compressed gas shall be over the consumption required by the sewing machine. The insufficient supply of compressed gas will lead to the abnormal action of the sewing machine.
	In case of thunder, lightning or storm, please turn off the power and pull out the plug from the socket, for the operation of sewing machine may be affected.
Installation	
	Please ask the trained technicians to install the sewing machine.

	Don't connect the machine to power supply until the installation is finished. Otherwise the action of the sewing machine may cause personal injury once the start switch is pressed by mistake.
	When you tilt or erect the head of sewing machine, please use both of your hands in that operation. And never press the sewing machine with strength. If the sewing machine loses its balance, it will fall into floor thus causes the personal injury or mechanical damage.
	Grounding is a must. If the grounding cable is not fixed, it may cause the electric-shock and mis-operation of the machine.
	All the cables shall be fixed at least 25mm away from the moving components. By the way, don't excessively bend or over-tightly fix the cable with nails or clamps, or it may cause the fire or electric shock.
	Please add security cover on the machine head.

Sewing	
	This sewing machine can only be used by the trained staff.
	This sewing machine has no other usages but the sewing.
	When operating the sewing machine, do put on the protection glasses. Otherwise, the broken needle will cause personal injury if it hurts the eyes.
	Under following circumstances, please cut off the power at once so as to avoid the personal injury caused by the mis-operation of start switch: 1. Threading on needles; 2. Replacement of needles; 3. The sewing machine is not at work or beyond supervision.
	During working, don't touch or lean anything on the moving components, which will cause personal injury or damage the sewing machine.
	During working, in case of mis-operation, or abnormal noise or smell, user shall cut off the power at once, and then contact the trained technicians or the supplier of that machine for solution.
	For any trouble, please contact the trained technicians or the supplier of that machine.
Maintenance & Inspection	
	Only the trained technicians can perform the repair, maintenance and inspection of this sewing machine.
	For the repair, maintenance and inspection of electrical components, please contact the professionals at the manufacturer of control system in time.
	Under following circumstances, please cut off the power and pull out the plug at once so as to avoid personal injury caused by the mis-operation of start switch: 1. Repair, adjustment and inspection ; 2. Replacement of components like curve needle, cutter and so on.
	Before the inspection, adjustment or repair of any gas-driven devices, user shall cut off the gas supply till the pressure indicator falls to 0.
	When adjusting the devices with the power supply and gas supply on, users can't be too careful at following the entire Safety Matters for Attention.
	In case of damages of the sewing machine caused due to unauthorized modifications, our company will not be responsible for the repair.

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1 概要说明

1.1 概述

三菱系列工业缝纫机电脑控制系统，主轴电机采用具有世界先进水平的交流伺服控制技术驱动，具有力矩大、效率高、车速稳定和噪音低等特点。操作面板设计多样化可满足不同客户的配套要求；系统采用德国式结构设计，安装和维修方便快捷。

1.2 功能和参数

序号	控制器型号	三菱系列电子花样机
1	缝制范围	X(左右)方向 Y(前后方向) 3000(mm) x 1000(mm)
2	最高缝纫速度	2500rpm (间距 3mm 以下时)
3	缝迹长度	0.1~12.7mm, 主控版本是 5.0 以上时, 针距最大为 40mm. (最小分辨率 0.10mm)
4	压脚送布	间断送布 (脉冲马达双轴驱动方式)
5	针杆行程	41.2mm
6	使用机针	DP×5、DP×17
7	外压脚上升量	标准 18mm 最大 22mm (气动式最大 25mm)
8	中压脚	步进驱动 (可调范围: 0~8mm)
9	中压脚上升量	20mm
10	旋梭	半旋转倍旋梭
11	花样数据存储	内存/U 盘
12	暂停功能	在缝制途中可以让缝纫机停止
13	放大、缩小功能	可以选择缝迹缝制花样时, 可以独立地放大缩小 X、Y 轴。 1%~400% (0.1%单位)
14	放大、缩小方式	增减缝迹长度/增减花样针数方式
15	缝纫速度限制	200~2500rpm (100rpm 单位)
16	花样选择功能	花样号选择方式
17	加计数器	不计数/按花样计数/按循环计数方式 (0~99999)
18	减计数器	不计数/按花样计数/按循环计数方式 (0~99999)
19	缝纫机马达	伺服马达
20	针杆上死点停止功能	缝制后, 可以让针杆返回到上死点位置。
21	额定功率	600W
22	使用温度范围	0℃~45℃
23	使用湿度范围	35%~85% (无结露)

24	电源电压	AC 220V ± 10%; 50/60Hz
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产品执行标准：QCYXDK0004—2016《工业缝纫机计算机控制系统》。

1.3 安全使用注意事项

● 安装

■ 控制箱

- ◆ 请遵照说明正确装好

■ 附件

- ◆ 如要安装其它附件时，请先关掉电源并拔掉电源插头。

■ 电源线

- ◆ 请不要用重力去压住电源线或过度的扭曲电源线。
- ◆ 请不要将电源线靠近转动的部位，最少要离开 25mm 以上。
- ◆ 控制箱要接入电源前，请必再查看要接入的电源电压是否与控制箱上标示的电压相同及确定位置后，才可供应电源。如有接用电源变压装置的话，同样的要检查一下后才可供应电源。这时缝纫机上的按钮式电源开关一定要放在 [OFF]。

■ 接地

- ◆ 为防止噪声干扰及漏电而发生电击事件，电源线上的接地线定要确实做好接地。

■ 附属装置

- ◆ 如要接用电气方面的附属装置的话，请遵照指示的位置接好。

■ 拆卸

- ◆ 要卸下控制箱时，必须要先关掉电源并拔掉电源插头。
- ◆ 在拔离电源插头时不可只拉电源线，必须用手拿住电源插头拔出。
- ◆ 控制箱里面有危险的高压电，所以要打开控制箱盖的话，需要先关掉电源后等候 5 分钟以上才可打开控制箱盖。

● 保养、检查和修理

- 修理和保养的作业，要请经过训练的技术人员执行。
- 更换机针和梭子时，请务必关电。
- 请使用正厂的零件。

● 其它的安全对策


- 缝纫机运转中请不要去触摸会转动和会移动的部位（特别是机针和皮带附件）等，并注意头发不要靠近它们，以免发生危险。
- 控制装置不可摔落地，更不可在空隙间塞入其它物品。
- 请不要在拆掉各护盖的情形下运作。
- 如本控制装置有损伤或无法正常运作时，必要请有经验的技术人员调整，或检查修理，在故障还没排除前请不要再去运转它。
- 敬请各客户们不要自行改造或变更本控制装置。


● 废弃处理

- 请以一般产业废弃物处理。

● 警告示意和危险示意



- 错误的行为可能会发生危险，其程度如后述的标示区别说明。

 警告	错误的行动可能会发生重伤或死亡。
---	------------------

 注意	错误的行动可能会发生伤害或房屋或财产的损害。
---	------------------------

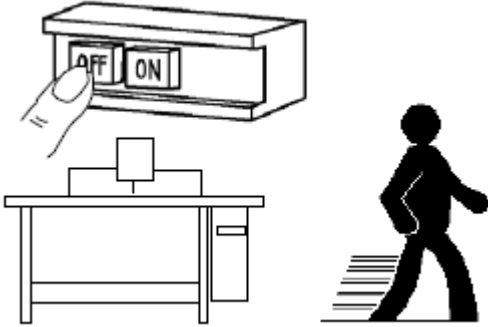
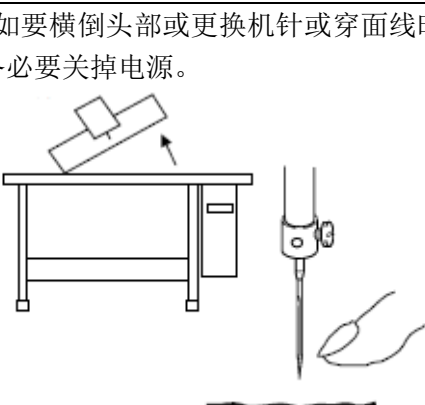
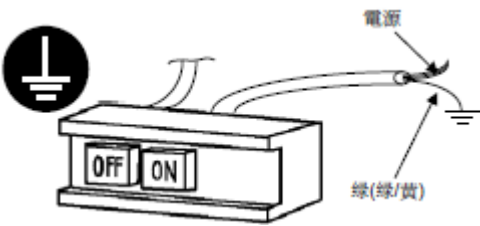
■ 标示符号的表示如下说明。

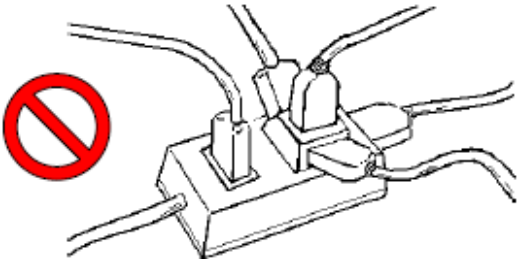
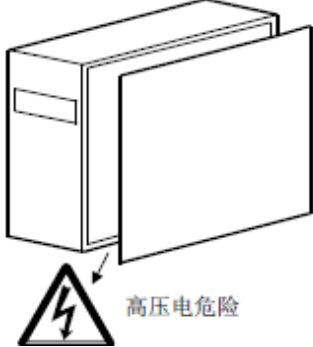
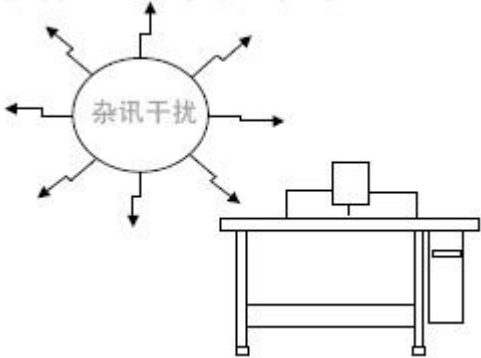
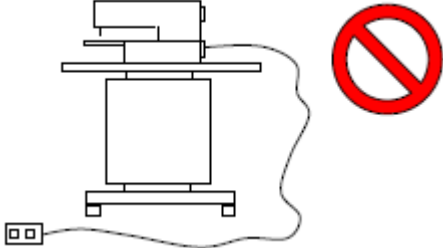
	请遵照指示内容作业。
	注意高温。
	绝对不要执行。

	注意高压电 (电击) 的危险。
	务必接上接地线。

1.4 使用上的预防措施

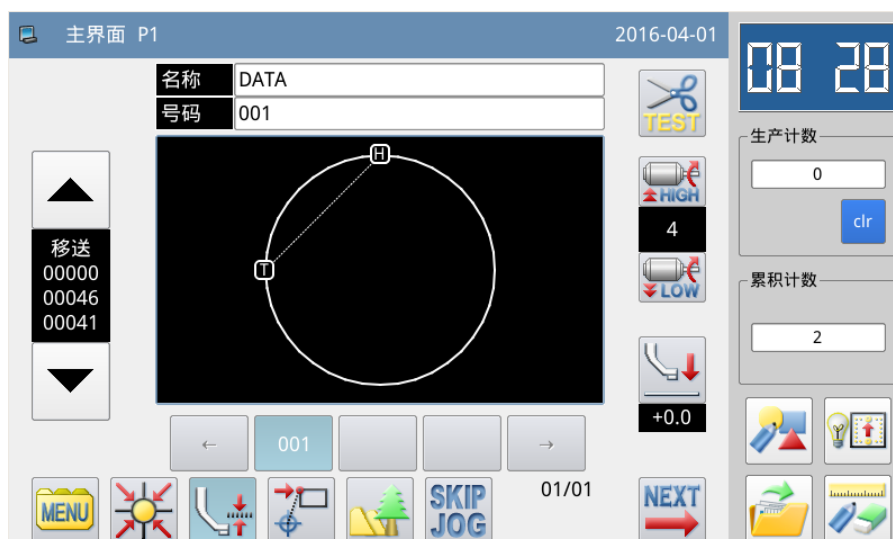
警告

<p>1、当手要按开关 [ON] 时，脚定要离开脚踏板。</p> 	<p>2、要离开工作岗位时，请务必关掉电源。</p> 
<p>3、如要横倒头部或更换机针或穿面线时，请务必关掉电源。</p> 	<p>4、接地线要做好接地。</p> 
<p>5、不要用家庭用多插孔式延长线。</p>	<p>6、控制箱内部存有危险的高压电，所以关掉电源后等候 5 分钟才可打开控制箱盖。</p>

	
<p>7、更换电机后，请务必参照本资料所示设置主轴电机安装角度。</p>	
<p>8、请远离会产生高周波噪声干扰的机器。</p> 	<p>9、如利用外接信号插座接应用附属装置时，其连接线长度请尽量越短越好，长线可能会导致误动作，连接线请用隔离线缆。</p> 
<p>10、如保险丝烧断时，请先把原因排除后再换相同容量的保险丝。</p>	

1.5 标准化

功能按键采用业界公认的图形标识，图形是国际化语言，各国用户都可以识别



1.6 操作方式

三菱触摸屏操作面板采用了业界先进的触摸操作技术，友好的界面以及便捷的操控都

给用户的日常使用带来革新性的变化。用户可以使用手指或者其他物体点触屏幕，完成相应的操作。



使用触摸屏时请注意:

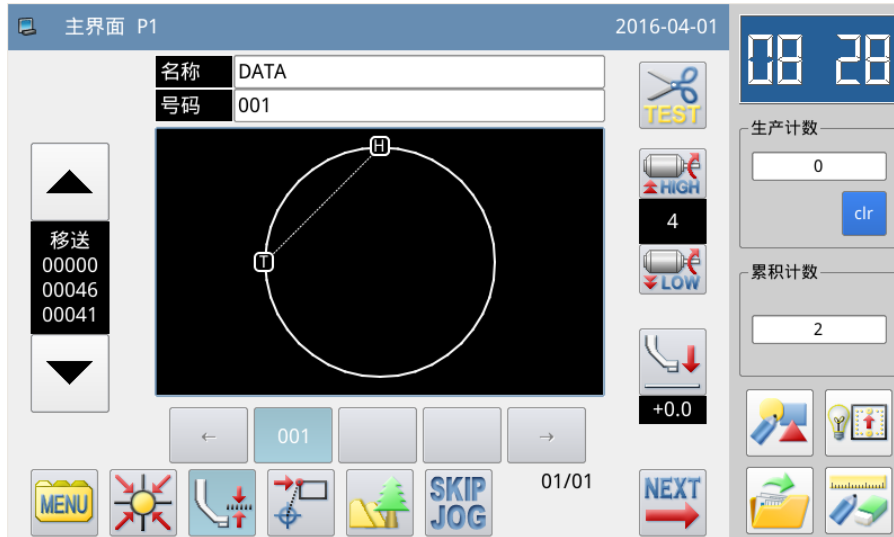
用户在使用过程中应该注意避免使用尖锐的物体触碰屏幕，以免对触摸屏造成永久性损伤。


2 操作说明

2.1 基本操作

1、打开电源开关

打开电源之后，显示出主界面 P1。



【注】打开电源（ON）时，如内部存储器里没有花样（图形资料）的话，会显示出「内存中没有花样」的提示信息。这时按一下确定键，提示信息的画面会消失并切换成主界面。

2、想缝制的图案

当前界面下会显示出已选择的花样图案，如果想要更改花样（缝制资料），请详见【2.5 花样读取】一节。

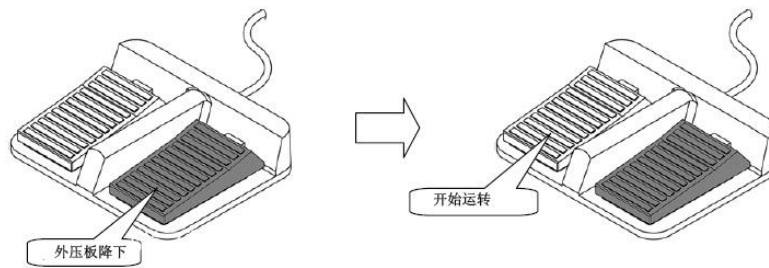
3、开始缝制

① 在实际进行缝制前，请再度确定一下缝制条件的设定，特别是速度设置值（0~9）的设定。

② 缝纫机速度是由速度设置值和针距决定的，速度设置值是决定缝纫机最高速度，而针距会限制缝纫机速度。

【注】当缝纫机在缝制中，请不要去变动速度设置值（中途暂停时除外），会影响收线情况。

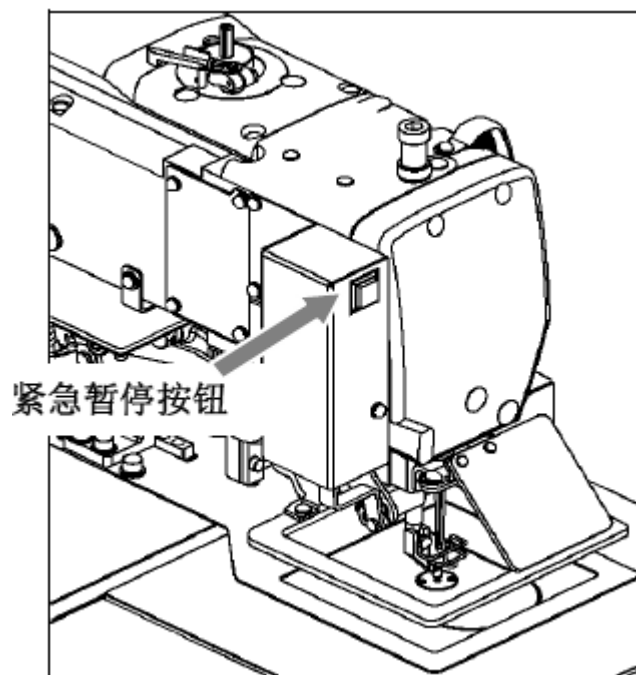
③ 把缝制品放入指定位置后，用脚先踏一下外压板开关（黑色）使外压板降下，再踏下运转开关（灰色）缝纫机就开始实际运转缝制，一旦开始运转后，脚就可以离开运转开关不必再继续踏着，缝纫机也会自动运转到结束，外压板也会自动上升。



4、中途暂停

缝制中如要停止运转的话，请按下装在头部的紧急暂停按钮（参阅下图）。缝纫机会立刻停在上停位置（出厂标准设定），进入中途暂停状态。要解除中途暂停状态的话，必须把紧急暂停按钮再按一次后才会解除中途暂停状态，可继续做下述的动作。

- ① 脚踏运转开关的话，会继续运转缝制下去。
- ② 按前移/后移键的话，可移动到缝制开始位置。
- ③ 脚踏外压板开关的话，可使外压板上升。
- ④ 可变更缝纫机速度设置值。
- ⑤ 可使中压脚升降。



5、修补的缝制方法

可利用上述的中途暂停机能做修补的缝法。如果断线按下紧急暂停按钮的话，机针停在上停位置后，按住后移键，把外压脚倒退到断线处的前两三针位置，穿好针线后再踏下运转开关，就可继续缝制下去。

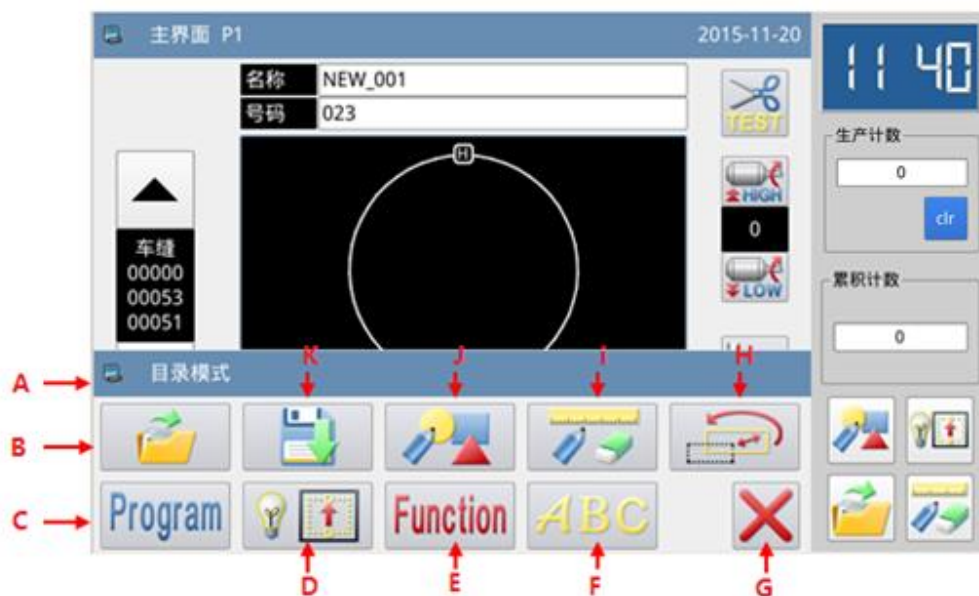


注意

在穿针线时，绝对不可用脚去踩踏运转开关，会使缝纫机运转，是很危险的，所以在穿针线时务必把脚移开运转开关。

2.2 界面显示状态说明

2.2.1 实例画面 1（主界面 P1 标准显示状态）



【注】关于生产计数、上电计数和累积计数的对比说明：

- 生产计数可以累积记录该机器的缝制件数，但是通过当前画面下的清除键



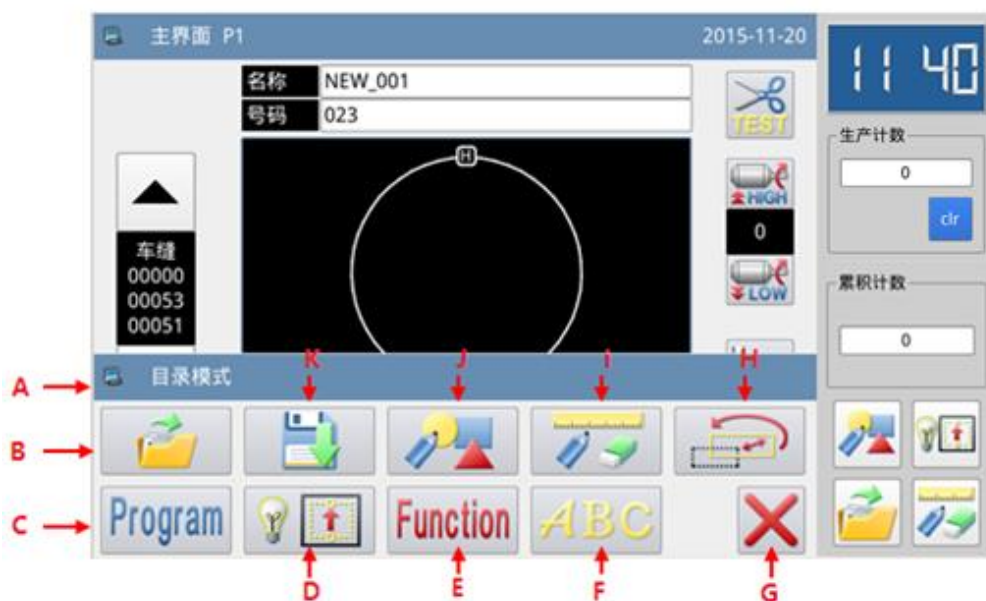
可以把计数值清零，然后重新开始计数；

- 上电计数显示内容在关电重新启动后会自动从零开始计数；
- 累积计数会一直累积记录该机器的缝制件数，不能在当前画面下清零。

2.2.2 实例画面 2（按下主界面 P1 的 NEXT 键显示状态）



2.2.3 实例画面 3（打开主界面 P1 的多类目录状态）

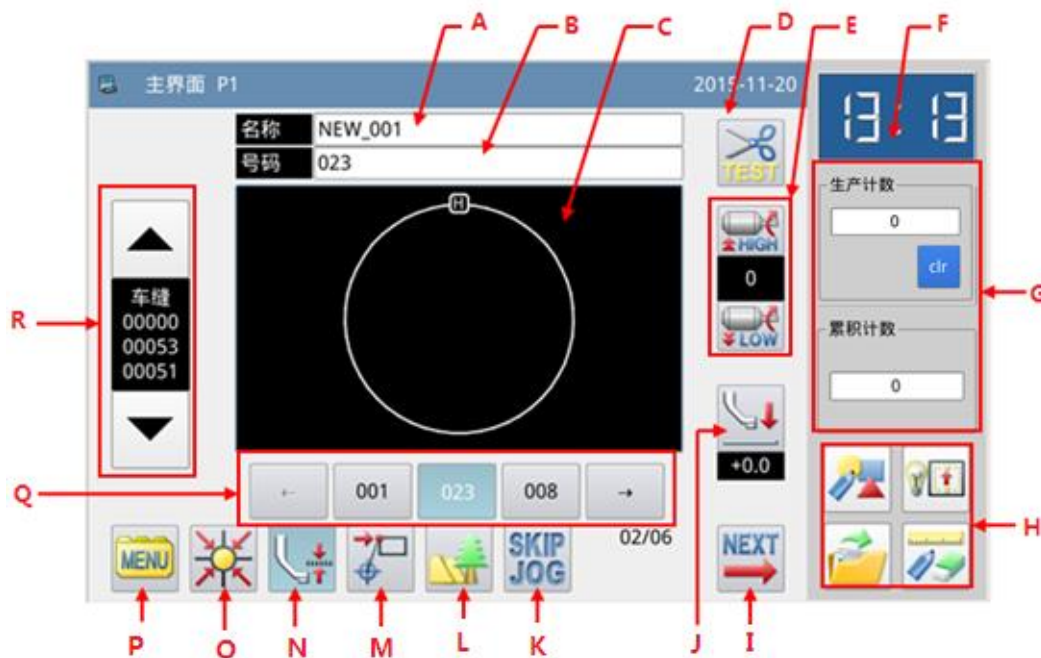


功能说明：

序号	功能	内容
A	MENU 键功能界面标题栏	显示内容为 MENU 键功能界面标题。 当按下按键时，该界面下标题栏显示内容会刷新为对应按键的功能说明
B	读取花样（读入图形资料）	从内存或者 U 盘中选择一个花样作为当前缝制花样。
C	操作设定	进行参数设置操作。
D	检测模式	进行各类外设、液晶等检测操作。

E	功能设定	进行各类功能操作设置。
F	字母绣编辑	进行字母绣编辑操作。 【注】 可以通过参数「特殊」->「字母绣功能使能」关闭字母绣编辑功能，关闭后不显示该图标。
G	退出	退出当前界面，返回上一级画面。
H	数据转换（资料转换模式）	进行数据转换操作。
I	花样修改（修改模式）	进入该界面后，执行相应的功能可，对花样进行编辑修改。
J	花样编辑（图形设计模式）	进行花样编辑操作。
K	保存花样（写存图形资料）	将当前花样另存到内存或者 U 盘中。

2.3 主界面 P1 说明



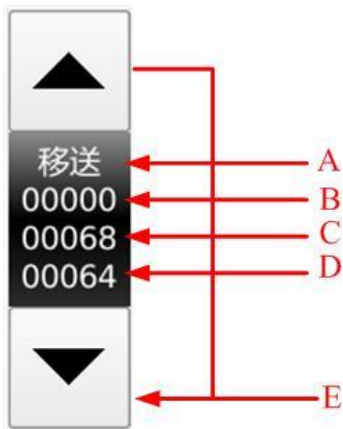
功能说明：

序号	功能	内容
A	花样名称	显示当前缝制资料的花样名称。
B	花样号码	显示当前缝制资料的花样号码。
C	花样形状	显示当前缝制资料的花样形状。 【注】  表示原点位置。
D	测试剪线能力	测试剪线能力
E	速度调整显示区	调整和显示当前花样缝制速度
F	时钟	显示时间
G	生产计数和剩余底线计数	生产计数：累积记录缝制件数，可以通过清除键  把显示内容清零，然后重新开始计数。

		剩余底线计数:
H	快捷功能键设置	用户可自行设置 4 个常用的功能按键
I	进入主界面 P2	按下按钮后此时屏幕显示第主界面 P2
J	中压脚设置	调整中压脚位置
K	快速移动设定键	按此键会进入快速移动的设定界面。
L	花样图形显示键	显示当前选择花样的形状和详细信息。
M	回到起缝点键	回起缝点设置
N	车缝物料厚度	调整物料厚度
O	回原点	回机械原点
P	目录键 (MENU 键)	打开后显示多类目录 (参照【2.2.2 实例画面 2】节内容)。
Q	花样号码快捷键	显示最近使用过的花样号码, 最多可存储 40 个。 选择一个花样号码键按下后会改变当前缝制资料。 【注】组合缝花样状态下, 显示内容为组合缝子花样序号 / 组合缝花样个数
R	花样针数显示和前移 / 后移键	缝制资料针数信息显示和试缝操作。

2.3.1 花样针数显示和前移/后移操作

功能说明:



序号	说明
A	显示当前外压板位置缝制资料数据类型。 (车缝「SEW」, 移送「FEED」, 次原点「2HP」, 上暂停「USTP」, 下暂停「DSTP」, 剪线「TRIM」, 移送速「FEDS」, 重启动「ASRT」, 压板重「HEVI」, 物料厚「ATUM」, 跳缝「BAT」, 功能 1「FUN1」~功能 7「FUN7」, 翻压脚「REPF」, 结束「END」)
B	显示当前位置的针数。
C	显示当前花样的总针数 (包括移送、剪线、结束、代码等资料)。
D	显示当前花样的车缝总针数 (不包括移送、剪线、结束、代码等资料)
E	检测图形的动作 (前移「向上键」 / 后移「向下键」)。 1、回原点动作后, 外压板落下的状态下按住向上键时, X-Y移动轴 (外压板) 会依照图形资料向前移动, 放开时即停止移动。按住向下键时, X-Y移动轴 (外压板) 会依照图形资料向后移动, 放开时即停止移动。 2、外压板处于落下状态, 并且图形资料没有错误的话, 即可踩下脚踏板运转开关, 使缝纫机实际运转缝制。

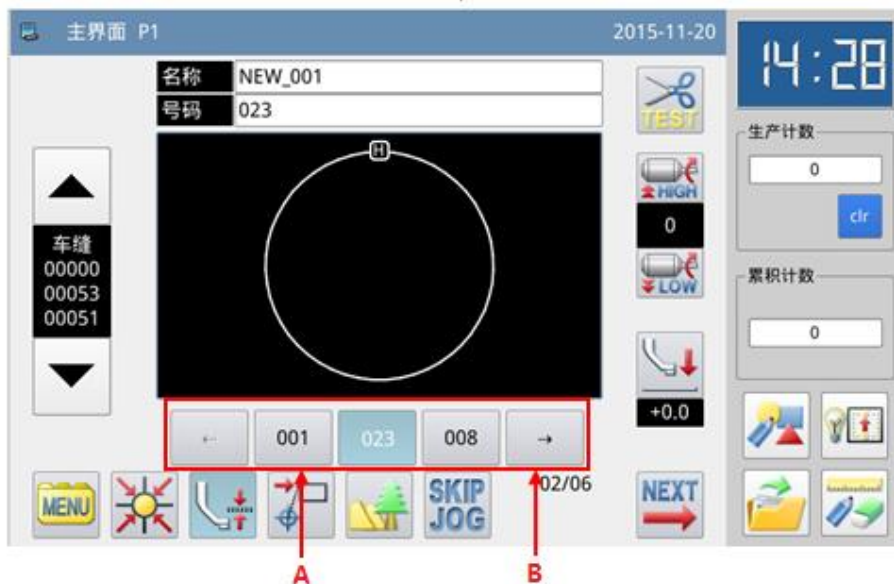
2.3.2 速度调整



功能说明:

序号	说明
A	增加缝纫机速度。
B	显示当前缝纫速度 (0~9)。
C	降低缝纫机速度。

2.3.3 花样号码快捷键操作

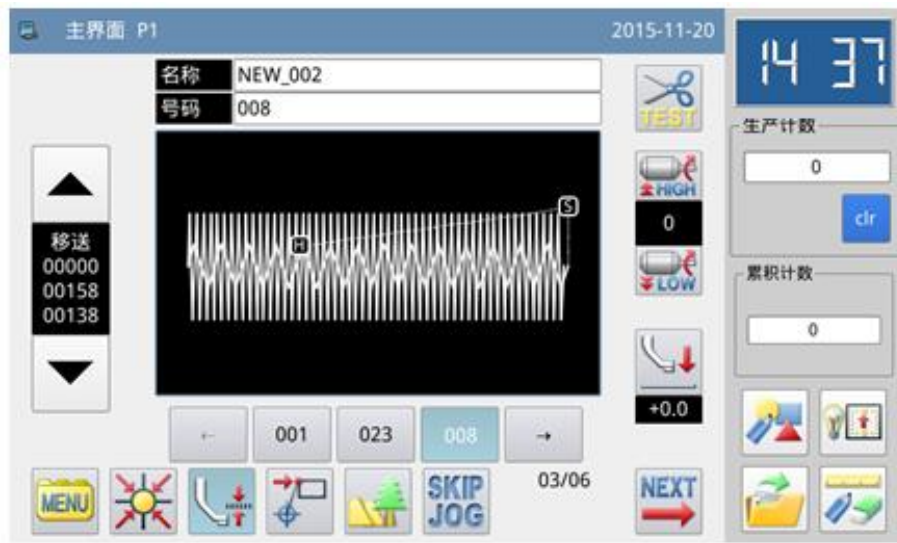


功能说明:

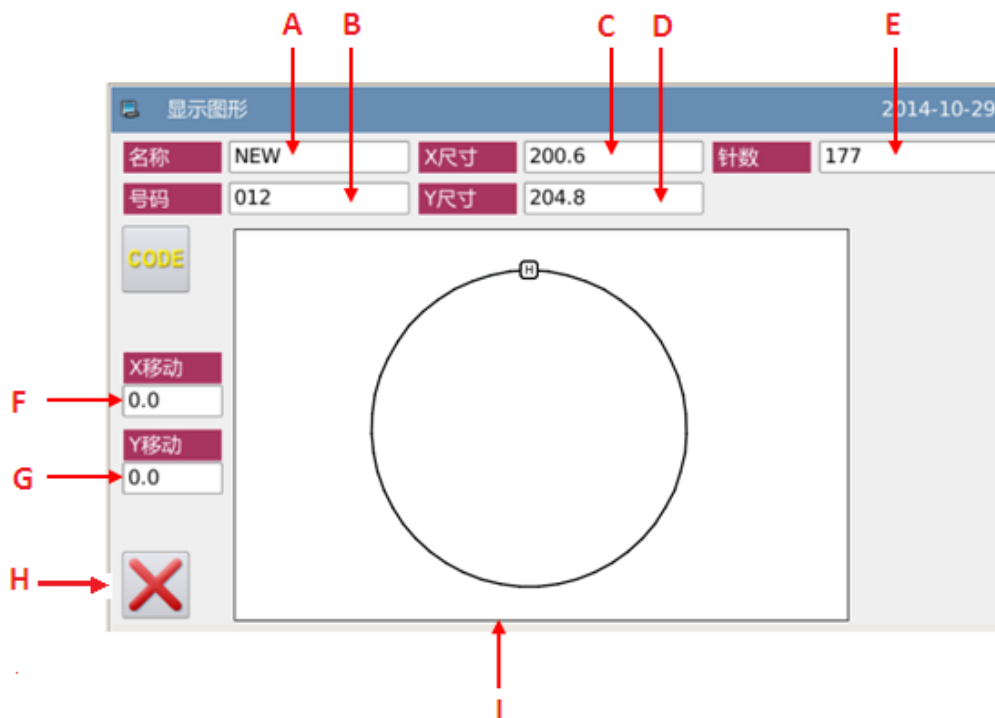
序号	说明
A	花样号码快捷键, 选择其他的花样号码可以切换缝制花样。(蓝色为当前缝制花样)
B	花样号码显示查找键

实例说明：

如上图所示，本例中快捷键列表中共包含有花样号码 3 个，当前缝制花样号码为 023，如果选择 08 号花样，则当前缝制花样会切换为第 08 号花样，显示如下：



2.3.4 花样图形显示



功能说明：

序号	说明
A	花样名称。
B	花样号码。
C	花样 X 方向尺寸大小。
D	花样 Y 方向尺寸大小。
E	显示当前花样的总针数（包括移送、剪线、结束、代码等资料）。
F	X 方向原点校正。
G	Y 方向原点校正。
H	退出当前界面，返回前一画面。
I	花样形状显示。

2.3.5 车缝物料厚度设定

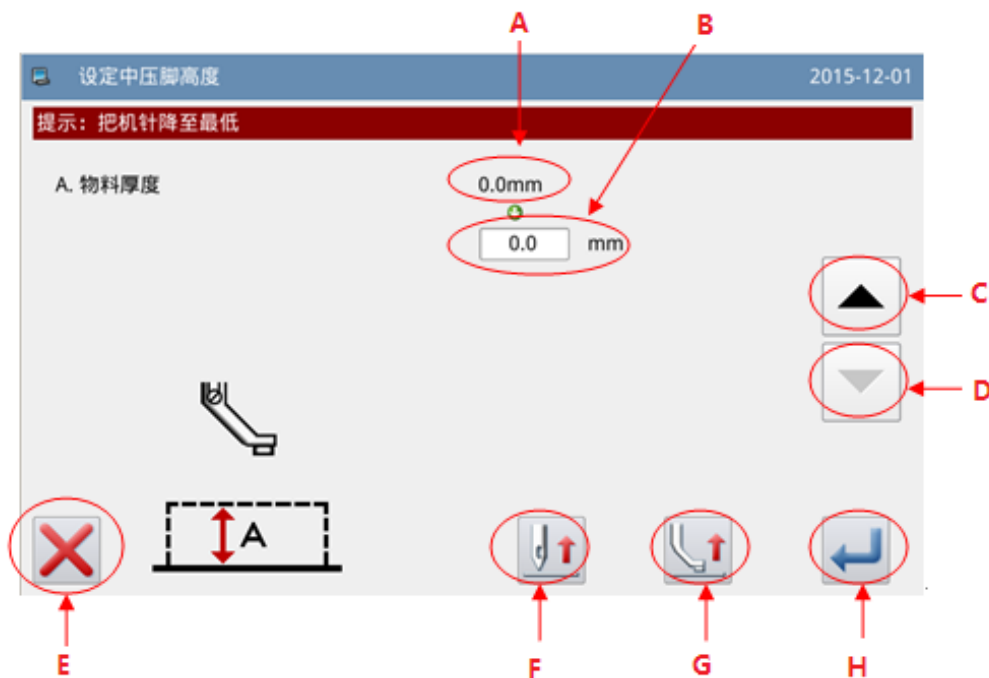
中压脚下降时的高度（最低点位置）是可以修改的，比如出厂时所设置的中压脚最低点位置比实际缝制物料厚度低时，可使用该机能进行修正。

【注】如果当前中压脚位置在下时进入该界面，会提示「升高中压脚」。

【注】进入物料厚度设置界面后，只有中压脚落下时才能够设置。

【注】设置范围是 0.0~8.0mm。

【注】SC442 机型没有中压脚，其余花样机有。

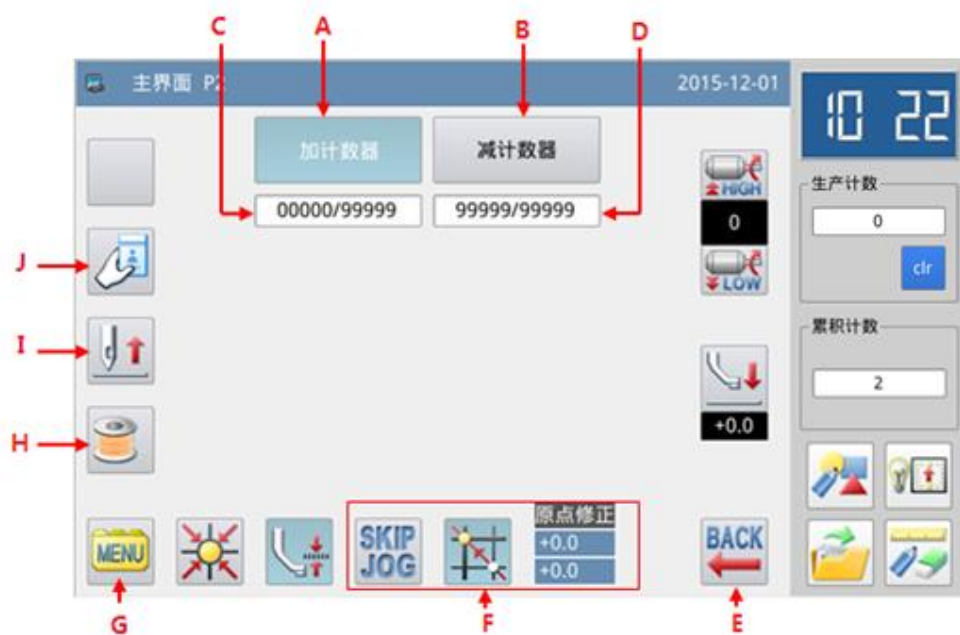


功能说明：

序号	说明
----	----

A	中压脚当前高度显示
B	中压脚设置高度显示
C	中压脚高度增加键 中压脚会随动，每次增加 0.2mm
D	中压脚高度减小键 中压脚会随动，每次减小0.2mm
E	退出当前界面，返回前一画面。
F	上下移动缝针。 ↓↑：针下降 ↓↑：针上升
G	按下后中压脚会根据箭头方向移动。 ↑↓：中压脚上升 ↓↑：中压脚落下
H	保存并退出

2.4 主界面 P2 说明




功能说明:

序号	功能	内容
A	加计数器设置键	进入加计数器设置界面。
B	减计数器设置键	进入减计数器设置界面。
C	加计数器值	显示内容为加计数器当前值/设定值。
D	减计数器值	显示内容为减计数器当前值/设定值。
E	退出键	按下后可返回主界面 1

F	原点修正和跳转指定针数设置	 : 原点设置有效  : 原点设置无效  : 跳转指定针数设置
G	目录键 (MENU 键)	打开后显示多类目录
H	绕线模式	可以查看当前的绕线速度和绕线时间
I	提针键	上下移动缝针。  : 针下降  : 针上升
J	输入卡号	
K	针移动设置	可以设置针的移动方向

2.4.1 绕线模式

要绕线芯时必须进入到此界面（在主界面P2里按下绕线芯键时，中压脚会降下）。踏一下外压板开关使外压板降下，然后踏下运转开关时，缝纫机就依设定的速度转动，而X-Y移动轴不会移动，脚放开运转开关时，缝纫机就停在上停位置。

【注】绕线芯的动作是由操作设定模式下的「绕线芯」参数的设定而执行。（参照【2.7.6 参数设定表】中参数说明）



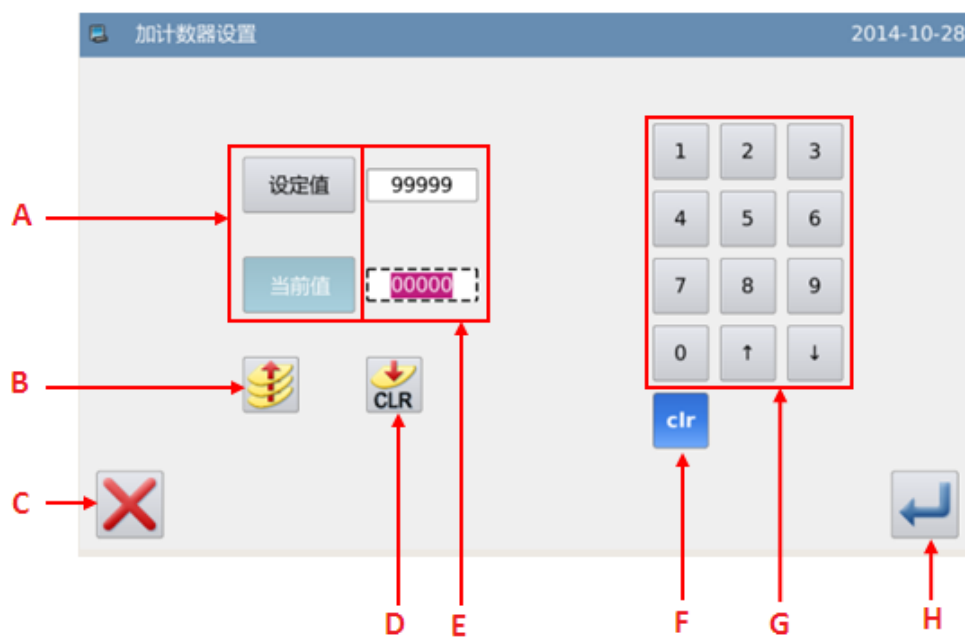
功能说明:

序号	说明
A	绕线芯设定速度显示。 【注】由参数「绕线芯」->「绕线速度设置」决定。
B	实际绕线速度显示。
C	绕线芯操作方式显示。 【注】由参数「绕线芯」->「绕线器停止方式设置」决定。
D	定时绕线设置时间显示。 【注】由参数「绕线芯」->「定时停止绕线时间设置」决定。
E	绕线芯操作方式是定时绕线时，剩余时间显示。

2.4.2 加计数器设置

主界面 P2 下按下加计数器设置键  进入到加计数器设置界面。

【注】加/减计数器计数方式是由操作设定模式下的「计数器」参数决定的（参照【2.7.6 参数设定表】中参数说明）。



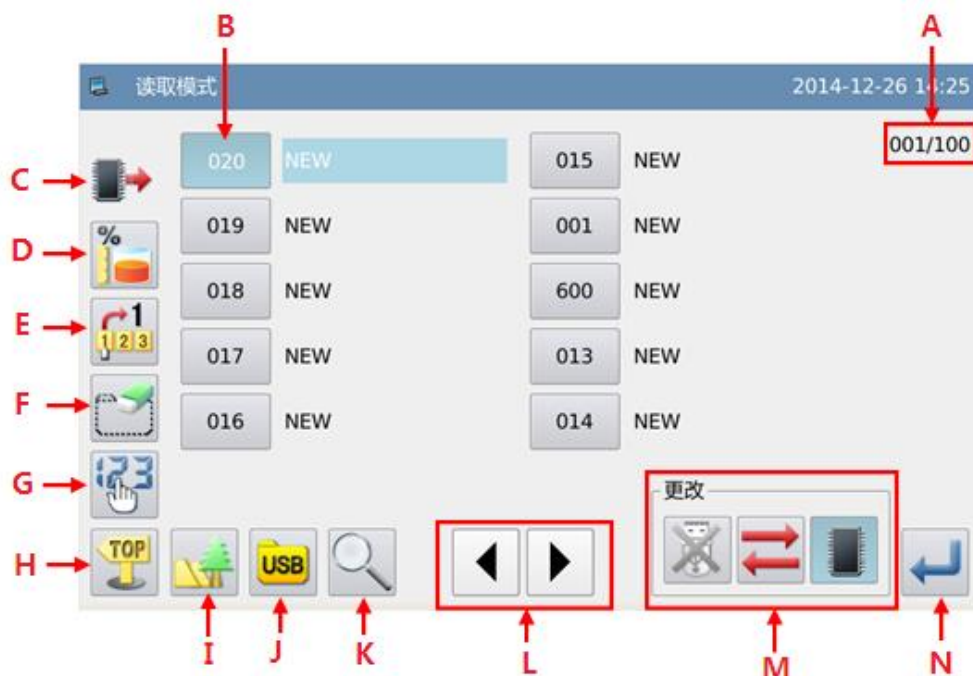
功能说明:

序号	说明
A	切换输入设定值和当前值（蓝底白字为选中状态）。
B	加计数器有效开关（蓝色底色时为有效状态）。
C	退出计数器设置模式，返回上一级画面。
D	清除当前值。


E	设定值和当前值显示（虚线框表示处于输入状态）。
F	清除当前输入数值。
G	数字键盘，用于输入设定值和当前值。
H	确定设置。

【注】减计数器设置操作同加计数器操作，仅仅是减计数器有效/无效键图标不同(📉)。

2.5 花样读取



功能说明：

序号	功能	内容
A	页数显示	显示内容为当前页码/总页数
B	花样列表	显示已存花样列表（显示号码和名称） 【注 1】如果选择了 VDT 格式花样，会显示提示信息进行花样格式转换。 【注 2】如果选择花样针数超出范围或者数据损坏，会显示对应的提示信息不能选择该花样。
C	内存/U 盘对象显示	 ：内存花样列表

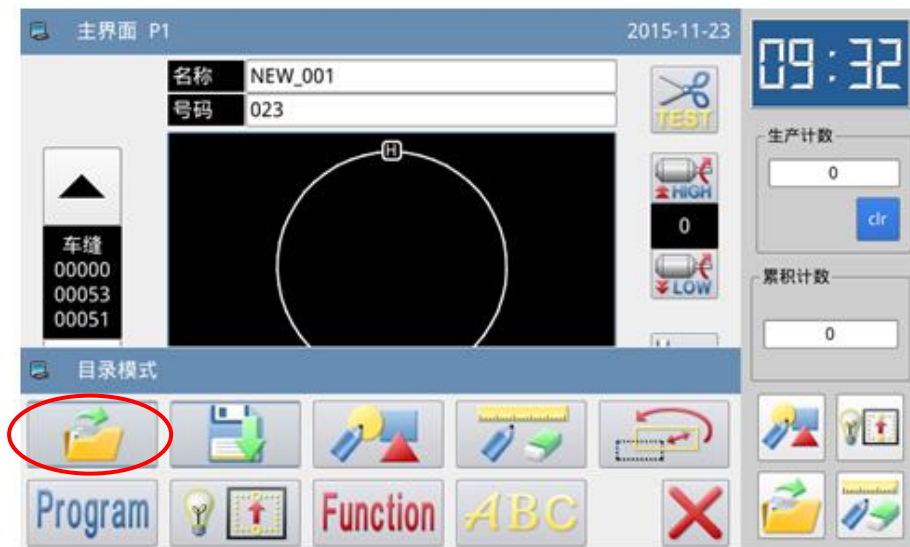
		 : U 盘花样列表 【注】：默认每次进入该界面都是从内存读取花样。
D	剩余内存显示	显示内存中存储的花样总数
E	直接读取键	指定花样号码进入直接读取模式
F	删除键	删除指定花样 【注】当前缝制花样不能被删除。
G	排序键	按照修改时间或号码大小进行排序重新显示花样列表
H	返回主界面	直接返回主界面
I	花样图形显示键	同主界面 P1 下功能键
J	显示 U 盘文件夹	U 盘内花样文件夹。
K	跳准到非标准格式花样	可以调出除 nsp 格式外的其它标准格式的花样。
L	翻页键	支持前后翻页查找界面
M	选择内存/U 盘	选择读取内存或者 U 盘花样  : 内存读取模式使能, 此时 U 盘读取模式禁止  : 内存读取模式禁止, 此时 U 盘读取模式使能  : U 盘读取模式使能, 此时内存读取模式禁止  : U 盘读取模式禁止, 此时内存读取模式使能  : 切换选择 U 盘或内存
N	确认键	确定操作。

操作说明：

1、进入花样读取界面

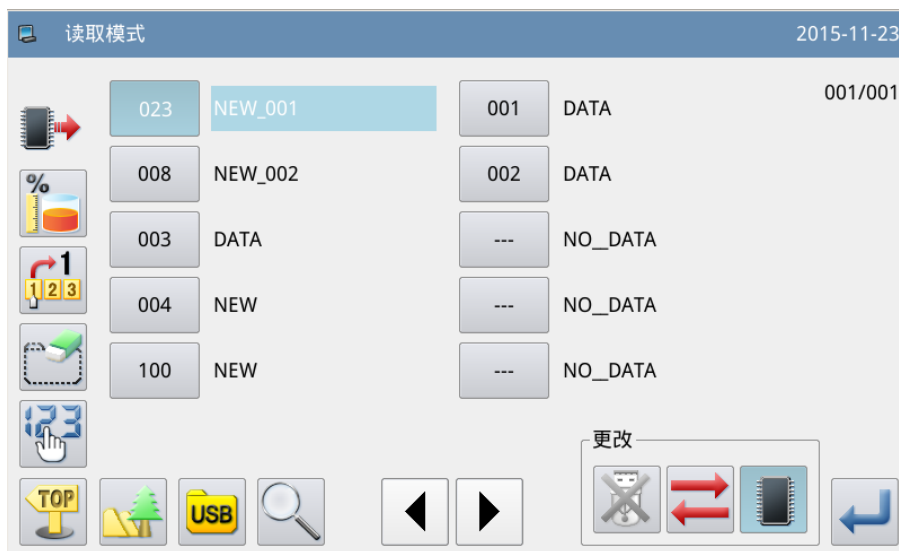
在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下读



入图形资料键 。

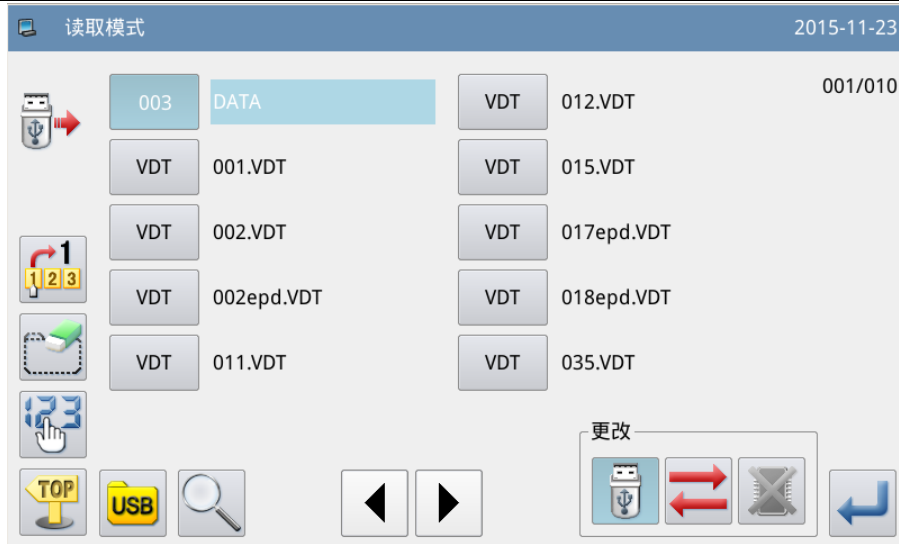


【注】如果不在原点位置，是无法读取图形资料的，请先执行回原点操作。


2、选择读取的对象（内存/U 盘）



进入该界面是默认选择内存读取模式(屏幕左上方显示)，可以通过切换键切换到 U 盘读取模式，U 盘读取模式界面如下图。



【注】未插入 U 盘时执行上述操作，会显示「USB 盘已经拔出」的提示信息。




【注】如果在当前界面下插入 U 盘，需要 5s 左右的挂载时间，挂载成功后按下  才能够进入 U 盘读取模式。只要不拔下 U 盘，下次再进入 U 盘读取模式时就不再需要挂载时间。

3、选择图号并确定

选择要缝制的图号然后按下确定键 ，选择成功后会直接返回到主界面。

【注】如果从 U 盘读取花样时，所选择的号码也同样在内存中存在的话，会显示「是否覆盖内存中花样数据」的提示信息，按照指定信息进行操作即可。

4、其它操作

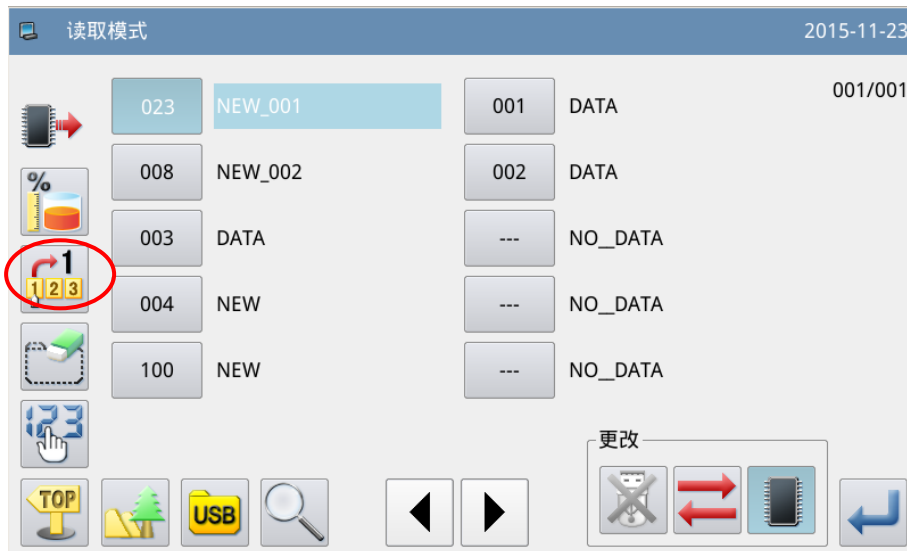
如果花样比较多，可以通过翻页键  来翻阅画面，并且通过排序键  可以以更直观的查阅花样列表。如果知道花样号码的话，也可以直接指定图号  来读取图形资料。

2.5.1 直接读取模式

1、选择直接读取模式

在花样读取界面下按下直接读取键 ，即进入到直接读取模式。

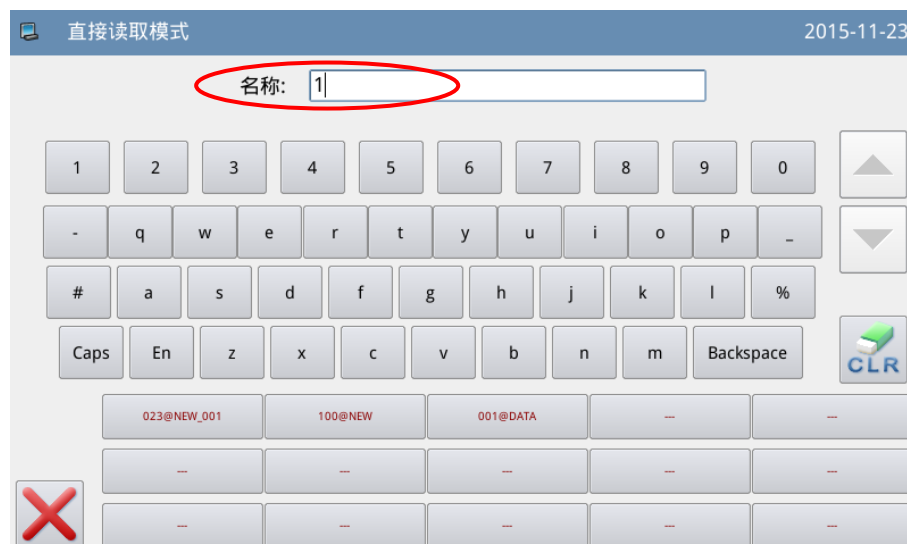
【注】直接指定图号读取资料的话，只限于内存读取模式。



2、指定图号 1


(例：要读取「012」图号花样)


- ① 输入「1」。
- ② 下面的键盘会显示出「1」字开头，储存在内部存储器里的图号依序排列出来。



3、指定图号 2

- ① 接着输入「2」。
- ② 下段的 15 个键盘会显示出「12」字开头，储存在内存里的图号依序排列出来。

③ 清除键  CLR 可以清除掉输入号码，然后重新输入。


- ④ 这时要读取的「12」图号会显示在下段的键盘中，此时按下  键，操作成功后返回到主界面显示出「12」图号的图形资料。

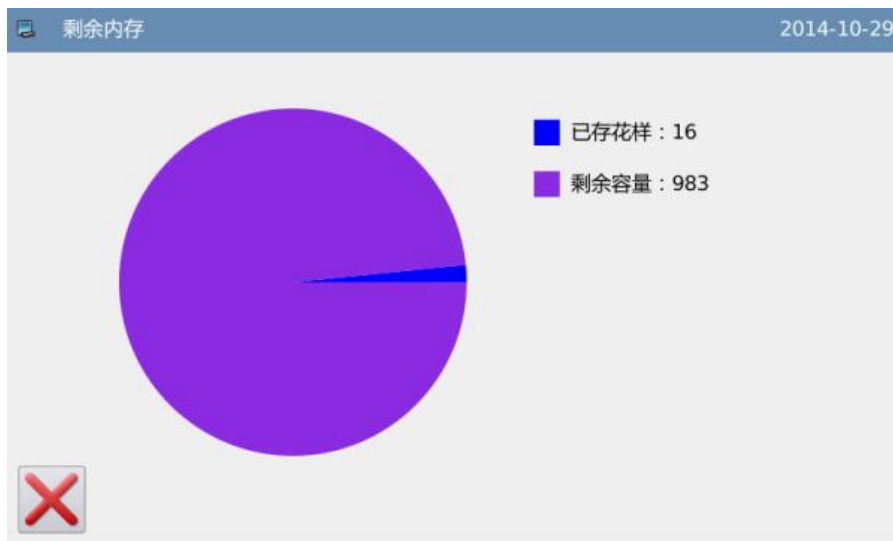


- ⑤ 花样查找时，可以输入中文，切换到中文输入法模式下输入查找花样。




2.5.2 剩余内存显示

在花样读取界面下按下剩余内存键, 即可查看内存花样使用情况。



2.5.3 删除花样

删除一个花样时需要选择删除键执行命令，此时会显示「是否从内存中删除花样数据」的提示信息（如果是 U 盘读取模式会显示「是否删除选中的文件」提示信息），按照指定信息进行操作即可，但是不能够删除当前缝制花样。



2.5.4 支持的数据格式

目前可以导入的花样格式有：NSP 格式、B 格式、BA 格式、VDT 格式、EMB 格式、DST 格式、DSB 格式、DSZ 格式、PLT 和 DXF 格式。

2.5.5 花样列表视图显示

参数「液晶屏幕」->「花样选择显示风格」可以切换花样读取界面显示风格。



把该参数设定为「显示花样形状」，再返回到花样读取界面，就可以浏览已经使用过的花样形状。



【注】 花样形状列表只能显示已使用过的花样形状。

【注】 也可以在「功能设定」->「显示设定模式」中设置。

2.6 花样保存





功能说明:

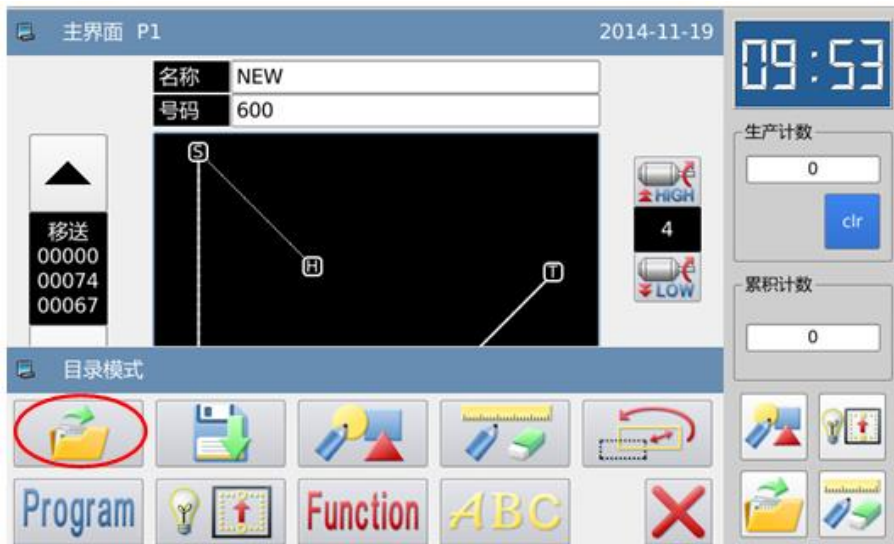
序号	功能	内容
A	花样名称输入显示	显示输入的花样名称。
B	花样号码输入显示	显示输入的花样号码。
C、D、F、I	花样信息读取功能键	该类按键功能参照花样读取界面下按键。
E	输入键盘	用于输入名称或号码。
H	保留同号花样	<input checked="" type="checkbox"/> 保留同号花样：选择保留同号花样 <input type="checkbox"/> 保留同号花样：不选择保留同号花样
G	清除全部输入字符	按下后清除掉全部输入字符。

操作说明:



1、进入花样读取界面

在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下写存图形资料键 。



【注】 如果不在原点位置，是无法写存图形资料的，请先执行回原点操作。



2、设定名称和号码

进入该界面是默认选择内存写存模式(屏幕左上方显示)，可以通过切换键切换到 U 盘写存模式

在当前界面下直接点击 或 ，可以切换输入名称或号码。


每按下一次  键，可以清除掉光标左侧的第一个字符，而按下  键会清除掉全部字符。



输入名称时如果需要大小写输入，可以通过键  实现。

【注】一个花样可以自由选择号码进行存储。花样文件名改为“花样名”+“@花样号”+“扩展名.nsp”的形式。



3、确定保存花样

输入完毕后按下确定键 ，操作成功后直接返回到主界面。



【注】如果写存的对象数据内存在相同图号的花样，会显示「是否覆盖内存中花样数据」的提示信息，不覆盖操作按下取消键 ，覆盖操作按下确定键 .

2.7 操作设定说明

操作设定主要用于设定各个参数，各个参数的说明请参阅【2.7.6 参数设定表】



2.7.1 设定方法

1、进入操作设定的方法：

在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下操作设定键 。



2、设定模式画面

进入操作设定界面以后，有很多参数项供选择，可以通过翻页键   来翻阅画面。



3、实例说明：

① 模式选择

选择要设定的参数项按键会显示「内部参数设定画面」。这里我们选择「压板」键。



② 内部参数设定画面

选择要设定的参数按键会显示「设定值更改画面」。（这里按下「POP」键。）




③ 更改参数设定值

按设定值键使参数的设定内容更改后（这里按下「ILR」键），再按下确定键
确定。

【注】如按帮助键 ，则显示该设定值的所有文字，可以看到全文的参数说明。




④ 更改后的参数设定值检查

回到「内部参数设定」的画面。可检查更改后的设定值，按下退出键  离开。



⑤ 回到模式选择画面

回到「模式选择」画面。因为修改了设定值，会有「已修改设定」按钮出现。

要回主界面P1（或P2）的话请按  键。

要看「已修改设定」内容，请按下「已修改设定」键。



⑥ 查看已修改参数内容

a) 进入密码输入模式

在「模式选择」的画面里按「已修改设定」键，会进入到密码输入模式，密码输入正确后方可进入到已修改参数设定模式。（关于密码设置内容详见【2.7.3 参数模式加密说明】）



b) 进入已修改参数设定模式

该界面下会显示出参数的更改内容。如要再更改的话，可在该界面下重新更改（这里可以按下「POP」键）。

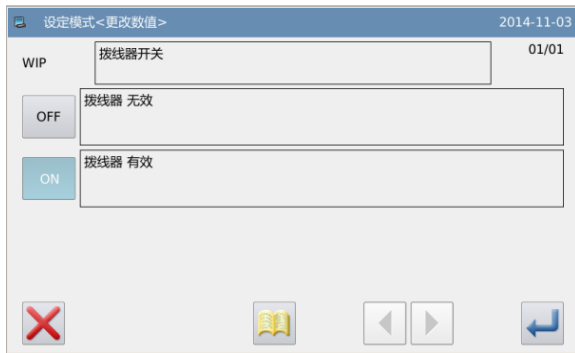
如果想要选择部分已修改的参数进行还原的话，可以选择按下标有参数名称的按钮（这里可以按下「脚踏板操作方式」、「中压脚下降同步」键），然后按下「选择还原」按钮，然后按照提示信息内容进行操作即可。

如果想要把更改过的全部设定恢复成出厂设定的话，请按「还原所有」键，然后按照提示信息内容进行操作即可。



2.7.2 参数设定分类说明

参数设定分为两种类型：选择型和输入型，如下图所示：



选择型





输入型

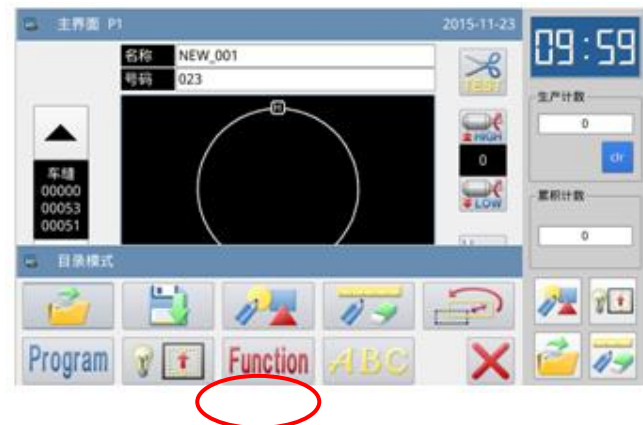
2.7.3 参数模式加密说明

参数模式下的各个操作入口都可以设定密码，以防止人为的误操作。

1、进入参数加密的方法：



在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下功能设定键 **Function**，此时会进入到功能设定界面。


在功能设定界面下按下参数加密键 。



2、输入密码:

在进入参数加密模式之前,需要输入密码(初始密码为厂家 ID)。

输入密码过程中如果出现错误,每按下一次  键,可以清除掉光标左侧的第一个密码,而按下  键会清除掉全部输入密码。

输入密码后按下确定键 。




2、选择加密项:

如图所示,加密项中包含了全部的参数项,可以选择一个或多个参数项进行加密(这里选择了「暂停」项)。

暂停: 选择状态

暂停: 未选择状态


选择了要加密的参数项后,按下确定键  即可。

此后如果需要设定已加密的参数项参数时,都需要进行输入密码操作。

如果想要修改密码,请按下改密键



3、修改密码

在设置新密码界面下,依次按下
 当前密码: 、
 新密码: 和
 确认密码: 输入框,
 并且分别输入当前密码、新密码和确认密码,完成新密码设置操作,最后按下
 键。




【注】初始密码为厂家 ID,设置一次密码后,「当前密码」即为上次设置的密码。

2.7.4 参数的还原与备存

可以把更改后的参数设定值保存到 U 盘中，用于以后的还原操作。

1、进入参数还原与备存的方法：


在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下功能设定键 **Function**，此时会进入到功能设定界面。

在功能设定界面下按下还原备存键 。




2、备存参数

进入还原备存参数界面，默认情况下是备份用户参数。


插入 U 盘之后按下确定键 ，一旦操作成功就会在 U 盘上自动建立一个「bakParam」目录，该目录下的「backup.param」文件即为参数备存文件。



【注】如有同档名文件的话会被盖写上新资料，原有资料会消失掉。

还原参数操作需要按下后翻页键  切换到还原模式。

3、还原参数


切换到还原模式后，按下确定键  即可执行参数还原操作，操作成功之后返回上一级画面。




2.7.5 默认参数恢复

可以把参数设定值恢复为出厂值，另外用户也可以把自己设置好的参数保存起来，用于以后的调用。

1、进入默认参数恢复的方法：

在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下功能设定键 **Function**，此时会进入到功能设定界面。



在功能设定界面下按下默认参数键 ，会要求输入密码（初始密码为厂家 ID），密码输入正确后即进入默认参数模式。





2、调用默认参数

点击相应的默认参数项,按下“机型默认”键即可重新加载相应的默认参数。



加载完毕后会自动返回到上一级画面。




【注】部分重要参数(如「主轴电机停车角度」等)不能在该操作中恢复为出厂值。

3、保存用户参数

按下“自定义”键可以进入到自定义参数设置界面,该界面下用户能够把设置好的参数保存起来。

点 击  ~  其中任意一键,以

确定参数保存位置,然后点击  键进行保存。可以对自定义的参数进行改名和清除自定义参数。

保存之后会自动退出,返回到上一级画面。

【注】维修保养参数不会被保存起




来。

【注】电机安装角度和电机配置参数都会被保

4、调用用户保存参数

进入该界面的方法同上,观察「自定义参数 xx (有/无)」键显示内容,如果括号内显示为「有」的则表示该位置上存储了用户参数。

点击该按钮,然后按下  键即可重新加载相应的参数设定值,操作成功后会自动返回到上一级画面。



2.7.6 参数设定表

1、拨线器:

代号	简述	详述	单位	步长	范围	出厂值	类型
WIP	拨线器开关	拨线器 (W) 输出开关			0:OFF: 拨线器无效 1:ON: 拨线器有效	1	选择
W1	拨线器启动时间	拨线器 (W) 启动时间可以设定, 根据剪线时序而设定, 通常无需更改	ms	2	0~998	30	输入
W2	拨线器保持时间	拨线器 (W) 保持时间可以设定, 根据剪线时序而设定, 需要时可以加长时间	ms	2	0~998	30	输入
W3	拨线器结束延时	拨线器 (W) 动作后延时等待机构复位	ms	1	0~255	0	输入
CSS	起针夹线器开关	起针夹线器开关			OFF:关闭 ON:打开	OFF: 关闭	选择

CRS	起针夹线器 保持电流	起针夹线器保持电流			0~16	8	输入
-----	---------------	-----------	--	--	------	---	----

2、起步慢针：

代号	简述	详述	单位	步长	范围	出厂值	类型
ST1	第一针启动速度	第一针启动速度	100RPM	1	2~27	3	输入
ST2	第二针启动速度	第二针启动速度	100RPM	1	2~27	5	输入
ST3	第三针启动速度	第三针启动速度	100RPM	1	2~27	10	输入
ST4	第四针启动速度	第四针启动速度	100RPM	1	2~27	15	输入
ST5	第五针启动速度	第五针启动速度	100RPM	1	2~27	20	输入

3、压板：

代号	简述	详述	单位	步长	范围	出厂值	类型
SYN	压板抬起时能否缝纫	压板抬起时能否缝纫			0:OFF:不能缝纫 1:ON:能缝纫	0	选择
TFS	缝制结束后压板状态	缝制结束后外压脚状态			0:SUP:返回到起缝点以后，压脚再上升 1:SLU:缝制结束后外压脚立即上升 2:SBU:先回到起缝点，等到踩踏板后压脚再上升	0	选择
ATU	自动加工完成后压板抬起	自动加工完成后压板抬起			0:PUP:缝制完成后压脚自动抬起 1:NUP:缝制完成后压脚不抬起	0	选择
POP	脚踏板操作方式	脚踏板操作方式			0:BUD:控制大压框抬起/落下 1:IUD:间隔控制大压框	0	选择

					和辅助压框 抬起/落下 2:ILR: 间隔 控制左右压 框		
LRD	左右分离压 板下降动作	左右分离压板下降动作			0:LRU: 左 右压板同时 下降 1:LRN: 压 板先左再右 下降 2:RLD: 压 板先右再左 下降	0	选择
LRU	左右分离压 板上升动作	左右分离压板上动作			0:LRT:加工 完成后压板 抬起 1:LTD:加工 完成后左压 板持续压下 2:RTD:加工 完成后右压 板持续压下	0	选择
DYN	特殊压脚装 置类型	支持翻转、伸缩压脚 0- 无 1- 翻转压脚 2- 伸缩压脚		1	0-255	0	输入
PSS	中途停止时 压板状态	中途停止时压板状态			UP: 压板压 下 DN: 压板抬 起	UP	选择
OPT	压板类型选 择	支持电机压板、气动压 板。 在“移送方式”中也要设 定压板类型			AIR:气动 MAG: 电磁 铁 Motor:电机	AIR	选择
2PE	二段位压板 使能	仅在电机外压板时有效, 支持二段位操作,可停在 设定位置			OFF:禁止 ON:使能	OFF	选择
THG	二段位压板 高度	二段位压板高度			0~255	140	输入
OPR	压板行程设 定	仅在电机外压板时有效, 设定外压板上升的高度 值			0~200	180	输入
OPC	压板电流设 定	仅在电机外压板时有效, 设定外压电机电作速度		1	0-15	2	输入

POD	伸缩压脚伸出延时	伸缩压脚伸出延时		1	0-255	30	输入
ASD	伸缩压脚上升延时	伸缩压脚上升延时		1	0-255	45	输入
DSD	伸缩压脚下下降延时	伸缩压脚下下降延时		1	0-255	30	输入

4、范围限制：

代号	简述	详述	单位	步长	范围	出厂值	类型
ALC	取消范围保护	取消范围保护			0:OFF: 范围保护关闭 1:ON: 范围保护打开	1	选择
XL	设置 X 左方向有效范围	设置 X 左方向有效范围	mm	1	2~255	101	输入
XR	设置 X 右方向有效范围	设置 X 右方向有效范围	mm	1	2~255	101	输入
YU	设置 Y 上方向有效范围	设置 Y 上方向有效范围	mm	1	2~255	51	输入
YD	设置 Y 下方向有效范围	设置 Y 下方向有效范围	mm	1	2~255	51	输入

5、断线检出发器：

代号	简述	详述	单位	步长	范围	出厂值	类型
PRT	断线检测	断线检测			0:OFF 断线检测关闭 1:ON: 断线检测打开	0	选择
ISD	断线检测时缝制开始的无效针数	断线检测时缝制开始的无效针数		1	0~15	8	输入
IND	断线检测时缝制中途的无效针数	断线检测时缝制中途的无效针数		1	0~15	3	输入
TRM	断线检测时是否剪线	断线检测时是否剪线			0:ON: 发生断线时进行剪线 1:OF: 发	0	选择

					生断线 时不进 行剪线		
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6、原点位置：

代号	简述	详述	单位	步长	范围	出厂值	类型
PTR	加电时回原点	加电时回原点			0:OF: 不回原点 1:ON: 回原点	0	选择
PRF	压板抬起回原点禁止	压板抬起回原点禁止			0:OF: 允许回原点 1:ON: 禁止回原点	0	选择
DOG	缝制结束后是否检索原点	缝制结束后是否检索原点			0:OFF: 无原点检索, 停止在原位 1:ON: 有原点(次原点)检索 2:RET: 回起缝点	1	选择
RST	设置起缝点复位路径	设置起缝点复位路径			0:LIN: 直线返回起缝点 1:PAT: 按花样图案返回起缝点 2:ORG: 先原点检索再到起缝点	0	选择

DED	原点检索时是否选择上死点	原点检索时是否选择上死点			0:OF: 原点检索时不选择上死点 1:ON: 原点检索时选择上死点	0	选择
OPA	原点压板动作	原点压板动作			0:DNW: 回原点后压板压下 1:UP: 回原点后压板抬起	1	选择
NRM	平时原点检索/原点复位线路选择	平时原点检索/原点复位线路选择			0:NRM: 标准 1:REV: 反转 2:YTX: Y轴到X轴 3:XTY: X轴到Y轴	0	选择
REV	反转时原点检索/原点复位线路选择	反转时原点检索/原点复位线路选择			0:NRM: 标准 1:REV: 反转 2:YTX: Y轴到X轴 3:XTY: X轴到Y轴	0	选择
XSP	X轴传感器位置	X传感器在机头的左侧还是右侧			0:L: 左侧 1:R: 右侧	0	选择

7、暂停:

代号	简述	详述	单位	步长	范围	出厂值	类型
POS	暂停时机针位置	暂停时机针位置			0:DWN: 机针下定位 1:UP: 机针上定位	1	选择
ACT	暂停时压板	暂停时压板动作			0:DWN:	0	选择

	动作				压板压下 1:UP: 压板抬起		
TYP	暂停开关类型	暂停开关类型			0:AUT: 自锁型 1:NRM: 普通型	0	选择
TRM	暂停时自动剪线	暂停时自动剪线			0:AUT: 自动剪线 1:OFF: 不剪线	0	选择
SYP	安全开关类型	安全开关类型设置			NCT: 长关型 NOT: 常开型	NCT	选择

8、计数器：

代号	简述	详述	单位	步长	范围	出厂值	类型
UCM	加计数器模式	加计数器模式			0:OFF: 加计数器禁止 1:PAT: 按花样加计数 2:CYC: 按循环加计数	1	选择
DCM	减计数器模式	减计数器模式			0:OFF: 减计数器禁止 1:PAT: 按花样减计数 2:CYC: 按循环减计数	1	选择
URV	导入花样时加计数器值是否保留	导入花样时加计数器值是否保留			0:CLR: 清除 1:RSV: 保留	1	选择
DRV	导入花样时	导入花样时减计数器值是			0:CLR:	1	选择

	减计数器值是否保留	否保留			清除 1:RSV:保留		
POC	电源重开时消除计数器	电源重开时消除计数器			0:CLR:清除 1:RSV:保留	1	选择
NUP	禁止加算器(UP)被修改	禁止加算器(UP)被修改			0:OFF:允许修改 1:ON:禁止修改	0	选择
NDP	禁止减算器(DN)被修改	禁止减算器(DN)被修改			0:OF:允许修改 1:ON:禁止修改	0	选择
UTO	到达加算器(UP)设定值时缝纫机的操作	到达加算器(UP)设定值时缝纫机的操作			0:OF:停止缝纫 1:ON:可继续缝纫	0	选择
DTO	到达减算器(DN)设定值时缝纫机的操作	到达减算器(DN)设定值时缝纫机的操作			0:OF:停止缝纫 1:ON:可继续缝纫	0	选择
NPC	禁止生产计数被修改	禁止生产计数被修改			OFF:允许修改 ON:禁止修改	ON	选择

9、中压脚:

代号	简述	详述	单位	步长	范围	出厂值	类型
SYN	中压脚下降同步	中压脚下降同步			0:BEF:缝纫机机头启动之前 1:OUT:与最后的外压脚同步	0	选择
CUR	中压脚电流	中压脚电流		1	2~8	4	输入
DLY	中压脚抬起后延时	延时防止移动撞模具	ms	1	0~255	0	输入
TYE	中压脚类型	中压脚气阀、步进、电磁铁类型选择			0:AIR:气阀 1:STP:步	0	选择

					进 2:MAG: 电磁铁		
PLP	中压脚行程 设定	中压脚上下值设定	0.1mm	2	0~180	150	输入
ZU8	中压脚上升 角度	中压脚启动上位置设定	度	1	0~360	100	输入
ZD8	中压脚下降 角度	中压脚启动下位置设定	度	1	0~360	0	输入
ZTM	输入时中压 脚同步设定	选择中压脚设定是否存入 图形			0:OFF:中 压脚设 定与输 入图形 无关 1:ON:中 压脚设 定与输 入图形 有关	1	选择
PDD	中压脚下降 延时	中压脚下降延时		1	0~255	0	输入
MSP	中压脚动作 速度	设定中压脚电流 CUR=8 档时的压脚动作速度			8-17	13	输入

10、绕线芯:

代号	简述	详述	单位	步长	范围	出厂值	类型
SPD	绕线速度设置	绕线速度设置	100RPM	1	2~27	13	输入
STP	绕线器停止 方式设置	绕线器停止方式设置			0:UTS:抬 起踏板 停止绕 线 1:RTS:再 次踩踏 板停止 绕线 2:TTS:定 时停止 绕线	1	选择
TPD	定时停止绕 线时间设置 (单位 秒)	定时停止绕线时间设置(单 位 秒)	s	2	2~498	30	输入

11、移送方式:

代号	简述	详述	单位	步长	范围	出厂值	类型
TYP	压板类型选 择	压板类型选择			0:AIR:气 动	0	选择

					1:MAG: 磁铁 2:ADP: 自适应		
WEI	压板重量选择	压板重量选择			0:HIG:轻 1:MID: 中 2:WEG: 重	1	选择
HIG	选择轻压板 (气量 L)	选择轻压板 (气量 L)		1	0~255	145	输入
MID	选择中压板 (气量 M)	选择中压板 (气量 M)		1	0~255	0	输入
WEG	选择重压板 (气量 H)	选择重压板 (气量 H)		1	0~255	0	输入
STP	缝纫类型选择	缝纫类型选择			0:TIN:薄 1:MID: 中 2:TIC:厚	0	选择
THIN	薄物料厚度	薄物料厚度		1	0~255	0	输入
MID	中物料厚度	中物料厚度		1	0~255	0	输入
THCK	厚物料厚度	厚物料厚度		1	0~255	0	输入
SUI	打版跟随动作设定	打版跟随动作设定			0:OF: 禁止 1:ON: 使能	1	选择
SMD	起始动框角度微调	移框开始角度的调整	度	1	-50~+50	0	输入
STD	结束动框角度补偿	移框结束角度的调整	度	1	-50~+50	0	输入
SAE	动框起始角度设定	设定 1800rpm 以上的起始动框角度值	度	1	135-280	135	输入
MMD	移动模式	XY 轴动作模式			0:ETM: 等时 1:NTM: 不等时	0	选择
RSE	8 号降速曲线起始动框角度	8 号降速曲线起始动框角度	度		0~720	0	输入
REE	8 号降速曲线结束动框角度	8 号降速曲线结束动框角度	度		0~720	0	输入
SSM	试缝方式	STP:抬起停止 MOV:抬起继续移动					
MCX	X 轴动框曲				0~10	0	输入

	线号						
MCY	Y 轴动框曲线号				0~10	0	输入

12、速度：

代号	简述	详述	单位	步长	范围	出厂值	类型
HSP	高速设定	高速设定 最高工作转速值	100RPM	1	2~27	23	输入
LSP	低速设定	低速设定	100RPM	1	2~27	2	输入
MHS	中高速设定	中高速设定	100RPM	1	2~27	15	输入
MLS	中低速设定	中低速设定	100RPM	1	2~27	10	输入
EDL	移送延时设置	移送动作后延时		1	0~9999	0	输入
JDL	寸动延时设置	寸动动作后延时		1	0~9999	0	输入
IDL	打版延时设置	打版动作后延时		1	0~2700	0	输入
SEW	缝纫速度设置（档位）	缝纫速度设置，0-9 均分10 档速度，由 HSP 和 LSP 决定每档速度		1	0~9	4	输入
REL	缝纫速度设置（真值）	缝纫速度设置，以 100rpm 为单位直接设定转速	100rpm	100	2~27	9	输入
FED	移送速度设置	空送段速度设置		1	0~9	4	输入
FRM	动框速度设置	动框速度设置		1	1~3	3	输入
SPS	回起缝点速度设置	回起缝点的速度设置		1	0-9	4	输入
HPS	找原点速度设置	找原点速度设置		1	5~10	5	输入
SMS	单步移动速度设置	单步移动速度设置		1	0~40	30	输入

13、剪线时序：

代号	简述	详述	单位	步长	范围	出厂值	类型
TRM	剪线开关	剪线开关			0:OFF:关闭 1:ON: 打开	1	选择
SPD	剪线速度	剪线速度	10RPM	1	20~40	40	输入
ANG	剪线后机针定位角度	剪线后机针定位角度			0:UP: 上 针位 1:DED: 上死点	0	选择
DLY	剪线开延时	剪线开延时	0.01s	1	0~255	12	输入
TST	剪线输出启	剪线输出启动时间/角度	毫米/度	2	0~998	210	输入

	动时间/角度						
TET	剪线输出终止时间/角度	剪线输出终止时间/角度	毫米/度	2	0~998	0	输入
TMD	剪线模式	剪线工作时序选择			0:FST 快速 1:GEN: 缓和	1	选择
OPT	松线开延时	松线开延时		1	0~255	0	输入
OSA	松线启动时间/角度	松线启动时间/角度	毫米/度	2	0~998	300	输入
OEA	松线终止时间/角度	松线终止时间/角度	毫米/度	2	0~998	0	输入
TFE	打版时自动添加剪线	打版操作时在结束符前是否添加剪线码			Off:关闭 On:打开	On	选择
TBE	缝制时空送前是否剪线	缝制过程中空送前是否剪线			Off:关闭 On:打开	On	选择
TBD	缝制结束时是否剪线	设定缝制结束时是否剪线, 忽略是否有剪线码			Off:关闭 On:打开	On	选择
UAT	剪线后上位置停车角度修正值	剪线后上位置停车角度修正值	度		0~100	0	输入

14、液晶屏幕:

代号	简述	详述	单位	步长	范围	出厂值	类型
WRN	蜂鸣器声音设定	蜂鸣器声音设定			0:OFF:无蜂鸣音 1:PAR:操作盘音 2:ALL:操作盘+报警音	2	选择
DEL	触摸屏灵敏度调节	触摸屏灵敏度调节		1	1~5	3	输入
LIG	背光亮度调节	背光亮度调节		1	20~100	100	输入
ATO	背光自动关闭开关	背光自动关闭开关			0:OF: 不自动关闭 1:ON: 自动关闭	0	选择
TIM	背光自动关闭等待时间	背光自动关闭等待时间	分钟	1	1~9	3	输入
BTN	按键显示风格	设置检测模式和功能模式下按键显示风格			0:ICN: 图标	0	选择

					1:TXT: 文本		
BKC	主界面花样显示设定	设置主界面花样显示背景色 0: 黑色 1: 青色 2: 红色 3: 绿色 4: 蓝色 5: 紫色 6: 黄色		1	0~6	0	输入
SES	花样选择显示风格	设置花样选择界面下显示风格 注: 仅显示使用过的图形形状			0:CLS:经典(号码列表显示) 1:SHP:显示花样形状	0	选择
ZST	放大方法	放大方法			SQA: 面积 L-W: 长宽	SQA	选择
RBS	回起缝点快捷键显示	回起缝点快捷键显示			OFF: 关闭 ON:打开	OFF	选择
DPN	是否显示落针点	是否显示落针点			NO:否 YES:是	NO	选择
CCS	组合花样连续缝	组合花样连续缝			NO:否 YES:是	NO	选择
LPT	大针数花样支持	大针数花样支持			OFF: 关闭 ON:打开	OFF	选择
SCS	主界面功能快捷键	设置主界面功能快捷键是否显示			OFF: 关闭 ON:打开	ON	选择
CSM	花样转换选择方法	花样转换选择方法的设置			STI:针迹 ELE: 要素	STI	选择
PSU	缩放单位	缩放单位的设置			%: 百分比 SIZ:尺寸	%	选择
MSM	多重缝缩放方式	多重缝缩放方式的设置			VAR: 间距可变 FIX:J 间距不变	VAR	选择

PMR	修改完成后返回方式	修改完成后返回方式设置			FUN: 功能选择 CNT: 继续修改	FUN	选择
OFM	多重缝、偏移缝修改方式	多重缝、偏移缝修改方式设置			REL: 相对修改 ABS: 绝对修改	REL	选择

15、其他:

代号	简述	详述	单位	步长	范围	出厂值	类型
NLD	机针冷却有无	机针冷却有无			0:OFF:无 1:ON:有	0	选择
PEM	单脚踏板操作允许	单脚踏板操作允许			0:OFF:禁止 1:ON:允许	0	选择
LAG	语言选择	语言选择			0:CH:中文 1:EN:English	0	选择
SSW	语音设定	语音功能设定			0:OFF:关闭 1:ON:打开	1	选择
VOL	按键语音音量大小	按键语音音量大小			30~63	50	输入
NSW	网络设定	网络设定			OFF:关闭 ON:打开	OFF	选择
LED	LED灯亮度	有LED输出机型,可以设定LED亮度值			0-100	50	输入
DLY	穿线时松线器打开延时	穿线时中压脚踏下松线器打开时间	秒		0-255	0	输入
CUR	穿线时松线器打开电流	穿线时松线器打开电流的保持值			0-255	0	输入
SEC	是否第一条空送后自动添加次原点	编辑花样设置第一条空送后的次原点			OFF:关闭 ON:打开	OFF	选择
SEC	打版中压脚是否随动	编辑花样设置中压脚是否随动功能			OFF:关闭 ON:打开	ON	选择
MAH	用于自动送料等机型	设置自动送料机型参数			0-10	0	输入
DSP	踩踏板后延时启动设置	踩踏板后延时启动设置			OFF:禁止 ON:允许	OFF	选择
DEP	踩踏板后启动	踩踏板后启动延时			0~200	0	输入

	动延时						
FEP	空送针距设置	空送针距设置	mm		10~120	12	输入
PTP	PLT 转换针距设置	PLT 转换针距设置			10~127	30	输入

16、维修保养：

代号	简述	详述	单位	步长	范围	出厂值	类型
NRT	更换机针剩余值	更换机针剩余值	1000 针	1	0~9999	0	输入
NST	更换机针设定值	更换机针设定值	1000 针	1	0~9999	0	输入
HRT	清扫时间剩余值	清扫时间剩余值	小时	1	0~9999	0	输入
HST	清扫时间设定值	清扫时间设定值	小时	1	0~9999	0	输入
ORT	机油更换剩余值	机油更换剩余值	小时	1	0~9999	0	输入
OST	机油更换设定值	机油更换设定值	小时	1	0~9999	0	输入
BLR	底线更换剩余值(针数)	点进去无法输入					
BLS	底线更换设定值(针数)	底线更换设定值			0~6000	0	输入
OLI	注油间隔时间	注油间隔时间	秒 (S)		0~999	0	输入
OLW	注油工作时间		毫秒		0~9999	0	输入

【注】参数「NRT」(更换机针剩余值)、参数「HRT」(清扫时间剩余值)、参数「机油更换剩余值」都不能执行设定操作，只能在「内部参数设定画面」下观察数值变化。

【注】维修保养设定值参数修改后，其对应的剩余值参数也同时会被修改为相同的数值。

【注】维修保养设定值参数被设定后（大于 0 的数值），对应的维修保养计数功能也同时会开启。




17、特殊：

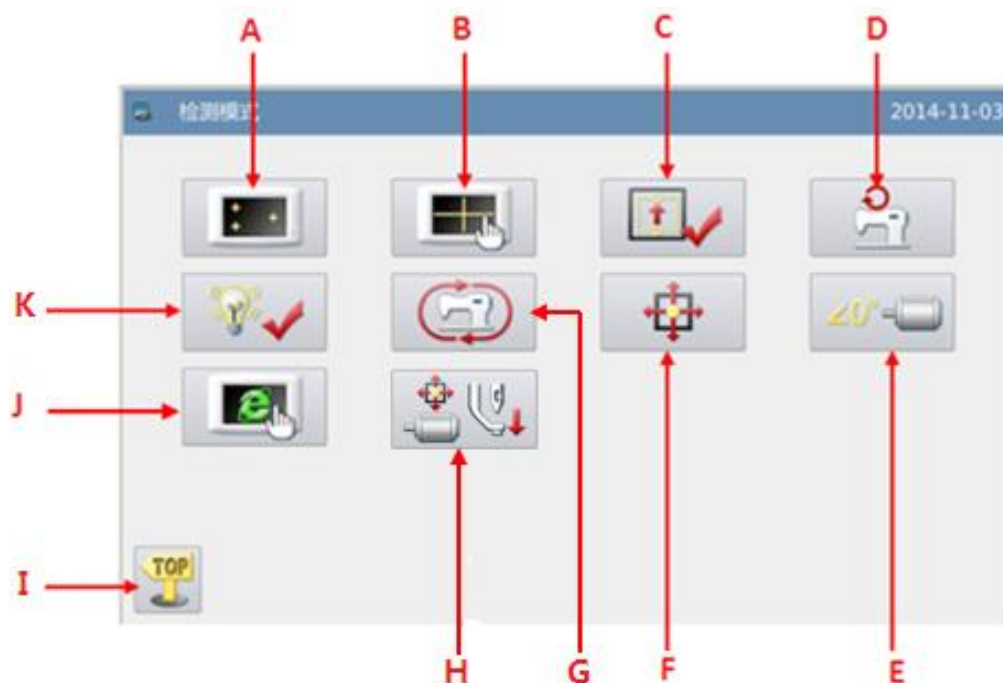
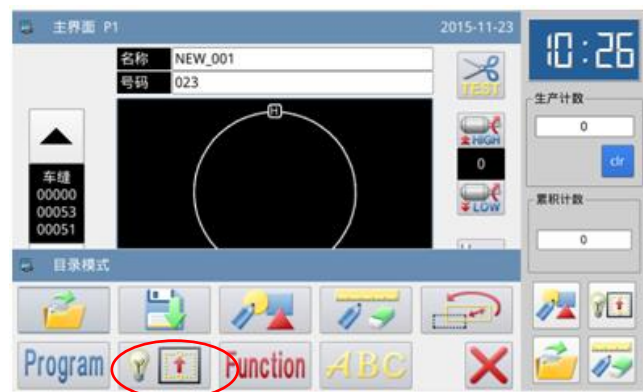
代号	简述	详述	单位	步长	范围	出厂值	类型
HSP	最高缝制速度	最高缝制速度	100RPM	1	2~27	23	输入
MAE	主轴电机停车角度	主轴电机停车角度	度	1	30~80	53	输入
DEB	字母绣功能使能	字母绣功能使能			0:OF: 关闭字母绣功能	1	输入

					1:ON: 打 开字母绣 功能		
DAE	上死点角度 设定	设定停车到上死点的角度 值	度	1	0~50	3	输入
RSC	针长降速曲 线	内置针长降速曲线选择		1	0-6	5	输入
HSL	最高不降速 针长	保持最高转速时的最大针 长	0.1mm	1	1-127	0	输入
MTS	主轴类型选 择	支持 550W 和 750W 类型			0-550W 1-750W	1	选择
xDIR	X 电机转向	切换 X 轴步进电机转向			POS:正向 NEG: 反 向	POS	选择
yDIR	Y 电机转向	切换 Y 轴步进电机转向			POS:正向 NEG: 反 向	POS	选择
zDIR	Z 电机转向	切换 Z 轴步进电机转向			POS:正向 NEG: 反 向	POS	选择
ADR	主控烧录地 址	U 盘升级主控程序写入地 址,可先 5 档			655360 ~917504	917504	输入
CVE	平行曲线算 法	设置编辑花样时生成的平 行曲线			A1: 算法 1 A2: 算法 2	A1	选择
MUS	多重缝下倒 缝算法	设置编辑花样时多重缝下 的倒缝			ALL: 按 段生成 SE: 头尾 生成	ALL	选择
TID	模板识别设 置	模板识别设置			OFF:关闭 ON:打开	OFF	选择
PFT	模板对应花 样号段				0~9 0:001~031 1:101~131 2:201~231 3:301~331 4:401~431 5:501~531 6:601~631 7:701~731 8:801~831 9:901~931	0	输入
PXO	记号笔 X 向	记号笔 X 向偏移			-500~500	0	输入

	偏移						
PYO	记号笔 Y 向偏移	记号笔 Y 向偏移			-200~200	0	输入
PSP	记号笔运行速度	记号运行速度			1~9	1	输入
TTY	模板识别设备	模板识别设备			SEN: 传感器 BAR: 条码扫描设备	SEN	选择
ICS	通讯速率提升	通讯速率提升			OFF: 关闭 ON: 打开	OFF	选择

2.8 检测模式说明

在主界面 P1 (或 P2) 界面上操作目录键 ，即打开多类目录模式，然后再按下检测模式键  ，即进入到检测模式。



功能说明：


序号	功能	内容
A	液晶检测	用于检测液晶显示。
B	触摸屏校正	用于校正触摸屏。
C	输入信号检测	用于检测各类开关、传感器等输入信号。
D	速度检测	用于检测主轴马达转速。
E	主轴马达安装角度调整	用于显示和设定主轴马达安装角度。
F	XY 马达原点检测	用于检测 X 轴和 Y 轴马达原点。
G	连续运转	用于设定连续运转参数，进入老化状态。
H	中压脚功能检测	用于检测中压脚
I	退出	退出检测模式，返回到主界面。
J	网络设定	用于网络相关设置。
K	输出信号检测	用于检测各类压脚、剪线等输出信号。

2.8.1 液晶检测

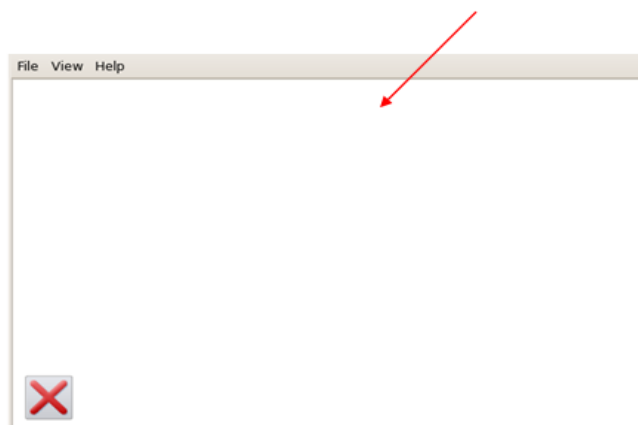
功能说明：

检测模式界面下按下液晶检测

按键 ，进入液晶检测

功能，点击除退出键  以外的位置，液晶会依次显示白、黑、红、绿、蓝五种颜色，用于判定液晶是否存在失色。


按下退出键  返回到上一级画面。




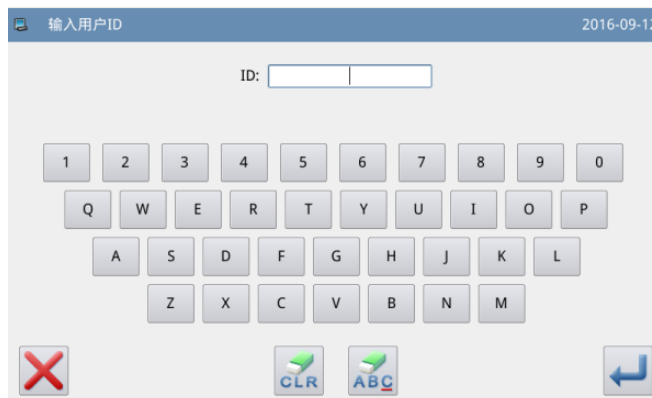
2.8.2 触摸屏校正

功能说明:

检测模式界面下按下触摸屏校

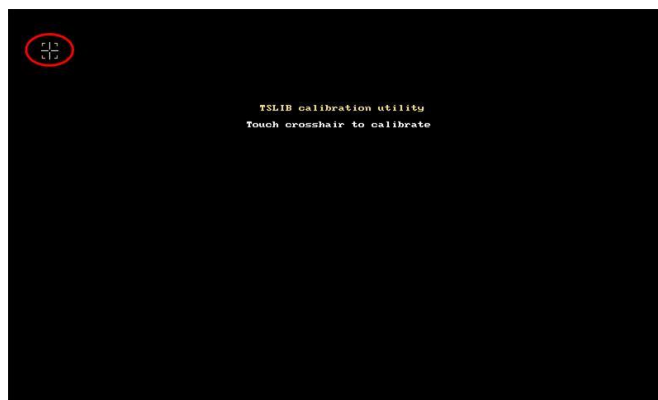
正键 ，此时会显示「输入用户 ID」界面，见右图，输入 ID

后按下确定键  进入触摸屏校正功能。



需要进行 5 点的校正，最好采用触摸笔一类工具点击画面中的十字光标，校正结束后会显示提示信息显示本次操作是否成功。


【注】校正过程中请务必按照十字光标指示位置进行确定，否则会导致校正结束后无法正常使用触摸屏。



2.8.3 输入信号检测

功能说明:

检测模式界面下按下输入信号

检测按键 ，进入输入信号检测功能。

ON: 表示开启

OFF: 表示关闭

输入信号种类:

- ① 启动开关（踏板）
- ② 压脚开关（踏板）



- ③ 暂停开关
- ④ 断线检测
- ⑤ X 马达传感器
- ⑥ Y 马达传感器
- ⑦ 中压脚原点
- ⑧ 安全开关
- ⑨ 外部输入 1 (PORG)
- ⑩ 外部输入 2 (PSENS)
- ⑪ 外部输入 3 (CORG)
- ⑫ 外部输入 4 (CSENS)
- ⑬ 外部输入 5 (AORG)
- ⑭ 三联脚踏板

按下退出键  返回到上一级画面。


2.8.4 主轴转速检测

功能说明:

检测模式界面下按下速度检测

按键 ，进入主轴转速检测功能。

通过  和  可以设置主轴马达目标转速，按下运转键

 后，主轴马达会以设定的转速旋转。此时，实际测得的转速会显示在实际转速输入栏。



按下停止键 ，则机器停止运转。

按下退出键  返回到上一级画面。



2.8.5 输出信号检测

功能说明:

检测模式界面下按下输出信号检测按键  ，进入输出信号检测功能。

在该界面下按下输出信号按键，就可以检测电磁铁等输出信号的输出状态。

输出信号种类:

- ① 拔线
- ② 剪线
- ③ 外压脚
- ④ 中压脚
- ⑤ 松线
- ⑥ 翻转压脚
- ⑦ 辅助气阀 1
- ⑧ 辅助气阀 2
- ⑨ 辅助气阀 3
- ⑩ 辅助气阀 4
- ⑪ 辅助气阀 5

按下退出键  返回到上一级画面。


【注】 缝纫机会有实际动作。




2.8.6 连续运转

功能说明:

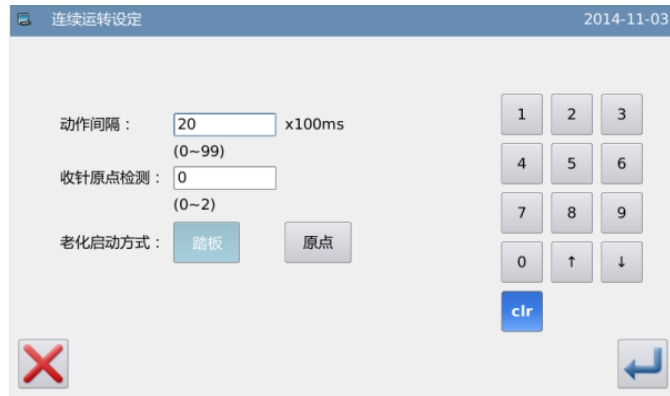
检测模式界面下按下连续运转

按钮 ，进入连续运转设定功能。

点击动作间隔输入栏或收针原点检测输入栏，通过数字键盘输入

想要设定的数值，按下确定键  返回到上一级画面。


可以通过踏板或者原点两种老化启动方式，设置完毕后返回到主界面 P1（或 P2），踩下脚踏板或者按下回原点按钮使缝纫机运转起来，即进入到连续运转模式



2.8.7 XY 马达原点检测

功能说明:

检测模式界面下按下XY 马达原

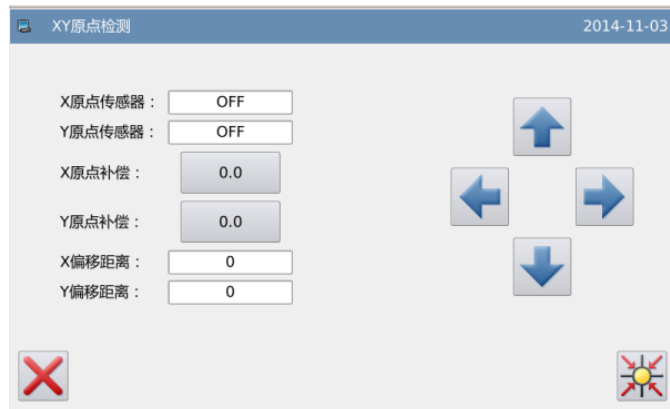
点检测按钮 ，进入 XY 马达原点检测功能。

在该界面下通过方向键驱动 XY 马达移动，过程中可以实时显示出传感器的 ON/OFF 状态。

ON: 检测到传感器

OFF: 未检测到传感器

按下退出键  返回到上一级画面。




【注】 缝纫机会有实际动作。

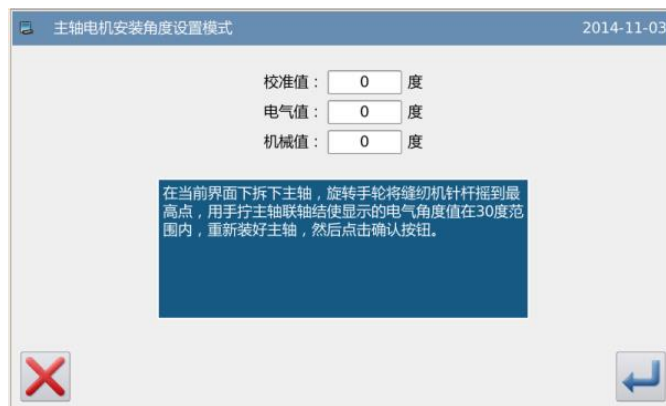
2.8.8 主轴马达安装角度设置

功能说明:

检测模式界面下按下主轴马

达安装角度设置按键 ，
进入主轴马达安装角度设置功能。


在当前界面下拆下主轴，旋转手轮将缝纫机针杆摇到最高点，用手拧主轴联轴结使显示的电气角度值在 30 度范围内，重新装好主轴马达，然后按下确定键



2.8.9 网络设置

功能说明:

检测模式界面下按下网络设

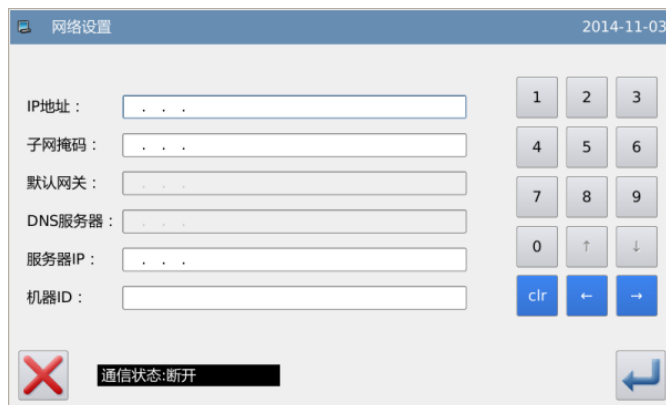
置按键 ，进入网络设置功能。当需要使用操作头的网络功能时，需要设置网络相关参数。

通过数字键盘输入网络设置内容，要确保「IP 地址」和「服务

器 IP」在一个字段内，和







键用于左右移动光标，设置完毕后点击“连接”即可跟计算机进行网络连接。



2.8.10 中压脚检测

功能说明:

检测模式界面下按下中压脚检测按键 ，进入中压脚检测功能。


- ：降低中压脚
- ：提升中压脚
- ：切换中压脚位置

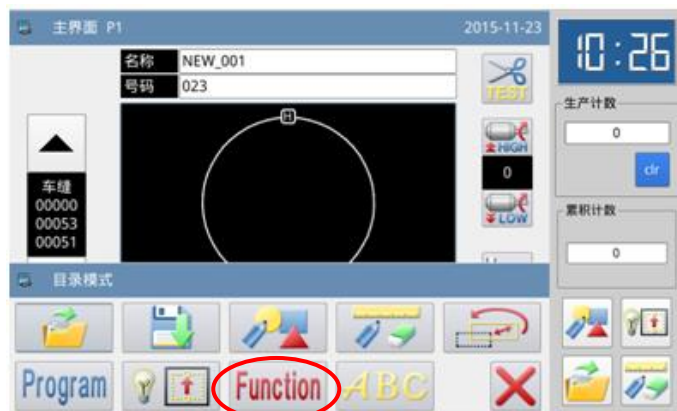
【注】在此界面踩下启动踏板后中压脚将返回原点位置（中压脚最高位置）；最高点对应 71mm,中间点 35mm,最低点 0mm,调整位置就是物料厚度位置；

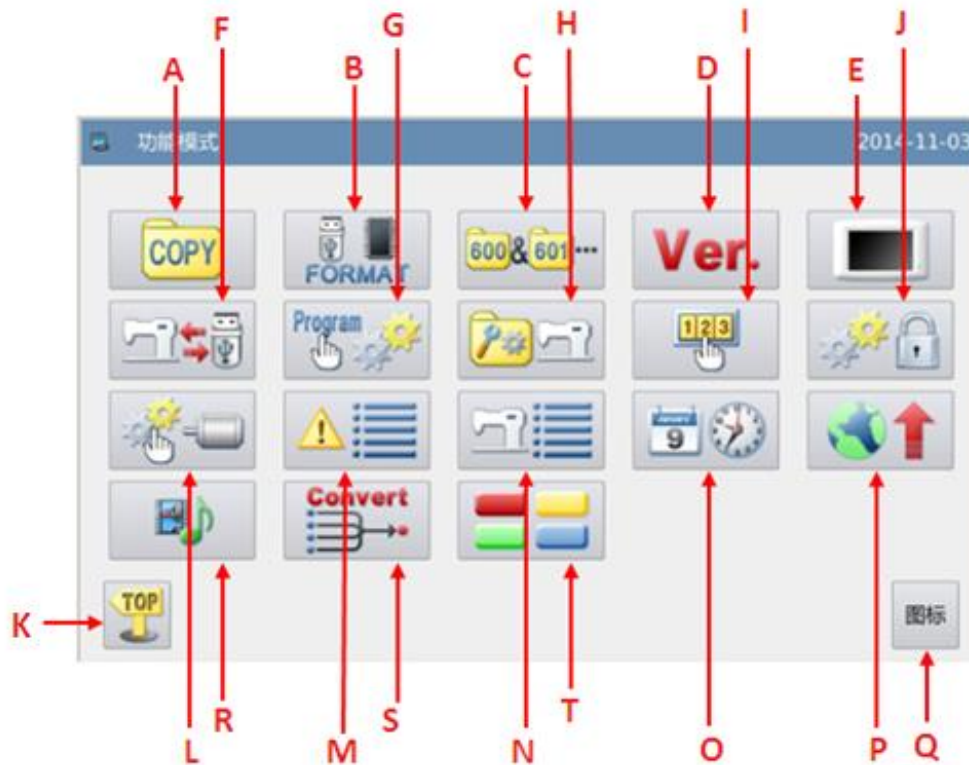
该功能仅限 G 款机型。



2.9 功能设定说明

在主界面 P1（或 P2）界面上操作目录键 ，即打开多类目录模式，然后再按下功能设定键 **Function**，即进入到功能设定模式。






功能说明:








序号	功能	内容
A	图形传输	内存与 U 盘之间传输拷贝花样文件。
B	格式化	格式化 U 盘、内存和花样号码快捷键。
C	图形连接	编辑组合花样。
D	软件版本	查询系统软件版本。
E	显示设定模式	提供背光、按键锁、亮度等显示设定。
F	还原备存	参数设定值保存到 U 盘中，用于以后的还原操作。
G	默认参数	提供默认参数的恢复和自定义读写功能。
H	花样号码快捷键编辑	编辑花样号码快捷键内容。
I	密码模式	提供用户分期密码功能。
J	参数加密	参数模式下的各个操作入口设定密码。
K	退出	返回主界面。
L	电机配置	进入主轴电机、步进电流配置模式。
M	报警记录	查看报警统计信息。
N	运转记录	查看机器运转信息。
O	日期和时钟设置	设置日期和时间。
P	软件升级	进入软件升级模式。
Q	图标和文字的转换	实现快捷键在图形和文字间的转换。
R	播放器	可以播放格式为 mp3,avi 格式的音频。
S	进入花样格式批量转换模式	把非标准的花样格式都修改为标注花样格式 注：标准花样格式为 nsp 格式。
T	快捷键设置	用户可根据根据自己常用的功能，编辑此快捷键，显示在主页面上，方便用户操作便捷。

2.9.1 数据传输模式

功能设定界面下按下数据传输键 ，即进入数据传输模式。提供两种传输方式：「内存复制到U盘」和「U盘复制到内存」。




功能说明：

序号	说明
A	页数显示，显示内容为当前页/总页数
B	花样列表
C	 ：内存花样列表  ：U盘花样列表
D	选择全部花样
E	删除花样
F	退出，返回上一级画面
G	翻页查询
H	选择读取内存或者U盘花样  ：内存读取模式使能，此时U盘读取模式禁止  ：内存读取模式禁止，此时U盘读取模式使能  ：U盘读取模式使能，此时内存读取模式禁止  ：U盘读取模式禁止，此时内存读取模式使能  ：切换选择U盘或内存


I	U盘文件夹显示
J	确定操作



操作说明:

1、复制模式选择

默认进入该界面是内存花样复制到 U 盘模式，可以通过切换键  切换复制模式。



2、选择文件

在花样列表中选择要复制的花样文件（本例中选择了 400、401 和 600 号花样），如果花样较多可以通过翻页键  来翻阅画面。

如果想要复制全部花样按下  键，删除花样按下  键。

3、确定复制



选择好了花样文件之后，按下确定键 ，此时会显示「是否拷贝指定的花样数据」的提示信息，按下确定键  执行复制操作。如果是从内存复制到 U 盘，会在 U 盘根目录下自动创建「dh_pat」目录，花样文件会拷贝到该目录下。

【注】复制时内存和 U 盘里如有相同的图号时，会被新资料盖写。

2.9.2 格式化模式

功能设定界面中按下格式化键



，即进入格式化模式。

该界面下提供 4 种格式化方式：
格式化 USB、格式化内存、自定义格式
化内存和格式化花样号码快捷键。





1、格式化 USB 说明：

按下「USB」按键之后会把 USB 内全部文件删除掉，需要备份资料的话请提前做好备份。

2、格式化内存说明：

按下「内存」按键之后会把内存中全部花样格式化掉。

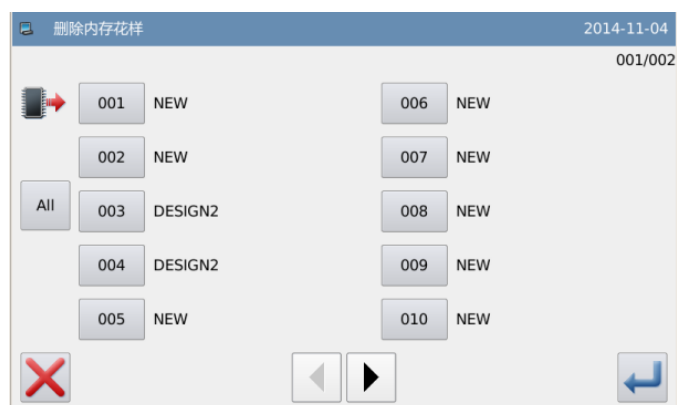
【注】执行内存格式化命令之后，按下退出键  退出时，会显示「内存中没有花样」的提示信息，确定键  操作后会自动加载出厂花样。

3、自定义格式化说明：

按下「自定义」按键之后，会进入到自定义格式化内存花样界面。



该界面下提供了全部花样列表，可以选择性的删除花样。

【注】当前缝制花样不能删除。




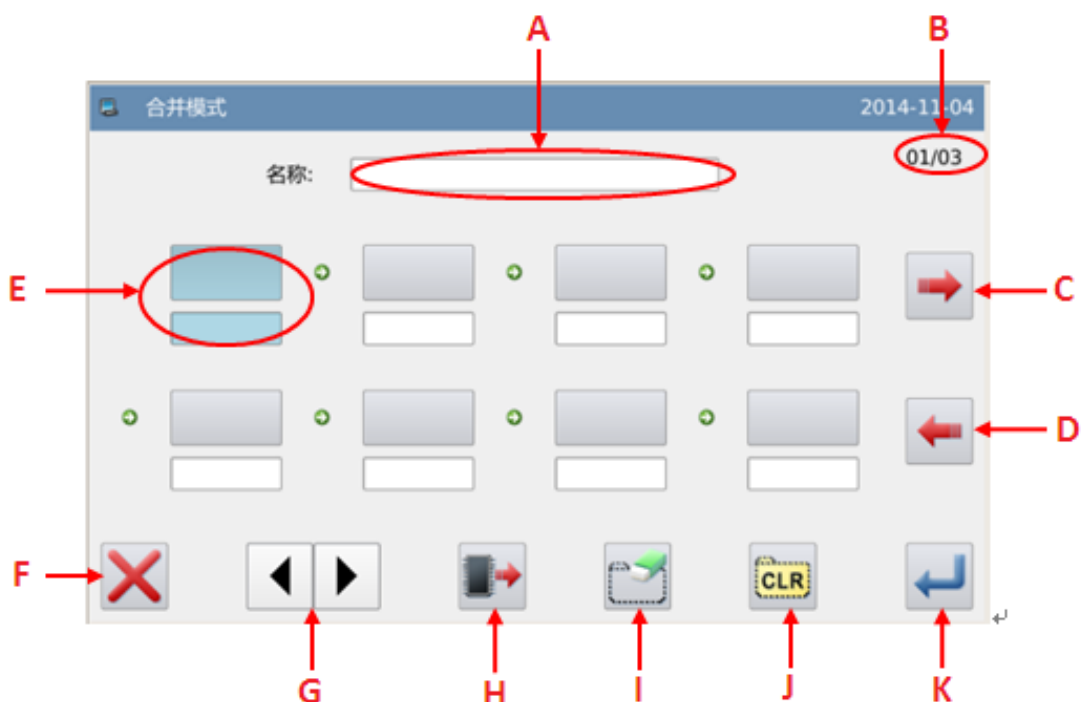
4、快捷键格式化说明：

按下「快捷键」按键之后，会清除掉花样号码快捷键的内容。

【注】执行快捷键格式化命令之后，按下退出键  退出时，会显示「花样列表（快捷键）为空」的提示信息，确定键  操作后会当前花样号码导入到快捷键中。

2.9.3 图形连接模式

功能设定界面中按下图形连接键 ，即进入图形连接模式。图形连接模式主要用于创建和编辑组合花样，也就是在已有的花样基础上进行组合编辑，构成组合花样的文件称为子花样文件。





功能说明：

序号	说明
A	组合花样名称显示
B	页数显示
C	读取组合花样
D	存储组合花样
E	子花样文件显示
F	退出，返回上一级画面
G	翻页
H	从内存读取已有的花样添加到组合花样中
I	删除组合花样中的子花样文件
J	取消组合花样
K	确定当前操作

操作说明：

1、选择一个子文件


点击按钮，进入到读取模式，选择想要添加的花样文件（这里选择了 612 号花样），按下确定键确定选择。

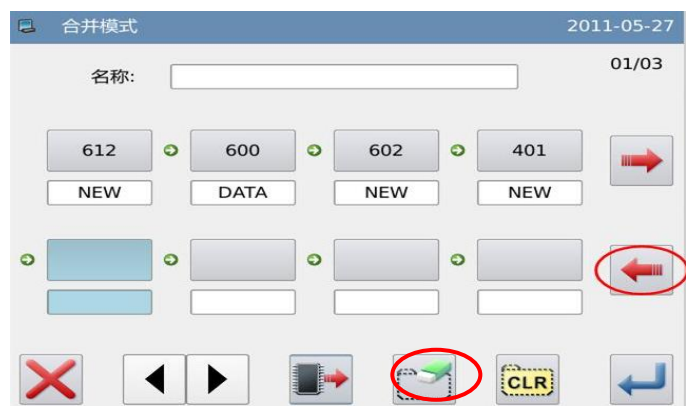
【注】组合花样中添加文件必须按前后顺序添加。




2、继续添加子文件


同之前的操作，继续添加子花样（这里选择继续添加了 600、602 和 401 号花样）。

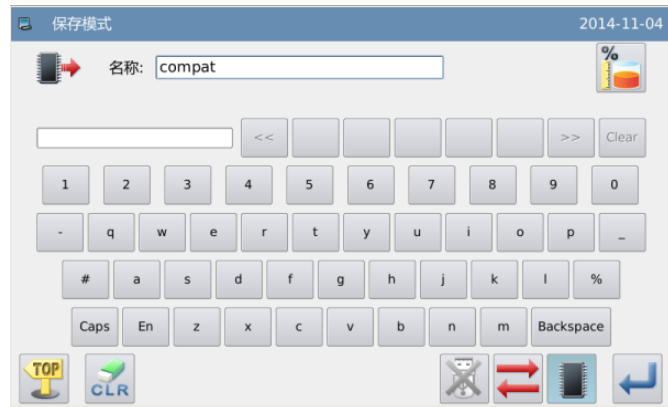
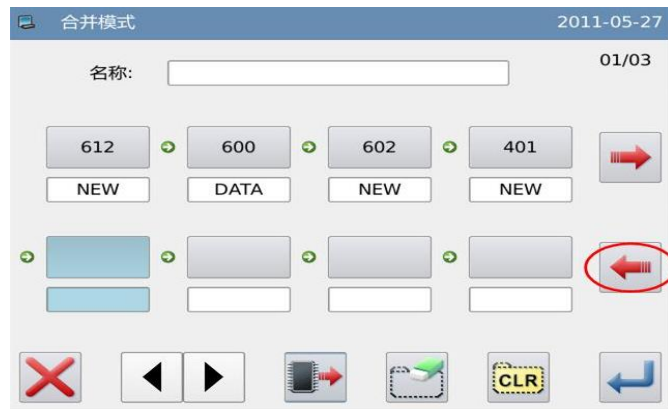
如果想要删除掉其中一个子花样文件，点击想要删除的子花样文件图号，然后再按下删除键即可。




3、保存组合花样文件

按下保存键 ，进入到组合花样保存模式。

为组合花样起好名字之后，按下确定键  确认保存。该界面下其他操作参照【2.6 花样保存】内容。



4、返回主界面

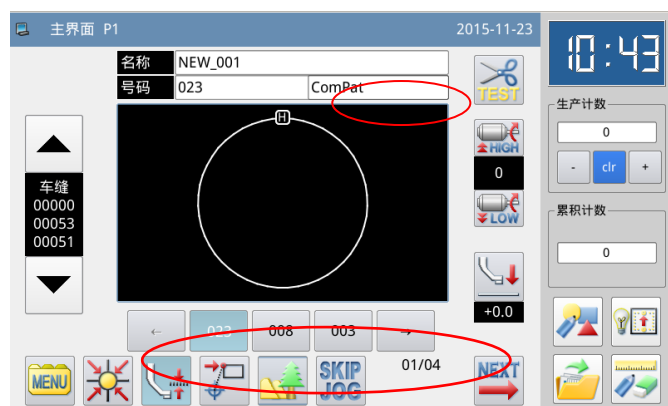
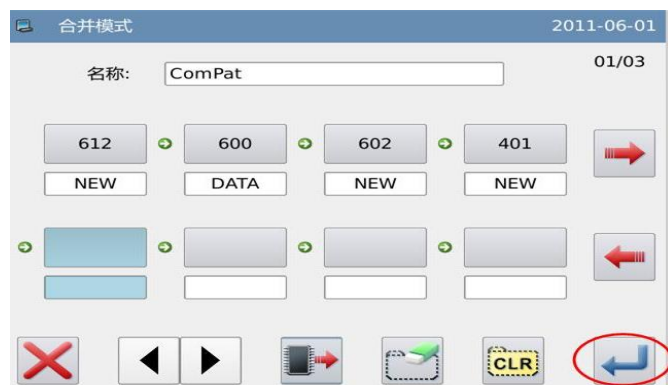
当组合花样编辑结束后，按下确定键  返回到主界面。

如图所示，组合花样缝制界面与普通花样缝制界面有一些区别：



① 号码区域后面显示了组合花样名称，而名称区域显示了组合花样中当前子花样文件的名称。

【注】如果组合花样没有名称，则什么也不显示。

② 原来的花样号码快捷键区域显示内容为组合花样所包含的子花样文件。可以直接点击子花样文件图号，这样的话就会从该花样开始进行缝制。






5、取消组合花样缝制

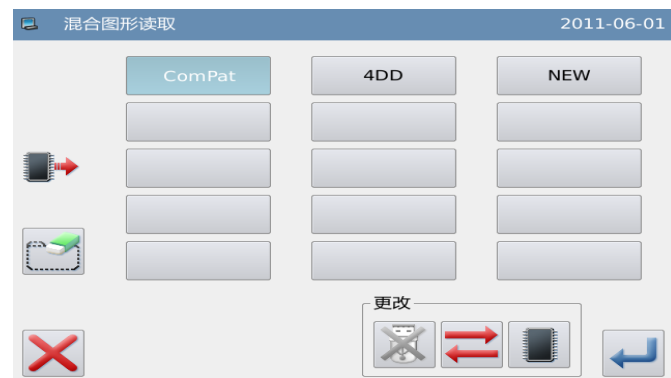
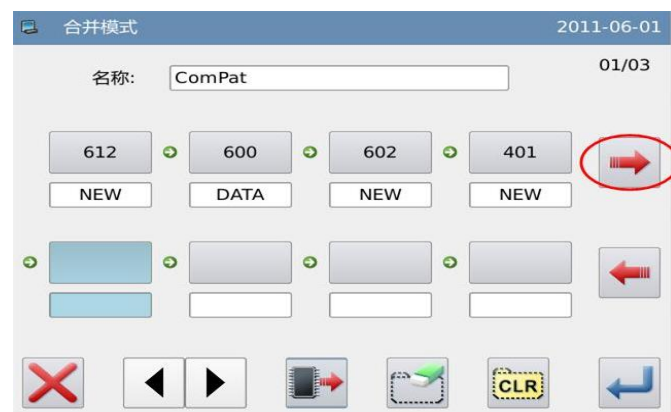
如果想要取消掉组合花样缝制，需要再次进入图形连接模式，然后点击按键 ，然后确定键  返回即可。



6、读取组合花样文件

在图形连接模式界面下，如果存在组合花样资料显示时点击按键 ，此时会显示「请清除当前的合并资料」提示信息，点击按键  之后会清除掉当前组合花样显示资料。


再次点击按键  就可以进入到混合图形读取界面，选择想要缝制或编辑的组合花样文件即可。



2.9.4 软件版本查询模式

功能设定界面中按下版本查询


键 ，即进入版本查询模式。

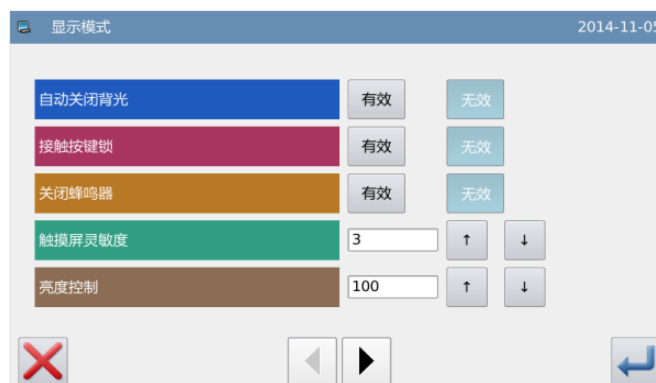
按下  键可以把软件版本导出到 U 盘根目录下，文件名为 version.png。



2.9.5 显示设定模式

功能设定界面中按下显示设定

键 ，即进入显示设定模式，该界面下可以调整有关显示、操作的一些设定。



1、自动关闭背光


设定的时间一到，屏幕背光会自动关闭。

设定范围：1~9 分钟

出厂设定值：「无效」

解除方法：在背光关闭期间，只要在面板的任何地方按一下就会点亮屏幕。

2、接触按键锁

接触按键锁为「有效」时，即进入防止误操作状态，所有按键成无作用状态（显示为灰色），确定键  操作之后会直接返回到主界面 P1。

出厂设定值：「无效」

解除方法：按住主界面 P1 的标题栏 5 秒钟以上，等「哔」声响后即完成解除。（解除

以后，解除按键锁机能设定成「无效」)



3、关闭蜂鸣器

设定成「有效」时，按键不会有「哔」的声音发出。
出厂设定值：「无效」

4、触摸屏灵敏度

调整触摸屏灵敏度，数值越大按键越灵敏。
设定范围：1~5
出厂设定值：3

5、亮度控制

调整液晶显示亮度，数值越大亮度越高。
设定范围：1~100
出厂设定值：100

6、按键显示风格

设置部分按键显示风格，设置成功会影响「多类目录」、「检测模式」和「功能设定」界面下的按键显示。

设定范围：0~1（0：图标，1：文本）
出厂设定值：0



图标型按键显示



文本型按键显示

7、主界面花样显示设定

设置主界面花样显示背景色。

设定范围：0~6（0：黑色，1：青色，2：红色，3：绿色，4：蓝色，5：紫色，6：黄色）

出厂设定值：0

8、主界面花样显示设定

设定范围：0~6（0：黑色，1：青色，2：红色，3：绿色，4：蓝色，5：紫色，6：黄色）

出厂设定值：0

9、花样选择显示风格

设置读取花样界面下显示风格，仅显示使用过的图形形状。

设定范围：0~1（0：号码，1：形状）

出厂设定值：0

参照【2.5.5 花样列表视图显示】节内容

10、面板显示风格

调整面板显示风格。

设定范围：0~2（0：plastique，1：cleanlooks，2：windows）

出厂设定值：0

11、辅助信息栏位置

设置辅助信息栏位置。

设定范围：0~1（0：右侧，1：左侧）

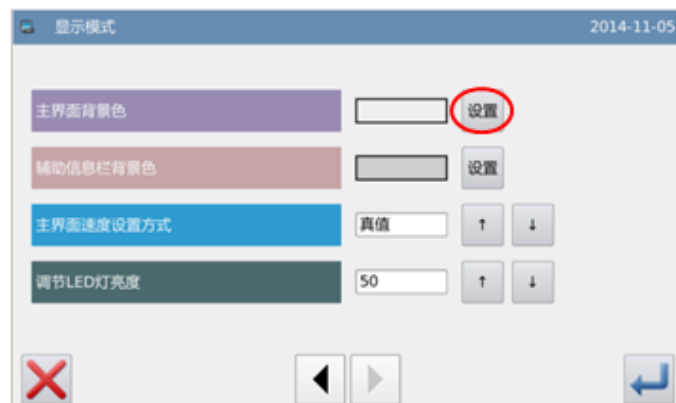
出厂设定值：0

【注】设置成功后需要关电重启。

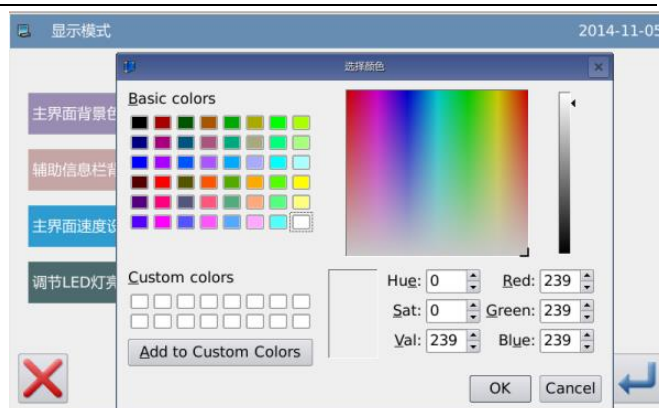
12、主界面背景色


设置主界面背景色。

按下「设置」键，即可打开调色板。



根据个人喜好选择希望的颜色，然后按下「OK」键确定并关闭调色板。



此时颜色显示区域会显示出已选择的颜色，按下  键后会直接返回到主界面 P1，并且会修改主界面的背景色。



13、辅助信息栏背景色

设置辅助信息栏背景色，操作同上。


14、主界面速度设置方式

分档位和真值两项

15、调节 LED 灯亮度

调节范围：0~100

2.9.6 还原备存模式


功能设定界面中按下还原备存  键，即进入还原备存模式。

可以把更改后的参数设定值保存到 U 盘中，用于以后的还原操作。

详细内容参照【2.7.4 参数的还原与备存】节。



2.9.7 默认参数模式


功能设定界面中按下默认参数键 ，会要求输入密码（初始密码为厂家 ID），密码输入正确后即进入默认参数模式。

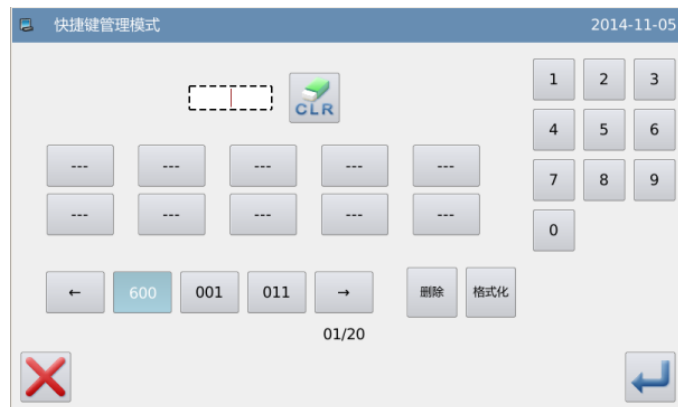
主要用于恢复出厂参数，以及用户自定义保存当前参数设定值，用于以后的调用。

详细内容参照【2.7.5 默认参数恢复】节。



2.9.8 快捷键管理模式

功能设定界面中按下快捷键管理键 ，即进入快捷键管理模式，主要用于花样号码快捷键的编辑。



1、输入花样号码并且选择要编辑的快捷键位置

参照【2.5.1 直接读取模式】节内容，可以在已知图号的前提下，输入号码查找已存花样。

然后在快捷键显示区域选择想要编辑的位置（这里选择了第3号位置）。



2、快捷键编辑


在已查找出来的花样列表中选择 一个花样号码并点击该图号，此时就会在快捷键区域中已选位置上添加该图号。


也可以在已有快捷键列表中已有图号的位置添加花样，这就相当于插入一个号码，添加位置之后的号码会后退一个位置。


【注】如果选择添加的图号已经存在于快捷键中，会自动把该花样在快捷键列表中的位置调整到最接近已选位置的地方。



3、删除和格式化

在快捷键显示区域选择一个图号并按下  键，就会在快捷键列表中删除掉该花样的图号，然后快捷键列表会自动调整所包含的图号位置。


按下  键会清除掉快捷键列表中的全部图号。

【注】格式化后按下确定键  返回时会显示「花样列表（快捷键）为空」的提示信息，确定操作后会 把当前花样号码导入到快捷键中。



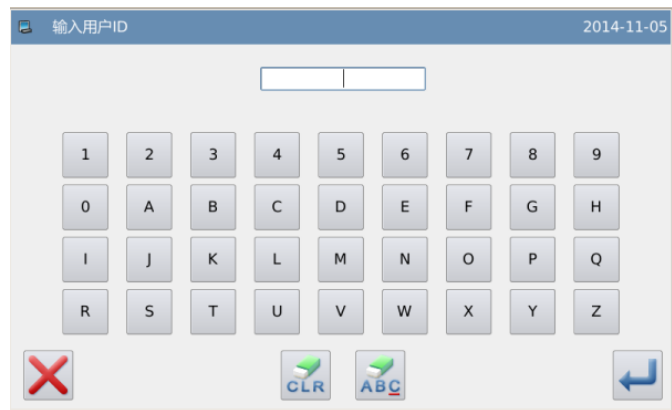
2.9.9 密码模式

功能设定界面中按下密码管理


键 ，会显示输入用户 ID 界面，输入正确的厂家 ID 后即进入密码管理模式，主要用于用户分期密码的设置和管理。

① 可以最多设置 10 个不同的密码发作日期。

② 系统可以显示厂家设置的密码信息。





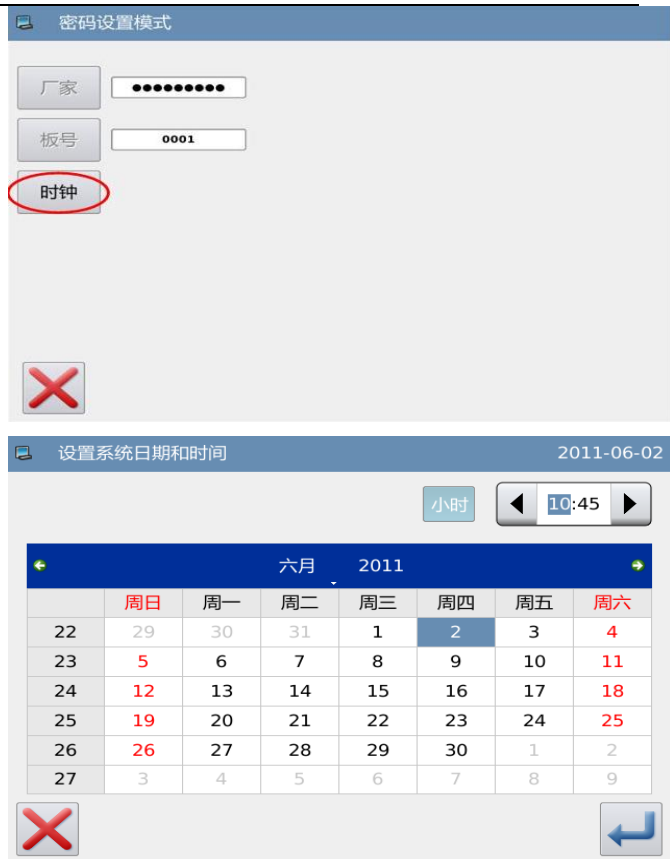
1、输入板号

按下「板号」键，进入输入板号界面，板号为四位，范围 0000~9999，可用于厂家的密码管理。输入板号后并按下  键完成操作并返回上界面。（这里输入板号为 0001）



2、确定系统时钟



按下「时钟」键，会进入设置系统日期和时间界面，如需要修改系统时钟，请在修改时钟后按下  键完成操作（参照【2.9.14 日期与时间设置模式】节内容），否则按下  键退出即可。



3、输入超级密码

按下「超级密码」键，会进入输入超级密码界面。




最多可以输入 9 位总密码，画面以「•」号显示，按  键确认后，会要求再次输入密码进行确认。如果两次输入密码不一致，则要求重新输入超级密码。两次输入密码一致后，按  键保存并退出。




4、输入分期有效日期和密码

按下「密码-1」键，会要求输入输入第一个有效日期。

有效日期是指第一次密码发作的时间，该日期不可小于系统日期。

选择合适的日期后按下  键完成操作，此时会进入到输入密码界面。



分期密码输入方式与输入超级密码的方式相同，确认密码完成之后按下  键保存退出。




5、选择继续输入分期密码

如果需要输入下一个有效日期和密码，具体操作同上。最多可输入 10 个有效日期和密码。




【注】下一个有效日期必须大于上一个有效日期。

6、保存密码

输入完所需要的密码后，按下  键保存设置的全部信息，如果密码保存成功会显示「密码保存成功」的提示信息。



确定保存之后会返回到上一级画面。

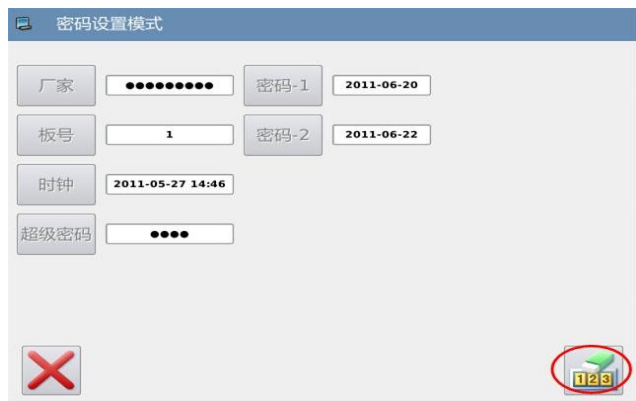
【注】只有至少设置了一个分期密码后才会显示  键。


7、主动清除密码

主动清除密码是指在密码发件之前清除密码。

进入密码显示界面的方法与进入密码设置的方法相同。

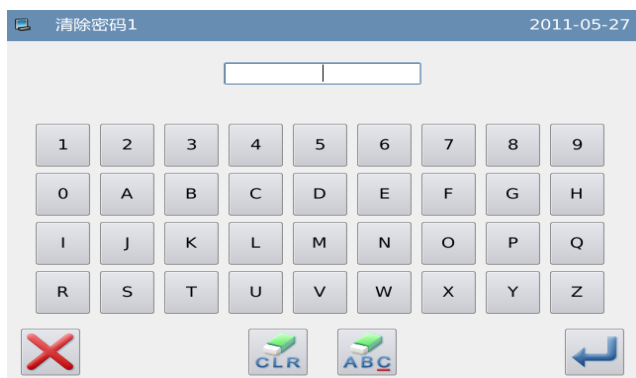
在正确输入厂家 ID 之后，显示如右图所示，系统显示出当前时钟和各个分期密码的发件日期。



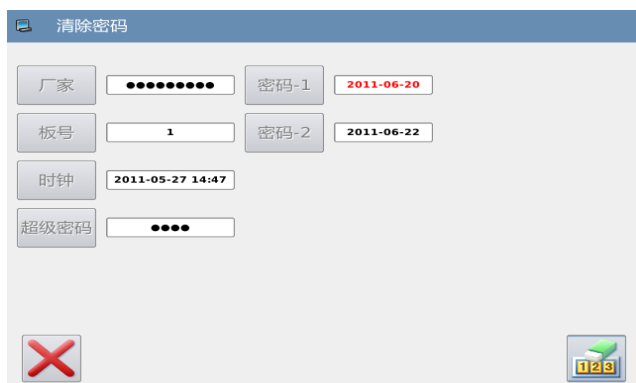
按下  键则会提示输入当前密码，清除密码依照从前往后的顺序。

此时，输入两个密码有效。当输入密码为当前提示密码时，则清除当前密码；当输入密码为超级密码时，则清除所有密码，即机器不再有密码。当清除的为当前密码时，如果后面无密码，则机器不再有密码。按下

 键完成操作。



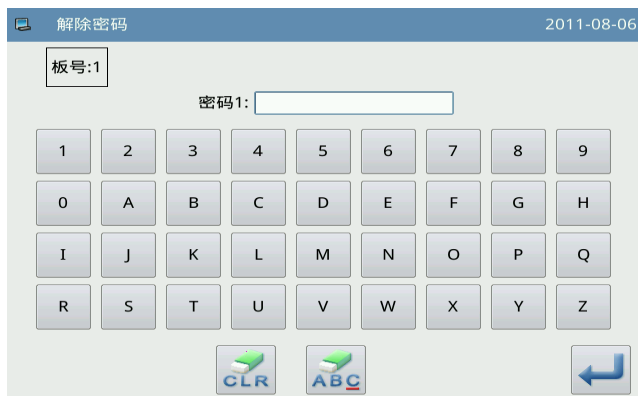
经解密的密码显示为红色，如右图所示。如果全部密码被解密则自动退出，返回到上一级界面。





8、密码发作时清除密码

如果系统已经设置密码并且未解除，则使用至设定密码有效日期时会遇到密码发作，此时要求用户必须输入有效密码才能使机器继续正常运行。

有效密码包括当前提示的密码和总密码。当输入密码为当前提示密码时，则清除当前密码；当输入密码为总密码时，则清除所有密码，即机器不再有密码。当输入的为当前密码时，如果后面没有密码，则机器不再有密码；如果后面还有密码，则按照设置日期生效。



2.9.10 参数加密模式


功能设定界面中按下参数加密键  ，会要求输入密码（初始密码为厂家 ID），密码输入正确后可以进入参数加密模式。

详细内容参照【2.7.3 参数模式加密说明】节。



2.9.11 电机配置模式

功能设定界面中按下电机配置

键 ，会要求输入输入密码（初始密码为厂家 ID），密码输入正确后可以进入电机配置模式。



实例说明：



这里我们按下「主轴电机」键进入主轴电机开放参数配置界面。

可以看到所有参数都是以表格形式显示的，点击任意表格会显示出左右箭头用于调节表格内参数设定值（如果不出现左右箭头表示该参数不能设定）。

设定好参数之后需要在该表格以外的区域点击一次才能够顺利的保存参数数值。（这里我们修改了 1 号参数，修改后需要在箭头所指的区域里点击一下才能够保存设定值）



2.9.12 报警记录模式

功能设定界面中按下报警记录键  ，会要求输入厂家 ID，输入正确后可以进入报警记录模式。

报警记录模式下显示了系统最近发生的报警内容，序号越小表示该报警信息发生的时间越新。



另外还记录了每次报警发生时的累积生产计数值。



按下数字键后，会显示报错信息和解决措施



2.9.13 运转记录模式

功能设定界面中按下运转记录键  ，会要求输入厂家 ID，输入正确后可以进入运转记录模式。

① 累积运转时间：记录机器缝纫时间总和

② 累积缝纫件数：记录缝纫花样总件数

③ 累积上电时间：记录机器上电时间总和

④ 累积缝纫计数：记录机器缝纫针数总和



另外点击「清除」键可以清除掉该项计数值。



【注】如果清除了累积缝纫件数，也会同时会把主界面辅助信息栏的「累积计数」清零。

2.9.14 日期与时间设置模式

功能设定界面中按下日期时间

设置键  ，可以进入日期与时间设置模式。



1、日期设置方法:

点击日历中的「年份」(这里为2011)，会显示出左右两个箭头，用于调节年分大小。

点击日历中的「月份」(这里为六月)，会弹出1~12月的选择菜单，选择合适的月份即可。

年份和月份设置后均会刷新日历显示，显示该年月的正确月历内容。

也可以通过  键和  键前后查询月历内容。

在日历中点击日期，就可以设置好日期了。




【注】设置日期必须在月历中点击了日期才可以设置成功，不能仅修改年份和月份。

2、时间设置方法:

默认情况下进入该界面都是先设置小时，可以通过「小时」键切换成设置分钟（此时「小时」键显示内容会改变为「分钟」），然后通过左右箭头修改内容即可。

也可以点击小时或分钟显示区域来切换修改小时/分钟修改方式。

日期或时间修改完毕后，按下  键保存并退出。




3、禁止修改系统时间


一旦设置了分期密码，则禁止修改系统时间，清除全部密码后可以解除禁制。



2.9.15 升级模式

功能设定界面中按下升级键 ，会要求输入厂家 ID，输入正确后可以进入软件升级模式。

升级软件需要放在 U 盘「update」目录下。

点击需要升级的内容（蓝底白字为选择状态），然后按下  键即可。



2.9.16 播放器

功能界面中按下播放器键



可以播放，视频、音乐等音频和视频，视频格式 avi。



2.9.17 花样格式批量转换

花样批量转换功能，用于旧版软件升级后的花样继续使用。

花样号为默认空余号，可以手动分配花样号。

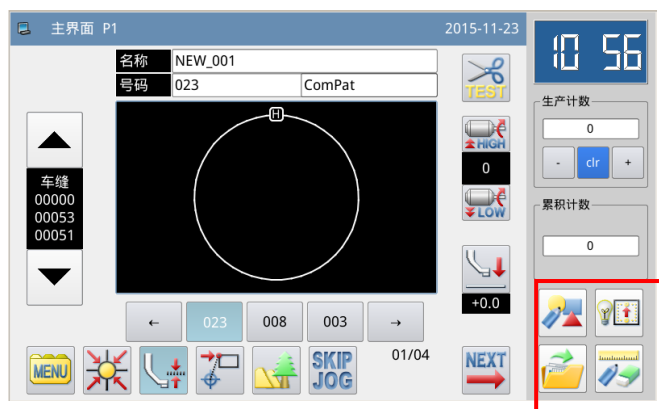
默认为全选中，左边花样名前面的 x 表示选中，空表示不选。

默认删除原始花样，如果想保留，选下方的“保留原始花样”。



2.9.18 快捷键设置

快捷键功能用于设置主界面右下角四个功能键，用户可自行设置常用的功能键。



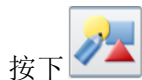
按下  快捷功能键进入快捷



功能设置。分别设置图形打板、检测

模式、读取花样、图形修改四个功能的常用功能。



图形打板设置:





按下 ，进入图形打板快捷
键设置，选取完常用功能后 

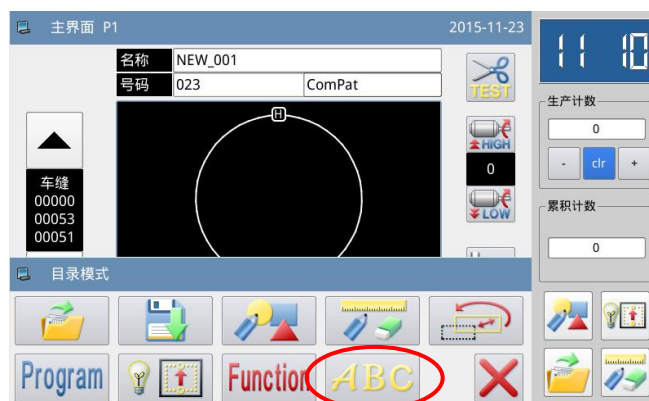
按下  确认键，保存并退出。



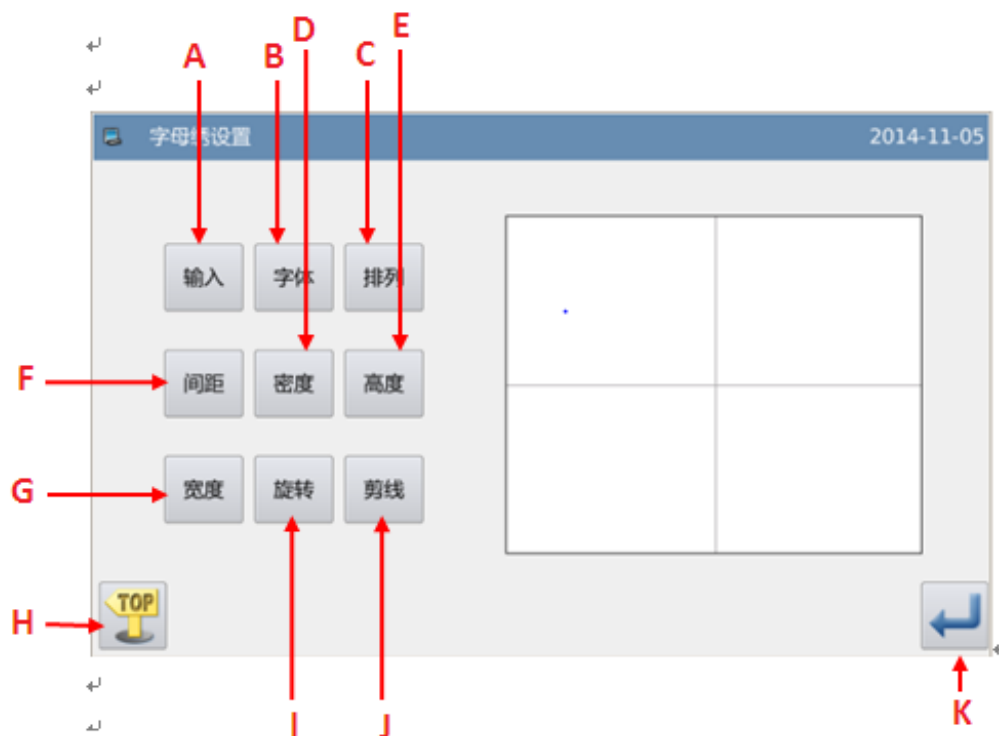
2.10 字母绣编辑

在主界面 P1 (或 P2) 界面上操作目录键 ，即打开多类目录模式，然后再按下字母绣编辑键 ，即进入到字母绣设置模式。

【注】参数「特殊」->「字母绣功能使能」可以关闭字母绣编辑功能，关闭后不显示该图标。



2.10.1 字母绣参数设置说明



功能说明:

序号	功能	内容
A	字符输入	输入字符，最多可以输入 20 个字符。
B	选择字体	支持 28 种字体。
C	排列方式	提供水平、垂直、上玄弧和下玄弧排列方式。
D	平包针密度	设置平包针密度，设定值越大平包针越密。
E	高度缩放	设置字符的高度缩放，范围为 50~200。
F	字符间距	设置相邻字符间距。
G	宽度缩放	设置字符的宽度缩放，范围为 50~200。
H	返回主界面	退出，返回到主界面。
I	旋转/跟随（不跟随）	排列方式为直线（水平、垂直）时，该按钮显示内容为旋转，用于设置字符旋转角度； 排列方式为圆弧（上玄弧、下玄弧）时，该按钮显示内容为跟随（不跟随），用于设置字符是否跟随圆弧旋转。
J	剪线/不剪线	确定是否自动插入剪线。
K	确定	确定操作，会进入到字母绣花样调整界面。

1、字符输入


按下「输入」键，进入字符输入界面，需要至少输入一个字符，最多可输入 20 个字符，

按下  键保存并退出。

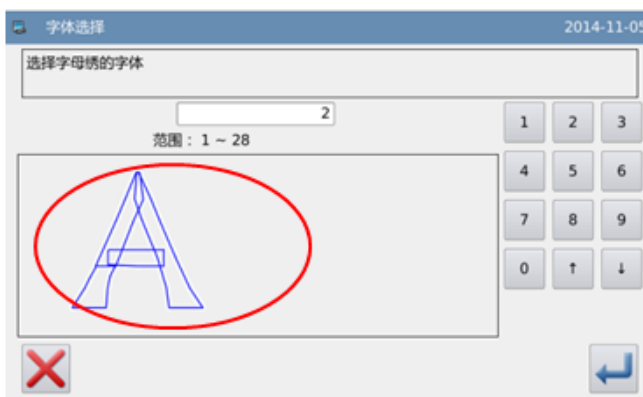


2、选择字体

按下「字体」键，进入字体选择界面，提供 28 种不同的字体，直接输入 1-28 之间的数字


字进行选择，按下  键保存并退出。

该界面下提供每种字体的形状显示。



3、排列方式

按下「排列」键，进入排列方式设置界面，提供水平直线、竖直直线、上玄弧、下玄弧 4 种字符排列方式，按下

 键保存并退出。



4、字符间距

按下「间距」键，进入字符间距设置界面，水平排列时，表示相邻字符轮廓之间的水平间距。

竖直排列时，表示相邻字符轮廓之间的垂直间距。

圆弧排列时，表示相邻字符轮廓之间在圆弧上的距离。

范围为 0~99.9mm。



5、平包针密度

按下「密度」键，进入平包针密度设置界面，设置的平包针密度在 50~200 之间。



6、高度缩放

按下「高度」键，进入字母高度设置界面，设置字符的高度缩放，范围为 50~200。



7、宽度缩放

按下「宽度」键，进入字母宽度设置界面，设置字符的宽度缩放，范围为 50~200。



8、旋转角度设定

排列方式为水平排列或者垂直排列时，可以设置字母旋转角度，按下「旋转」键，进入旋转角度设置界面。

旋转方向为逆时针旋转，范围为 0° ~359°。

【注】排列方式为上玄弧或下玄弧时，该按键功能为设置是否跟随圆弧旋转。



9、跟随/不跟随设定

排列方式为上玄弧或下玄弧时，可以设置字母的角度是否跟随圆弧旋转。按下「跟随」键，可以切换到「不跟随」，反之亦然。

【注】排列方式为水平排列或者垂直排列时，该按键功能为设置旋转角度。




10、 是否自动添加剪线

默认情况下是自动添加剪线，也就是在字母绣花样的车缝和空送连接处，以及缝制最后添加剪线。

按下「剪线」键，可以切换该按钮显示为「不剪线」，也同时取消了自动添加剪线的功能。




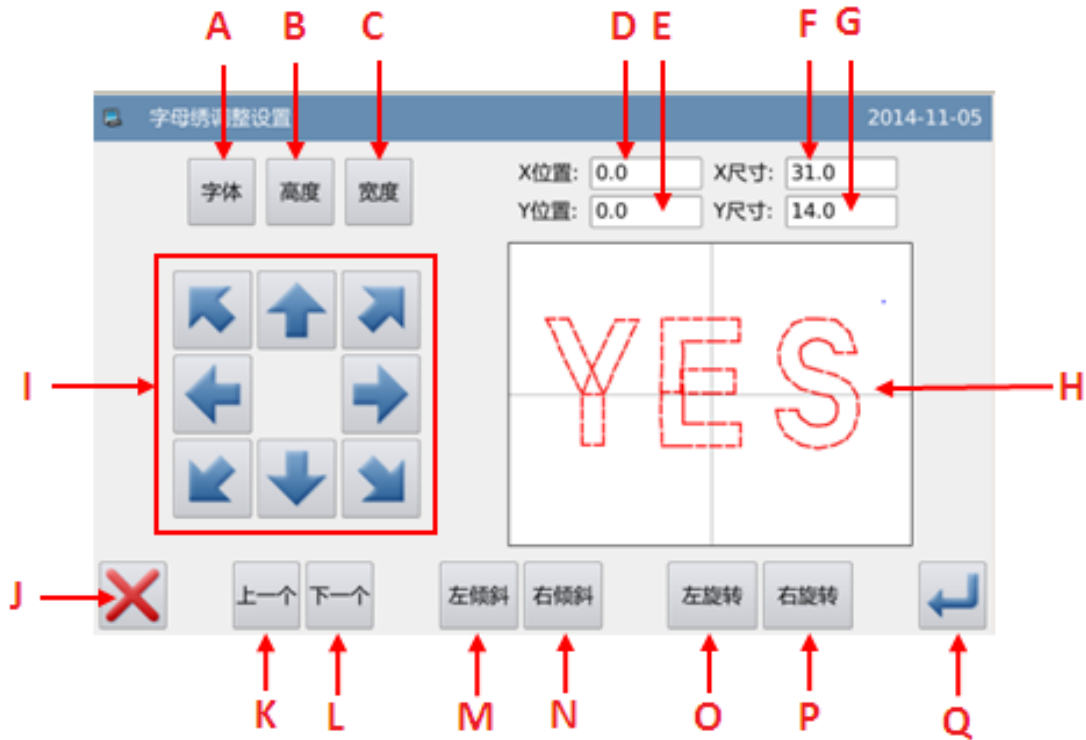
11、 确定字母绣花样

设置好要生成的字母绣花样后，按下  键，会进入到字母绣花样调整界面。



2.10.2 字母绣花样调整说明

字母绣参数设置界面完成了各项参数的设置后，按  键进入字母绣花样调整界面，该界面下可以对花样做进一步的调整。



功能说明:

序号	功能	内容
A	字体选择	更改选中字母的字体，设置的方法与参数设置时相同。
B	高度缩放	更改选中字母的高度缩放，设置的方法与参数设置时相同。
C	宽度缩放	更改选中字母的宽度缩放，设置的方法与参数设置时相同。
D	X 位置显示	显示选中字母的中心点 X 坐标。
E	Y 位置显示	显示选中字母的中心点 Y 坐标。
F	X 尺寸显示	显示选中字母的宽度。
G	Y 尺寸显示	显示选中字母的高度。
H	花样显示	显示当前字母绣花样，选中字母颜色为红色，未选中字母颜色为绿色。
I	方向键	选中字母的位置调整。
J	退出键	返回上一级画面。
K	字符选择（从右到左的方向）	向左选择想要调整的字符，选中字符显示为红色。在选中最后一个字符时向左，会选中全部字符。
L	字符选择（从左到右的方向）	向右选择想要调整的字符，选中字符显示为红色。在选中最后一个字符时向右，会选中全部字符。
M	左倾斜/小弧度	排列方式为水平排列或竖直排列时，显示为「左倾斜」，按下后会逆时针方向旋转整个花样，旋转以原点为圆心。排列方式为上玄弧或下玄弧时，显示为「小弧度」，按下后减小整个花样的弧度。 【注】 该操作是针对整个花样的。
N	右倾斜/大弧度	排列方式为水平排列或竖直排列时，显示为「右倾斜」，按下后会顺时针方向旋转整个花样，旋转以原点为圆心。排列方式为上玄弧或下玄弧时，显示为「大弧度」，按下后增加整个花样的弧度。

		【注】 该操作是针对整个花样的。
O	左旋转	逆时针方向调整选中字符的旋转角度，旋转以各个字符的中心为中心。
P	右旋转	顺时针方向调整选中字符的旋转角度，旋转以各个字符的中心为中心。
Q	确定	按下后会进入花样保存界面。

实例说明：

1、选择单个字母进行调整

按下「上一个」键或「下一个」键，可以选择单个字母进行编辑，选中字母颜色为红色，未选中为绿色。



2、字母位置调整

按下方向键可以调整选中字母的位置，可以通过「X 位置」和「Y 位置」显示区域观察坐标。

同上操作，继续调整其它字母的位置。



3、整个花样的旋转角度调整

按下「左倾斜」键或「右倾斜」键，可以调整整个花样的旋转角度。

「左倾斜」：逆时针方向旋转

「右倾斜」：顺时针方向旋转

【注】排列方式为上玄弧或下玄弧时，该操作为「小弧度」/「大弧度」，用于调整整个花样的弧度。




4、单个字母旋转角度调整

选择一个字母，然后按下「左旋转」键或「右旋转」键，可以调整选中字母的旋转角度。


【注】需要调整旋转角度时，最好先执行整个花样的旋转角度调整，然后再执行单个字母的旋转角度调整。如果先执行了单个字母的旋转角度调整，再执行整个花样的旋转角度调整时会取消之前单个字母的旋转角度。

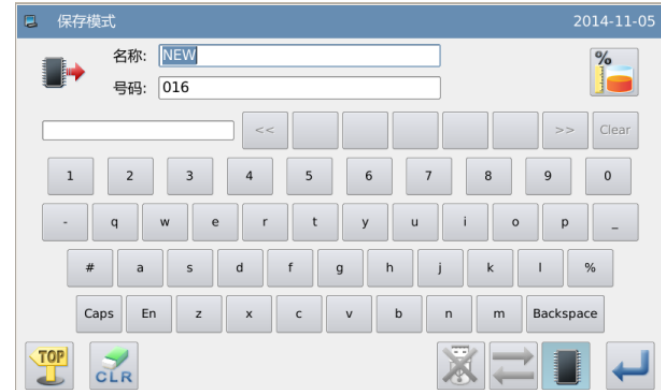


5、保存花样

调整完毕后，按下  键进入保存界面。



输入名字和号码后，按下  键会显示「字母绣花样保存成功」的提示信息。（其他操作参照【2.6 花样保存】节内容）



【注】保存成功后的字母绣花样不会自动转换为当前花样，需要进入花样读取界面进行选择。

3 附录 1

3.1 报警信息一览表

故障号	故障名称	子信息内容	故障排除
E-001	踏板未在正常位置	请调整踏板位置。	
E-002	机器进入急停状态	请检查急停开关状态。	<p>旋转释放急停按钮，如果仍显示此信息，按以下方法检查：</p> <ol style="list-style-type: none"> 1、检查急停按钮是否损坏。 2、检测急停按钮到机头转接板之间的连线是否有损坏。 3、检测 L433 线缆 X9 端与机头转接板端联接是否松动。打开 L433 线缆查看是否有断线
E-004	主电压（300V）过低	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、检测交流供电电压是否异常波动，看设备周围是否有大功率设备步频繁启停；最好配备稳压器。 2、如果交流供电正常，则很可能硬件电路故障，返厂检修主控板硬件。
E-005	主电压（300V）过高	无	
E-007	IPM 过压或过流	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、检测一下主轴电机是否有短路，各项绕阻是否相等，并不为 0； 2、用万用表测一下 U\V\W 三项输出是否有直接与地或 300V 电源短路的情况，判定 IPM 是否损坏。
E-008	辅助设备电压（24V）过高	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、检测外围的电磁铁、气阀是否出现短路。 2、检查一下 L478 两端插头内线芯是否有短路。检查机头转接板安装时是否与机头短路。
E-009	辅助设备电压（24V）过低	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、检测外围的电磁铁、气阀是否有损坏。 2、检查一下 L478(海菱机型为 L432) 两端插头内线芯是否有短路。 3、检查机头转接板安装时是否与机头短路。 4、检查主控板电源部分是否有故障检查 CPU 采集 24V 电压引脚。
E-010	气阀（风扇）故障	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、检测风扇电源是否出现问题 2、检测机头板 24V 是否正常 3、检测外围气阀是否有短路现象
E-013	编码器故障或未连	请关闭电源，检查系统硬件。	<ol style="list-style-type: none"> 1、关机检测编码器线缆与控制箱接头是否松动。

故障号	故障名称	子信息内容	故障排除
E-014	电机运行异常	请关闭电源，检查系统硬件。	1、检查主轴是否被负载卡住，造成无法旋转。 2、拧手轮，使主轴换个角度再重新上电开机。 3、电机反馈信号异常，更换电机。
E-015	移动过程中超出缝制范围	请按下确定键解除故障。	4、花样数据处理异常。重选花样，先找原点再重新缝制一下。确认是花样问题还是软件 BUG。 5、检查一下操作头设置的缝制范围是否与所选花样不符。
E-016	针杆上位置异常	请按下确定键解除故障。	先摇手轮，将针杆调到上位置或是上死点后，再踏启动踏板。
E-017	断线检测错误	请按下确定键解除故障。	检查机头转接板 CZ424 以及 L433 线缆。
E-018	剪刀位置异常	请关闭电源。	
E-019	急停开关未在正常位置	请检查急停开关状态。	1、一般提示信息，不是故障。手动放开急停开关即可。 2、参考 EB002 错误处理方法。
E-020	步进软件版本错误	请关闭电源。	
E-023	抓线位置异常	请关闭电源。	
E-024	操作头与缝纫机连接错误	请关闭电源。	
E-025	X 原点检测异常	请关闭电源。	1、使用调试功能-手动移框进行测试，测试是否有光耦信号显示 2、开机情况下，用金属触及接近传感器，看是否有响应指示 3、调整接近开关的安装位置，保证可靠触发。 4、检测步进电机工作是否正常，无失步 5、检测步进线缆和传感器线缆是否有损坏 6、检查 L433 线缆是否有松动，两端接头是否有短接、断线。
E-026	Y 原点检测异常	请关闭电源。	
E-027	压脚原点检测异常	请关闭电源。	
E-028	抓线原点检测异常	请关闭电源。	
E-029	中压脚原点检测异常	请关闭电源。	
E-030	步进驱动器通讯异常	请关闭电源。	1、检测主控板与步进板的连接线是否松动。 2、确认步进板电源是否正常，电源灯和工作灯正常闪亮。
E-031	步进电机过流	请关闭电源。	1、步进电机损坏，更换步进电机。 2、步进驱动板损坏，更换步进驱动板。
E-032	步进驱动电源异常	请关闭电源。	

故障号	故障名称	子信息内容	故障排除
E-034	异常电流	请关闭电源。	1、关闭电源，旋转手轮检测主轴运行是否流畅，机械是否卡死。 2、关闭电源，检查主轴电机联轴器连接是否紧密，联轴器间隙较大会造成电机过流。 3、关闭电源，测量主轴电机三相电阻阻值是否相等，若不相等，则电机损坏。 4、关闭电源，用万用表检测 IPM 模块是否损坏，若损坏，则不要再次上电，请更换维修。 5、观察报错时，是否处于缝纫剪线和停车过程，若处于剪线和停车过程报错，则可以通过调整主轴参数尝试解决问题。
E-035	IPM 频繁过流 1	请关闭电源。	
E-036	IPM 频繁过流 2	请关闭电源。	
E-037	电机堵转 1	请关闭电源。	1、由于主轴角度定位不对，造成剪线时剪刀卡在机针上，主轴被卡死。解决办法：从新定位主轴角度。 2、针杆动作时被卡在中压脚上，造成主轴被卡死。解决办法：检查中压脚动作是否正确，气阀与电磁阀连接是否正确。 3、剪线时力度不够，剪刀无法剪断线，造成主轴被卡死。解决办法：调整主轴参数，增大剪线力度。 4、机械存在死点，造成主轴被卡死。解决办法：调整机械。 5、主轴电机编码器有问题，信号反馈错误，造成电机卡死。解决办法：更换主轴电机。
E-038	电机堵转 2	请关闭电源。	1、缝纫机使用材料较厚，机针无法穿透材料。解决办法：调整主轴参数，或更换升级更大功率电机。 2、针杆动作时被卡在中压脚上，造成主轴被卡死。解决办法：检查中压脚动作是否正确，气阀与电磁阀连接是否正确。 3、机械存在死点，造成主轴被卡死。解决办法：调整机械。 4、主轴电机编码器有问题，信号反馈错误，造成电机卡死。解决办法：更换主轴电机。

故障号	故障名称	子信息内容	故障排除
E-039	电机超速	请关闭电源。	
E-040	停车过流	请关闭电源。	
E-041	电机过载	请关闭电源。	
E-042	母线电压异常	请关闭电源。	
E-043	X 步进电机位置错误	请关闭电源。	
E-044	Y 步进电机位置错误	请关闭电源。	
E-045	压脚没有落下	请踩压脚踏板。	
E-046	不在原点，无法操作	请按回原点键。	
E-047	电机过载 1	请关闭电源。	
E-048	电机过载 2	请按回车键。	
E-049	电机过载 3	请关闭电源。	

3.2 提示信息一览表

信息号	信息名称	子信息内容
M-001	上计数器达到设定值	请按下确定键
M-002	下计数器达到最大值	请按下确定键
M-003	不在原点，无法操作	请先回原点
M-004	花样数据不存在	请重新读取或打版输入
M-005	设定数值太大	请输入范围内数值
M-006	设定数值太小	请输入范围内数值
M-007	请按下回原点键	
M-008	存储参数异常	请按下确定键恢复出厂值
M-009	内存中没有花样	请按下确定键加载出厂花样
M-010	内存花样个数已满	请删除不使用的缝制数据
M-011	从内存中删除花样数据？	无
M-012	覆盖内存中花样数据？	无
M-013	花样数据不能删除	被选中的缝制数据正被使用
M-014	格式化内存？	内存中的全部花样数据会被删除掉
M-015	通讯错误	操作头与控制箱通讯发生异常，请关闭电源后检查
M-016	超出缝制范围	请确保花样数据在缝制范围以内
M-017	字母绣字库文件读取失败	无
M-018	操作头与缝纫机类型不符	请核对机型和软件版本
M-019	内存花样数据空间不足	请删除不使用的缝制数据
M-020	输入花样号码不正确	请输入正确的花样号码
M-021	超过最大针距	无

信息号	信息名称	子信息内容
M-022	密码错误	请重新输入密码
M-023	硬件时钟故障	发现硬件时钟故障, 请联系厂家维修!
M-024	针数超出范围	请减少花样针数
M-025	针间距输入值太小	请输入范围内数值
M-026	针间距输入值太大	请输入范围内数值
M-027	已存在第二原点	只能输入一个第二原点
M-028	快速移动设定太少或太多	请输入范围内数值
M-029	请按下回原点键返回	无
M-030	拷贝指定的花样数据?	无
M-031	拷贝全部花样数据?	无
M-032	确定恢复出厂设置?	无
M-033	USB 盘已拔出	USB 盘已经拔出!
M-034	U 盘中没有发现花样数据	无
M-035	至少输入一个字母	字母绣打版需要至少输入一个字母
M-036	无报警记录	
M-037	更换机针	更换机针设定值已到达, 请更换机针!
M-038	更换机油	更换机油时间设定值已到达, 请更换机油!
M-039	清扫机器	清扫机器时间设定值已到达, 请清扫机器!
M-040	数据格式不同	请确认数据格式
M-041	无法生成曲线	请根据曲线输入注意事项重新输入
M-042	当前位置无法插入剪线	请在缝制数据后加入剪线
M-043	不能在同一位置加入相同的功能码	
M-044	当前位置无法插入第二原点	请在移送后加入第二原点
M-045	输入点无法生成圆或圆弧	请重新输入
M-046	无法生成重叠缝数据	请在封闭图形后加入重叠缝
M-047	无法在下暂停后加入剪线	无
M-048	无法在剪线前加入下暂停	无
M-049	没有偏移缝数据	偏移缝数据转换功能不能被使用
M-050	没有多重缝数据	多重缝数据转换功能不能被使用
M-051	选择位置不正确	无
M-052	无法进行缩放	无
M-053	距离超过 12.7mm	无
M-054	花样数据不正确	无
M-055	生成圆弧数据?	无
M-056	生成圆数据?	无

信息号	信息名称	子信息内容
M-057	生成曲线数据?	无
M-058	生成多边形数据?	无
M-059	压脚未放下	请踏下脚踏板
M-060	输入用户 ID 有误	请重新输入
M-061	确认密码失败	请重新输入密码
M-062	禁止修改系统时间	设置了分期密码,不能修改系统时间
M-063	密码文件写入失败	无
M-064	密码文件读取失败	无
M-065	密码保存成功	无
M-066	清除全部密码失败	密码文件无法被删除
M-067	清除密码失败	密码清除后,文件写入异常
M-068	密码文件被恶意删除	用户设置的分期密码被恶意删除,请关机
M-069	用户 ID 文件损坏	
M-70	输入花样名称	请输入不超过 8 个文字的花样名称
M-71	请清除当前的合并资料	按下“CLR”,清除当前合并资料
M-72	输入不能为空	输入密码不能为空
M-73	当前密码不符	当前密码输入错误
M-74	新密码不一致	新密码与重试密码不一致
M-75	触摸屏校正成功	校正成功,请关闭电源后重启
M-76	确定清除报警记录	是: Enter 否: X
M-77	是否删除选中的文件	是: Enter 否: X
M-78	复制所有图形	是否覆盖原本图形? 是: Enter 否: X
M-79	拷贝文件失败	请检查磁盘空间是否已满!
M-80	拷贝文件失败	请检查是否拔出了 USB 盘!
M-81	打开文件失败	打开文件失败
M-82	格式不匹配	格式不匹配,放弃当前读入
M-83	参数超出范围	参数超出范围,确定后超出范围的参数将按默认参数恢复!
M-84	请创建目录和文件	请在 U 盘下创建 bakParam 目录,并将备份文件命名为 backup.param,并拷贝到 bakParam 目录下!
M-85	文件读写错误	文件读写错误
M-86	请选中条目	请选中要读写的条目
M-87	文件不存在	当前条目对应文件不存在
M-88	未输入移动量	请输入移动量
M-89	确定进入触摸屏校正模式?	是: Enter 否: X

信息号	信息名称	子信息内容
M-90	确定清除累积运转时间?	是: Enter 否: X
M-91	确定清除累积缝纫件数?	是: Enter 否: X
M-92	确定清除累积上电时间?	是: Enter 否: X
M-93	确定清除累积缝纫针数?	是: Enter 否: X
M-94	分期密码不能和总密码相同	请重新输入密码
M-95	禁止修改加算器(NUP)	当修正时, 请关闭设定(NUP)
M-96	禁止修改减算器(NDP)	当修正时, 请关闭设定(NDP)
M-97	花样列表(快捷键)为空	如果花样列表为空, 系统会自动将当前打开花样导入列表
M-98	没有选中升级条目	请选中要升级的条目, 至少要选中一个条目
M-99	选中的升级条目中有些不存在	不存在升级文件的条目返回后将会取消选中, 如果要升级剩下的条目, 请再次确认
M-100	升级成功	升级成功, 请重新启动机器
M-101	是否格式化 U 盘	按下确定键执行格式化操作, 按下取消键退出当前操作。 \n 格式化后会删除全部 U 盘文件!
M-102	U 盘不存在	请插入要格式化的 U 盘!
M-103	成功	已成功执行当前操作!
M-104	失败	当前操作失败!
M-105	是否格式化花样列表(快捷键)	按下确定键执行格式化操作, 按下取消键退出当前操作。
M-106	是否覆盖 U 盘中同名花样	按下确定键覆盖文件, 按下取消键退出当前操作。
M-107	触摸屏校正失败	请重新校正
M-108	字母绣花样保存成功	请进入数据读取界面下选择新生成的字母绣花样
M-109	选中的花样不是正常格式, 需要进行格式转换	按下确认键执行转换操作, 按下取消键取消当前操作
M-110	该花样不能进行转换	请确认花样文件
M-111	是否还原所有设定	是: Enter 否: X
M-112	是否还原选择项目	是: Enter 否: X
M-113	未选择项目	请选择一个或几个参数项
M-114	SRAM 初始化	清除掉 SRAM 中全部数据, 请关电并将拨码开关位置还原
M-115	不能拷贝覆盖当前花样	拷贝队列里存在当前花样号码, 不能覆盖当前花样
M-116	需要转换花样格式	转换花样格式后可以进行花样预览
M-117	组合花样不能进行该操作	请进入图形连接模式, 按下“CLR”解除组合花样

信息号	信息名称	子信息内容
M-118	是否删除原始花样	格式转换后是否删除原始花样 是: Enter 否: X
M-119	中压脚处于下降位置	请升高中压脚
M-120	关机, 再见	无
M-121	20mm 针间距花样文件格式	该花样格式本系统不支持
M-122	转换花样格式错误	请确认花样文件
M-123	转换花样数据超长	请确认花样文件
M-124	转换花样无法打开	请确认花样文件
M-125	转换花样精度错误	请确认花样文件
M-126	恢复参数成功	恢复参数成功, 请重新启动机器
M-127	软件版本保存成功	软件版本已成功保存到 U 盘根目录下

4 附录 2

4.1 电控箱安装尺寸

1、电控箱安装尺寸图

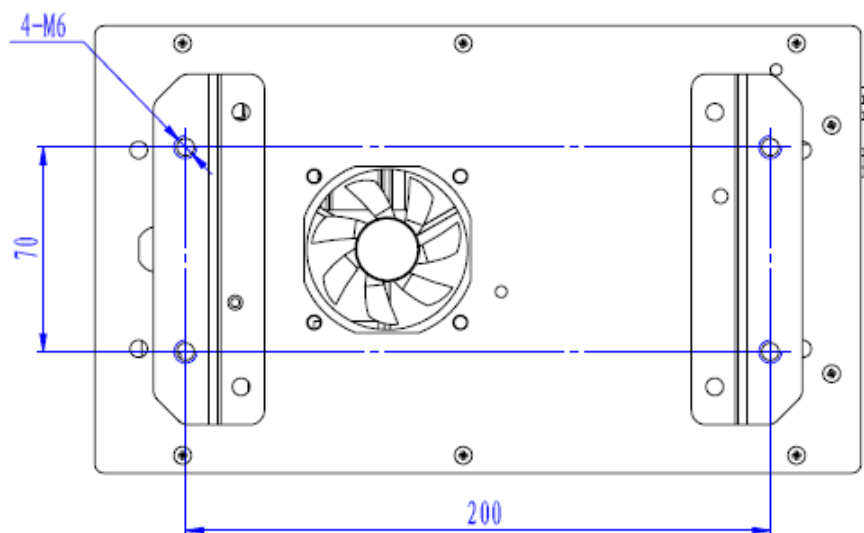
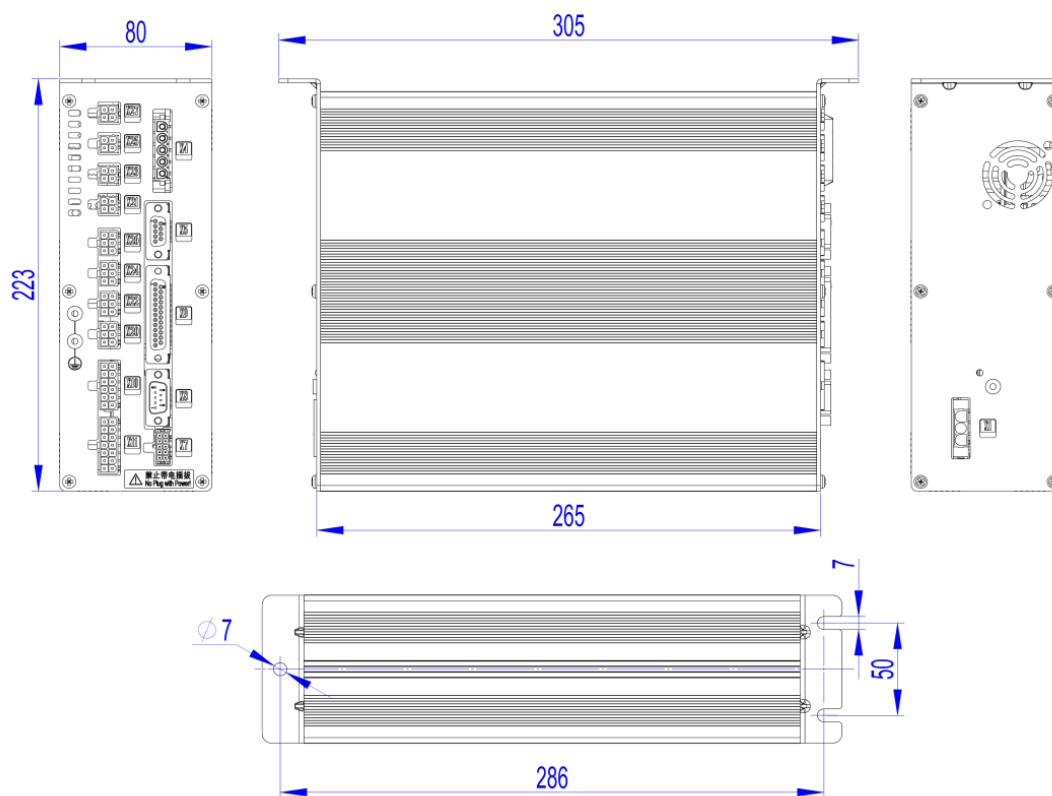


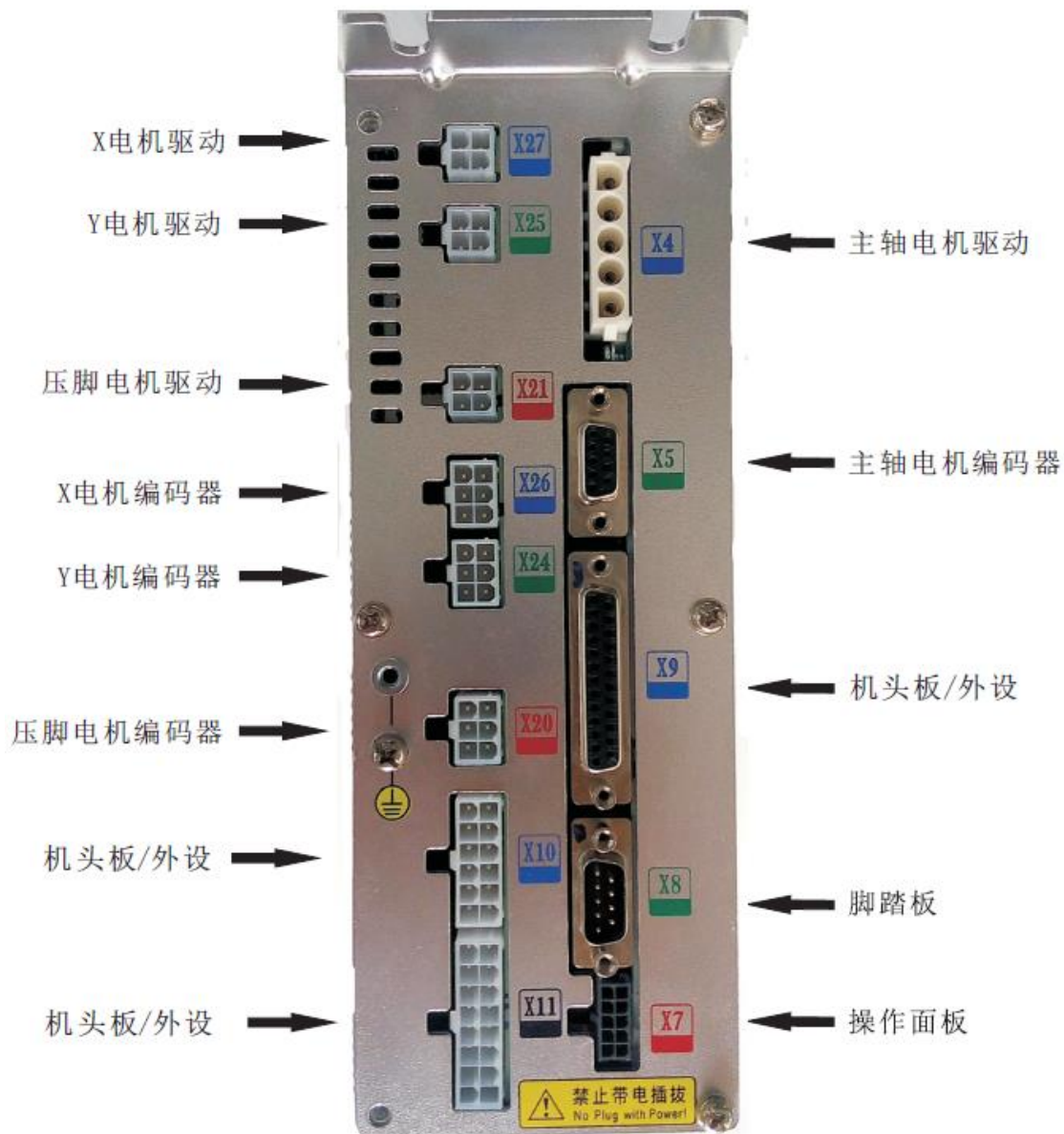
图 1 四孔安装尺寸图

2、MASC41X/MASC44X 电控箱安装尺寸图



4.2 控制箱外部连接线缆

MASC41X/MASC44X 电控箱后板接线图



4.3 操作箱安装尺寸

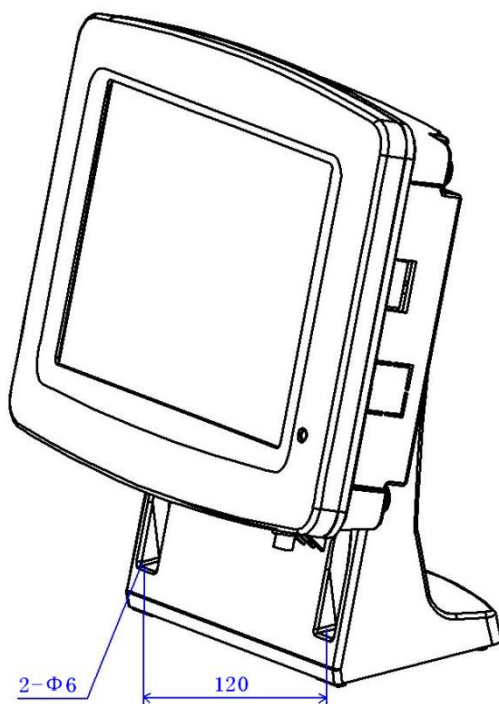
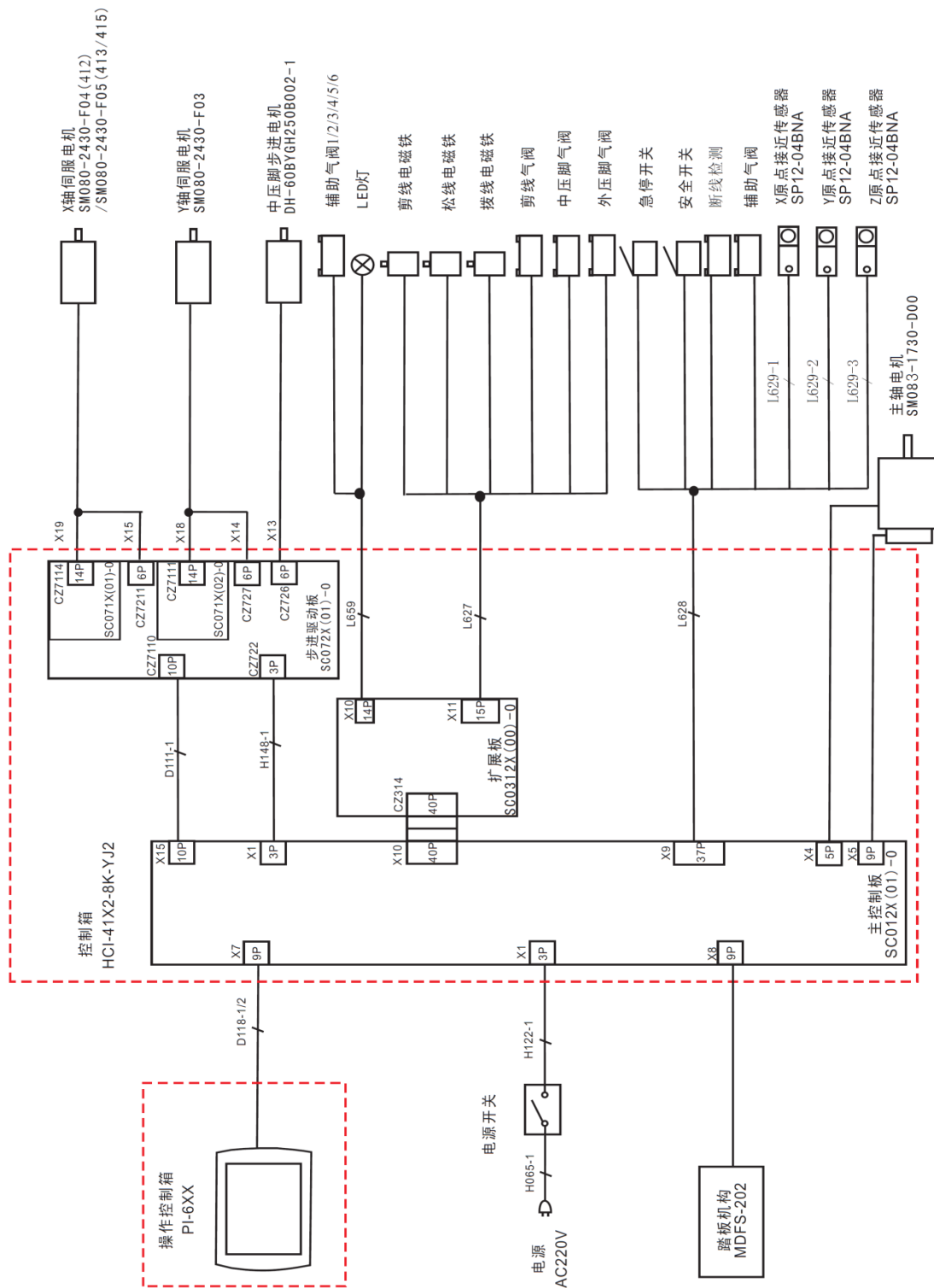


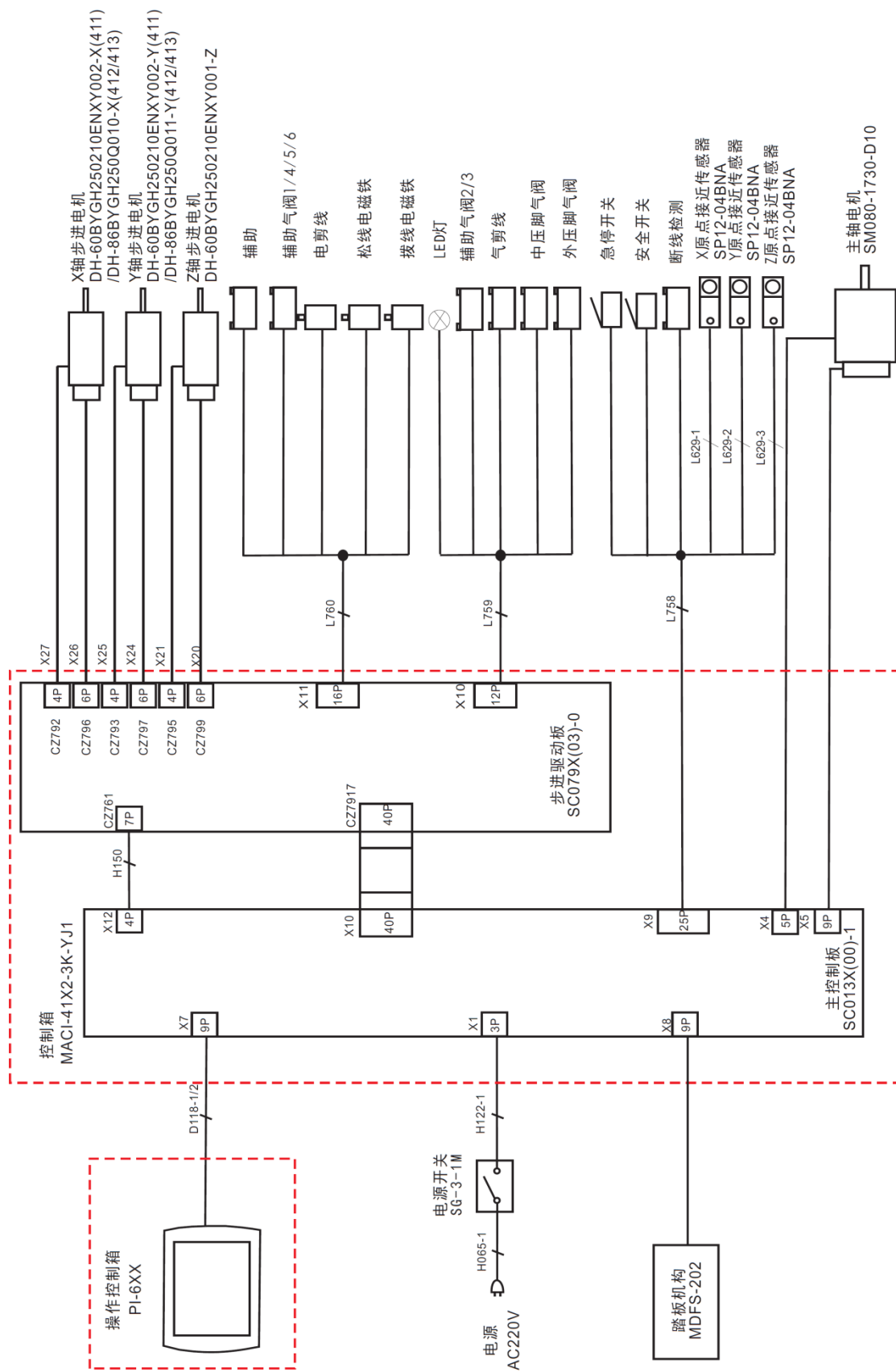
图 2 操作箱安装尺寸图

4. 4 系统框图

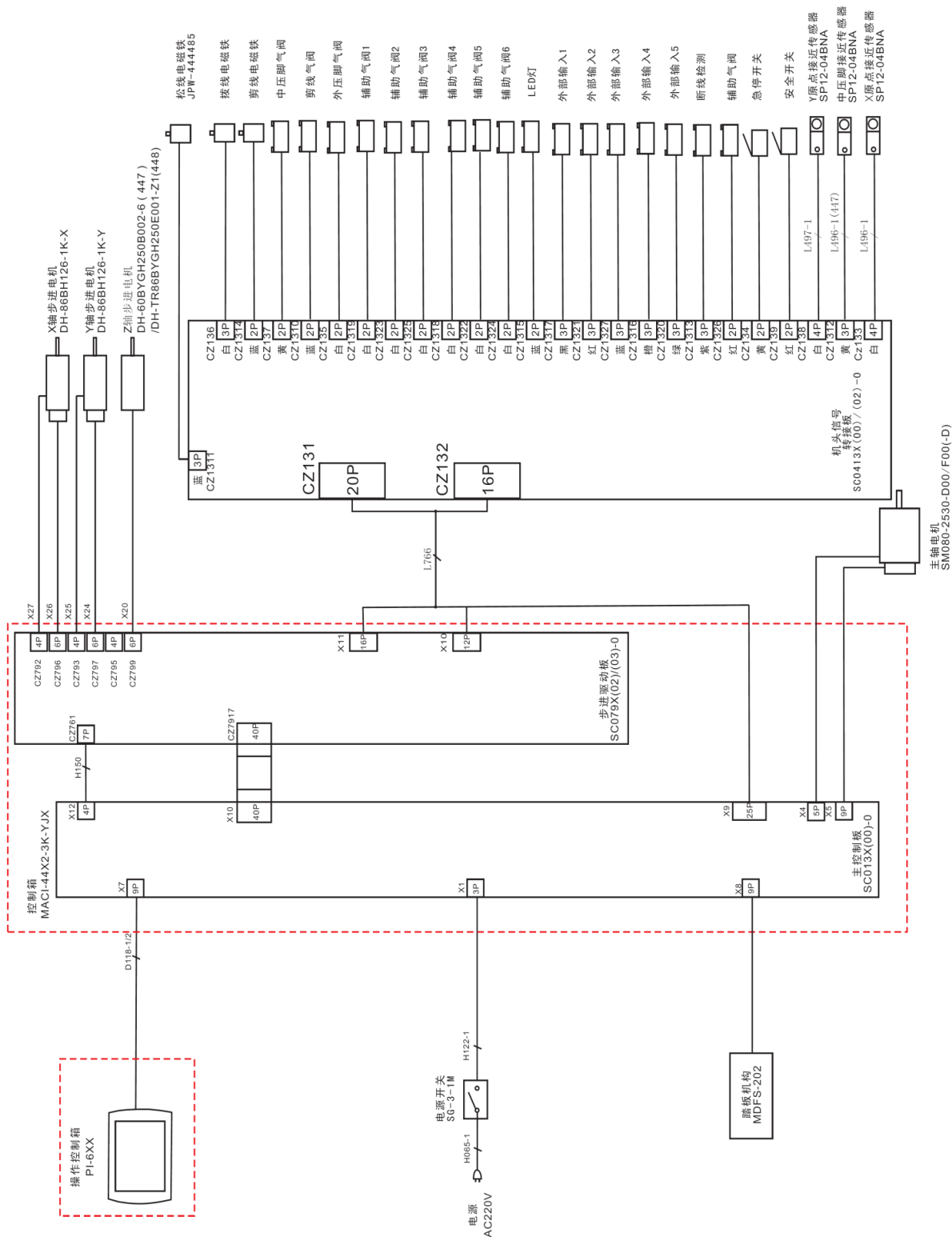
1、HSC41X 系统框图



2、MASC41X 系统框图



3、MASC44X 系统框图



4.5 接线图

HSC41X 花样机线缆接线图

线缆插座	功能	引脚定义
L627 (白)	外压脚气阀	1+, 2-
L627 (黄)	中压脚气阀	1+, 2-
L627 (蓝)	剪线气阀	1+, 2-
L627 (黑)	拨线电磁铁	1+, 2-
L627 (红)	松线电磁铁	1+, 2-
L627 (白)	剪线电磁铁	1+, 2-
L628 (白)	辅助气阀	1+, 2-
L628 (黄)	急停	1+, 2-
L628 (黑)	安全开关	1+, 2-
L628 (白)	X 原点	1-, 2, 3+
L628 (黄)	Y 原点	1-, 2, 3+
L628 (红)	Z 原点	1-, 2, 3+
L628 (黑)	断线检测	2
L659 (黄/白/白/黑/蓝/白)	辅助气阀 1/2/3/4/5/6	1+, 2-
L659 (红)	LED 灯	1+, 2-

MASC41X 花样机线缆接线图

线缆插座	功能	引脚定义
L758 (黄)	急停	1+, 2-
L758 (黑)	安全开关	1+, 2-
L758 (黑)	断线检测	2
L758 (白)	X 原点	1-, 2, 3+
L758 (黄)	Y 原点	1-, 2, 3+
L758 (红)	Z 原点	1-, 2, 3+
L759 (白)	外压脚	1+, 2-
L759 (黄)	中压脚	1+, 2-
L759 (蓝)	气剪线	1+, 2-
L759 (红)	LED 灯	1+, 2-
L759 (白)	辅助气阀 2/3	1+, 2-
L760 (黄/黑/蓝/白)	辅助气阀 1/4/5/6	1+, 2-
L760 (白)	辅助	1+, 2-
L760 (黑)	拨线	1+, 2-
L760 (白)	电剪线	1+, 2-
L760 (黄)	松线	1+, 2-

MASC44X 花样机机头板接线图 SC0413 机头板接线图

插座	功能	引脚定义
CZ134	急停开关	1+, 2-
CZ139	安全开关	1+, 2-
CZ1313	断线检测	2
CZ1317/1321/1327 /1316/1320	输入 1/2/3/4/5	1-, 2, 3+
CZ133	X 原点	1-, 2, 3+
CZ138	Y 原点	1-, 3, 4+
CZ1312	Z 原点	1-, 2, 3+
CZ1326	辅助气阀	1+, 2-
CZ135	外压脚	1+, 2-
CZ137	中压脚	1+, 2-
CZ1310	气剪线	1+, 2-
CZ1314	电剪线	1+, 2-
CZ136	拨线	1+, 3-
CZ1311	松线	1+, 3-
CZ1315	LED 灯	1+, 2-
CZ1319/1323/1325 /1318/1322/1324	气阀 1/2/3/4/5/6	1+, 2-

Pattern-sewing Machine(Touch Panel H)

1 General Information

1.1 General Introduction

Mitsubishi series computerized control system for industrial sewing machine: 1) Adoption of the world leading AC servo control technology on main shaft motor provides large torque, high efficiency, stable speed and low noise; 2) Diversified design of control panel can meet the special requirements of users on attachment; 3) System adopts German style structure, which greatly facilitates the installation and maintenance.

1.2 Functions and Parameters

NO.	Type of Controller	Computerized Control System for Mitsubishi Series Pattern-sewing Machine
1	Sewing Area	X(Lateral) Direction Y(Longitudinal) Direction SC442HG: 3000(mm) x 1000(mm)
2	Max. Sewing Speed	2500rpm (with stitch interval below 3mm)
3	Stitch Length	0.1~12.7mm, and in the control system is of version 5.0 or above, the maximum stitch length can extend to 40 mm (Min Resolution: 0.10mm)
4	Feed Motion of Frame	Intermittent feeding (2-shaft driven by pulse motor)
5	Needle Bar Stroke	41.2mm
6	Needles	DP×5、DP×17
7	Lift of Frame	Standard 18mm to Max. 22mm (Pneumatic type: Max. 25mm)
8	Intermediate Presser	Stepping Driving (Range: 0~8mm)
9	Lift of Intermediate Presser	20mm
10	Rotating Shuttle	Double-capacity semi-rotary hook
11	Memory of Pattern Data	Memory/U Disk
12	Pause function	Stop the machine during the sewing
13	Scaling Up/Down Function	Allows a pattern to be scaled up/down on the X axis and Y axis independently when user sews a pattern. Ratio: 1% to 400% (0.1% per step)
14	Scaling Up/Down Method	Increasing / decreasing stitch length & Increasing / decreasing stitch number
15	Sewing Speed Limitation	200~2500rpm (100rpm per step)
16	Pattern Selection Function	Pattern No. selection method
17	Up counter	No Count/Count of Pattern /Count of Cycle (0~99999)
18	Down Counter	No Count/Count of Pattern /Count of Cycle (0~99999)

19	Sewing Machine Motor	Servo Motor
20	Stop Needle at Highest Position Function	After the completion of sewing, the needle can return to its highest position.
21	Rated Power	600W
22	Operation Temperature Range	0°C~45°C
23	Operation Humidity Range	35%~85% (No Dew Condensation)
24	Line Voltage	AC 220V ± 10%; 50/60Hz

※ Effective standard for product: QCYXDK0004—2016 Computerized Control System for Industrial Sewing Machine.

1.3 Matters for Safe Using



● Installation

- Control Box
 - ◆ Please install the control box according to the instructions
- Attachments
 - ◆ If other attachments are needed, please turn off the power and pull out the power plug.
- Power Cable
 - ◆ Do not press power cables forcefully or twist power cable excessively.
 - ◆ The power cables shall be fixed at least 25mm away from the rotating component.
 - ◆ Before powering the control box, user shall carefully check the voltage of power supply and the position of power input on the control box. If the power transformer is used, user should also check it before powering the machine. The power switch of the sewing machine must be set as “Off”.
- Grounding
 - ◆ In order to avoid the noise disturbance and electric shock caused by electric leakage, user should ground the grounding cable.
- Attachments
 - ◆ If any electric attachments are needed, please connect them to proper positions.
- Disassemble
 - ◆ When removing the control box, user must turn off the power and pull out the power plug.
 - ◆ When pulling out the power plug, user should hold the plug and remove it, instead of pulling the power cable only.
 - ◆ The control box contains the dangerous high voltage power. For opening the control box, please turn off the power and pull out the plug from socket first, and then wait for at least 5 minutes before opening the control box.






● Maintenance, Inspection and Repair

- Only trained technicians can perform the repair and maintenance of this machine.

- When replacing the needles and shuttles, user should turn off the power.
- Please use the spare parts from the authorized manufacturers.
- **Others**
 - Do not touch the rotating or moving parts of the machine, especially the needle and belt, when the machine is working. User should also keep his/her hair away from those moving parts, so as to avoid the danger.
 - Do not drop the control device on the floor, nor insert any stuff into the slots on the control box.
 - Do not run the machine without the cover shells.
 - If this control device is damaged or unable to work normally, please ask the technicians to adjust or repair it. Do not run the machine when the problem is not solved.
 - Please do not change or modify this control device without authorization.
- **Abandonment**
 - Dispose it as common industrial trash.
- **Warning and Danger**
 - The mistake operation may cause danger. For the serious level, please refer to the figure below:

	Warning The wrong operation may cause serious injury or death		Caution The wrong operation may cause personal injury or loss of property
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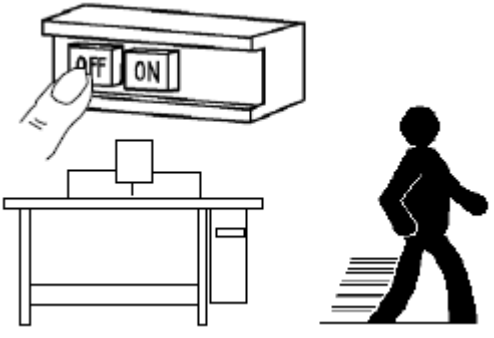
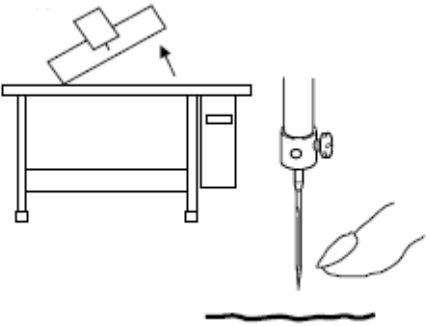
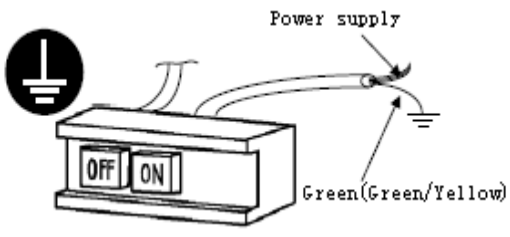
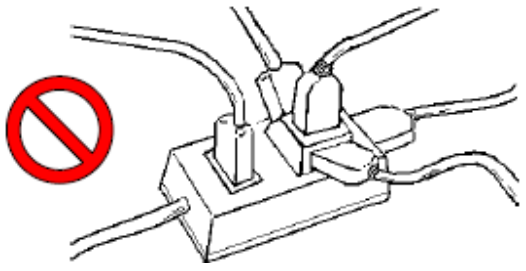
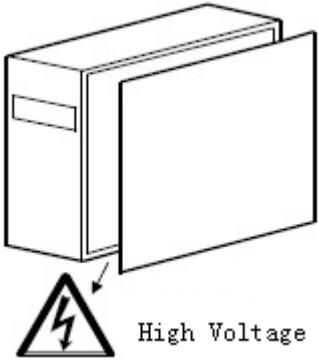
- The meanings of the marks are shown below:

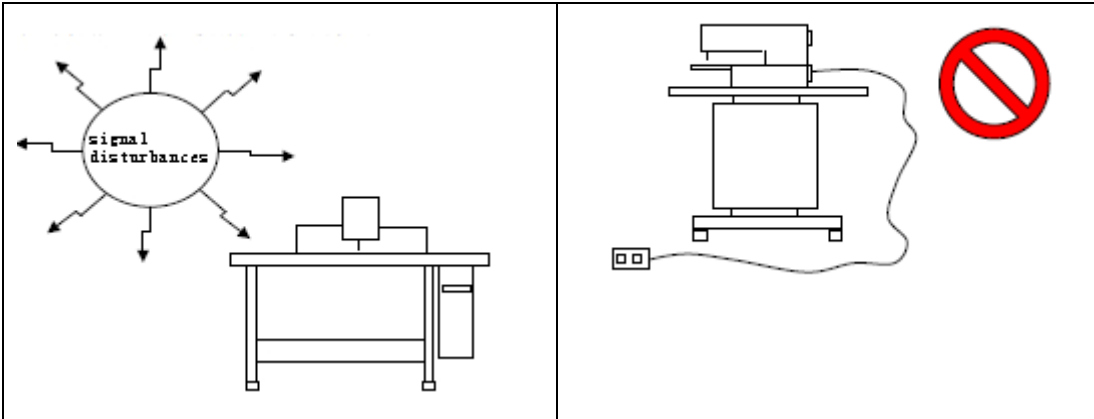
	Please operate machine according to instruction		Caution: High Voltage
	Caution: High Temperature		Grounding is a must
	Never do this		

1.4 The Preventive Measures in Use



1. When you press the switch [ON], please do not step the pedal.	2. When you leave the machine, please turn it off.
--	--

	
<p>3. If user needs to tilt the head or replace the needle or thread the upper thread, please turn off the power.</p> 	<p>4. Ground well the grounding cable.</p> 
<p>5. Do not use the household terminal block to let machines to share one power supply.</p> 	<p>6. For opening the control box, please turn off the power and pull out the plug from socket firstly, and then wait for at least 5 minutes before opening the control box.</p> 
<p>7. After replacing the motor, user has to adjust the main motor installation angle according to this manual.</p>	
<p>8. Please keep it away from the disturbance of high frequency machines.</p>	<p>9. If user needs the external signal socket to connect the attachments, the connecting wire shall be as short as possible. The long cable may cause mistake operations. And the connection cable shall be the shielded.</p>

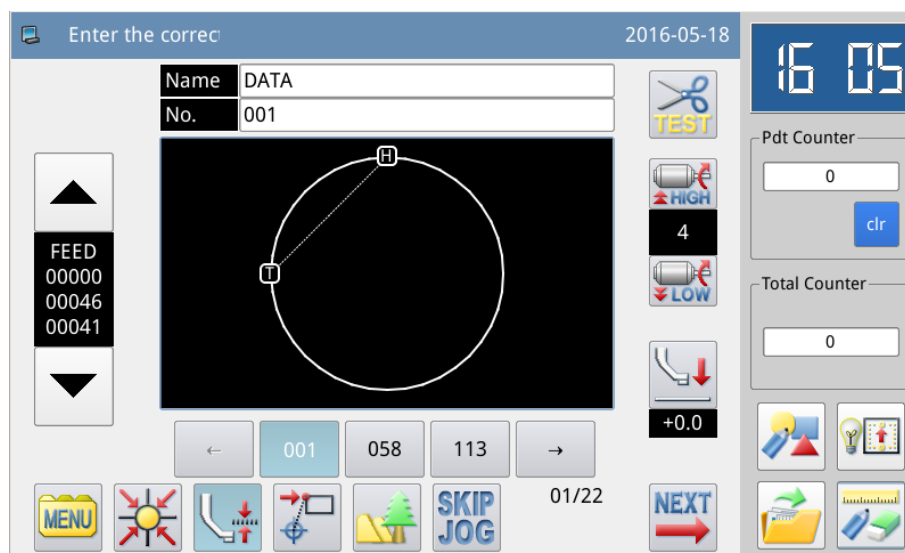


The diagram is divided into two panels. The left panel shows a central circle labeled 'signal disturbances' with eight arrows pointing outwards, representing various sources of interference. Below this is a schematic of a sewing machine on a table. The right panel shows a similar schematic of a sewing machine on a table, but with a red prohibition sign (a circle with a diagonal slash) over it, indicating a warning or a specific operational instruction.

10、 If the fuse is burnt, please solve the problem before replacing a new one with same capacity.

1.5 Standardization

The function keys use figures commonly recognized within the industry. Figures, as international language, are recognizable to users in every country.



1.6 Operation Method

The Mitsubishi type touching panel adopts the advanced touching operation technology, whose user-friendly interface and easy control bring the revolutionary changes to the daily usage of the users. For performing relevant operations, user can use his fingers or other objects to touch the screen.



Don't use sharp objects to touch the screen so as to avoid causing permanent damage to the touch panel.

2 Operation Instructions

2.1 Basic Operation

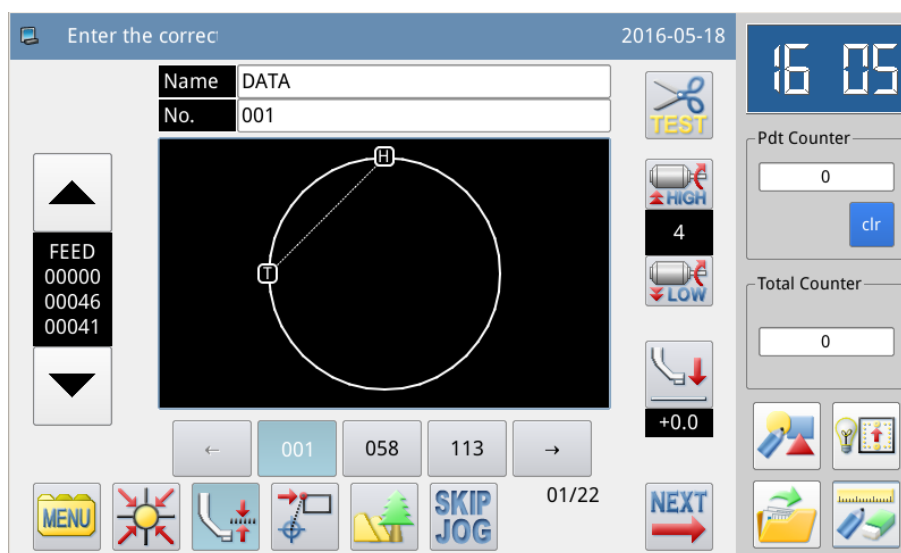
1、 Turn on Power Switch

After user turns on the power, the main interface P1 will be displayed.

[Note]: If the memory of system contains no pattern when user turns on the power, the system will display “Cannot Find Pattern in Memory”. At this moment, user needs to press



to close the message and shift to the main interface.



2、 Pattern for Sewing

Display the selected pattern in the current interface. If user wants to change the pattern, he should refer to section [2.5 Load Pattern].

3、 Start Sewing

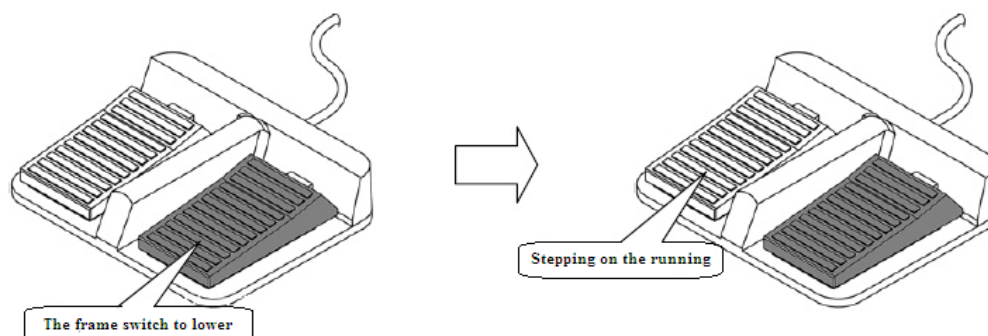
① Before the actual sewing, user need confirm the settings of the sewing conditions again, especially the setting of the speed (Range: 0~9).

② The speed of sewing machine is determined by the speed value and stitch interval. The speed value will determine the max speed of sewing machine, while the stitch interval will limit the speed of sewing machine.

[Note]: Do not change the speed value during the sewing, except the condition of pause, otherwise it may cause influence on the thread-withdrawing condition.

③ Put the sewing material to the appointed position, step the frame switch (black one) to lower the frame and step the running switch (grey one) to start the actual sewing. Once the

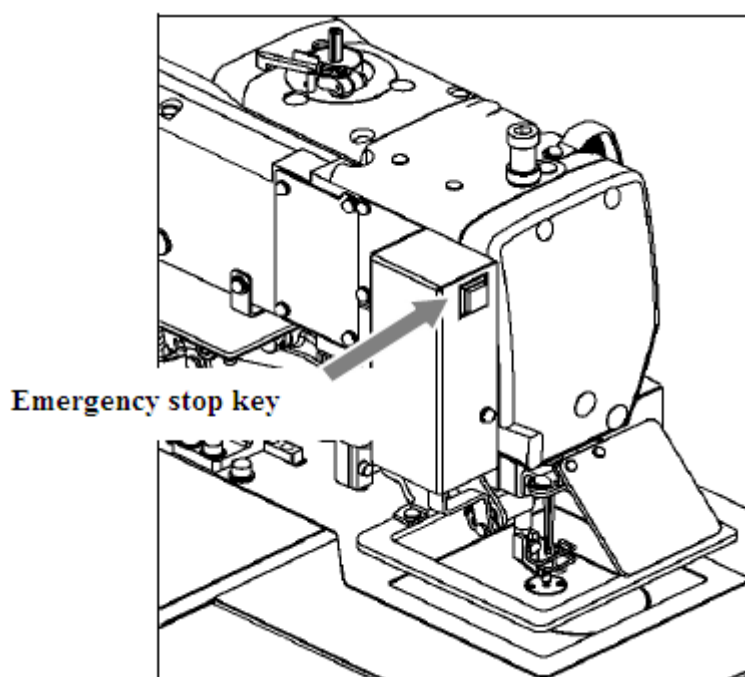
sewing starts, user will not need to continue stepping on the running switch. When the sewing machine finishes the work, the frame will go up automatically.



4、Pause

If user wants to stop the machine during the sewing, please press the emergency stop button on the head (Please refer to the following figure for details). After user presses that key, the sewing machine will stop at the upper position (default setting) and enter the pause status. For releasing the pause status, please press that emergency stop button again. Then user can continue to perform the following operation:

- ① Step on the running switch to continue the sewing;
- ② Press Forward Moving/ Backward Moving to change the sewing start position;
- ③ Step on the frame switch to lift frame;
- ④ Change the speed value of sewing machine; and/or
- ⑤ Move the intermediate presser.



5、Method for Mending the Sewing

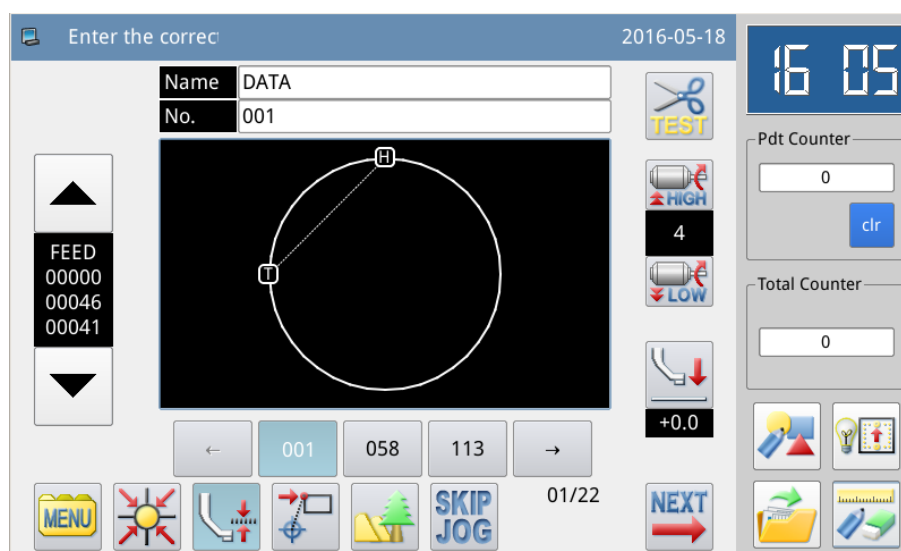
User can use the pause function to perform the mending sewing. If user presses emergency stop key in case of thread-breakage, the needle will stop at the upper position. Press backward moving key to move the frame to the position that is two or three stitches before the thread-breakage point, finish threading and step the running switch to continue the sewing.




Caution When wearing a needle and thread, absolutely not trample operation switch with their feet, That can make the machine running, it is dangerous.

2.2 Instructions on Interface Display Status

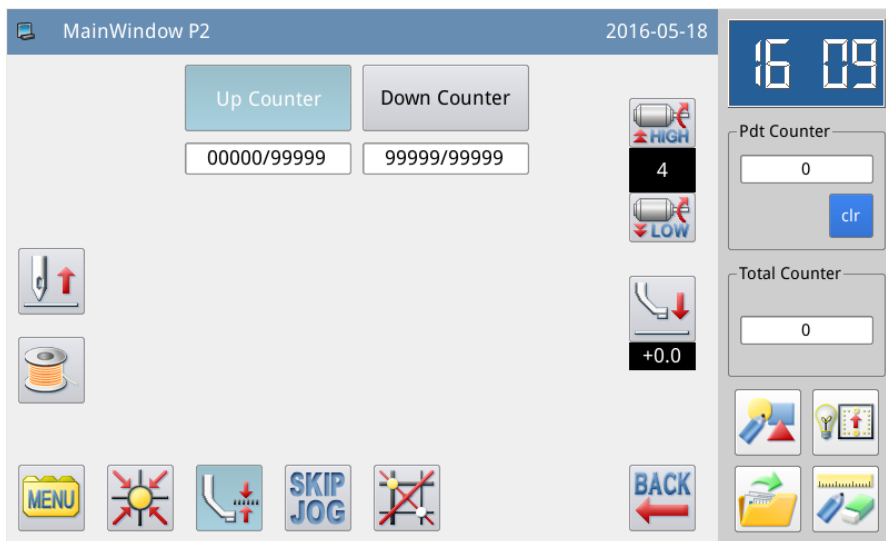
2.2.1 Interface 1 (Main Interface P1: Standard Display Status)



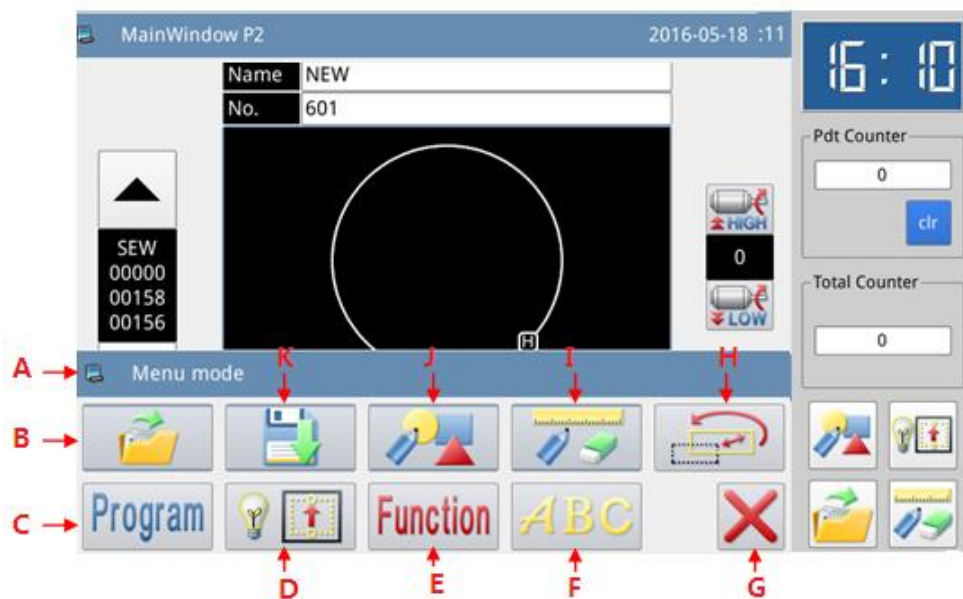
[Note] The comparison among Product Counter, Power-on Counter and Accumulation Counter:

- Product Counter is to record the accumulated sewing number. But user can use  to clear the value and restart counting;
- Power-on Counter is to count number from 0 after the machine is turned on;
- Accumulation Counter is to record the accumulated sewing number, which can't be cleared in the current interface.

2.2.2 Interface 2 (Display Status after Users Press NEXT in Main Interface P1)



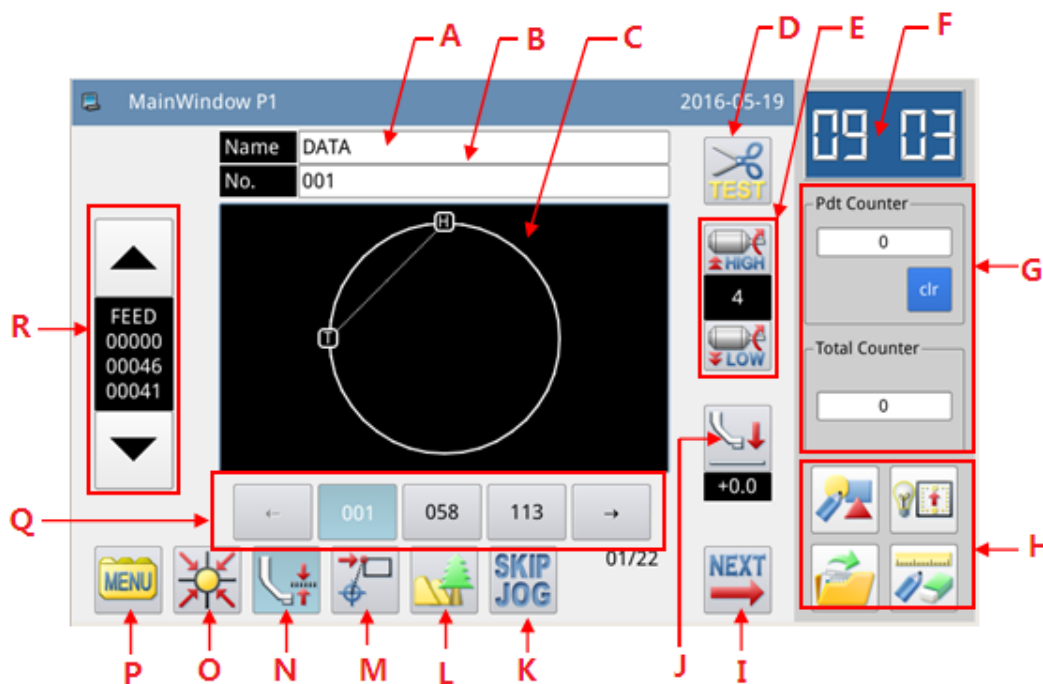
2.2.3 Interface 3 (Catalogue Mode in Main Interface P1)







Functions:

No.	Function	Content
A	MENU Function Interface Title	The displayed content is the interface title of the MENU. When user press the button, the displayed content in the title bar will become the functional description of the corresponding key.
B	Load Pattern (Load Pattern Data)	Load a pattern from memory or U disk for sewing.
C	Operation Setting	Set the operation parameters
D	Test Mode	Test the external devices, LCD screen and so on.
E	Function Setting	Perform the function operations
F	Letter Sewing Edition	Perform letter sewing edition. [Note]: User can close letter sewing edition function via Parameter “Special” -> “Enable Letter Sewing”. The figure will disappear when it is deactivated.
G	Quit	Quit the current interface, and return to the upper interface.
H	Data Transformation (File Transformation Mode)	Transform the data
I	Modify Pattern (Modification Mode)	Modify the pattern
G	Edit Pattern (Pattern Design Mode)	Edit the pattern
K	Save Pattern (Save Pattern Data)	Save the pattern to memory or U disk

2.3 Instructions on Main Interface P1

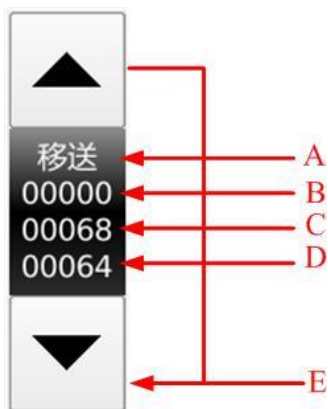


Functions:

No.	Functions	Content
A	Pattern Name	Display the name of current pattern
B	Pattern Number	Display the number of the current pattern
C	Pattern Shape	Display the shape of the current pattern [Note]:  is the position of origin.
D	Speed Adjustment Area	Adjust and display the sewing speed of the current pattern
E	Pattern Number Hot Key	Display the recently used pattern numbers, at most 40 numbers can be saved. Pressing the pattern number will activate that pattern for sewing. [Note]: In combined pattern sewing mode, the displayed content is the sub-pattern numbers and their number.
F	Hot Key Setting of Functions	User can set 4 frequently-used functions.
G	Enter Main Interface P2	Press it to enter Main Interface P2.
H	Move Intermediate Presser	Press the key to move the intermediate presser in the appointed direction.  : Press it to lift the intermediate presser  : Press it to drop the intermediate presser
I	Parameter Hot Key	Set parameters: start sewing bar-tacking method/start sewing bar-tacking stitches/end sewing bar-tacking method/robbin thread alarm stitches
J	Panel Lock	Lock and unlock the panel.
K	Fast Moving Setting	Enter the interface for setting fast moving.
L	Pattern Information Display	Display the shape and details of the current pattern
M	Back to Sewing Start	Press it to return to sewing start
N	Back to Origin	Press it to return to origin
O	MENU	Display the catalogue (refer to [2.2.2 Interface 2])
P	Product Counter and Robin Thread Counter	Product Counter: to record the accumulated sewing number, but user can use  to clear the value and restart counting; Robbin Thread Counter:
Q	Pattern Stitch Number Display Area and Forward/Backward Moving Keys	Display the stitch number and perform the trial sewing.
R	Change Sewing Start	Change the position of sewing start.

2.3.1 Pattern Stitch Number Display & Forward/ Backward Moving**Functions:**

No.	Descriptions
A	Display the current frame position and sewing data type.



	(Sewing “SEW”, Feed “FEED”, Sub-origin “2HP”, Upper Stop “USTP”, Down Stop “DSTP”, Thread-trimming “TRIM”, Feed Speed “FEDS”, Restart “ASRT”, Board Heavy “HEVI”, Fabric Thick “ATUM”, Jump Sewing “BAT”, Function 1 “FUN1”~Function 7 “FUN7”, Reverse Presser Feet “REPF”, End “END”)
B	Display the stitch number at current position
C	Display the total stitch number of the current pattern (Including Feed, Thread-trimming, End, Code, etc.)
D	Display the total sewing stitch number of current pattern (Excluding Feed, Thread-trimming, End, Code, etc.)
E	<p>Test Pattern (Forward / Backward):.</p> <ol style="list-style-type: none"> 1. After it returns to origin, X-Y (frame) will move forward on the pattern when users press the “Upper”. Release the key to stop moving. Holding the “Down”, the X-Y (frame) will move backward. Release the key to stop moving. 2. If the frame is at down position and the pattern is right, user can step the pedal to start sewing.

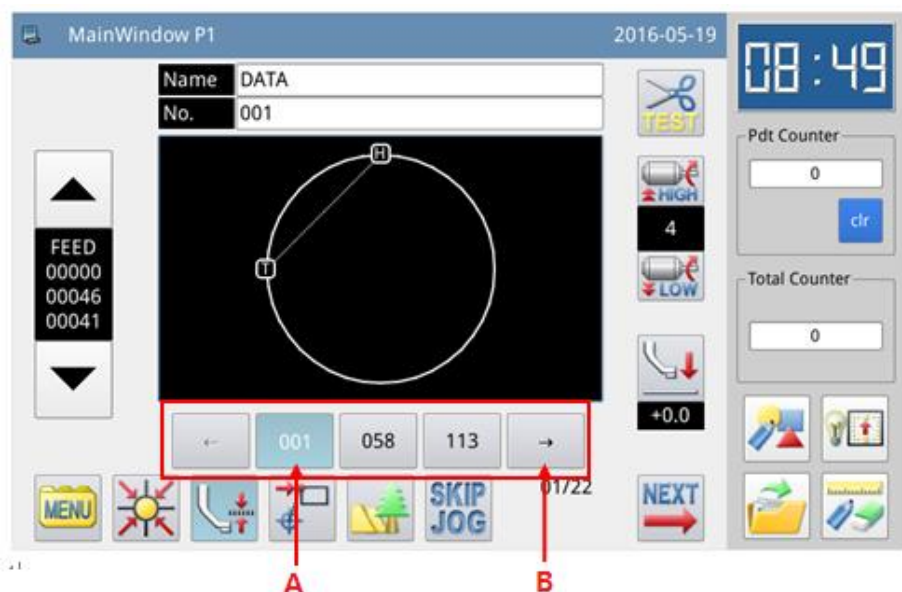
2.3.2 Speed Adjustment



Functions:

No.	Description
A	Increase the speed
B	Current sewing speed (0~9)
C	Reduce the speed

2.3.3 Operation of Pattern Number Hotkey

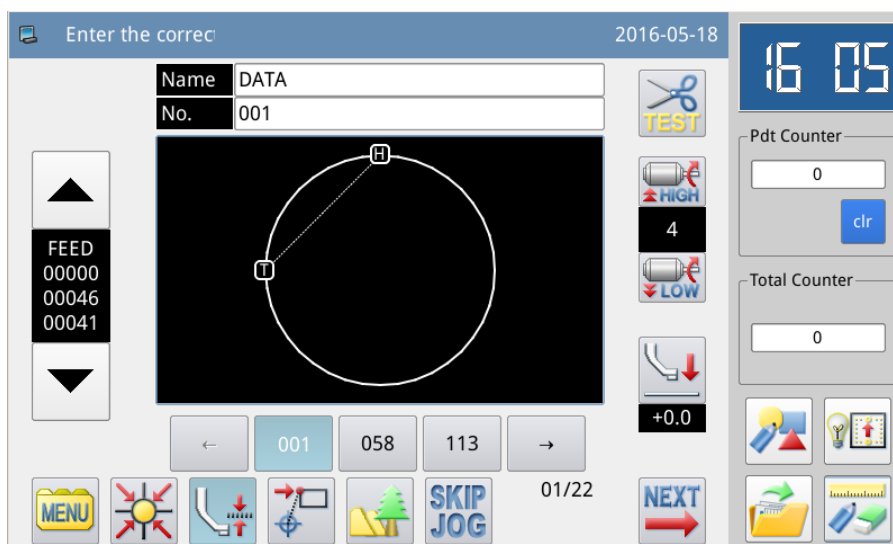


Functions:

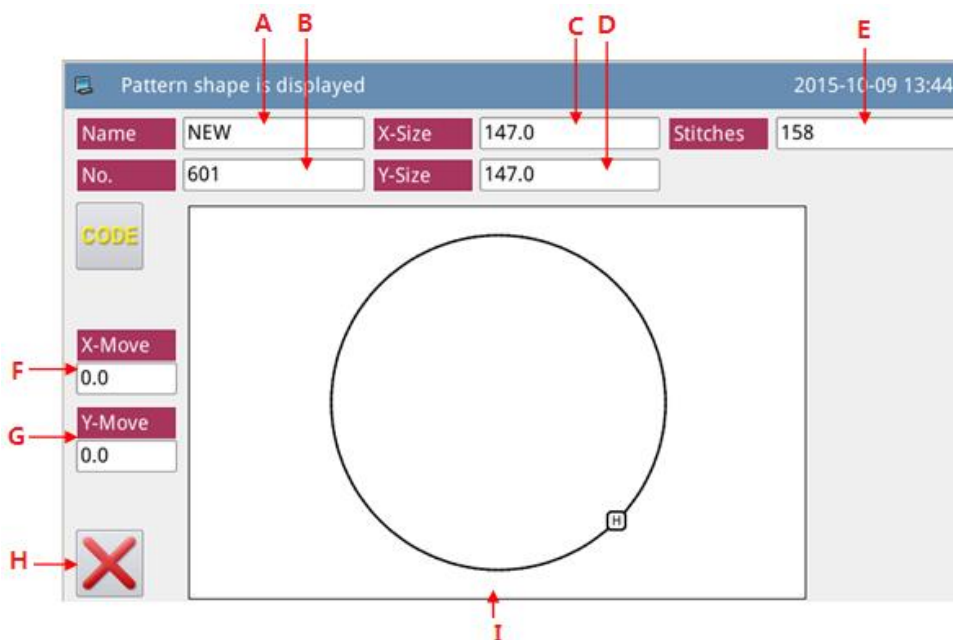
No.	Description
A	Pattern number hotkey (Current pattern: Displayed in white figure on blue background), select other number to shift the pattern.
B	Pattern number display and inquiry key

Example:

As shown in the above figure, 5 pattern numbers are in the hotkey list. The current pattern number is 600@NEW. If we select pattern No. 001@NEW, the current pattern will be shifted to pattern No. 001@NEW. The display is shown as below:



2.3.4 Pattern Display



Functions:

No.	Description
A	Pattern Name
B	Pattern Number
C	Size of Pattern in X Direction
D	Size of Pattern in Y Direction
E	Display Total Stitch Number of Pattern (Including Feed, Trimming, End, Code and so on).
F	Origin Correction in X Direction
G	Origin Correction in Y Direction
H	Quit current interface and return to the previous interface.
I	Pattern Display.

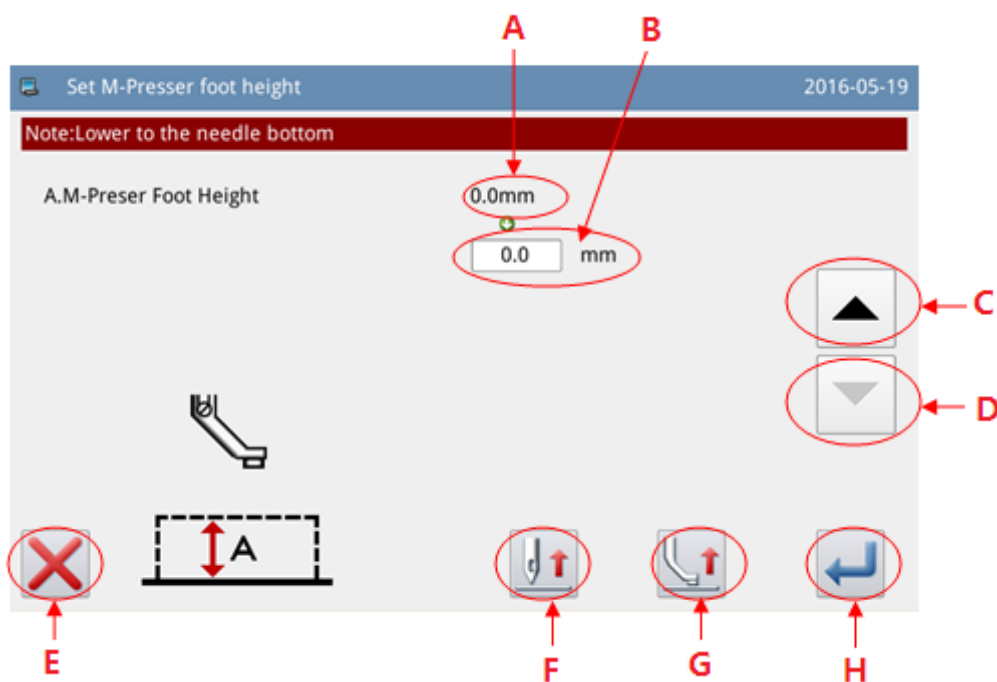
2.3.5 Sewing Fabric Thickness Setting

The lowest position of the intermediate presser is changeable. If the lowest position of intermediate presser in the default setting is lower than the thickness of the used fabric, user can use this function to change it.





[Note]: If users enter this interface when the intermediate presser is at down position, the system will hint “Lift Intermediate Presser”.

[Note]: After entering the interface for setting the fabric thickness: only when the intermediate presser goes down, can user set this parameter.

[Note]: The range of this parameter is 0.0~8.0mm.



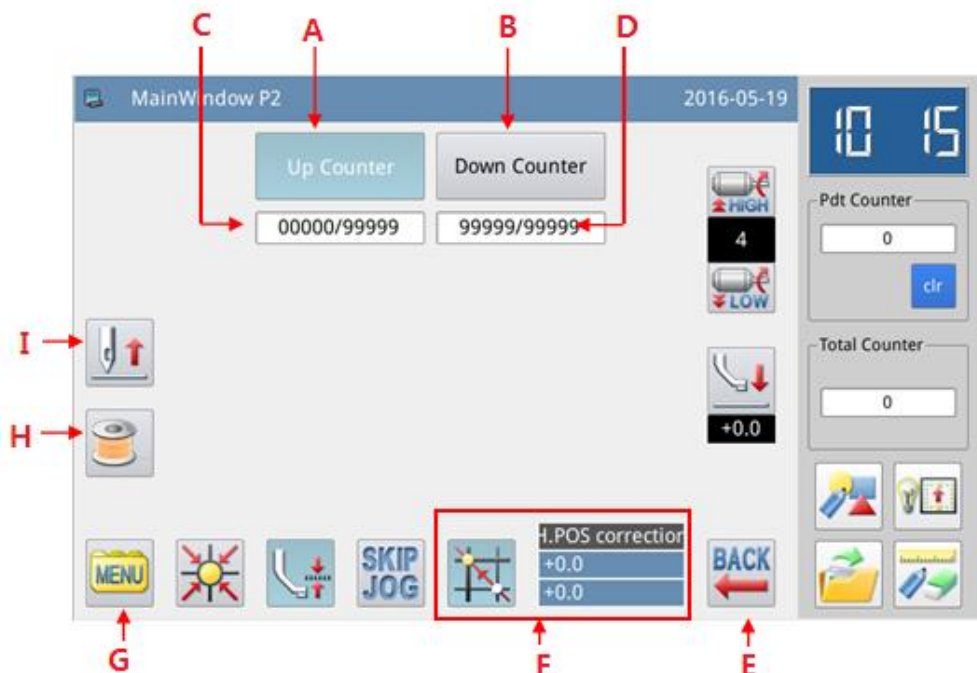
Functions:






No.	Description
A	Current Height of Intermediate Presser
B	Target Height of Intermediate Presser
C	Increase Height The intermediate presser goes up by 0.2mm at each pressing
D	Decrease Height The intermediate presser goes down by 0.2mm at each pressing
E	Quit the current interface and return to the previous interface.
F	Move needle vertically.  : Needle down  : Needle up
G	Press it to move the intermediate presser in the arrow direction  : Intermediate presser up  : Intermediate presser down
H	Save and Quit

2.4 Main Interface P2


Functions:

No.	Functions	Content
-----	-----------	---------

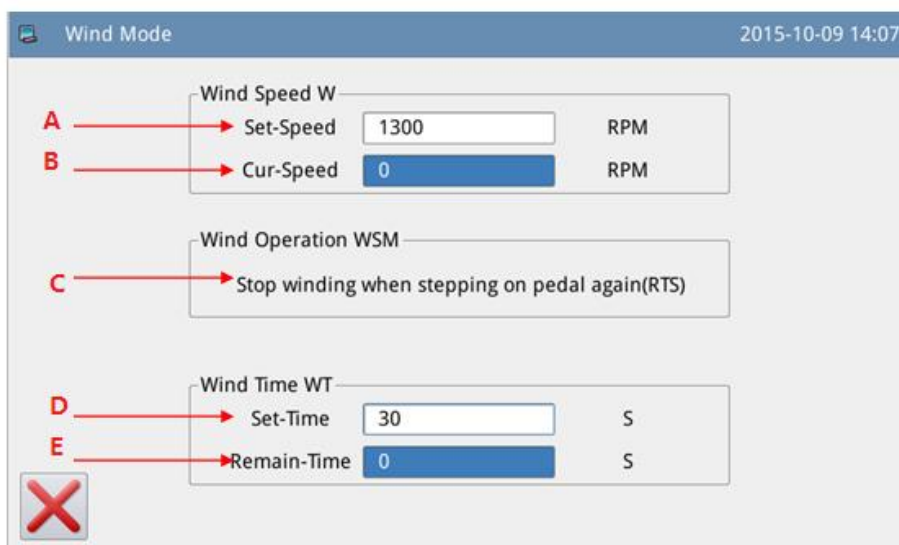


A	Up Counter	Enter interface for setting up counter
B	Down Counter	Enter interface for setting down counter
C	Up Counter Value	Display the current value/ set value of up counter
D	Down Counter Value	Display the current value/ set value of down counter
E	Return	Press it to return to Main Interface P1
F	Origin Correction and Jump Stitches Setting	 : valid setting of origin  : invalid setting of origin  : set the number of jump stitches
G	MENU	Open the catalogue menu
H	Winding	Check the winding speed and time
I	Needle Lift	Move needle vertically.  : Needle up  : Needle down

2.4.1 Winding Mode

For winding, user has to activate this interface (Press  in main interface P2 and the intermediate presser will go down). Step the frame switch to lower the frame and then step the running switch to run the sewing machine at the set speed. But the X & Y axis will not move. When user releases the running switch, the sewing machine will stop at the upper stop position.

[Note]: The winding action is determined by the parameter “Winding” set in the Operation Setting Mode. (Please refer to [2.7.6 Parameter List])



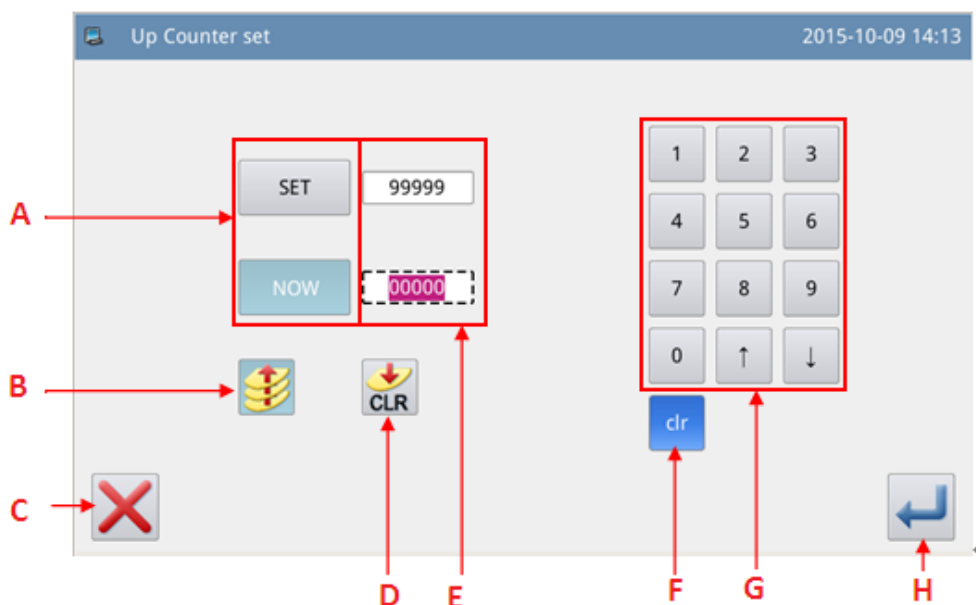
Functions:

No.	Description
A	Set Speed of Winding [Note]: Determined by Parameter “Winding” -> “Winding Speed Setting”
B	Actual Speed of Winding
C	Winding Operation Method [Note]: Determined by Parameter “Winding” -> “Winding Stop Method”.
D	Set Time of Timing Winding [Note]: Determined by Parameter “Winding” -> “Timing Stop of Winding”
E	If the operation method of winding is the timing winding, this place will display the time leftover.

2.4.2 Up Counter


In main interface P2, press  to Enter the interface for setting the up counter.

[Note]: The counting method of the up/down counter is determined by the parameter “Counter” set in Operation Setting Mode (Please refer to [2.7.6 Parameter List]).

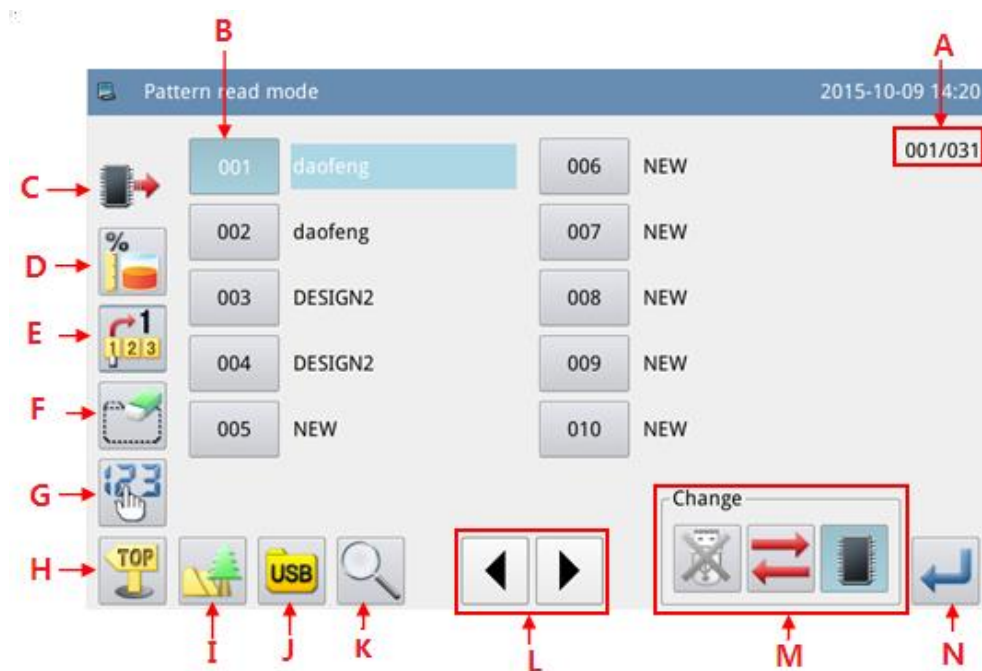


Functions:

No.	Content
A	Shift the input between the set value and the current value (The button in shadow is the selected one).
B	Up Counter Switch (This button will be effective when it is in blue background).
C	Quit counter setting mode and return to previous interface.
D	Clear current value.
E	Display the set value and current value (User can input the value in the dotted frame)
F	Clear the value inputted currently
G	Number keyboard, used to input set value and current value
H	Confirm the setting






[Note]: The setting of the down counter is the same as that of the up counter, and the only difference is the icon indicating the effective status of the down counter ().

2.5 Load Pattern




Functions:

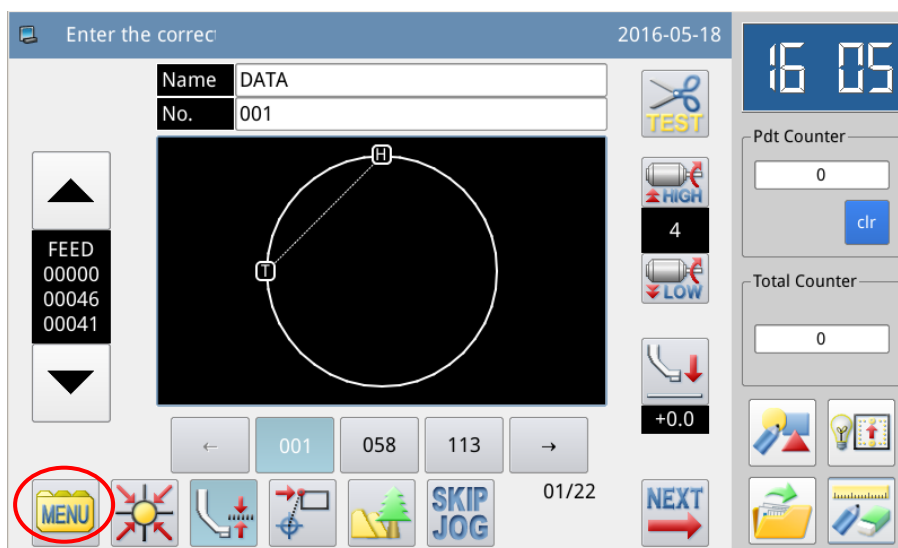
No.	Functions	Content
A	Page	Display current page number/ total page number
B	Pattern List	Display the list of the saved pattern (Both number and name will be displayed). [Note 1]: If user selects pattern in VDT format, system will ask user to transform the pattern format. [Note 2]: If the stitch number of the selected pattern is over range or the data is damaged, the system will hint that the pattern is unable to be selected.
C	Memory / U Disk Object Display	: Memory Pattern List. : U Disk Pattern List [Note]: The default setting is to load pattern from memory
D	Free Memory	Display the total number of the patterns saved in memory
E	Direct Loading	Input the pattern number to load that pattern directly.
F	Delete Pattern	Delete the selected pattern. [Note]: The currently sewing pattern cannot be deleted.
G	Sequencing	Sequence the patterns according to their modification time or number.
H	Return to Main Interface	Return to main interface directly
I	Pattern Display	Same as this function key in main interface P1.
J	Select Memory/ U Disk	Load pattern from memory or U disk

		 : Activate the Memory Load Mode: At this moment, user cannot load pattern from U disk.  : Deactivate the Memory Load Mode: At this moment, user can load pattern from U disk.  : Activate the U Disk Load Mode: At this moment, user can not load pattern from memory.  : Deactivate the U Disk Load Mode: At this moment, user can load pattern from memory.  : Shift between U Disk and Memory
K	Jump to Patterns of Non-standard Formats	Load patterns of other standard formats than the nsp format
	Page	Page up and down to look up interface
L	Enter	Confirm the operation. After the operation, the sewing pattern will turn to the newly selected pattern.

Operation Instructions:

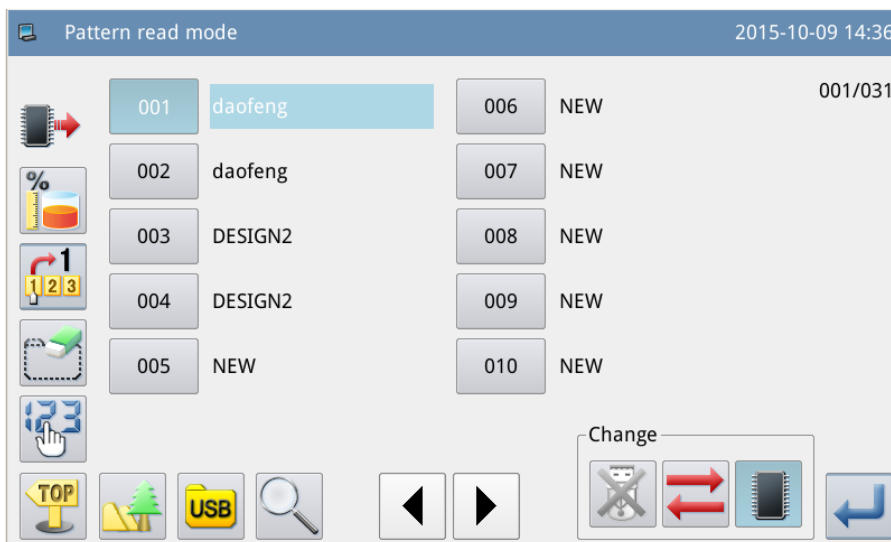
Open the Interface to Load Pattern



In main interface P1 (or P2), press  to activate the catalogue mode, and then press

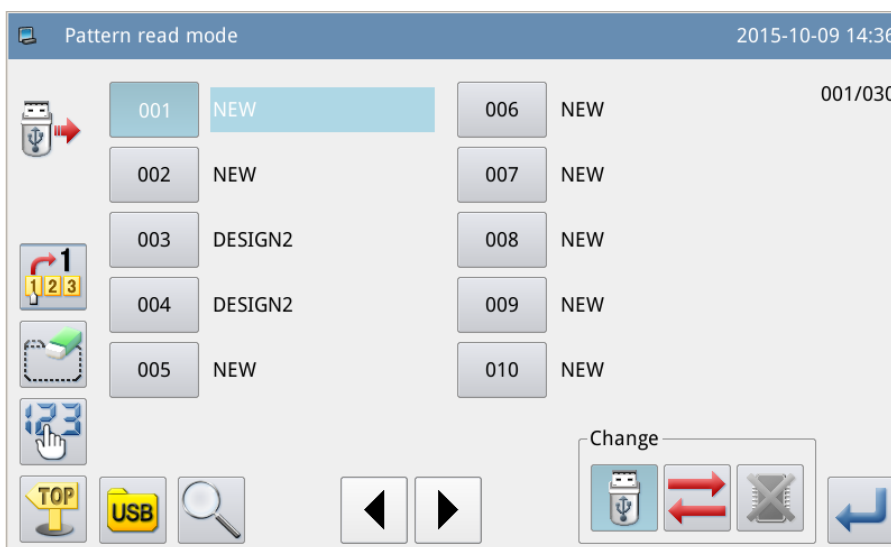


[Note]: If the moving frame is not at the origin, the system will be unable to load pattern. Therefore, please perform the operation for returning to origin first.


2、 Select the Object for Loading (Memory/ U Disk)




The default setting in this interface is the Memory Load Mode (you can see  at the upper left of the screen). You can press  to shift to U Disk Load Mode, which is shown at below:



[Note]: If user performs the above operation without inserting the U disk, the system will display “U Disk Is Pulled Out”.





[Note]: If user inserts the U disk in the current interface, the system will need 5 seconds to identify the U disk. After the identification, user can press  to enter the U Disk Load Mode. As long as the U disk is not pulled out, the system will not need to identify the U disk again when user enters the U Disk Load Mode again.

3、 Select and Confirm Pattern Number

Select the pattern number for sewing and then press . After the selection, the system will return to the main interface directly.

[Note]: If the pattern with the same number exists in the memory when user loads pattern from U disk, the system will display “Replace Pattern in Memory?”. At this moment, user need follow the given instructions.

4、 Other Operations

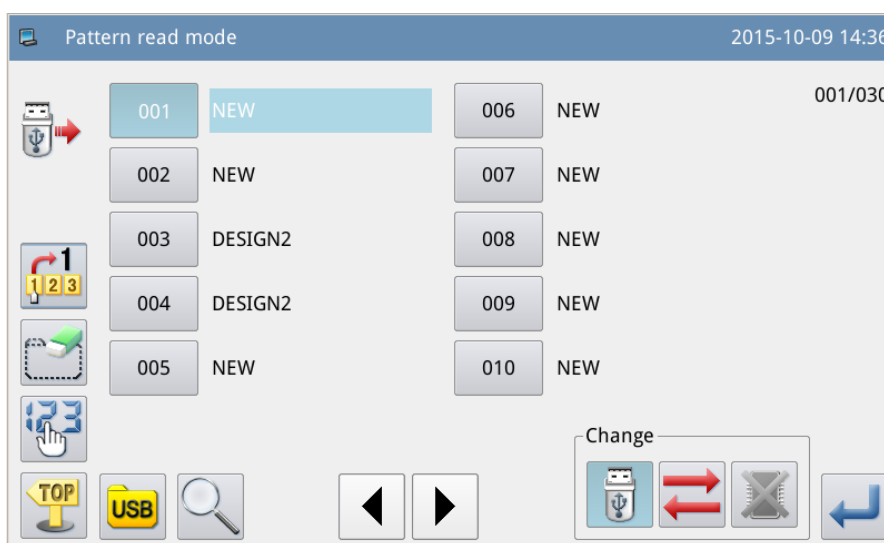
If there are many patterns, user can use   for page turning and press  to view the pattern list more directly. If user knows the pattern number, he can use  to load the pattern directly.

2.5.1 Direct Load Mode

1、 Select Direct Load Mode

Press  in pattern loading interface to enter the Direct Load Mode.

[Note]: To load pattern by directly inputting the pattern number is limited to the memory load mode.





2、 Input the First Number

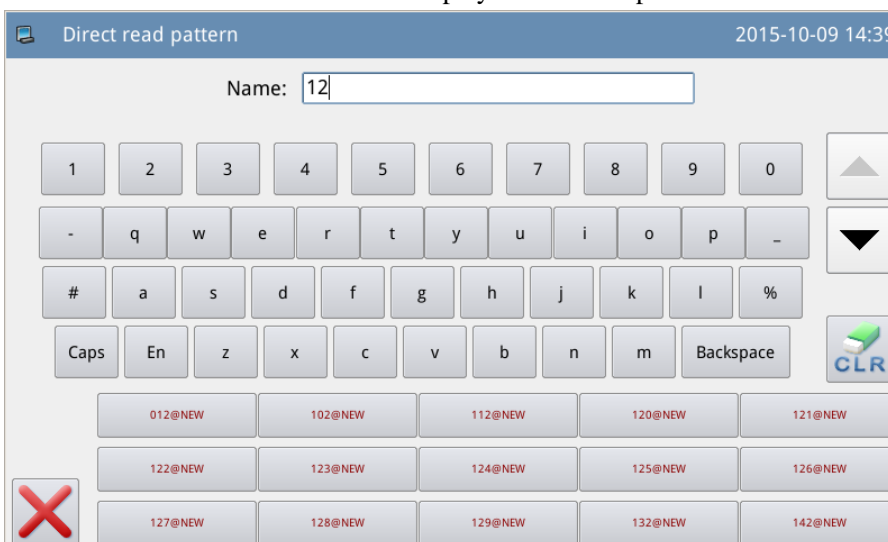
(E.g. Load pattern No.012)

- ① Input “1”.
- ② The patterns saved in the memory whose first number is 1 will be displayed on the bottom keyboard as below:

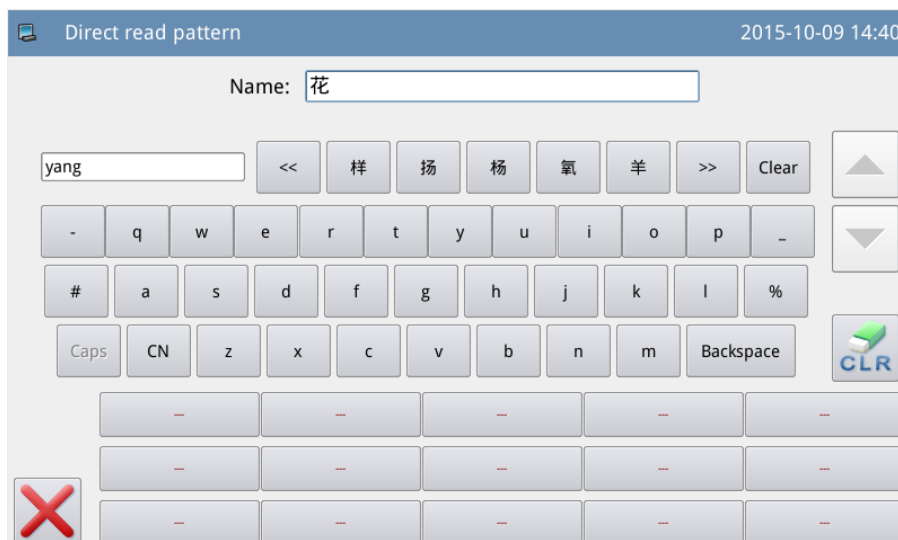


3、Input the Second Number


- ① Then input “2”.
- ② The patterns saved in the memory whose number begin with “12” will be displayed on the keyboard at the bottom of the interface.
- ③ Press  to clear the inputted number and re-input them.
- ④ At this moment, press  to activate the pattern and then the system will return to the main interface and display the selected pattern.

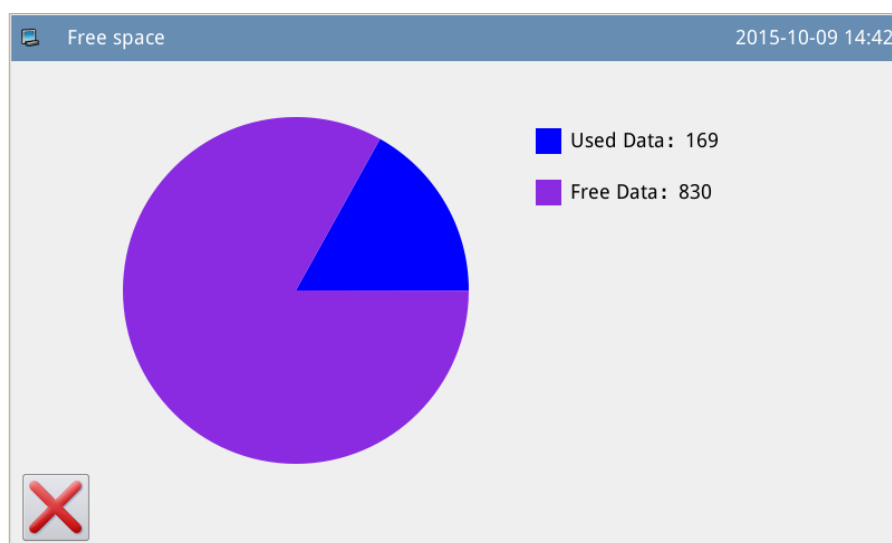


- ⑤ Shift to Chinese input method, and user can use Chinese to look up patterns.




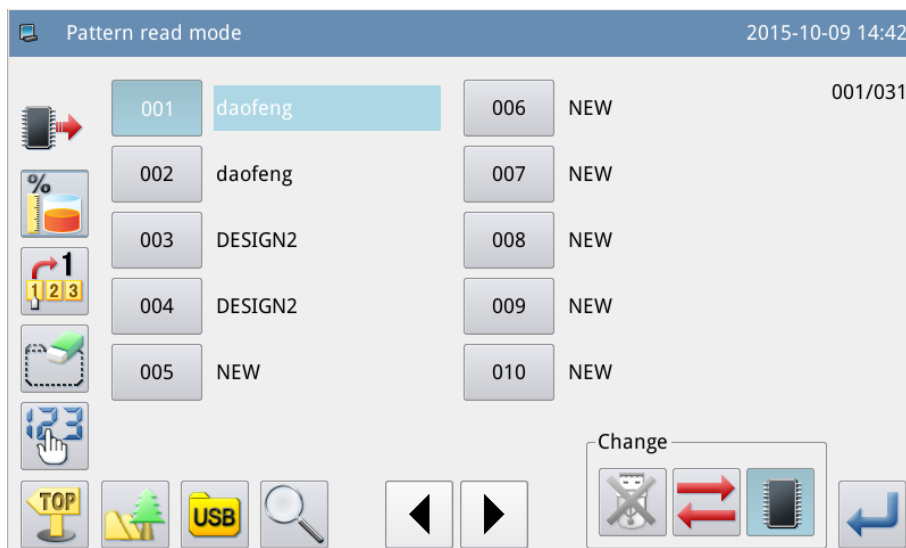
2.5.2 Free Memory

In the interface for loading pattern, user can press  to check the usage condition of the memory.



2.5.3 Delete Pattern

User can press  to delete a pattern. At this moment, the system will display “Delete Pattern from Memory?” (If the system is at U Disk Load Mode, the system will display “Delete the Selected File?”). User need follow the given instructions, but the pattern being sewn cannot be deleted.

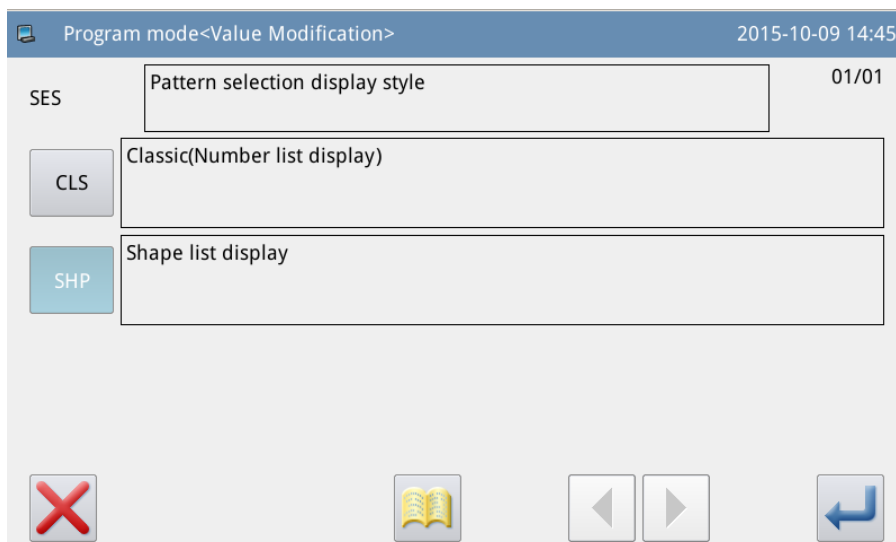


2.5.4 Supported Data Format

At present, the supported formats by the system are: NSP format, B format, BA format, VDT format, EMB format, DST format, DSB format, DSZ format, PLT format and DXF format.

2.5.5 Display Style of Pattern List

Press “LCD” -> “Display Style of Pattern Selection” to shift the display style of the pattern loading interface.



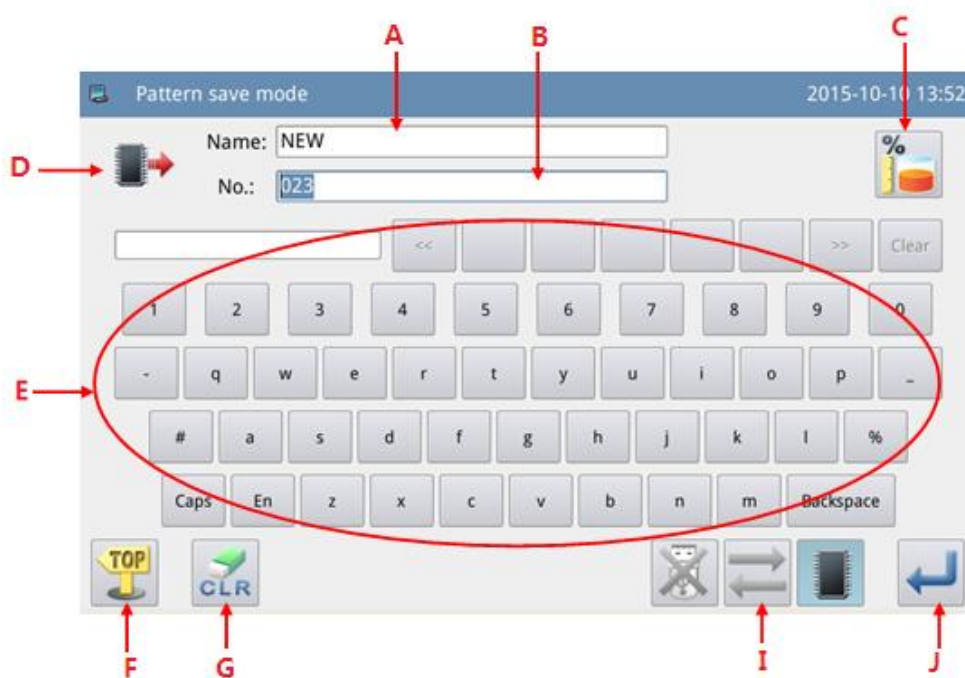
Set that parameter at “Display Pattern Shape” and return to the pattern load interface to view the patterns used.



[Note]: Only can the used patterns be displayed in the pattern shape list.

[Note]: User can set it at “Function Setting” -> “Display Setting Mode”.

2.6 Save Pattern




Function:

No.	Functions	Content
A	Input Pattern Name	Display the pattern name
B	Input Pattern Number	Display the pattern number
C, D, F, I	Same as Pattern Load Interface	Refer to the descriptions in Pattern Load Interface
E	Keyboard	Input name or number
H	Keep Pattern with Same Number	<input checked="" type="checkbox"/> 保留同号花样 : select to keep the pattern with the same number <input type="checkbox"/> 保留同号花样 : not to keep the pattern with the same number
G	Clear All Characters	Press it to clear all the inputted characters

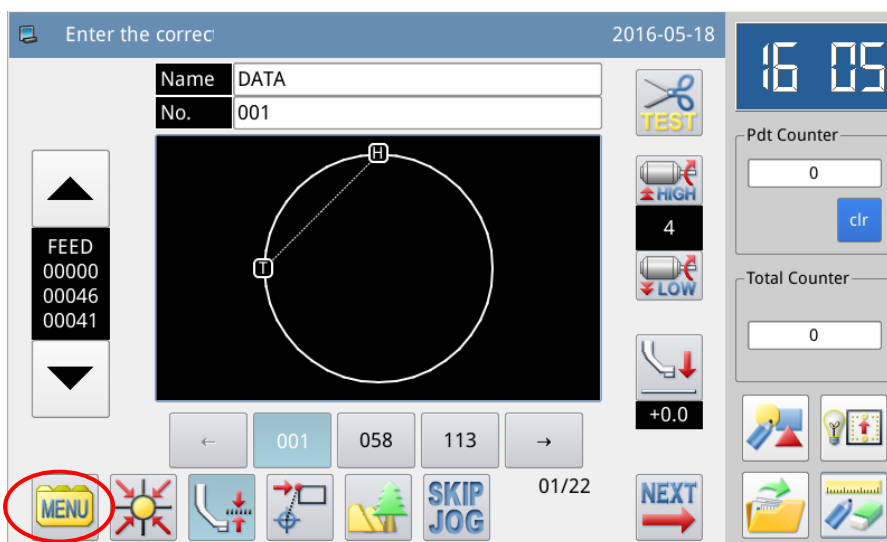
Operation Instructions:

1、Enter Pattern Load Interface



In main interface P1 (or P2), press  to activate the catalogue mode, and then press





[Note]: If the moving frame is not at the origin, the system will be unable to save pattern. Therefore, please perform the operation for returning to origin first.




2、Set Name and Number

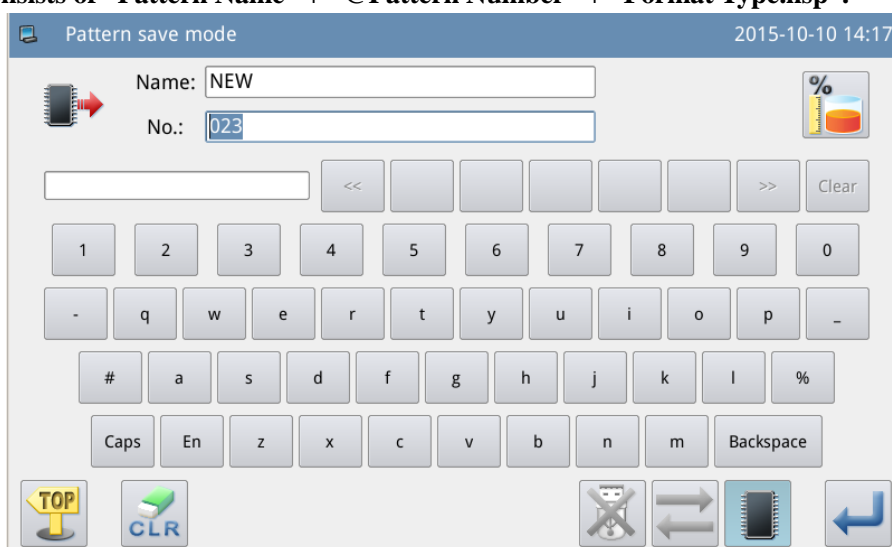
The default setting in this interface is the Memory Save Mode (you can see  at the upper left of the screen). You can press  to shift to U Disk Save Mode.

Press or to input the name or number.


Pressing  is to delete the first character at the left of the cursor, while pressing  is to clear all the characters.



If user need shift between capital and small letters, please press .

[Note]: User can decide the number for a pattern before saving; the filename of a pattern consists of “Pattern Name” + “@Pattern Number” + “Format Type.nsp”.



3、Save Pattern

After the input, press  to return to the main interface directly

[Note]: If the memory contains the pattern with the number same to that of the inputted one, the system will display “Replace Pattern in Memory?” Press  to cancel the replacement; press  to perform the replacement.

2.7 Operation Setting

It is to set each parameter. For the description of each parameter, please refer to [2.7.6 Parameter List].

2.7.1 Setting Method

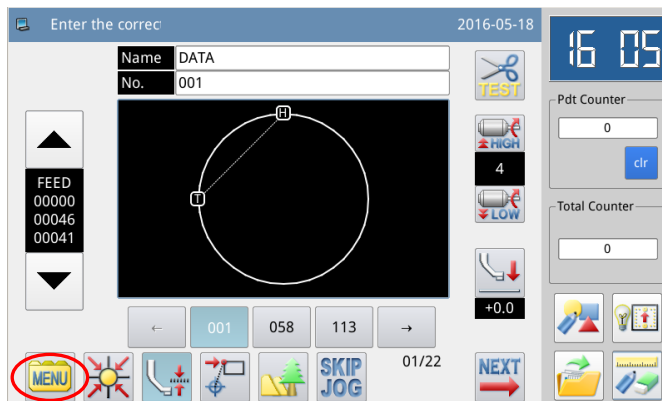
1、 Enter Operation Setting:

In main interface P1 (or P2), press



to activate the catalogue mode,

and then press **Program**.

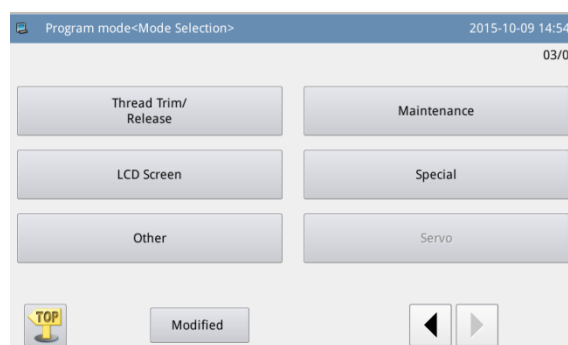
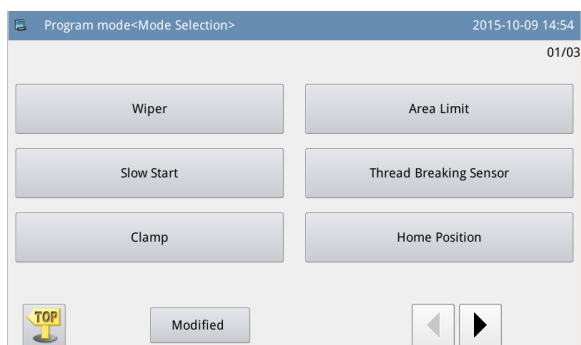


2、 Interfaces at Setting Mode

After entering the operation setting interface, user can use



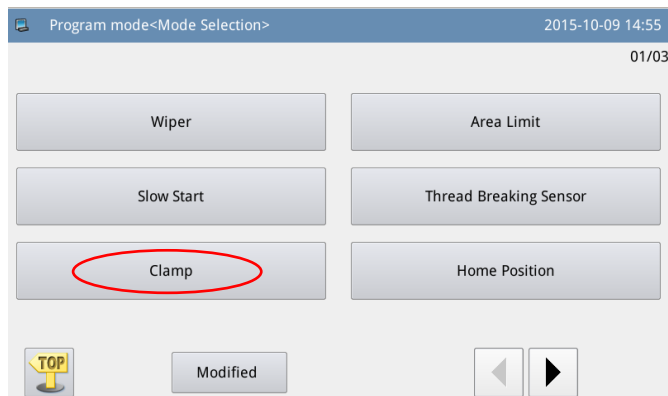
to turn the pages for selecting parameters.



3、 Example :

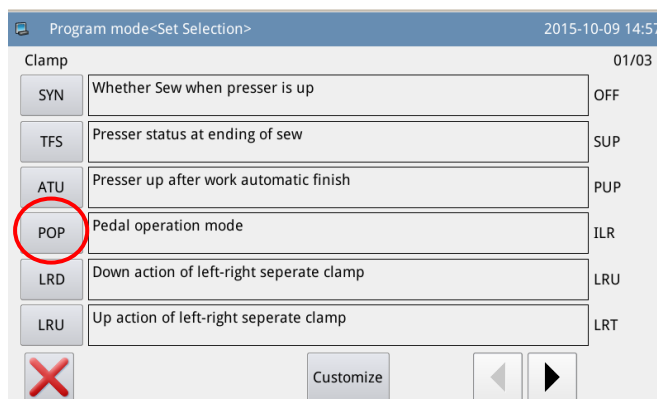
① Mode Selection

Select the parameter for setting to activate the “Internal Parameter Setting Interface”. Here, we press “Frame”





② Internal Parameter Setting Interface

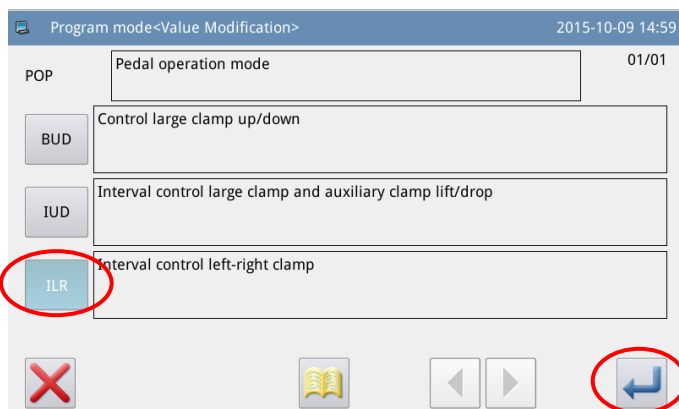
Select the parameter for setting to activate the “interface for changing the set value”. (We press “POP” here.)




③ Change Set Value of Parameter

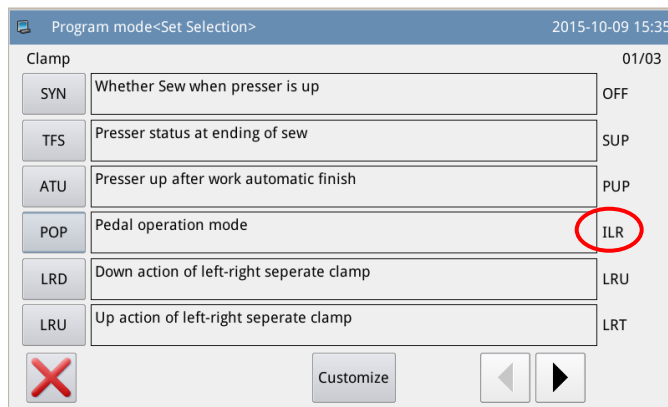
Press parameter to change the set value (here, we press “ILR”). Then, press  to confirm it.

[Note]: Pressing  is to display the descriptions of that parameter and its value.




④ Check the Changed Parameter Set Value

Return to the “Internal Parameter Setting Interface”, where user can check the set value after change. Press  to quit.

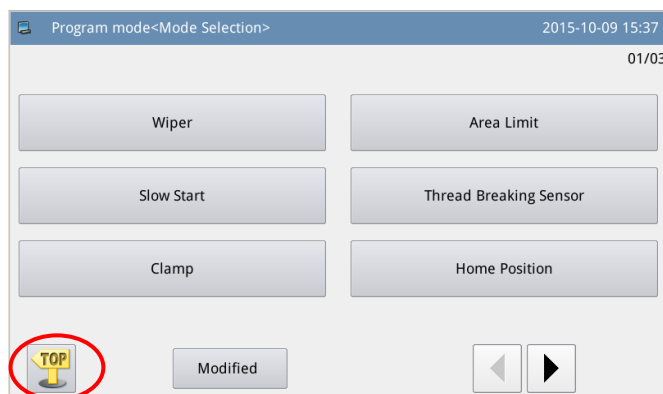


⑤ Return to Mode Selection Interface

Return to “Mode Selection” interface. Because the set value is changed, the button “Modified” is displayed.

For returning to main interface P1 (or P2), please press .

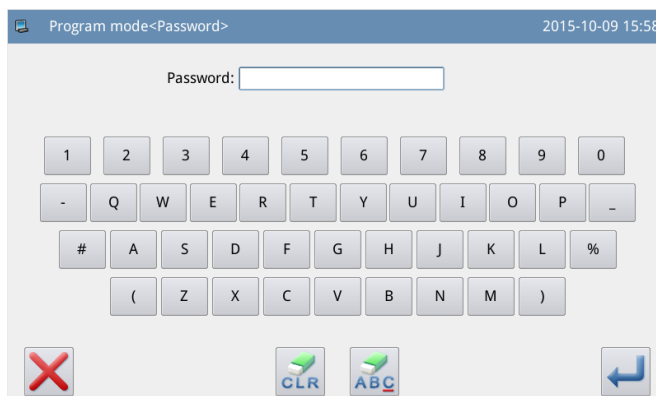
For checking the modified content, please press the “Modified” key.



⑦ Check the Content of the Modified Parameter

a) Enter Password Input Mode

Pressing “Modified” in the “Mode Selection” interface will activate the Password Input Mode, where user can enter the Modified Parameter Setting Mode with the correct password. (For setting the password, please refer to [2.7.3 Parameter Encryption].)

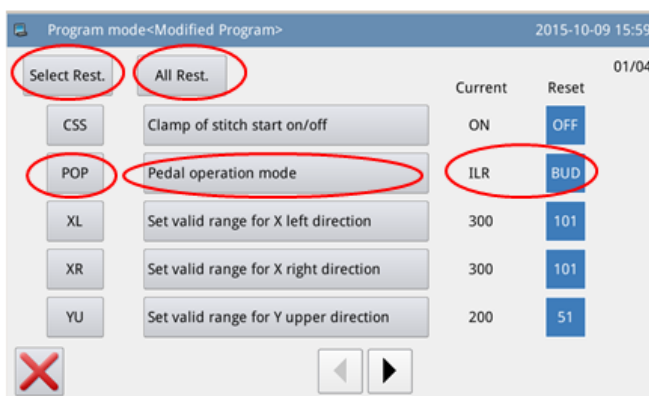


b) Enter Modified Parameter Setting Mode

In this interface, the modified content of the parameter will be displayed. User can modify it again in this interface (Here, press “POP”).

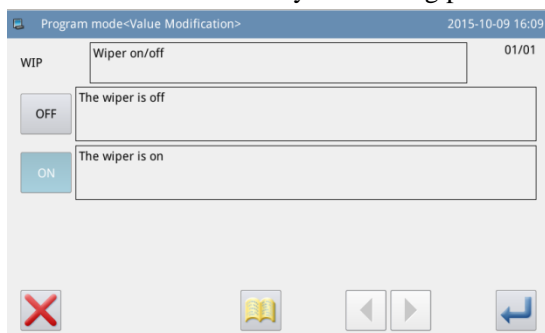
If user wants to restore the modified parameters, he should press the button with the name of that parameter (Here, he can press “Pedal Operation Method”, “Intermediate Presser Down Synchronization”) and then click “Restore”. After that user only needs to follow the instruction of the system.

If user wants to restore the entire setting to their default values, he can press “Restore All”. After that user only needs to follow the instruction of the system.

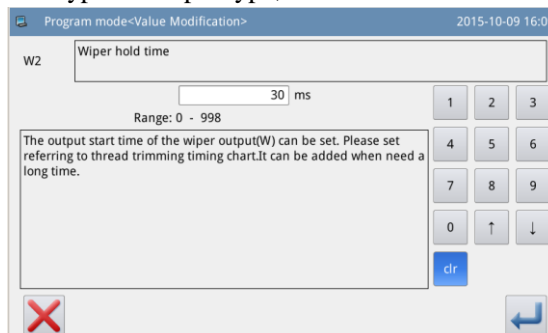


2.7.2 Types of Parameter Setting

There are two ways for setting parameter: selection type and input type, as shown below:



Selection Type





Input Type

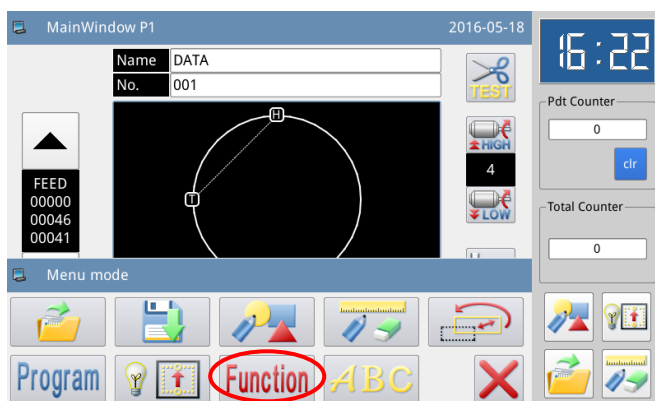
2.7.3 Parameter Encryption

In the parameter mode, each operation entrance can be attached a password, so as to avoid the mistake operation.

1、Enter Parameter Encryption Interface:



In main interface P1 (or P2), press  to activate the catalogue mode, and then press **Function** to Enter the interface for setting functions.


In the function setting interface, press  .

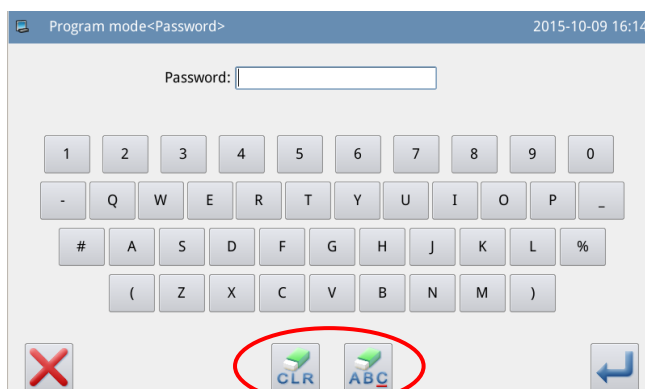


2、Input Password:

Before entering the Parameter Encryption Mode, user need input password. (The original password is the manufacturer ID).

In case of wrong input, pressing  will delete the first figure at the left of the cursor, while pressing  will delete the entire password inputted.

Input the password and press  .




2、Select Parameter for Encryption:

As shown in the picture, user can select one or many parameters for encryption. (Here, we select “Pause”.)

暂停 : Selected

暂停 : Unselected

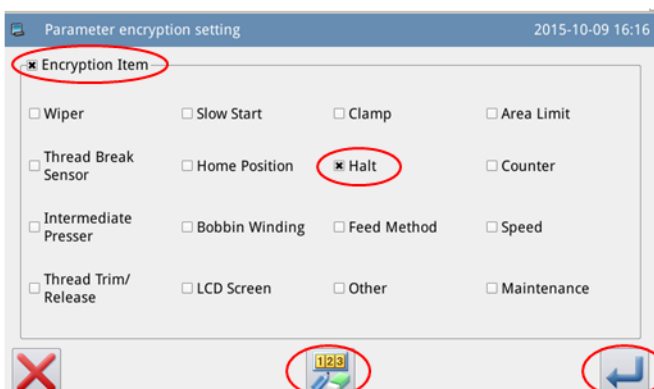
After selecting the parameter for

encryption, user can press .

From then on, user has to input password when setting the parameter that was encrypted.

For changing password, please

press  .



3、Change Password

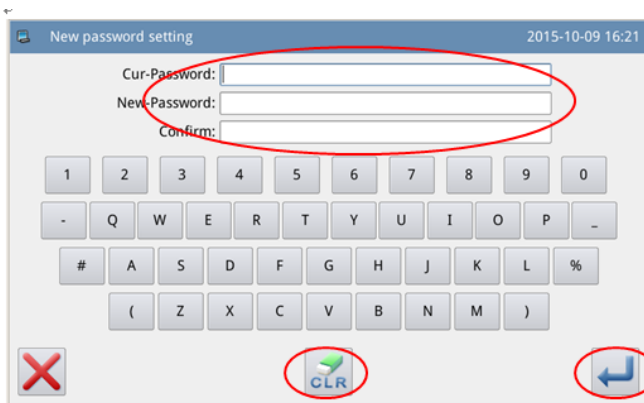
In the interface of setting new password,

press

&

in

order and input the current password, new password, new password confirmation respectively. At last press





[Note]: The original password is the manufacturer ID. After setting the password, the current password is the password set last time.

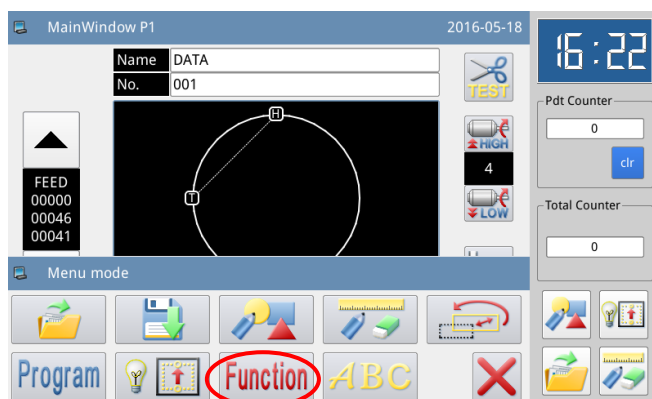
2.7.4 Recovery and Back-up of Parameters

User can save the changed parameter into U disk for the recovery operation in future.

1、Enter Interface of Parameter Recovery and Back-up:


In main interface P1 (or P2), press  to activate the catalogue mode, and then press **Function** to Enter the interface for setting functions.

In the function setting interface, press  .




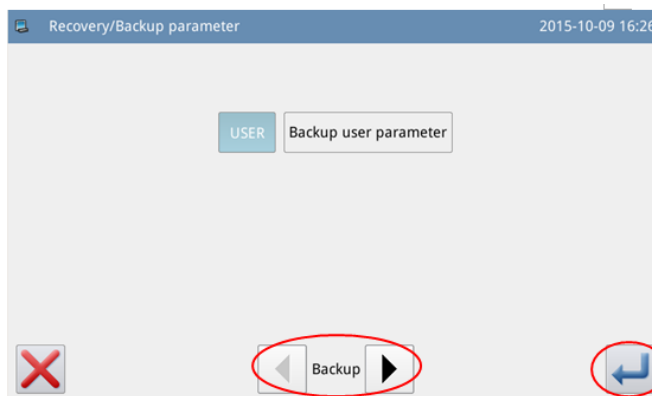
2、Back up Parameters

In the interface of parameter recovery and back-up, the default setting is to back-up the parameters.


After inserting the U disk, press  . After the operation, the system will create a catalogue named “bakParam” in U disk automatically. The file “backup.param” within that catalogue is the parameter back-up file.

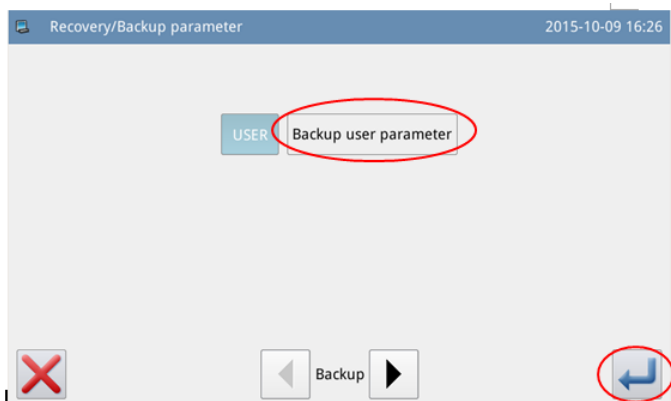
[Note]: the file with the same name will be replaced with new data. The original data will be lost.

In parameter recovery operation, user can press  to shift to recovery mode.



3、Parameter Recovery


At recovery mode, press  to recover the parameters. After the operation, the system will return to the previous level.

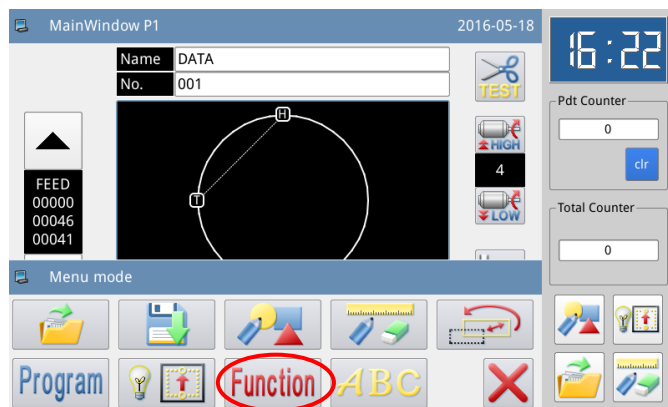



2.7.5 Default Parameter Recovery

User can restore the parameters to their default values. Additionally, user can also save the set parameters for the usage in future.

1、Enter Default Parameter Recovery:

In main interface P1 (or P2), press  to activate the catalogue mode, and then press **Function** to enter the interface for setting functions.



In Function Setting Interface, press  and then input the password (the original password is the manufacturer ID). With the correct password, user can enter Default Parameter Mode



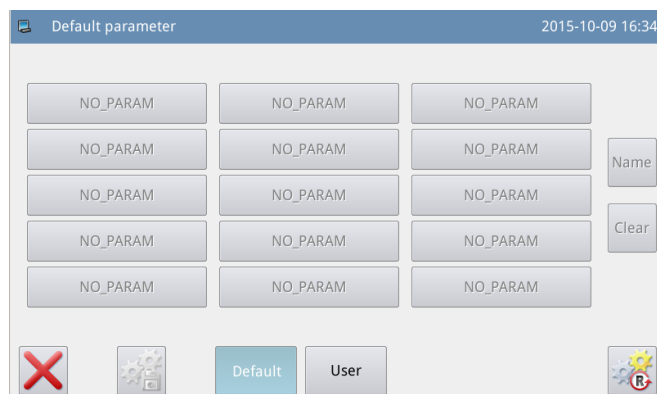


2、Use the Default Parameter

Click the corresponding default parameter and then press “System Default” to reload that value




After the reloading, the system will return to the upper interface automatically.

[Note] Some important parameter, like “Spindle Motor Stop Angle” cannot be restored in this operation.



3、Save Customized Parameter

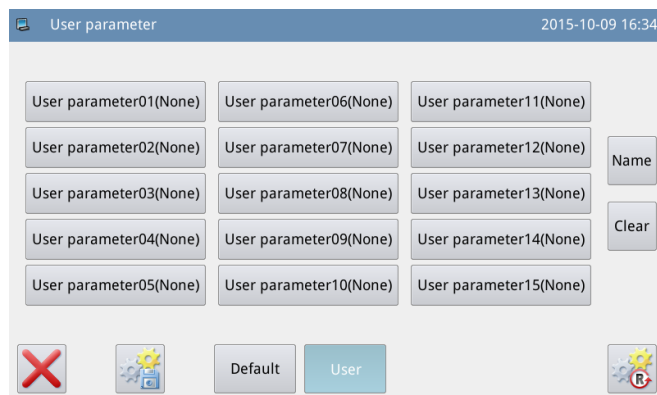
Press “Custom” to enter the interface for saving parameters, where user can save the parameter set value.

Click  ~  to confirm the position for saving, and then click  to save it.

After the saving, the system will return to the upper interface automatically

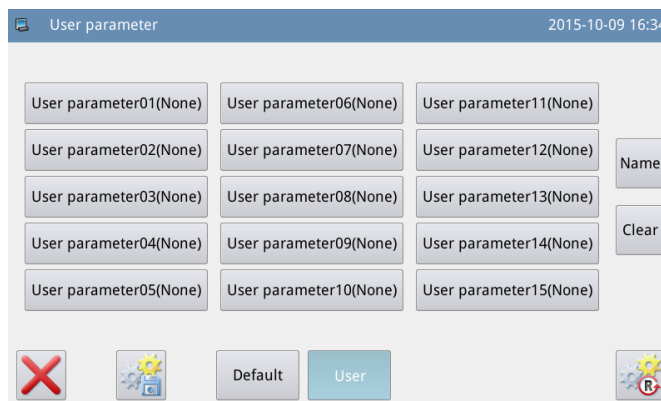
[Note] The parameter for repair and maintenance cannot be saved.


[Note] The motor installation angle and motor parameters can be saved.



4、 Load Parameter Saved by User

Enter the Customized Parameter interface. Check the content on button “Customized Parameter xx (Y/N)”. If it is Y in the bracket, it means there is saved customized parameter.



Click that key and press  to reload the corresponding parameter. After the operation, the system will return to the upper interface automatically.

2.7.6 Parameter List

1、 Thread Adjuster:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
WIP	Thread Adjuster Switch	Thread adjuster (W) switch			0:OF:Thread Adjuster off 1:ON:Thread Adjuster on	1	Selection
W1	Thread Adjuster Start Time	Set the start time of thread adjuster (W) according to the thread-trimming order. Usually, there is no need for change.	ms	2	0~998	30	Input
W2	Thread Adjuster Work Time	Set the working time of thread adjuster (W) according to the thread-trimming order. User can prolong the time if necessary.	ms	2	0~998	30	Input
W3	Thread Adjuster Stop Delay	The delay time for the device return after the action of thread adjuster (W)	ms	1	0~255	0	Input
CSS	Needle Thread Clamp Device	Needle thread clamp device switch			OFF ON	OFF	Selection
CRS	Needle	Needle thread clamp			0~16	8	Input

	Thread Clamp Device Power-on	device power-on					
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2、 Slow Start Stitch:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
ST1	Start Speed of 1 st Stitch	Start Speed of 1 st Stitch	100RPM	1	2~27	3	Input
ST2	Start Speed of 2 nd Stitch	Start Speed of 2 nd Stitch	100RPM	1	2~27	5	Input
ST3	Start Speed of 3 rd Stitch	Start Speed of 3 rd Stitch	100RPM	1	2~27	10	Input
ST4	Start Speed of 4 th Stitch	Start Speed of 4 th Stitch	100RPM	1	2~27	15	Input
ST5	Start Speed of 5 th Stitch	Start Speed of 5 th Stitch	100RPM	1	2~27	20	Input

3、 Frame:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
SYN	Sewing When Frame Is Up	Can the machine perform sewing when the board is up			0:OF: No 1:ON:Yes	0	Selection
TFS	Frame Status at Sewing End	Frame Status at Sewing End			0:SUP: Back to start point and go up 1:SLU: Go up at sewing end. 2:SBU: Back to start point. It goes up when user steps pedal.	0	Selection
ATU	Frame Auto Up after Work	After working, the Frame goes up automatically.			0:PUP:Auto UP 1:NUP:Not Auto Up	0	Selection

POP	Pedal Operation Method	Pedal Operation Method			0:BUD:Frame Up/Down 1:IUD: Indirect Control of Frame & Help Frame Up/Down 2:ILR: Indirect Control of L/R Frame	0	Selection
LRD	Lower Action of L/R Separate Frames	Lowering action of left presser and right presser			0:LRU:Down at Same Time 1:LRN:Left Then Right 2:RLD:Right Then Left	0	Selection
LRU	Lift Action of L/R Separate Frames	Lifting action of left frame and right frame			0:LRT: Up after work 1:LTD:Left Frame Down after Work 2:RTD: Right Frame Down after Work	0	Selection
DYN	Special Presser	Support Reverse & Stretch Pressers 3- None 4- Reverse Presser 5- Stretch Presser		1	0-255	0	Input
PSS	Presser Status at Stop	Presser Status at Stop			0:UP:Presser Down 1:DN:Presser Up	0	Selection
OPT							
2PE							
THG							
OPR							
OPC							
POD							
ASD							
DSD							

4、 Range Limitation:

Code	Brief	Details	Unit	Step	Range	Default	Type
------	-------	---------	------	------	-------	---------	------

				Length		Value		
ALC	Cancel Range Protection	Cancel Range Protection				0:OF:Protection Off 1:ON:Protection On	1	Selection
XL	Set Effective Range in Left X Direction	Set effective range in left X direction	mm	1	2~255	101	Input	
XR	Set Effective Range in Right X Direction	Set effective range in right X direction	mm	1	2~255	101	Input	
YU	Set Effective Range in Up Y Direction	Set effective range in up Y direction	mm	1	2~255	51	Input	
YD	Set Effective Range in Down Y Direction	Set effective range in down Y direction	mm	1	2~255	51	Input	

5、 Thread-breakage Detector:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
PRT	Thread-breakage Detection	Thread-breakage Detection			0:OF: OFF 1:ON:ON	0	Selection
ISD	Invalid Stitches at Sewing Start for Thread-breakage Detection	Invalid Stitches at Sewing Start for Thread-breakage Detection		1	0~15	8	Input
IND	Invalid Stitches during Sewing for Thread-breakage Detection	Invalid Stitches during Sewing for Thread-breakage Detection		1	0~15	3	Input
TRM	Trim at Thread-breakage Detection	Trim at Thread-breakage Detection			0:ON: Trim at Thread-breakage 1:OF: Not Trim at Thread-breakage	0	Selection

6、 Origin Position:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
PTR	Return to Origin at Power-on	Return to origin at power-on			0:OF:Not Return 1:ON:Return	0	Selection

PRF	Forbid Returning to Origin at Presser Up	Forbid returning to origin at presser up			0:OF:Permitted 1:ON:Forbidden	0	Selection
DOG	Search Origin at Sewing End	Search origin at sewing end			0:OFF:Not Search Origin, Stop at End Point 1:ON:Search Origin (Sub-origin) 2:RET:Return to Sewing Start	1	Selection
RST	Set Sewing Start Resetting Path	Set sewing start resetting path			0:LIN:Linear Return to Sewing Start 1:PAT:Return to Origin along Pattern 2:ORG:Search Origin Then Return to Sewing Start	0	Selection
DED	Select Highest Position at Searching Origin	Whether to select highest position at searching origin			0:OF:Not Select 1:ON:Select	0	Selection
OPA	Origin Presser Action	Origin presser action			0:DNW:Presser Down 1:UP:Presser UP	1	Selection
NRM	Search/Return to Origin Path	Path selection of searching/ returning to origin			0:NRM: Standard 1:REV: Reverse 2:YTX:Y to X 3:XTY:X to Y	0	Selection
REV	Search/Return to Origin Path at Reverses	Path selection of searching/ returning to origin at reverse			0:NRM: Standard 1:REV: Reverse 2:YTX:Y to X 3:XTY:X to Y	0	Selection
XSP	X Axis Sensor Position	X axis sensor is at the left or right side of the head			0:L:Left 1:R:Right	0	Selection

7、Pause :

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
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POS	Needle Position at Pause	Needle position at pause			0:DWN:Needle Down 1:UP:Needle Up	1	Selection
ACT	Presser Action at Pause	Presser action at pause			0:DWN:Presser Down 1:UP: Presser Up	0	Selection
TYP	Pause Switch Type	Pause switch type			0:AUT:Auto Lock 1:NRM:Normal	0	Selection
TRM	Auto Trimming at Pause	Auto trimming at pause			0:AUT:Auto 1:OFF:No trim	0	Selection
SYP	Security Switch Type	Security switch type			NCT: always off NOT: always on	NCT	Selection

8、Counter:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
UCM	Up Counter Mode	Up counter mode			0:OFF:Up Counter Off 1:PAT:Count by Pattern 2:CYC:Count by Cycle	1	Selection
DCM	Down Counter Mode	Down counter mode			0:OFF:Down Counter Off 1:PAT:Count by Pattern 2:CYC:Count by Cycle	1	Selection
URV	Reserve Up Counter Value at Inputting Pattern	Reserve up counter value at inputting pattern			0:CLR:Clear 1:RSV:Reserve	1	Selection
DRV	Reserve Down Counter Value at Inputting Pattern	Reserve down counter value at inputting pattern			0:CLR:Clear 1:RSV:Reserve	1	Selection
POC	Clear Counter at Repowering	Clear counter value at repowering			0:CLR:Clear 1:RSV:Reserve	1	Selection
NUP	Cannot Change Up Counter (UP)	Cannot change up counter (UP)			0:OF: Permitted 1:ON:Forbidden	0	Selection
NDP	Cannot Change Down Counter (DN)	Cannot change down counter (DN)			0:OF: Permitted 1:ON: Forbidden	0	Selection
UTO	Sewing	Sewing			0:OF:Stop Sewing	0	Selection

	Machine Action at Reaching Up Counter (UP) Set Value	machine action at reaching up counter (up) set value			1:ON:Continue Sewing		
DTO	Sewing Machine Action at Reaching Down Counter (DN) Set Value	Sewing machine action at reaching down counter (DN) set value			0:OF:Stop Sewing 1:ON:Continue Sewing	0	Selection
NPC	No Change of Production Amount	No change of production amount			OFF: Change Permitted ON: Change Forbidden	ON	Selection

9、Intermediate Presser:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
SYN	Down Synchronization	Synchronization of lowering intermediate presser			0:BEF: Before Head Start 1:OUT:Same with Last Outer Presser	0	Selection
CUR	Intermediate Presser Current	Intermediate presser current		1	2~8	4	Input
DLY	Intermediate Presser Up Delay	Delay the action to prevent running into mould	ms	1	0~255	0	Input
TYE	Intermediate Presser Type	Select type of intermediate presser			0:AIR:Air Valve 1:STP: Stepping 2:MAG:Magnet	0	Selection
PLP	Intermediate Presser Stroke Setting	Set intermediate presser vertical stroke.	0.1mm	2	0~180	150	Input
ZU8	Intermediate Presser Up Angle	Set up position for moving intermediate presser	Degree	1	0~360	100	Input
ZD8	Intermediate Presser Down Angle	Set down position for moving intermediate presser	Degree	1	0~360	0	Input
ZTM	Synchronization of Intermediate Presser	Input pattern at setting intermediate presser			0:OFF: Not Relating to Pattern Input 1:ON: Relating to	1	Selection

	at Inputting				Pattern Input		
PDD	Intermediate Presser Down Delay	Delay at lowering the intermediate presser		1	0~255	0	Input
MSP	Intermediate Presser Moving Speed	Set the moving speed of intermediate presser when CUR=8			8-17	13	Input

10、Winding:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
SPD	Winding Speed	Set wind speed	100RPM	1	2~27	13	Input
STP	Winding Device Stop Method	Set method to stop winding			0:UTS: Release Pedal to Stop winding 1:RTS:Step Pedal again to stop winding 2:TTS: Set Time to Stop Winding	1	Selection
TPD	Set Stop winding time (Unit Second)	Set the time to stop winding (Unit Second)	s	2	2~498	30	Input

11、 Feed Method:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
TYP	Pressing Board Type	Select Pressing Board			0:AIR:Air-driven 1:MAG: Magnet 2ADP: Self-adopt	0	Selection
WEI	Weight of Pressing Board	Select the weight of pressing board			0:HIG: Light 1:MID:Middle 2:WEG:Heavy	1	Selection
HIG	Light Board (Air Amount L)	Light board (Air Amount L)		1	0~255	145	Input
MID	Middle Board (Air Amount M)	Middle board (Air Amount M)		1	0~255	0	Input
WEG	Heavy Board	Heavy board		1	0~255	0	Input

	(Air Amount H)	(Air Amount H)					
STP	Sewing Type Selection	Select sewing type			0:TIN:Thin 1:MID:Middle 2:TIC:Thick	0	Selection
THIN	Thin Fabric	Thin fabric thickness		1	0~255	0	Input
MID	Middle Fabric	Middle fabric thickness		1	0~255	0	Input
THICK	Thick Fabric	Thick fabric thickness		1	0~255	0	Input
SUI	Pattern-making Follows Action Setting	Pattern-making follows the action setting			0:OF: Forbid 1:ON: Permit	1	Selection
SMD	Start Frame-moving Angle Adjustment	Adjust the start frame-moving angle	Degree	1	-50~+50	0	Input
STD	End Frame-moving Angle Adjustment	Adjust the end frame-moving angle	Degree	1	-50~+50	0	Input
SAE	Frame-moving Initial Angle Setting	Set the initial frame-moving angle with speed over 1800rpm	Degree	1	135-280	135	Input
MM D	Move Mode	XY axis action mode			0:ETM: Equal Time 1:NTM: Unequal Time	0	Selection

12、Speed:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
HSP	High Speed	Set high speed	100RPM	1	2~27	23	Input
LSP	Low Speed	Set low speed	100RPM	1	2~27	2	Input
MHS	Middle High Speed	Set middle high speed	100RPM	1	2~27	15	Input
MLS	Middle Low Speed	Set middle low speed	100RPM	1	2~27	10	Input
EDL	Feed Delay	Delay after feeding action		1	0~9999	0	Input
JDL	Step Moving Delay	Delay after step moving action		1	0~9999	0	Input
IDL	Pattern-making	Delay after		1	0~2700	0	Input

	Delay	pattern-making action					
SEW	Sewing Speed	Set sewing speed		1	0~9	4	Input
FED	Feed Speed	Set speed at empty feed section		1	0~9	4	Input
FRM	Frame-moving Speed	Set frame-moving speed		1	1~3	3	Input
SPS	Returning to Start Point Speed	Set speed for returning to the start point		1	0-9	4	Input
HPS	Search Origin Speed	Set speed for searching origin		1	5~10	5	Input
SMS	Single Step Move Speed	Set speed of moving of single step		1	0~40	30	Input

13、 Thread-trimming Order:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
TRM	Trimming Switch	Trimming Switch			0:OFF:Off 1:ON:On	1	Selection
SPD	Trimming Speed	Trimming Speed	10RPM	1	20~40	40	Input
ANG	Needle Position Angle After Trimming	Needle position angle after trimming			0:UP: Upper Needle Position 1:DED: Upper Dead Point	0	Selection
DLY	Thread-trimming delay	Thread-trimming delay	0.01s	1	0~255	12	Input
TST	Trimming Output Start Time/ Angle	Trimming output start time/ angle	mm/ Degree	2	0~998	210	Input
TET	Trimming Output End Time/ Angle	Trimming output end time/ angle	mm/ Degree	2	0~998	0	Input
TMD	Trimming Mode	Select thread-trimming order			0:FST:fast 1:GEN:Gentle	1	Selection
OPT	Thread-loosing Delay	Thread-loosing delay		1	0~255	0	Input
OSA	Thread-loosing Start Time/Angle	Thread-loosing start time/angle	mm/ Degree	2	0~998	300	Input

OEA	Thread-loosing End Time/Angle	Thread-loosin g end time/angle	mm/ Degree	2	0~998	0	Input
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14、LCD Screen:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
WRN	Warning of Buzzer	Set the warning voice of buzzer			0:OFF: No Voice 1:PAR:Panel Voice 2:ALL:Panel + Warning Voice	2	Selection
DEL	Touching Panel Sensitivity Adjustment	Adjust sensitivity of touching panel		1	1~5	3	Input
LIG	Back Light Adjustment	Adjust the back light		1	20~100	100	Input
ATO	Back Light Auto Turn-off	Auto turn-off of back light			0:OF:Not Auto Turn-off 1:ON:Auto Turn-off	0	Selection
TIM	Back Light Auto Turn-Off Waiting Time	Time for waiting auto turn-off of back light	Minute	1	1~9	3	Input
BTN	Button Display Style	Set the display style of the button in Test Mode and Function Mode			0:ICN: Icon 1:TXT: Text	0	Selection
BKC	Background Color Setting	Set the background color of the pattern display area in main interface 0: Block 1: Dark Blue 2: Red 3: Green 4: Blue 5: Purple 6: Yellow		1	0~6	0	Input
SES	Display Style of Pattern Selection	Set the display style of pattern-selection interface Note: only the used patterns can be			0:CLS:Classic (Display Number List) 1:SHP: Display Pattern Shape	0	Selection

		displayed.					
ZST	Scaling Method	Scaling Method			SQA: square L-W: length-width	SQA	Selection
RBS	Return to Sewing Start Hotkey	Return to sewing start hotkey			OFF ON	OFF	Selection
DPN	Display Needle Drop Point	Whether to display needle drop point			NO YES	NO	Selection
CCS	Continuous Sewing of Combination Pattern	Whether to sew combination pattern continuously			NO YES	NO	Selection
LPT	Support Pattern of Large Number of Stitches	Support pattern of large number of stitches			OFF ON	OFF	Selection
SCS	Main Interface Function Hotkeys	Whether to display the function hotkeys on the main interface			OFF ON	ON	Selection
CSM	Pattern Transforming Method	Set the pattern transforming method			STI: stitch ELE: element	STI	Selection
PSU	Scaling Unit	Set the scaling unit			%: percentage SIZ: size	%	Selection
MSM	Scaling Method for Multiple Sewing	Set the scaling method for multiple sewing			VAR: variable interval FIX: fixed interval	VAR	Selection
PMR	Return after Modification	Set the return method after finishing modification			FUN: function selection CNT: continue modification	FUN	Selection
OFM	Multiple Sewing, Deviating Sewing Modification Method	Set the modification method for multiple sewing and deviating sewing			REL: relative modification ABS: absolute modification	REL	Selection

15、Others:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
------	-------	---------	------	-------------	-------	---------------	------

NLD	Needle-cooling	Needle cooling device			0:OFF:No 1:ON:Yes	0	Selection
PEM	Permission of Single Pedal Operation	Permission of single pedal operation			0:OFF:Forbidden 1:ON:Permitted	0	Selection
LAG	Language Selection	Language selection			0:CH:中文 1:EN:English	0	Selection
SSW	Sound Setting	Set sound function			0:OFF:Off 1:ON:On	1	Selection
VOL	Volume of Operation Voice	Volume at pressing button			30~63	50	Input
NSW	Network Connection	Activate the network connection			0:OFF:Off 1:ON:On	0	Selection
LED	LED Brightness	For machine with LED output, set the brightness of LED			0-100	50	Input
DLY	Thread Loosing Device Open Delay When Threading	When threading, the opening time of the thread loosing device when the intermediate presser goes down	S		0-255	0	Input
CUR	Thread Loosing Device Open Current When Threading	The value of the thread loosing device open current when threading			0-255	0	Input
SEC	Automatically Add Sub-origin after First Empty Feed	Whether to add sub-origin automatically after the first empty feed			OFF ON	OFF	Selection
SEC	Whether Intermediate Presser Moves Along with Pattern-designing	Edit whether intermediate presser moves along with pattern-designing			OFF ON	ON	Selection
MAH	Applicable to	Set the			0-10	0	Input

	Machine Type with Automatic Feed Function	parameters of machine type with automatic feed function					
DSP	Start Delay after Stepping Pedal	Set the activation of start delay after stepping pedal			OFF: prohibited ON: allowed	OFF	Selection
DEP	Start Delay Time after Stepping Pedal	Set the start delay time after stepping pedal			0~200	0	Input
FEP	Empty Feed Stitch Length	Set the stitch length when empty feed	mm		10~120	12	Input
PTP	PLT Switch Stitch Length Setting	Set the PLT switch stitch length			10~127	30	Input

16、Repair & Maintenance:

Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
NRT	Needle Replacement Left Value	Left stitches for needle replacement	1000 Stitch	1	0~9999	0	Input
NST	Needle Replacement Set Value	Set stitches for needle replacement	1000 Stitch	1	0~9999	0	Input
HRT	Clearing Time Left Value	Left hours for clearing	Hour	1	0~9999	0	Input
HST	Clearing Time Set Value	Set hours for clearing	Hour	1	0~9999	0	Input
ORT	Oil Replacement Left Value	Left hours for oil replacement	Hour	1	0~9999	0	Input
OST	Oil Replacement Set Value	Set hours for oil replacement	Hour	1	0~9999	0	Input
BLR	Bobbin Thread Replacement Residual Value (Stitch Number)	Click in, but unable to input					
BLS	Bobbin Thread Replacement Set Value (Stitch Number)	Bobbin thread replacement set value			0~6000	0	Input

OLI	Oiling Interval Time	Oiling interval time	S		0~999	0	Input
OLW	Oiling Work Time		MS		0~9999	0	Input

[Note]: Parameters, like NRT, HRT and ORT can not be set. User can only check them in the Internal Parameter Setting Interface

[Note]: After the modification of parameters for repair and maintenance, the corresponding parameters of “Left Value” will be changed to the set value

[Note]: After the parameter value of repair and maintenance are set (value over 0), the corresponding counting function for repair and maintenance will be activated as well.




17、Special:

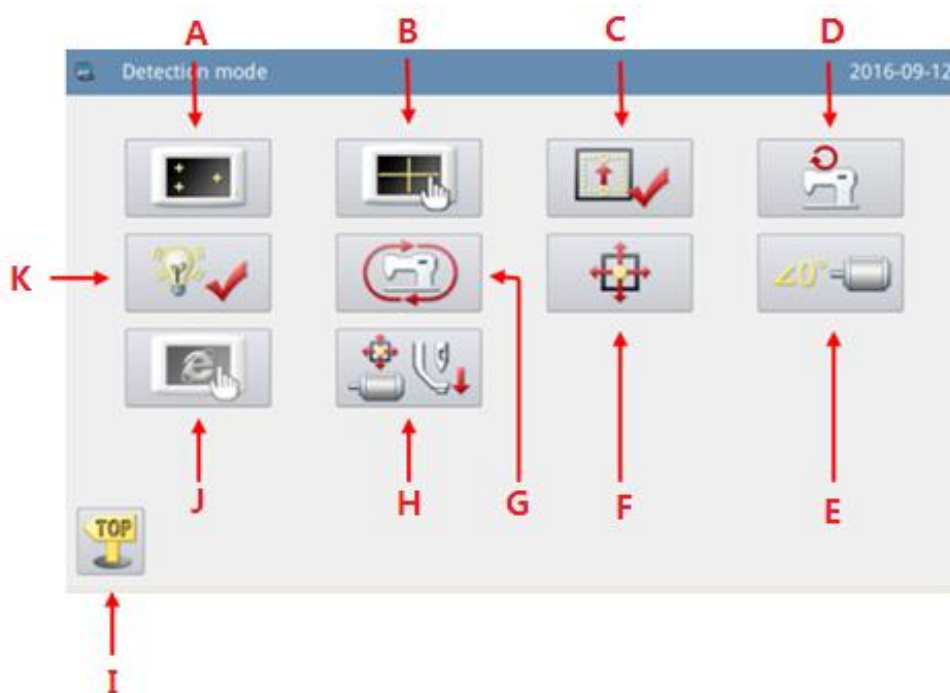
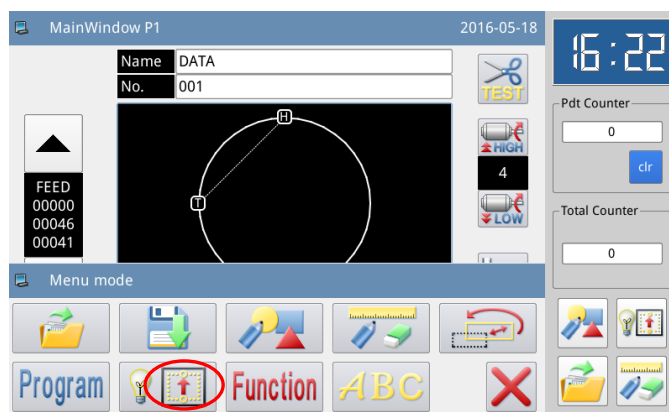
Code	Brief	Details	Unit	Step Length	Range	Default Value	Type
HSP	Max Speed	Max Speed	100RPM	1	2~27	23	Input
MAE	Main Stop Angle	Stop angle of main shaft motor	Degree	1	30~80	53	Input
DEB	Letter Embroidery	Activate letter embroidery			0:OF:Turn off Letter Embroidery Function 1:ON: Turn on Letter Embroidery Function	1	Input
DAE	Upper Dead Point Angle	Set angle from stop point to upper dead point	Degree	1	0~50	3	Input
RSC	Stitch Length Deceleration Curve	Select built-in stitch length deceleration curve		1	0-6	5	Input
HSL	Max Stitch Length at Keeping Speed	Max stitch length at keeping highest speed	0.1mm	1	1-127	0	Input
MTS	Main Shaft Motor Type Selection	Support 550W & 750W			0-550W 1-750W	1	Selection
xDIR	X Motor Rotation Direction	Switch X-axis stepping motor rotation direction			POS: positive direction NEG: negative direction	POS	Selection
yDIR	Y Motor Rotation	Switch Y-axis stepping			POS:正向 NEG:反向	POS	Selection

	Direction	motor rotation direction					
zDIR	Z Motor Roatation Direction	Switch Z-axis stepping motor rotation direction			POS: positive direction NEG: negative direction	POS	Select ion
ADR	Main Control Burned-in Address	The write-in address of the main control update program stored in the U disk			655360 ~917504	917504	Input
CVE	Parallel Cureve Algorithm	Set the parallel curve generated during pattern edition			A1: algorithm 1 A2: algorithm 2	A1	Select ion
MUS	Reverse Sewing Algorithm under Multiple Sewing	Set the reverse sewing of multiple sewing during pattern eddition			ALL: by section SE: end to end	ALL	Select ion
TID	Pattern Recognizati on Setting	Pattern recognition setting			OFF ON	OFF	Select ion
PFT	Pattern Corresponding No. Section				0~9 0:001~031 1:101~131 2:201~231 3:301~331 4:401~431 5:501~531 6:601~631 7:701~731 8:801~831 9:901~931	0	Input
PXO	X Diviation of Marker	X diviation of marker			-500~500	0	Input

PYO	Y Diviation of Marker	Y diviation of marker			-200~200	0	Input
PSP	Marker Running Speed	Marker running speed			1~9	1	Input
TTY	Pattern Recognizati on Device	Pattern recognition device			SEN: sensor BAR: bar-code scanning device	SEN	Select ion
ICS	Communica tion Speed Improveme nt	Communicati on speed improvement			OFF ON	OFF	Select ion

2.8 Test Mode


In main interface P1 (or P2), press  to activate the catalogue mode, and then press   to enter the test mode.





Functions:

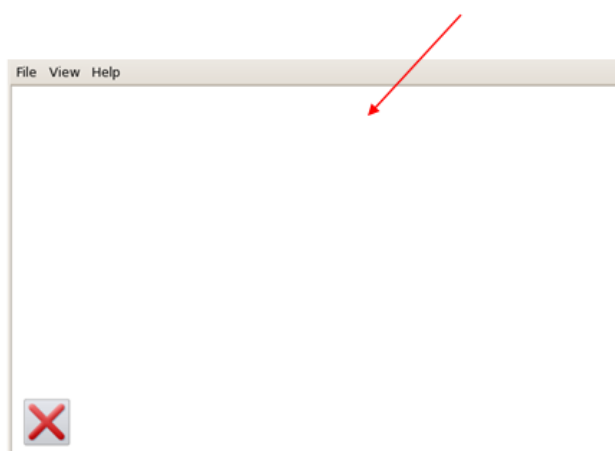
No.	Functions	Content
A	LCD Test	Test LCD displayer
B	Touching Screen Correction	Correct the touching screen
C	Input Signal Test	Test the input signal of switches and sensors
D	Speed Test	Test the speed of main shaft motor
E	Main Motor Installation Angle Adjustment	Display and set the installation angle of main shaft motor
F	XY Motor Origin Test	Test the motor origins of X /Y motors
G	Continuous Running	Set continuous running parameter and enter aging status
H	Intermediate Presser Function Test	Used to test intermediate presser
I	Quit	Quit test mode and return to main interface
J	Network Setting	Set the relating parameters of network
K	Output Signal Test	Test the output signal of pressers and thread-trimming devices

2.8.1 LCD Test**Function:**

In the test mode, press  to activate LCD test function. Click



the area other than  to have LCD screen display white, black, red, green and blue so that user can judge whether the LCD screen has problem.

Press  to return to the upper level interface.



2.8.2 Touching Screen Correction

Functions:

Under test mode, press  to display the interface for ID input, as shown on the right. Then input the ID and press  to enter touch screen correction function.




User has to correct 5 spots. The touching pen is recommended to be used at touching the cross icon on the interface. After the correction, the system will display the result of this operation

[Note]: During the correction, please perform the operation strictly according to the position of the cross icon, otherwise the touching screen may be unable to be used normally after the correction.



2.8.3 Input Signal Test

Function:

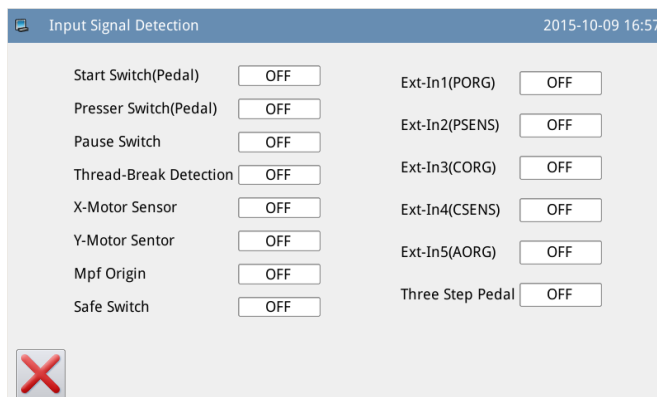
In the test mode, press  to activate the Input Signal Test Function.

ON: Activation


OFF: Deactivation

Types of Input Signal:

- ① Start switch (Pedal)
- ② Presser switch (Pedal)
- ③ Pause Switch
- ④ Thread-breakage Detection






- ⑤ X Motor Sensor
- ⑥ Y Motor Sensor
- ⑦ Intermediate presser origin
- ⑧ Security switch
- ⑨ External input 1 (PORG)
- ⑩ External input 2 (PSENS)
- ⑪ External input 3 (CORG)
- ⑫ External input (CSENS)
- ⑬ External input (AORG)
- ⑭ Three-in-one Pedal


Press  to return to the upper level interface.

2.8.4 Main Shaft Speed Test


Functions:

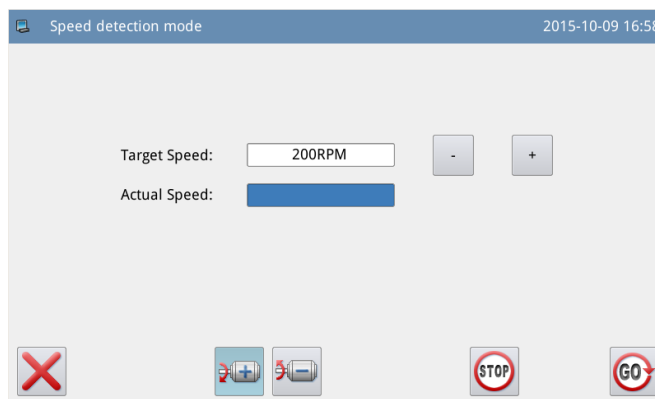
In the test mode, press  to enter the main shaft speed test function.

Use  and  to set the aim speed of main shaft motor. After

user presses , the main shaft motor will rotate at the set speed. At this moment, the actual speed will be displayed in the input column of actual speed.


Press  to stop running

Press  to return to the upper level interface.



2.8.5 Output Signal Test

Functions:

In the test mode, press  to activate the output signal test function.

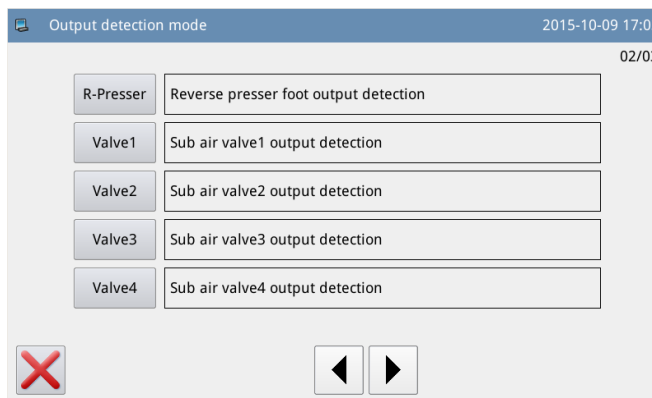
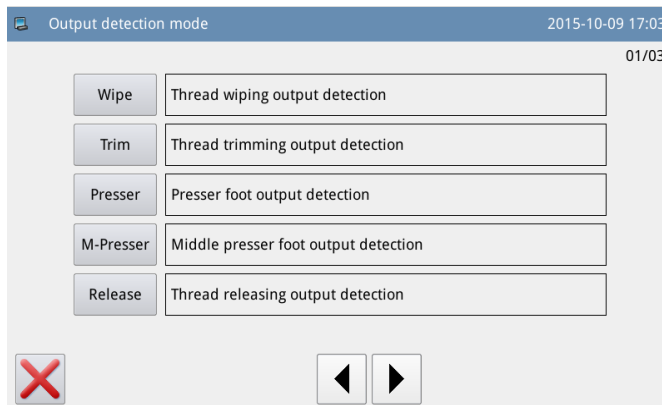
In this interface, user can press output signal button to test the status of output signals of solenoids

Types of Output signals:

- ① Thread-wiping
- ② Thread-trimming
- ③ Presser
- ④ Intermediate presser
- ⑤ Thread-loosing
- ⑥ Reverse Presser
- ⑦ Auxiliary air valve 1
- ⑧ Auxiliary air valve 2
- ⑨ Auxiliary air valve 3
- ⑩ Auxiliary air valve 4
- ⑪ Auxiliary air valve 5


Press  to return to the upper level interface.


[Note]: The sewing machine will have the actual movement.



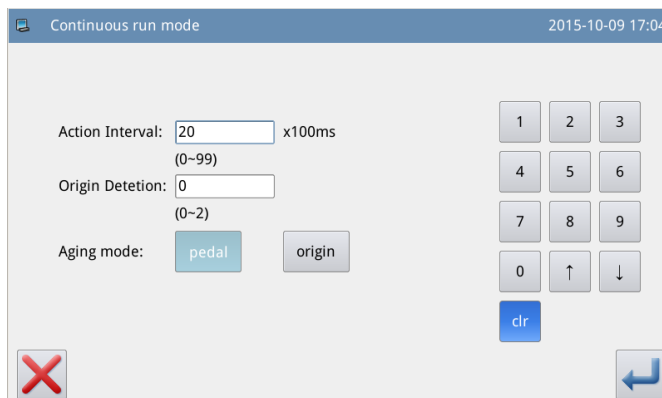
2.8.6 Continuous Running

Function:

In the test mode, press  to enter the continuous running function


Click Action Interval bar or Origin Detection of Needle-withdrawing bar and use number keys to input the figures. Press  to return to the upper level interface.

There are two ways to activate the aging status: pedal or origin; after setting this parameter, return to main interface P1 (or P2). Step pedal or press the Return to Origin key to run the machine, and enter continuous running mode.



2.8.7 XY Motor Origin Test

Functions:

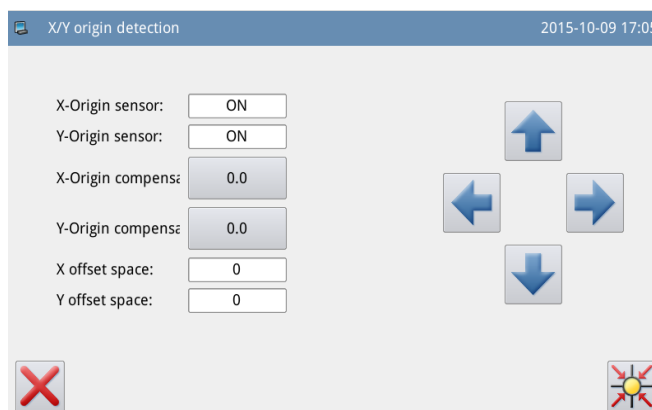
In the test mode, press  to activate the XY Motor Origin Detection Function.

In this interface, use direction keys to move XY motor. During this process, the system will display the ON/OFF status of the sensors.

- ON: Sensor Detected
- OFF: Sensor Undetected


Press  to return to the upper level interface.


[Note]: The sewing machine will have the actual movement.

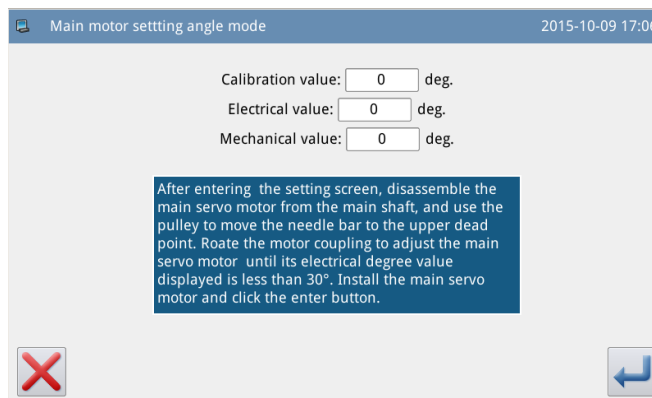


2.8.8 Main Motor Installation Angle Adjustment

Functions:


In the test mode, press  to enter the main motor installation angle adjustment.



In the current interface, remove the main motor, turn the hand wheel to lift the needle bar to the highest point and turn the main shaft joint to adjust the electrical angle within less than 30 degree. After that, reinstall the main motor and press  to confirm.

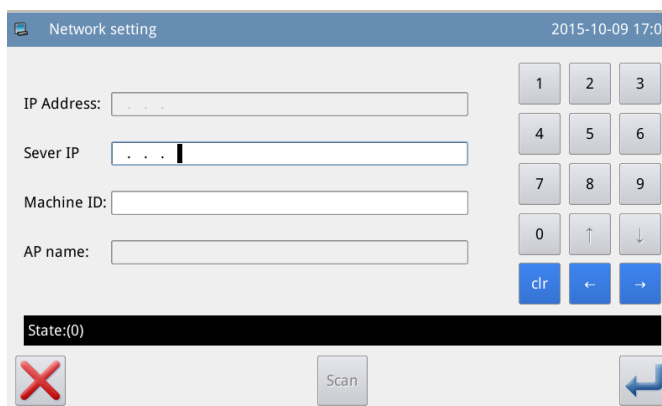


2.8.9 Network Setting

Functions:


In the test mode, press  to enter the network setting function. If user needs the network function of operation panel, he should set the relating parameters of network.

Use number keys to input parameters, make sure the “IP Address” and “Server IP” are within the same section. Use  and  to move the cursor. After finishing the setting, press the Connection key to get connected with the computer via internet.




2.8.10 Intermediate Presser Test

Functions:

In the test mode, press  to enter intermediate presser test.

:Intermediate Presser Down

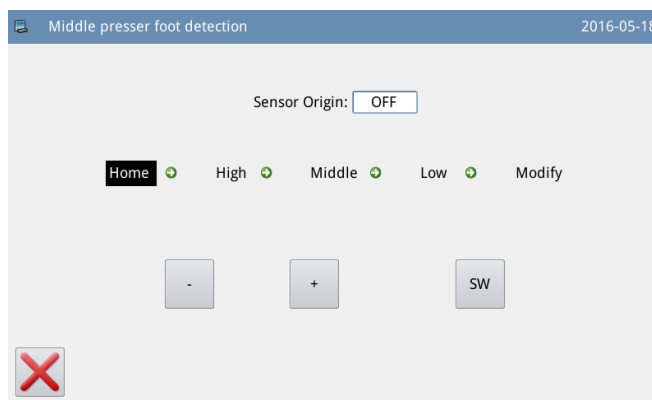
:Intermediate Presser Up

:Shift Intermediate Presser

Position


[Note]: In this interface, step pedal to return the intermediate presser to origin (the highest position of intermediate presser); the highest point is 71mm, middle point is 35mm, and the lowest point is 0mm. The adjusted position is the fabric thickness.

This function is only available for G Type.

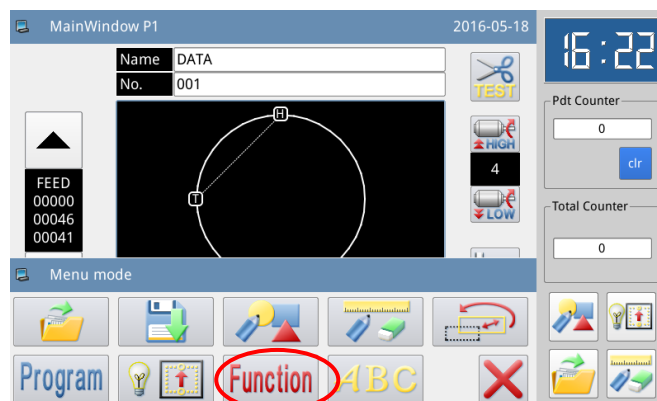


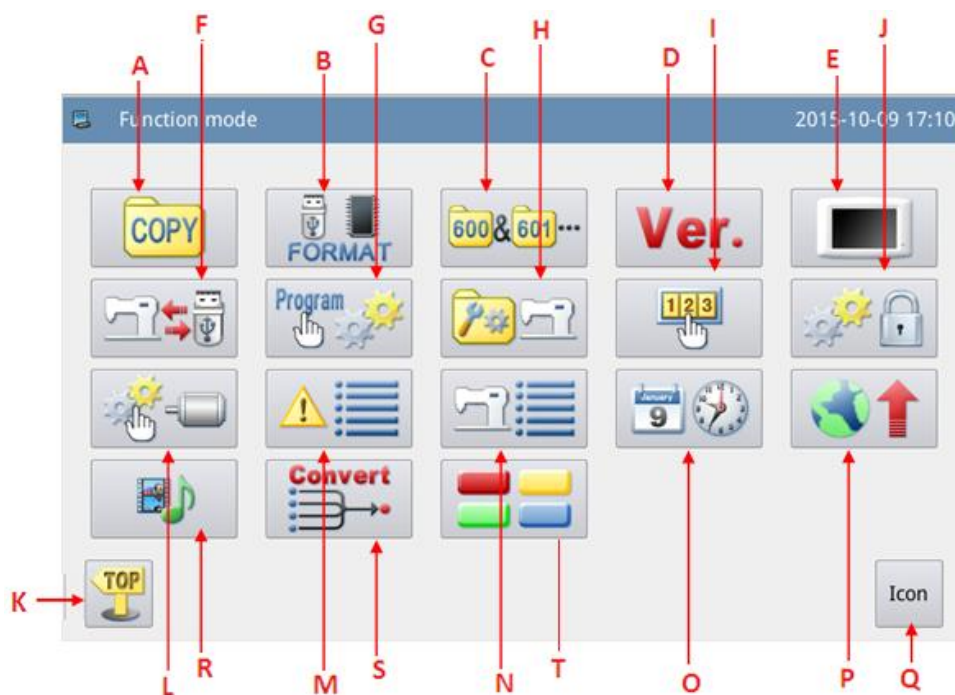
2.9 Function Setting

In main interface P1 (or P2), press

 to activate the catalogue mode,

and then press **Function** to enter the Function Setting Mode.





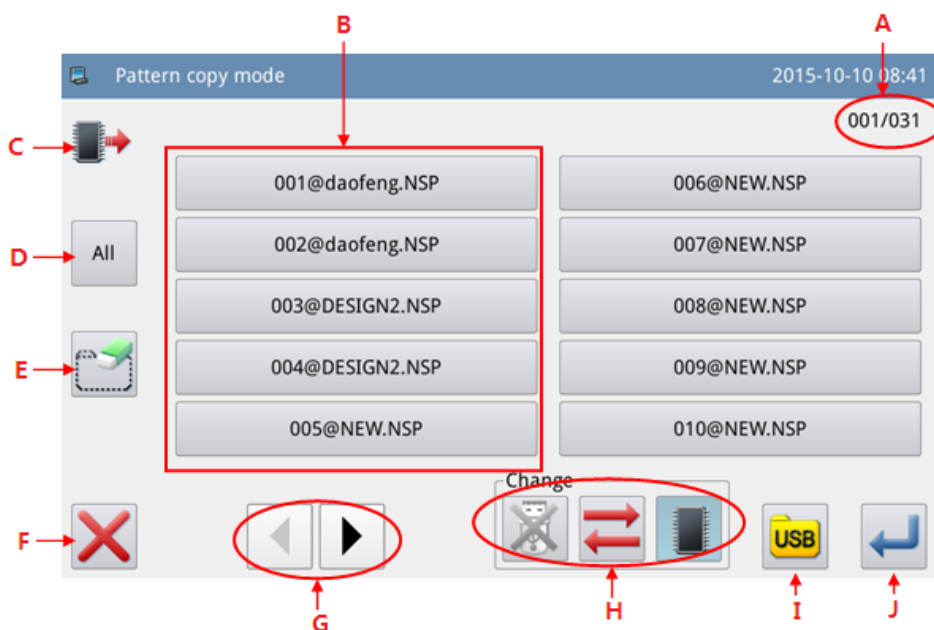
Functions:

No.	Functions	Content
A	Data Transfer	Transfer pattern file between memory and U disk
B	Formatting	Initialize the U disk, memory and pattern number hotkeys.
C	Pattern Connection	Edit combined pattern
D	Version Inquiry	Inquire the version of system software
E	Display Setting	Set background light, keyboard lock, lightness and so on
F	Back-up Parameter Recovery	Save parameter values into U disk for the parameter recovery in future
G	Default Parameters	Recovery and self-defined read-write function of the default parameter values
H	Pattern Number Hotkey Edition	Edit the content of pattern number hotkey
I	Password Mode	Provide periodical password function
J	Parameter Encryption	Set passwords for each operation entrance in parameter mode.
K	Quit	Return to main interface
L	Motor Configuration	Enter main motor, stepping current configuration mode
M	Alarm Record	Check the alarm statistic information
N	Running Record	Check running information of machine
N	Date & Time Setting	Set data and time
O	Time Setting	Set the date and time
P	Software Update	Enter software update mode
Q	Shift between Icon and Description	Shift between the icon and description of the hotkeys
R	Player	Play audio in the formats of mp3, AVI, etc.




S	Pattern Transformation in Batch	Change the patterns of non-standard formats into standard formats. Note: standard format means nsp format.
T	Hotkeys Setting	Edit and display hotkeys in the main interface for convenient operation by the users according to their habits





2.9.1 Data Transfer Mode

In function setting interface, press  to enter data transfer mode, where two ways are provided: “Memory to U Disk” and “U Disk to Memory”




Functions:

No.	Description
A	Page information, displaying the present page/total pages
B	Pattern List
C	 : Memory Pattern List  : U Disk Pattern List
D	Select All Patterns
E	Delete Pattern
F	Quit and Return to Upper Interface
G	Page Key
H	Load pattern from memory or U disk  : Activate the Memory Load Mode: At this moment, user cannot load



	<p>pattern from U disk.</p> <p> : Deactivate the Memory Load Mode: At this moment, user can load pattern from U disk.</p> <p> : Activate the U Disk Load Mode: At this moment, user can not load pattern from memory.</p> <p> : Deactivate the U Disk Load Mode: At this moment, user can load pattern from memory.</p> <p> : Shift between U Disk and Memory</p>
I	Display the file folders of the U disk
J	Enter



Operation:

1、 Copy Mode Selection

The default setting is to copy pattern from memory to U disk, user can press  to change the copy mode.


2、 File Selection


Select the pattern for copy from the pattern list (here, we select No.400, 401 and 600). If the patterns are so many, please use   to turn the page.

For copying all the patterns, please press  and please press  to delete patterns.

3、 Confirm the Copy




After selection, please press  and then the system will display “Copy the Selected

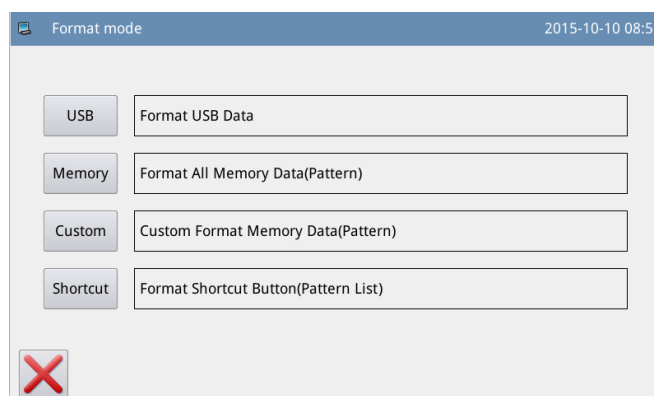
Pattern”, where user can press  to perform the operation. If the pattern is copied from memory to U disk, the system will automatically create a catalogue naming “dh_pat” at the base catalogue of U disk and save the pattern under that catalogue.

[Note]: During the copy process, if the memory contains the pattern with the number same to that of the pattern in the U disk, the new pattern will replace the old one.

2.9.2 Formatting Mode

In function setting interface, press  **FORMAT** to activate formatting mode

There are four formatting methods in this interface: USB formatting, Memory formatting, Self-defined formatting and Pattern number hotkey formatting



11、 USB Formatting:

Press “USB” to delete all the patterns in the U disk. So user need back up the data if necessary.

2、 Memory Formatting:

Press “Memory” to delete all the patterns in the memory.

[Note]: After the memory formatting, pressing  will have system display “Pattern Not

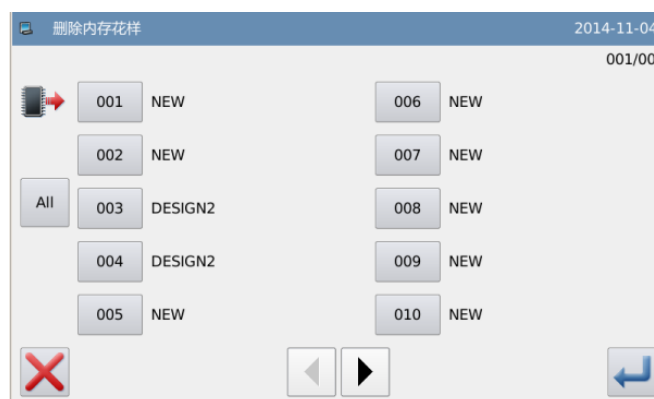
Found in Memory”. Pressing  will automatically load the default patterns.

3、 Self-defined Formatting:

Press “Self-defined” to enter the interface for Self-defined formatting



In that interface, user can delete all patterns or selected patterns.

[Note]: The pattern being sewn can not be deleted.




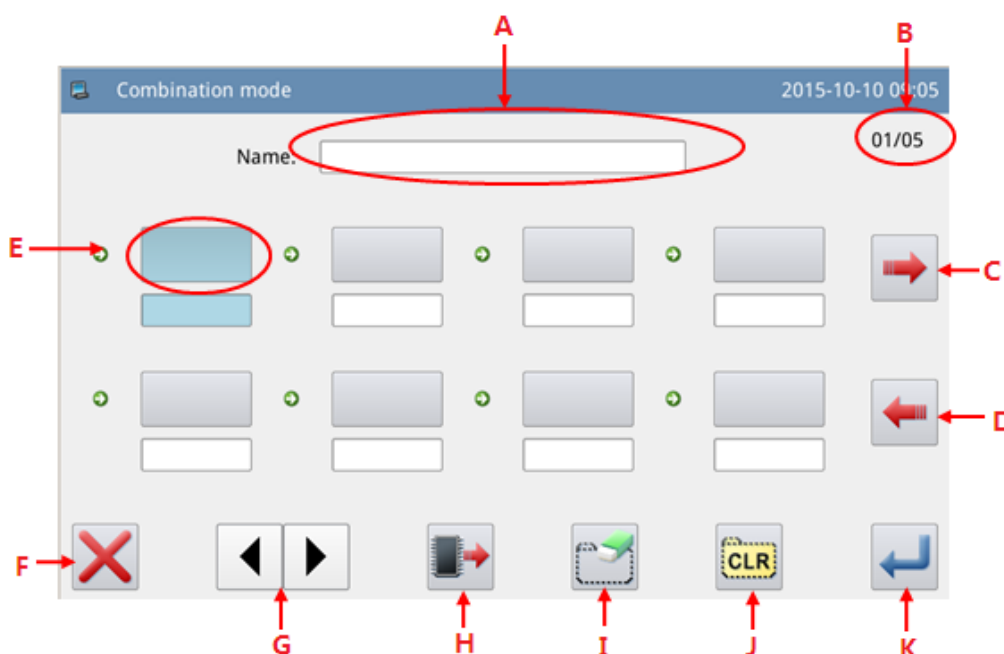
4、 Hotkey Formatting:

Pressing “Hotkey” to delete the content of the hotkeys of pattern number.

[Note]: After the hotkey formatting, pressing  will have system display “Pattern List (Hotkey) Is Empty”. Pressing  will automatically load the current pattern number to the hotkey.

2.9.3 Pattern Connection Mode

In function setting interface, press  to enter Pattern Connection Mode. The pattern connection mode is mainly used to create and edit the combined pattern, which is to perform the combination edition on the basis of the existing patterns. The pattern used in combined pattern is called as sub-pattern.





Function:

No.	Description
A	Name of Combined Pattern
B	Page
C	Load Combined Pattern
D	Save Combined Pattern
E	Display Sub-pattern
F	Quit & Return to Previous Interface
G	Page Key
H	Add Pattern from Memory to Combined Pattern
I	Delete Sub-pattern

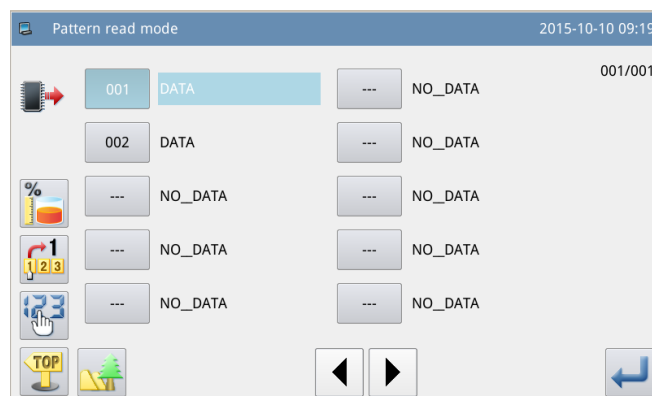
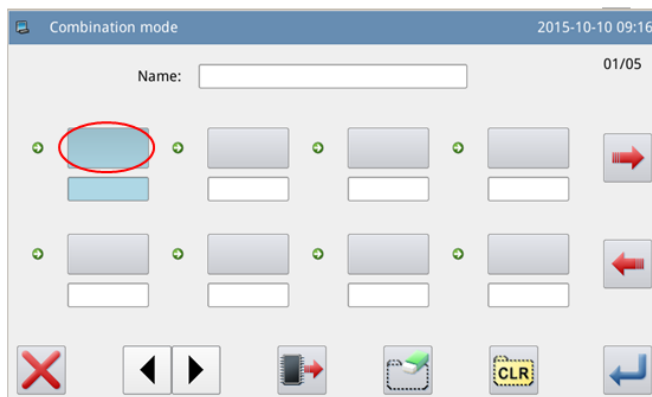
J	Cancel Combined Pattern
K	Enter

Operation:

1、 Select a Sub-pattern


Press  to enter Load Mode and select the pattern to add (select pattern No.612 as an example). Press  to confirm it.

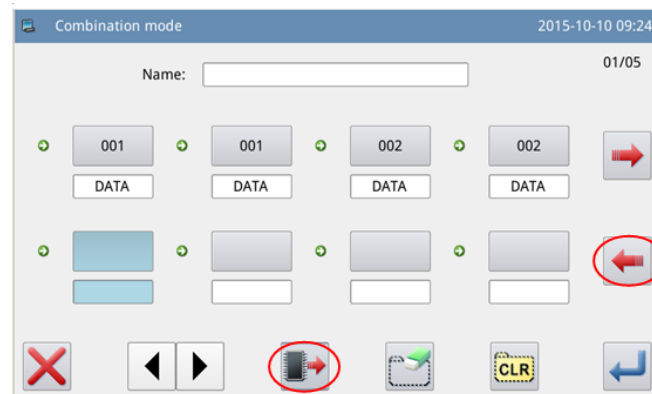
[Note]: Patterns should be added to the combined pattern in order.




2、 Continue Adding


Repeat the above operation to add more sub-patterns (Add patterns No.600, 602 and 401)

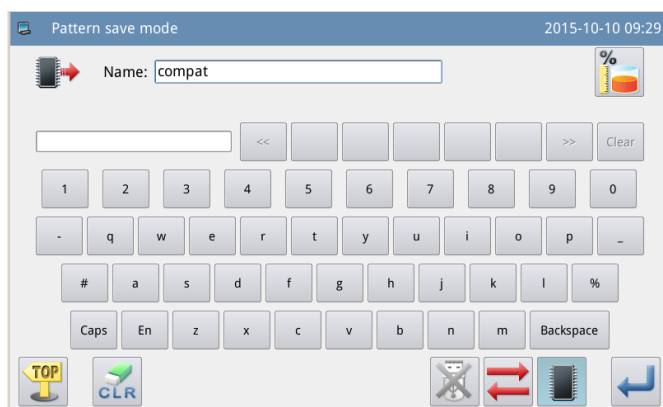
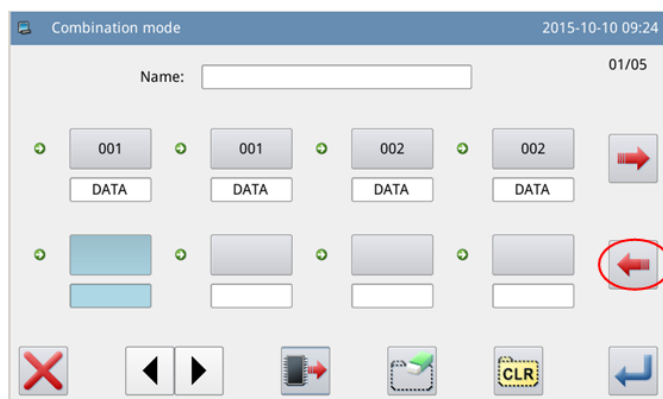
If user wants to delete one of them, please select the number of the sub-pattern and then press .




3、 Save the Combined Pattern

Press  to enter the mode for saving combined pattern.

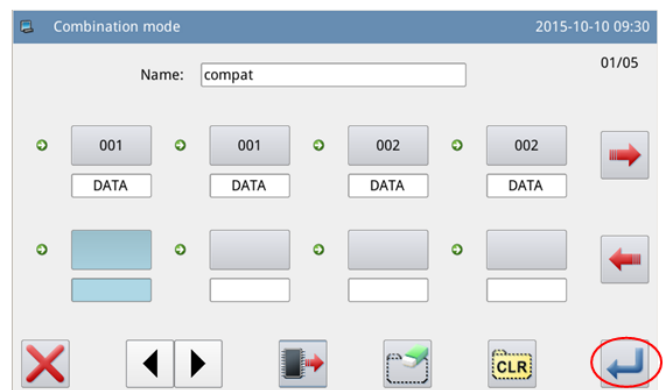
Name the combined pattern and press  to confirm it. For other operations within this interface, please refer to [2.6 Save Pattern].



4、 Return to Main Interface

After finishing edition of the combined pattern, press  to return to main interface.

As shown in right figure, there are some differences between the combined pattern sewing interface and the normal pattern sewing interface.



① The name of combined pattern is displayed behind the number and the name of the current sub-pattern will be displayed at the name area.

[Note]: If the combined pattern has no name, nothing will be displayed.


② The original pattern number hotkeys will display the sub-patterns in this combined pattern. Click the sub-pattern to start the sewing from



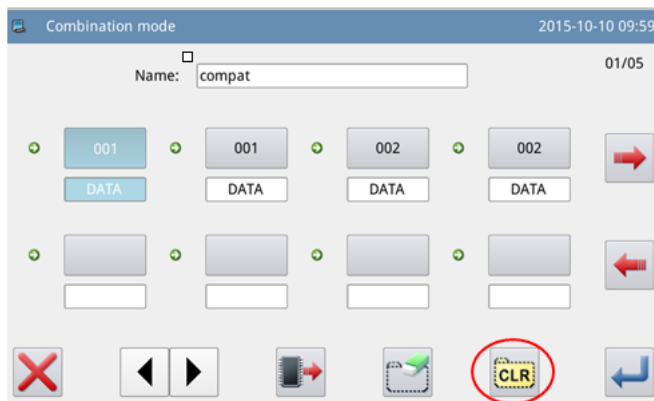
that sub-pattern.

5、 Cancel the Combined Pattern

In order to cancel the combined pattern, user has to enter the pattern


connection mode again, presses 


and clicks .




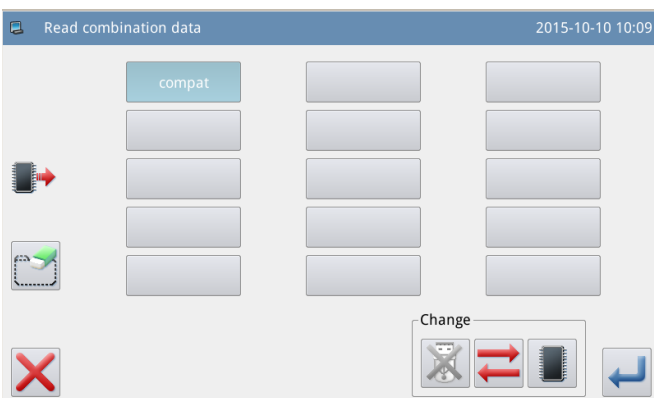
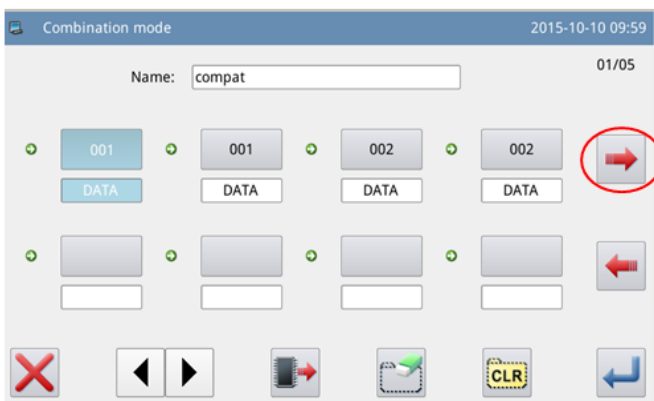
6、 Load Combined Pattern

In pattern connection mode, if

user presses  when the combined pattern exists, the system will display “Clear Current Combined Pattern”.


Clicking  will clear the current combined pattern.

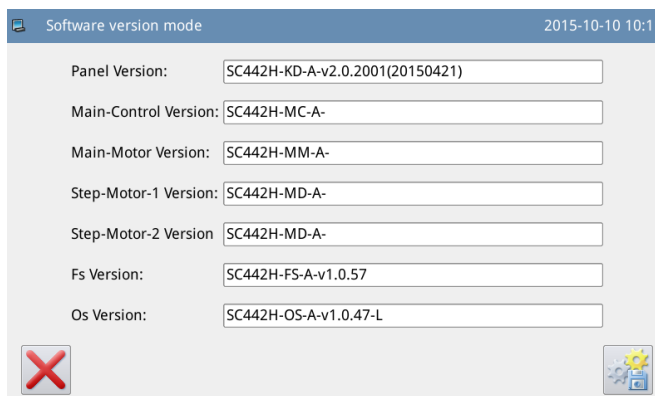
Press  again to enter the interface for loading the combined pattern, where users can select the combined pattern for sewing or editing.




2.9.4 Version Inquiry Mode

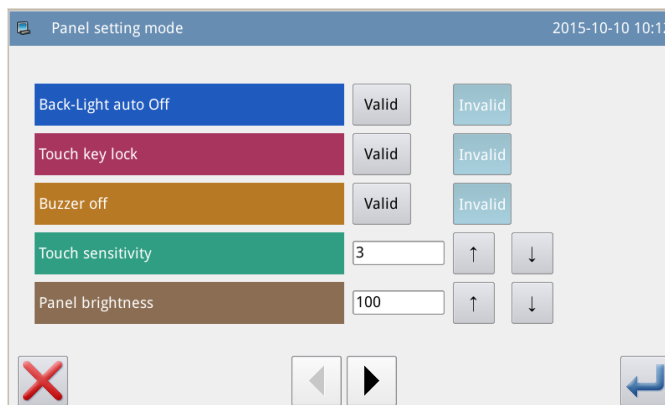
In function setting interface, press **Ver.** to enter version inquiry mode.

Press  to output the software version to the base catalogue of the U disk with name “version.png”.



2.9.5 Display Setting Mode

In function setting interface, press  to enter display setting mode, where user can perform the settings about the display, operation and so on.



1、 Backlight Auto Turn-off

By the set time, the screen backlight will be turned off automatically.


Range: 1~9 min

Default Value: Invalid

Releasing Method: if the backlight is off, user can touch any position of the screen to turn it on.

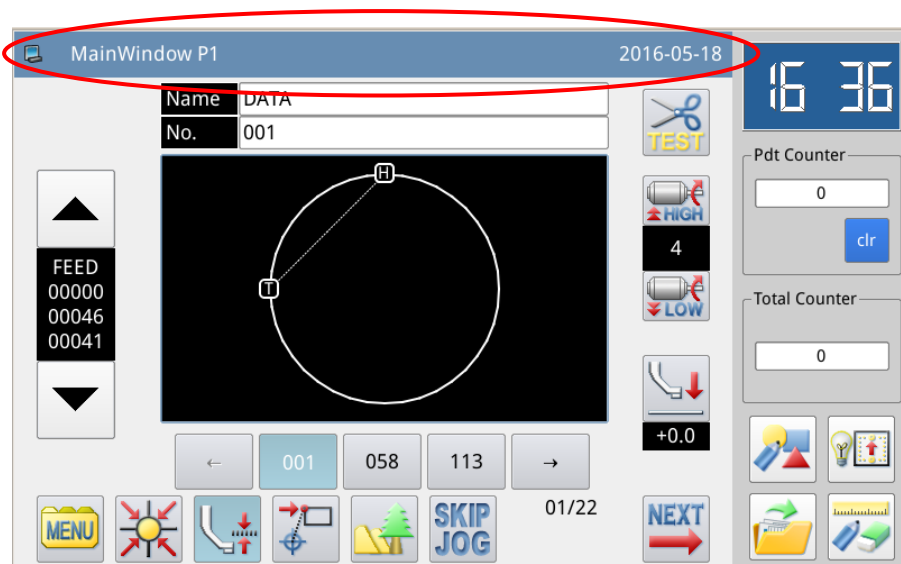
2、 Keyboard Lock

When it is set as “Valid”, all the buttons will turn to grey in display and become useless.

Pressing  will directly return to main interface P1.

Default Value: Invalid

Releasing Method: Hold the title bar at main interface P1 for over 5 seconds, until user hear “Bee--m”. After that the lock is released. (After the releasing, this function will be set as Invalid.)



3、 Turn off Buzzer

When it is set as “Valid”, system will keep silence when user presses button.

Default Value: “Invalid”

4、 Sensitivity of Touching Panel

Adjust the sensitivity of the touching panel. The larger value means the higher sensitivity

Range: 1~5

Default Value: 3

5、 Lightness Control

Adjust the lightness of the LCD screen. The larger value is, the lighter will be

Range: 1~100

Default Value: 100

6、 Button Display Style

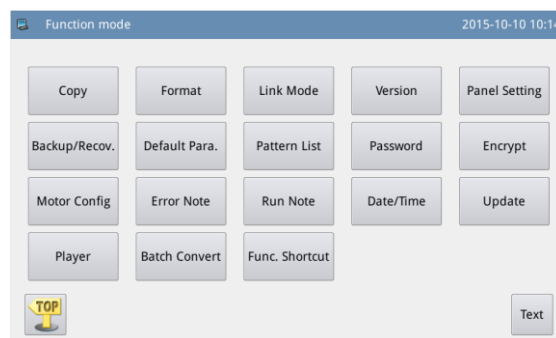
Set the display style of some buttons. After the successful setting, the button display under interfaces of “Catalogue Mode”, “Test Mode” and “Function Setting” will be changed

Range: 0~1 (0: Icon, 1: Text)

Default Value: 0



Icon Style Display



Text Style Display

7、 Background Color Setting

Set the background color of the pattern display area in main interface

Range: 0~6 (0:Black, 1: Dark Blue, 2: Red, 3: Green, 4: Blue, 5: Purple, 6: Yellow)

Default Value: 0

8、 Display Style of Pattern Selection

Set the display style of the interface for loading patterns. Only the used patterns can be displayed.

Range: 0~1 (0: Number, 1: Shape)

Default Value: 0

Please refer to [2.5.5 Display Style of Pattern List]

9、 Panel Display Style

Adjust the panel display style

Range: 0~2 (0: plastique, 1: cleanlooks, 2: windows)

Default Value: 0

10、 Position of Assistant Information Bar

Set the position of the assistant information bar

Range: 0~1 (0: Right, 1: Left)

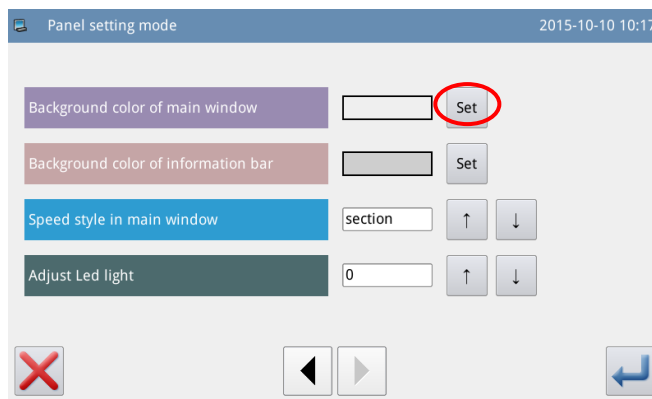
Default Value: 0

[Note]: After the setting, user has to restart the system

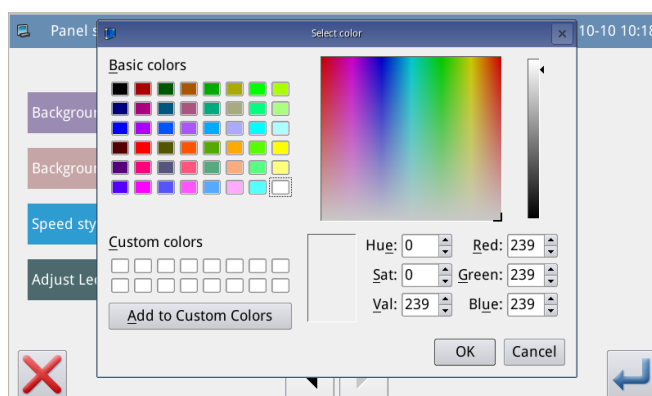
11、 Main Interface Background Color


Set the background color of the main interface

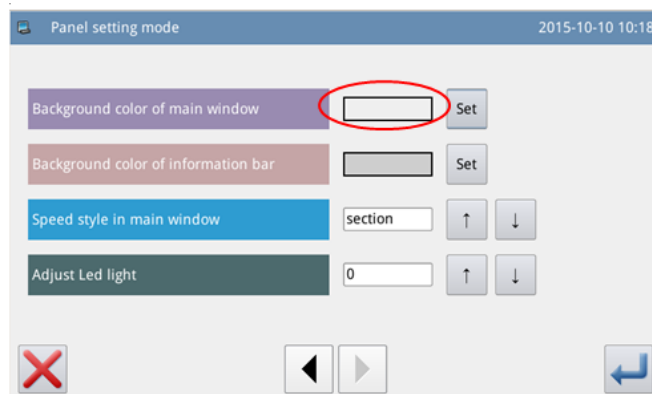
Press “Setting” to open the color board.



Select the color and press “OK” to confirm and turn off the color board



At this time, the color display area will show the selected color. Press  to return to the main interface P1 directly and change the background color of the main interface.



12、 Background Color of Assistant Information Bar

Set the background color of assistant information bar. The operation is same as above.


13、 Speed Setting in the Main Interface

The speed can be set by level or by value.

14、 LED Lightness Adjustment

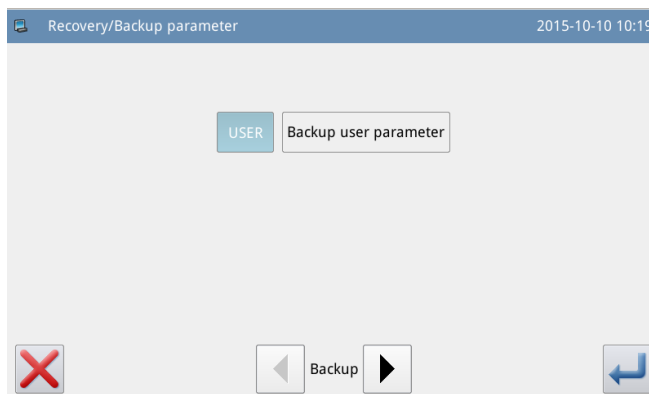
The adjustment range is 0~100.

2.9.6 Back-up Recovery Mode


In function setting interface, press  to enter back-up recovery mode.

User can save the value of changed parameter into the U disk for the parameter recovery in future.

For details, please refer to [2.7.4 Recovery and Back-up of Parameter]

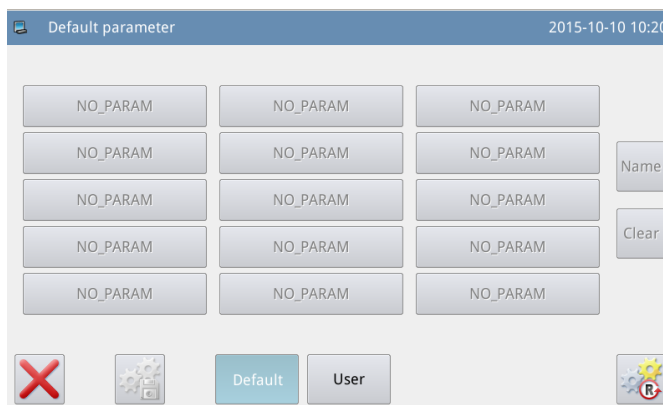


2.9.7 Default Parameter Mode


In function setting interface, press  to input the password (the original password is the manufacturer ID). After the input of password, the system will enter Default Parameter Mode.

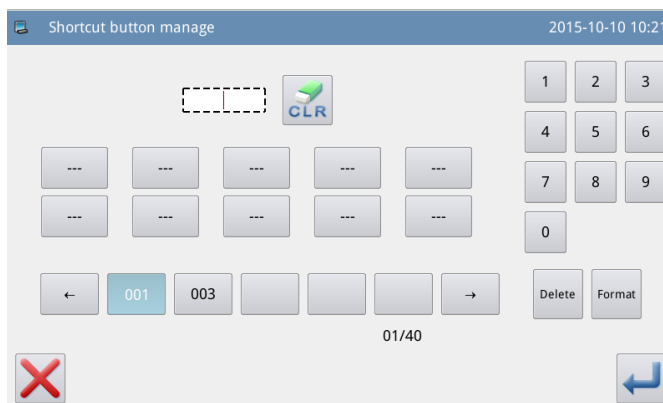
It is used to recover the default parameters and to save the parameter values for future.

Please refer to [2.7.5 Default Parameter Recovery] for details



2.9.8 Pattern Hotkey Management Mode

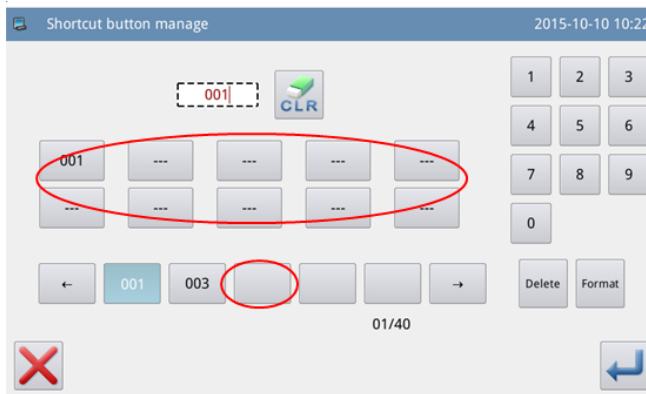
In function setting interface, press  to enter Parameter Hotkey Management Mode, where user can edit the pattern number hotkeys.



1、Input Pattern Number and Select the Position of Hotkey for Editing

Please refer to [2.5.1 Direct Load Mode]. User can input the number to find the pattern, if he knows that number.

Then select the position of edition in the hotkey display area (We select the third blank)

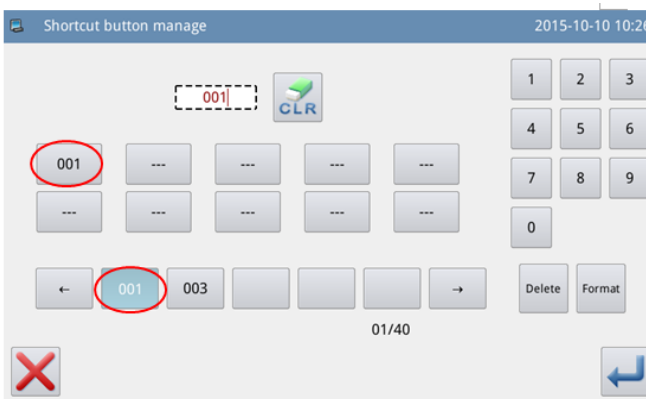


2、Edit the Hotkey


Select a pattern number in the pattern list, then that number will be displayed at the position that we selected in the previous operation.


User can also add the pattern at the position that already has a pattern in the hotkey list. This is to insert a number at this position. The numbers after will be moved correspondingly.


[Note]: If the pattern number for adding has already existed in the hotkeys, the system will adjust its position to the location that is closest to the selected position

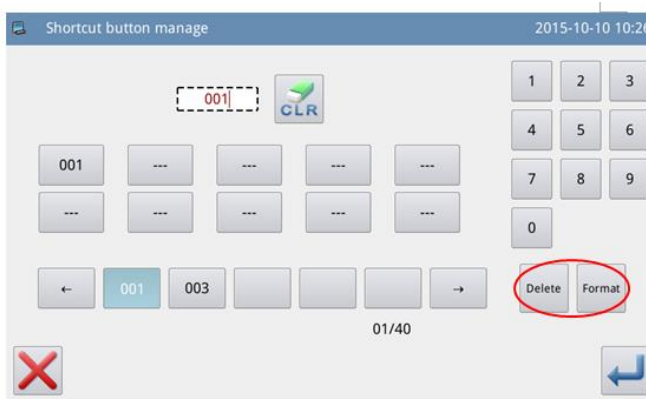


3、Deletion and Formatting

Select a pattern number in the hotkey display area and press  to delete that number. Then the system will automatically adjust the number position in the hotkey list.

Press  to delete all the number in the list.

[Note]: After the hotkey formatting, pressing  will have system display “Pattern List (Hotkey) Is Empty”. After confirming the



operation the system will automatically load the current pattern number to the hotkey.

2.9.9 Password Mode

In function setting interface, press



to activate the interface for inputting the user ID. Input the correct manufacturer ID to enter the password management mode, where user can set and manage the periodical password.


② At most 10 different password action times can be set.

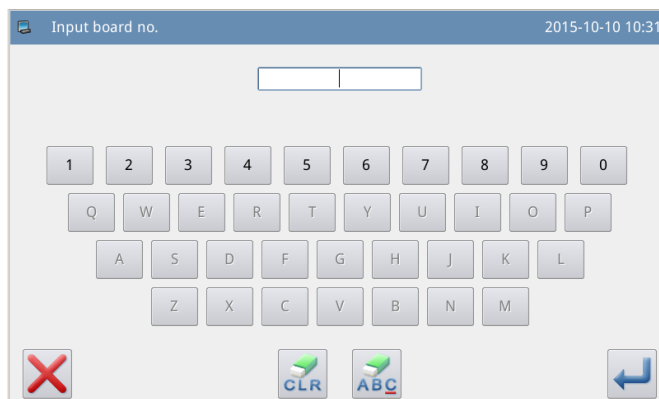
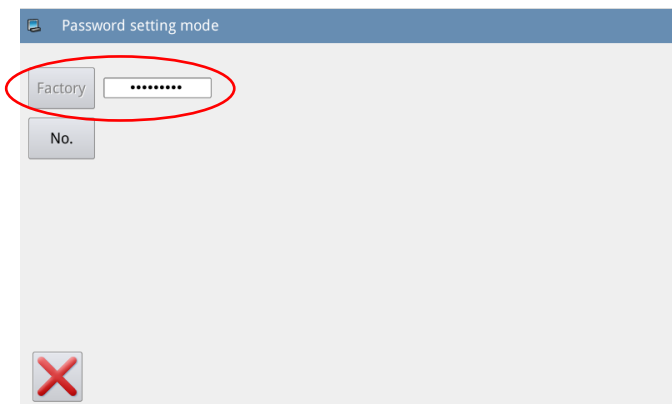
② System can display the password information of the manufacturer.





1、Input Board Number

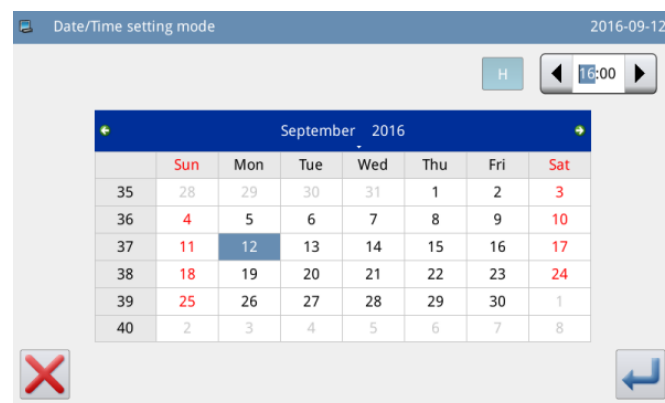
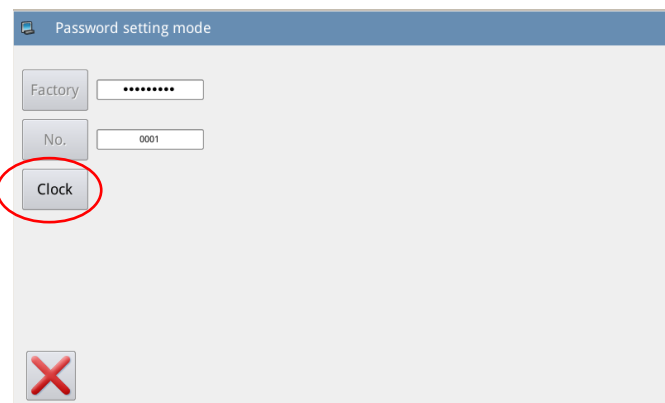
Press “Board Number” to enter the interface for inputting the board number. The board is formed by four figures, the range is from 0000 to 9999. This can be used for the management of the password by the manufacturer. After inputting the board number, user

can press  to finish the operation and return to the previous interface. (Here, we input 0001 as the board number).



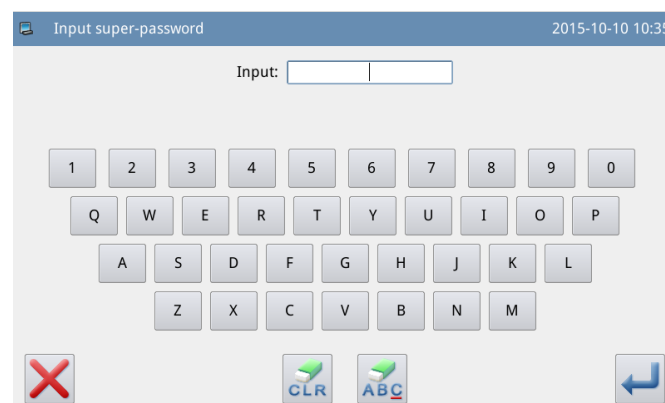
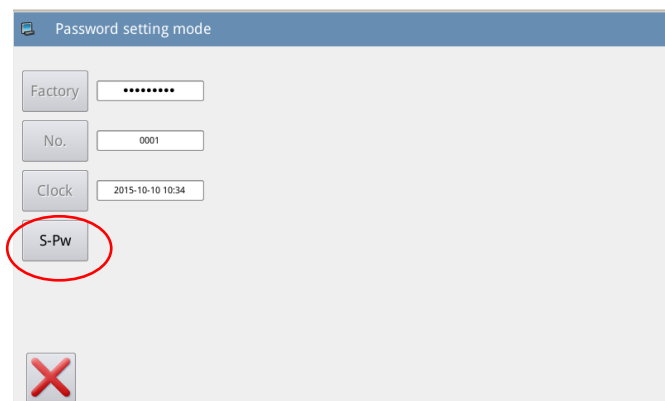
2、 Confirm the System Clock


Press “Clock” to enter the interface for setting system time and date. For changing the system clock, user need press  after the modification (Refer to [2.9.14 Date and Time Setting Mode]), or press  to quit.




3、 Input the Super Password

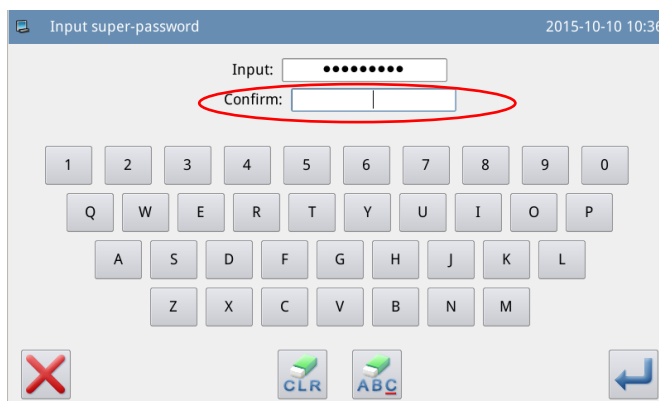
Press “Super Password” to enter the interface for inputting the super password.



At most 9 figures can be inputted, which are displayed as “•”. After user presses , the system will ask user to input that password again for confirmation.

If the inputted passwords in these two times are different, the system will ask user to input the super password again. After these two inputted passwords

agree, user can press  to save it and quit.




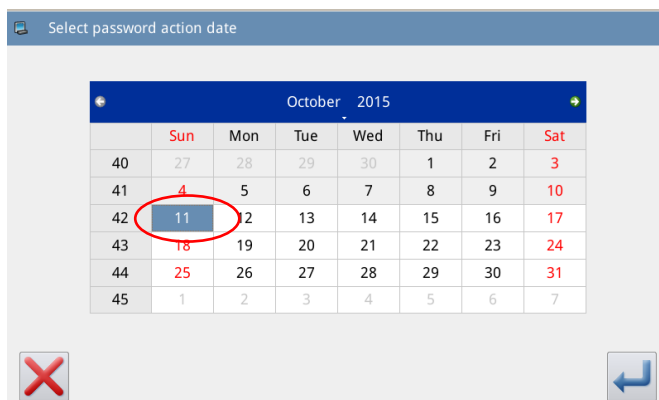
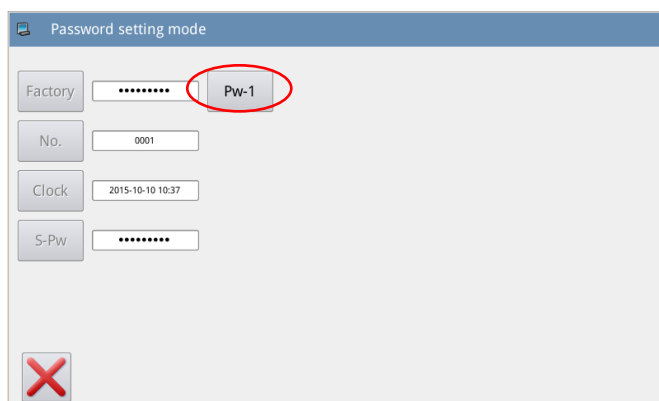
4、Input Activation Time and Periodical Password


Press “pw-1” to input the first activation date.

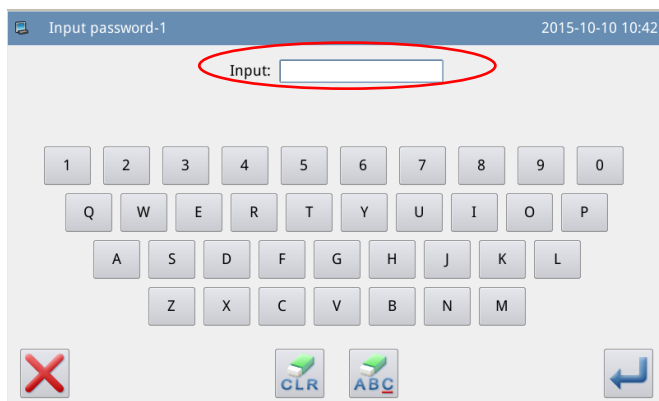
The activation date is the first time when the password is activated.

This date shall be later than the system date.

Select the proper date and press  to finish the operation. At this moment, the system will turn to password input interface



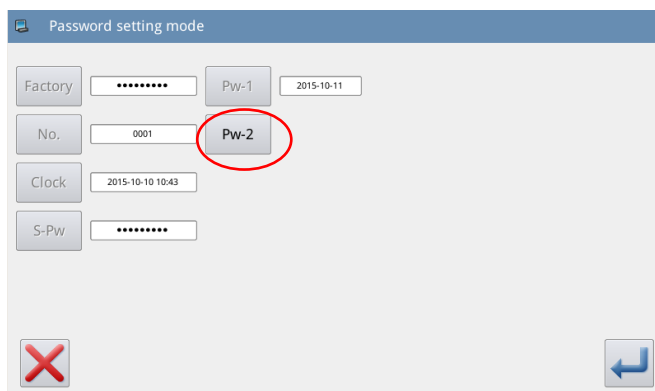
The input method of the periodical password is the same as that of the super password. After the confirmation, press  to quit.




5、Continue Inputting Periodical Password

If user need input the next activation date and password, he should repeat the above operation. At most, ten dates and passwords can be inputted.


[Note]: The next date shall be later than the previous one.

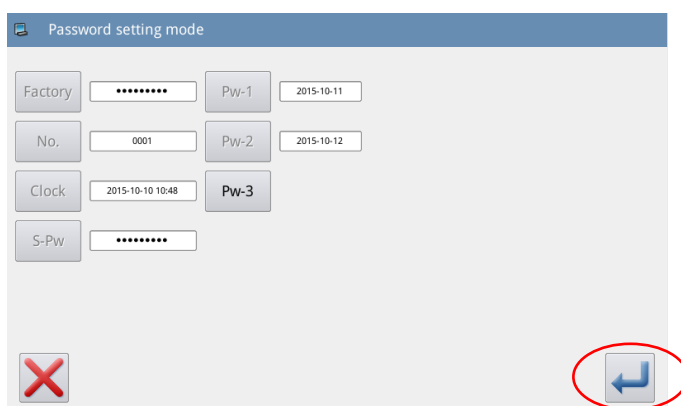


6、Save Password

Input the needed password, and then press  to save the entire information. The system will display “Password Saved Successfully”.

After confirmation, the system will return to the previous interface.

[Note]: Only when user set at least one periodical password, can  be displayed.




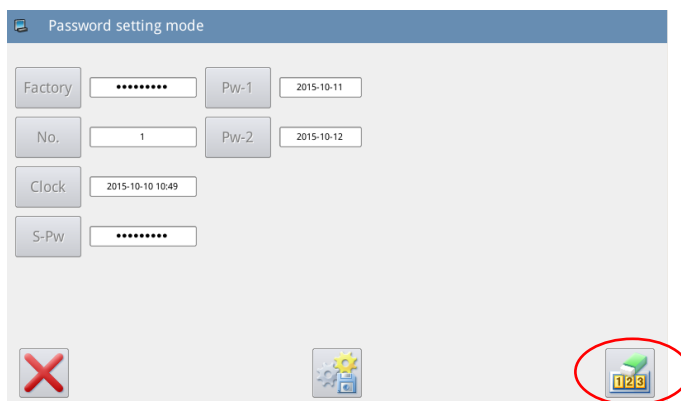
7、Clear Password before Activation

Clearing password is to delete the password before it activates.

The method for entering the password display interface is the same as that of password setting

After user input the right manufacturer ID, the system will display the current time and activation dates of periodical passwords, as shown in right figure

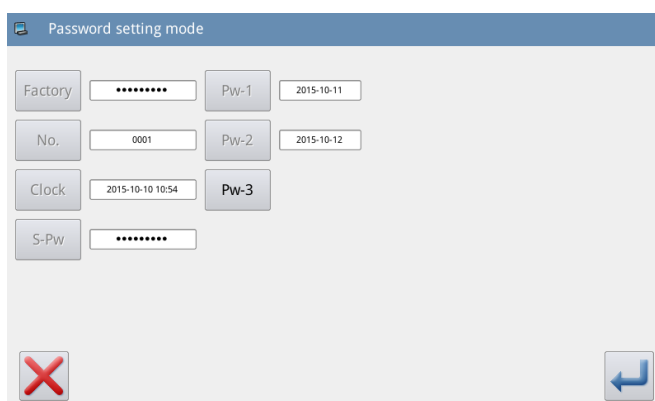
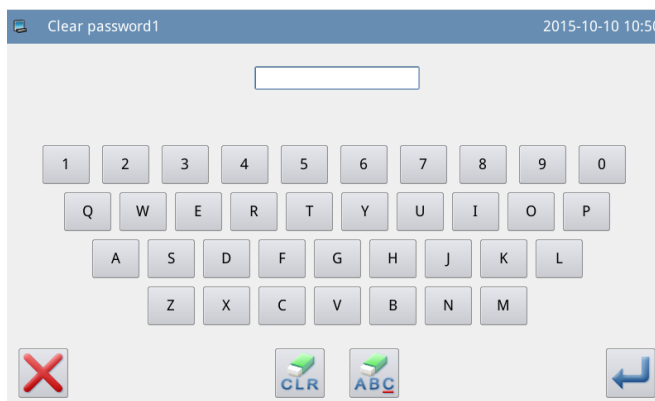
Press  to input the current password. The password is cleared in order of from front to behind.



At this moment, user can input two passwords. If the inputted password is the current password, the current password will be deleted. If the super password is inputted, the entire password will be deleted. If the current password is deleted and the current password is the last password, the system will have no password any

more. Press  to finish the operation.

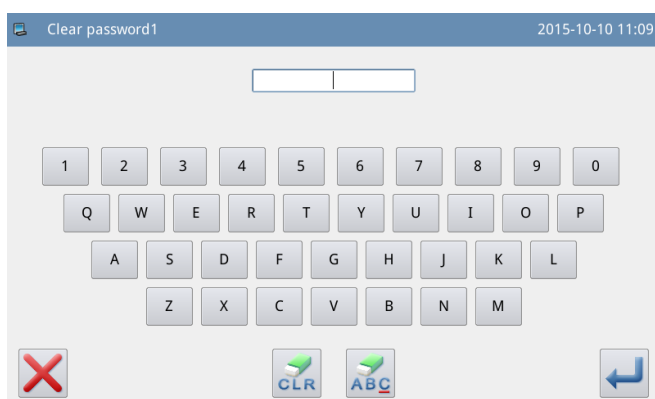
The deleted password will display in red color as shown in the right picture. If the entire password is deleted, the system will return to the upper level interface.



8、Clear Password at Activation

If the system has the password and that password is not canceled, the password will activate at the set date. At this moment, user has to input the effective password to have the machine continue to work normally.

The effective passwords include the current password and the super password. If the inputted password is the current password, the current password will be deleted. If the super password is inputted, the entire password will be deleted. If the password is current password and the current password is the last password, the system will have no password any more. If the machine still have other password other than the current password, the next password will activate according to the set date



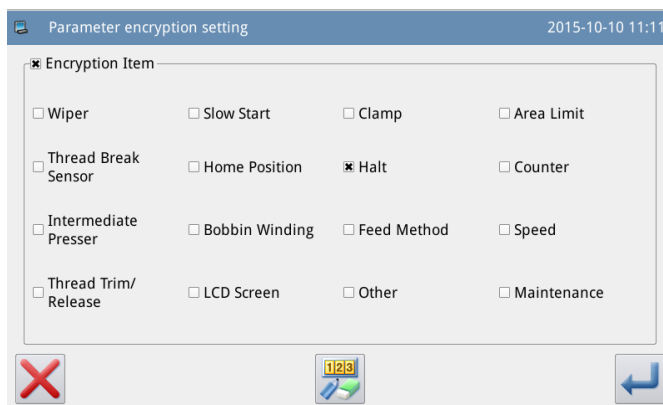
2.9.10 Parameter Encryption Mode

In function setting interface, press



, then system will ask for the password (default password is manufacturer ID). Input the right password to enter the parameter encryption interface.

For details, please refer to [2.7.3 Parameter Encryption]

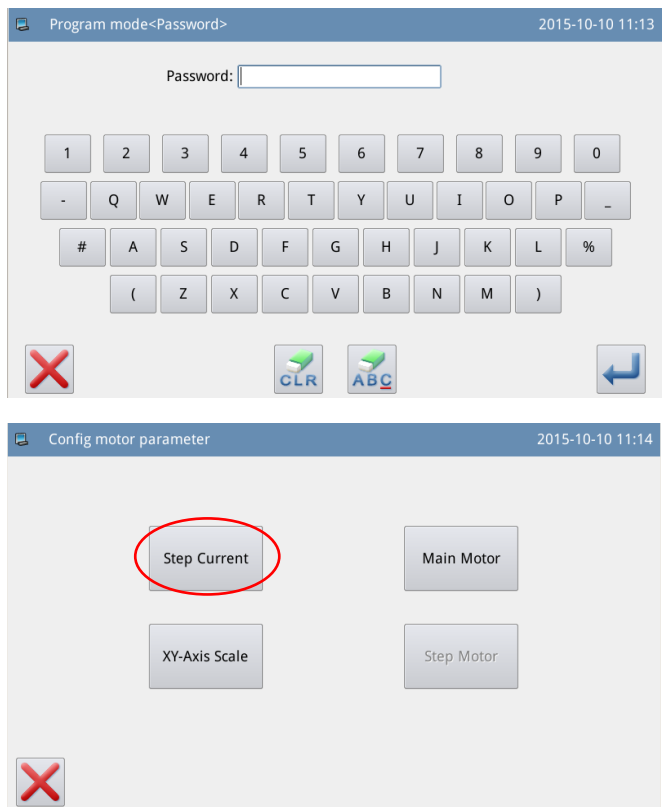


2.9.11 Motor Configuration Mode

In function setting interface, press



, then system will ask for the password (default password is manufacturer ID). Input the right password to enter the motor configuration interface.

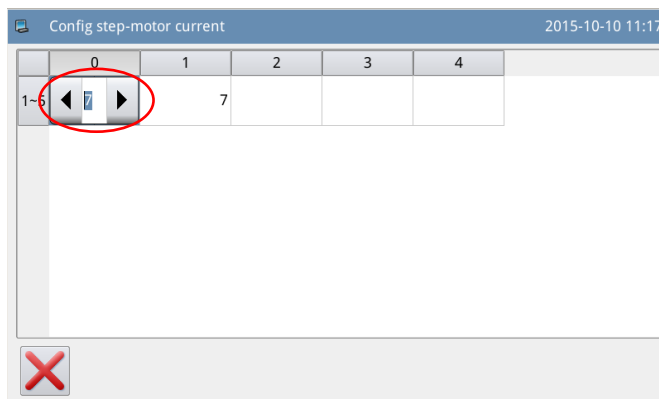


Example:

Press the “Main Motor” to enter the main motor configuration parameter interface.

We can see all the parameters are displayed in forms. Clicking any grid will display the arrow for adjusting the parameter value. No arrow means the parameter can not be set.

Set the parameter and then click the area beyond the grid to save that parameter value. (Here, we changed No.1 parameter. After the modification, we need click at the area pointed by arrow to save the value)



2.9.12 Alarm Record Mode

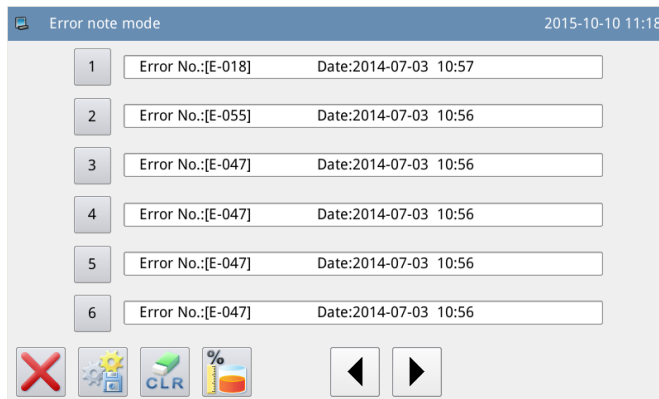
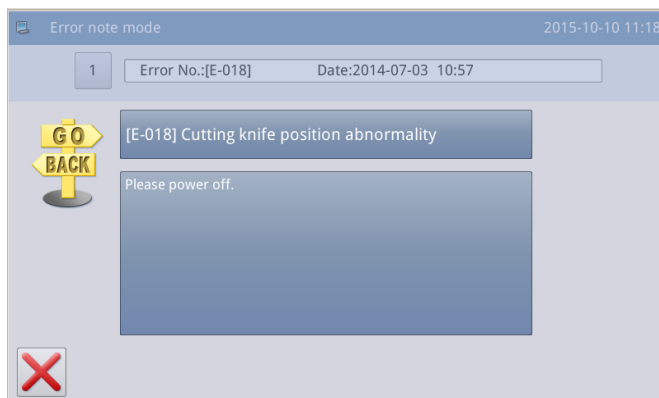
In function setting interface, press



, then system will ask for the manufacturer ID. After user gives the right ID, the system will enter the alarm record mode


In this mode, the current alarm will be recorded. The smaller number means the later alarm.

It also records the accumulated production value at each alarm.



Click each number, and the information of and solution for the error will be displayed.

2.9.13 Running Records Mode

In function setting interface, press , then system will ask for the manufacturer ID. After user gives the right ID, the system will Enter the running record mode.

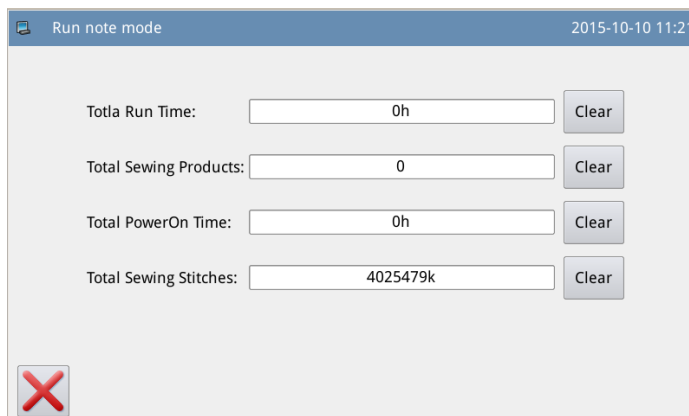
① Accumulated Running Time: Record total sewing time of machine.

② Accumulated Sewing Pieces: Record the total number of the sewn patterns.

③ Accumulated Power-on Time: Record the total time of power-on


④ Accumulated Stitch Number: Record the total stitch number of the machine.

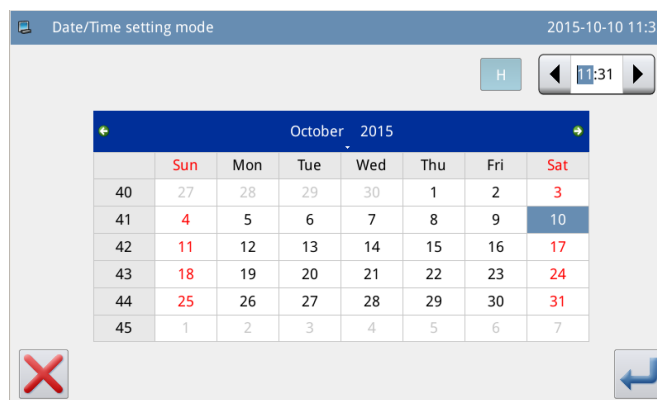
Additionally, click “Clear” to clear the counting value.



[Note]: If the Accumulated Sewing Pieces is cleared, the system will also clear the Accumulated Counter in the assistant information bar at main interface.

2.9.14 Date and Time Setting

In function setting interface, press  to enter the date and time setting mode.





12、 Method for Setting Date

Click “Year” (Here, it is 2011) to display two arrows to adjust it

Click “Month” (Here, it is June) to display the list of months. User can select the proper month.

After the setting, the display of year and month will be refreshed to the right ones.

User can also use  & 

to check the content in calendar.

Click the day to complete the setting.

[Note]: User has to set year, month and date to finish the setting. Only setting the year and month will not complete this operation.

13、 Method for Setting Time

In default, user has to set hour first. Press “hour” to shift the setting to minute (Pressing “hour” is to change it to “minute”) and then press the arrows to change the time.

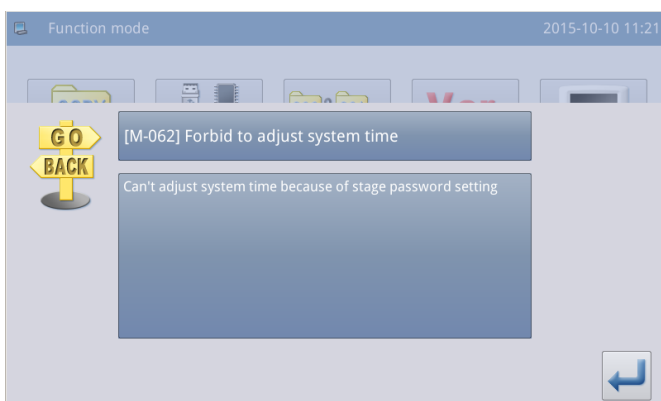
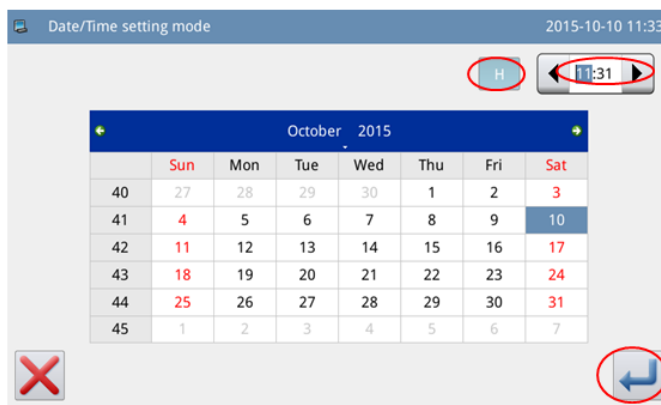
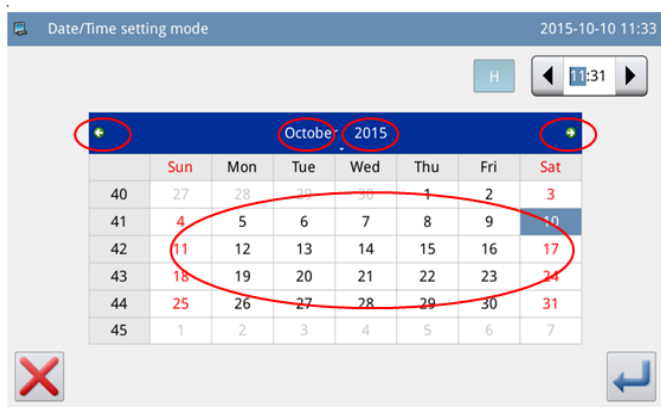
User can also click the display area to shift between hour and minute.

After the setting of date and time,

please press  to save it.

14、 Forbid to Change System Time

Once the machine is set with the periodical passwords, the system will deny the change on the system time. After all the passwords are cleared, the system will unlock the setting of the system time.



2.9.15 Update Mode

In function setting interface, press



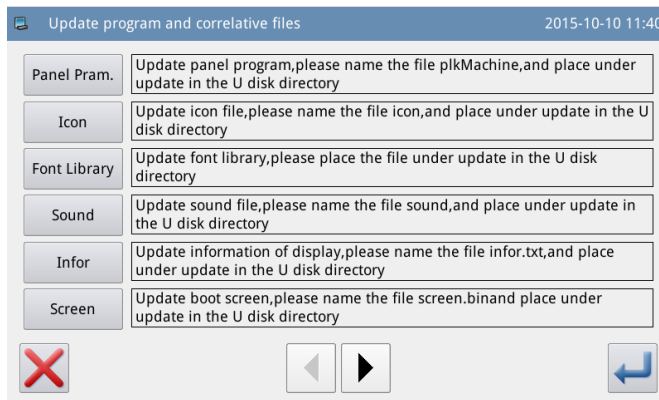
. The system will ask for the manufacturer ID. Input the correct ID to enter the software update mode.

The updating software shall be located in the catalogue “Update” in the U disk.

Click the content for update (the content in shadow is the selected), then



press .

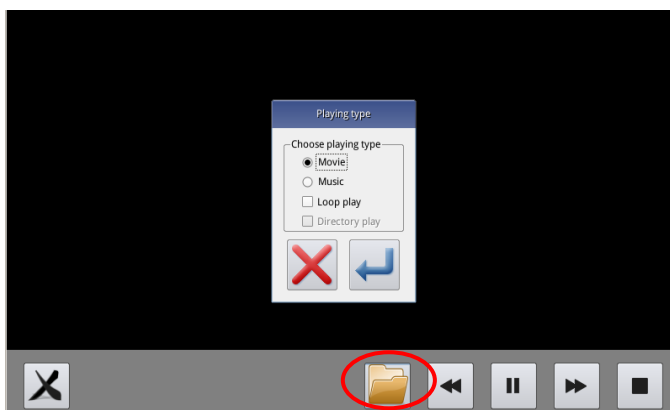


2.9.16 Player

In function setting interface,



user can press to play videos and audios. Videos shall be of avi format.



2.9.17 Pattern Transformation in Batch

This batch transformation function can enable the continual availability of the patterns after software update.

The default pattern number after transformation can be allocated manually.

The default setting is to select all patterns, and pattern names marked with x are selected.

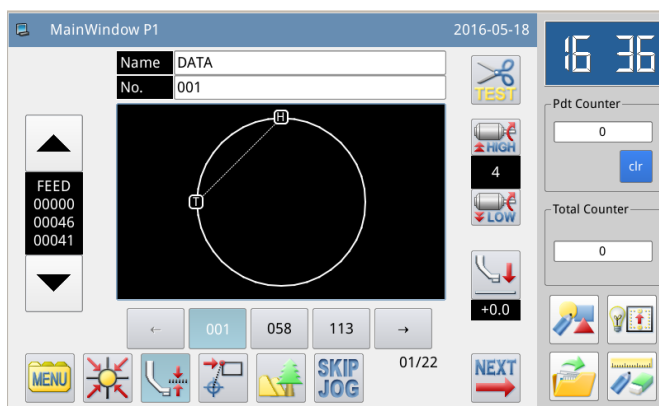
The original patterns will be deleted. If you want to keep them,




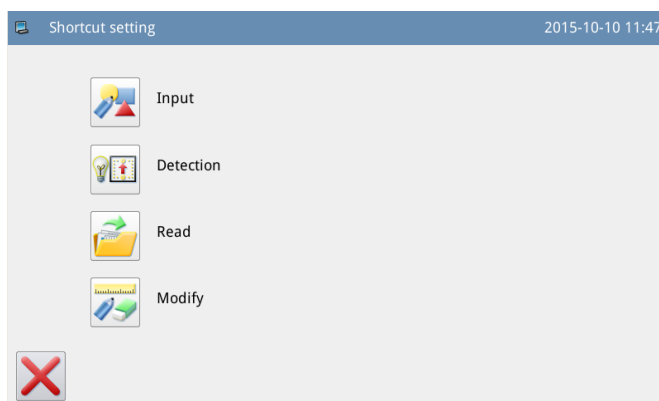
please select Keep Original Patterns at the bottom.

2.9.18 Hotkey Setting




Hotkey function is used to set the four function keys at the lower right corner according to the user's habits.

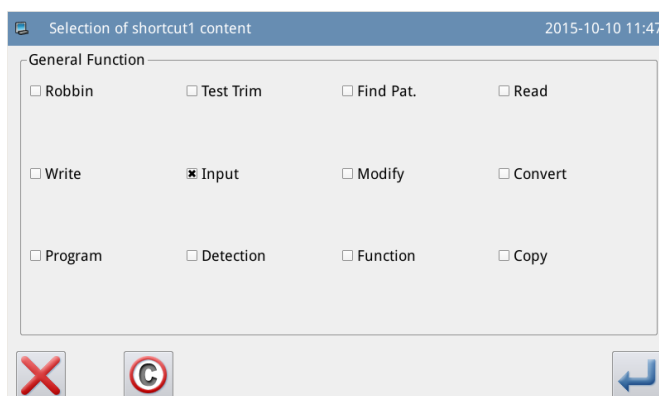


Press  to enter hotkey function setting interface. User can set these four commonly used functions respectively: pattern-making, test mode, pattern loading, and pattern modification.



Pattern-making setting:

Press  to enter pattern-making hotkey setting. After selecting , press  to save and quit."/>



2.10 Letter Sewing Edition

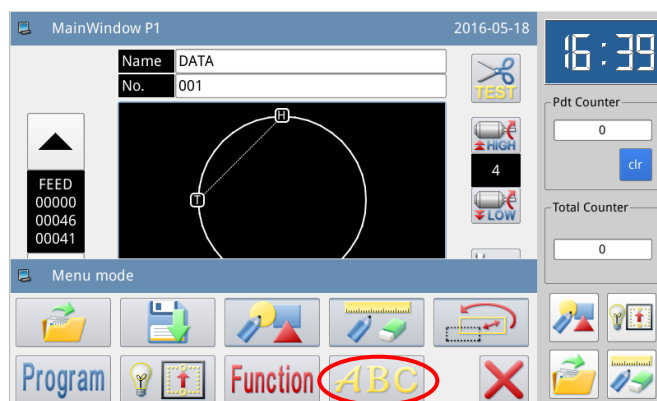
In main interface P1 (or P2), press



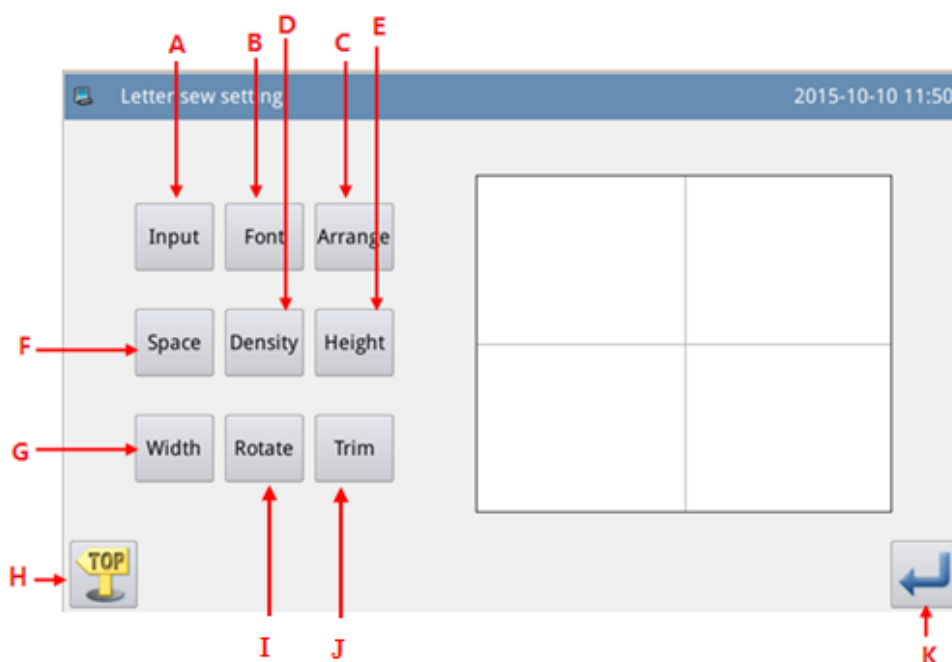
to activate the catalogue mode,

and then press **ABC** to enter letter sewing edition mode.

[Note]: Parameter [Special] -> [Letter Sewing Function Enable] can be used to close the function of letter sewing edition. After that, this icon will not be displayed



2.10.1 Parameters of Letter Sewing




Functions:

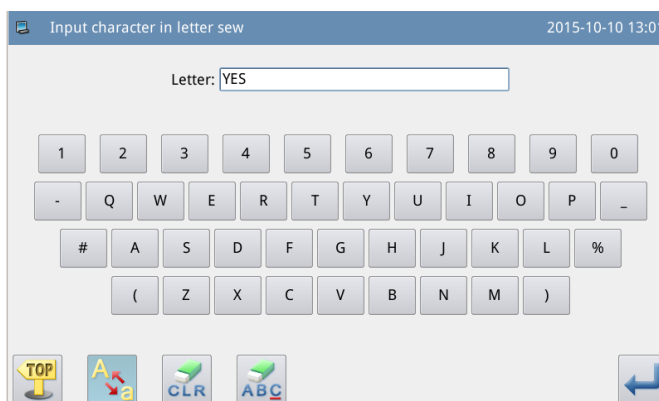
No.	Functions	Content
A	Figure Input	Input figures. At most, 20 figures can be inputted
B	Font Selection	28 fonts are available.
C	Array Method	User can select “Horizontal”, “Vertical”, “Upper Arc” “Down Arc”
D	Density of Satin	Set the satin density. The larger value means the denser satin stitches
E	Scaling in Height	Scale the height of letter, range: 50~200.
F	Letter Pitch	Set the interval between letters
G	Scaling in Width	Scale the width of letter, range: 50~200.
H	Return	Quit and return to main interface

I	Rotation/Follow (Not Follow)	When the array method is linear (vertical or horizontal), the content on the button will be displayed as “Rotation”, which is to set the rotation angle of letter; When the array method is arc (Upper Arc or Down Arc), this button will display “Follow” or “Not Follow”, which is to set whether the letter rotates with the arc.
J	Trim/Not Trim	Set whether to automatically insert thread-trimming code
K	Enter	Confirm operations. And then enter pattern adjustment interface.


1、 Figure input

Press “Input” to enter figure input interface, where user have to input at least one figure. 20 figures can be inputted at most.

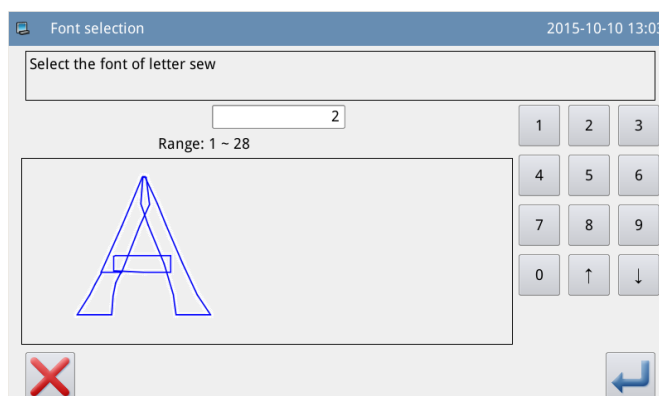
Press  to save the input and quit.




2、 Font Selection

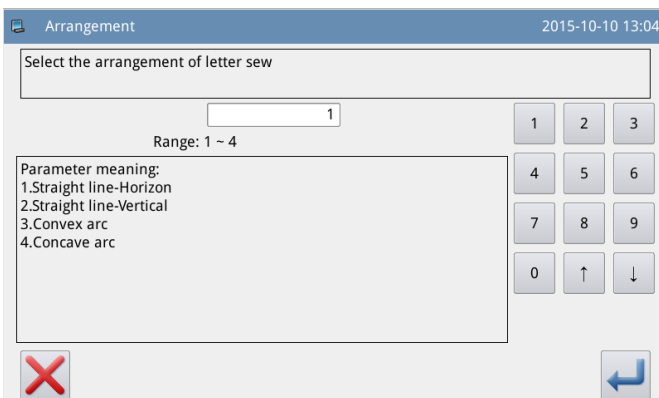
Press “Font” to enter font selection interface, where 28 types of fonts are provided. Input the numbers from 1 to 28 to select the font. Press  to save it and quit.

In this interface, the font will be displayed to users.



3、 Array Method

Press “Array” to enter the interface for setting array method, where user can select horizontal linear, vertical linear, upper arc and down arc. Press  to save it and quit.



4、 Figure Pitch

Press “Pitch” to enter the letter pitch setting interface.

In horizontal array, it is to set the horizontal pitch between letters.

In vertical array, it is to set the vertical pitch between letters.

In arc array, it is to set the distance between the letters on arc.

Range: 0~99.9mm。

5、 Density of Satin

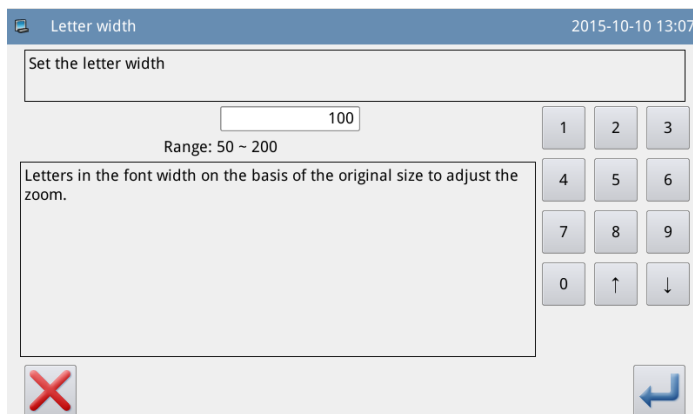
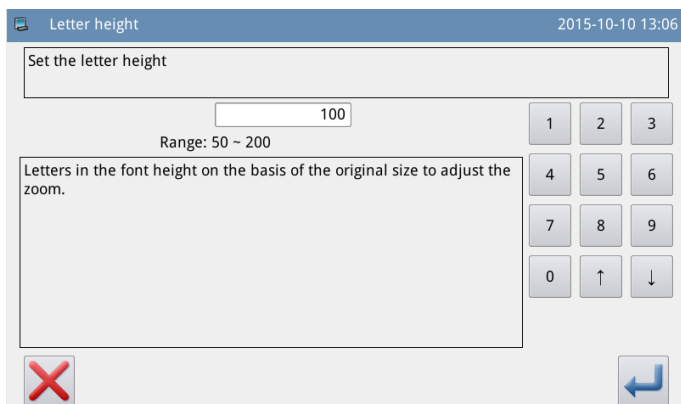
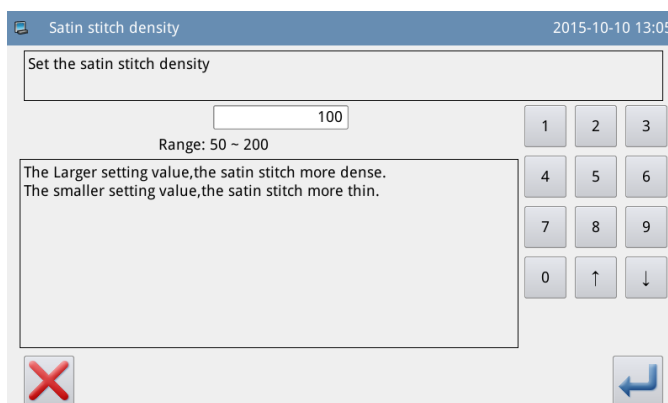
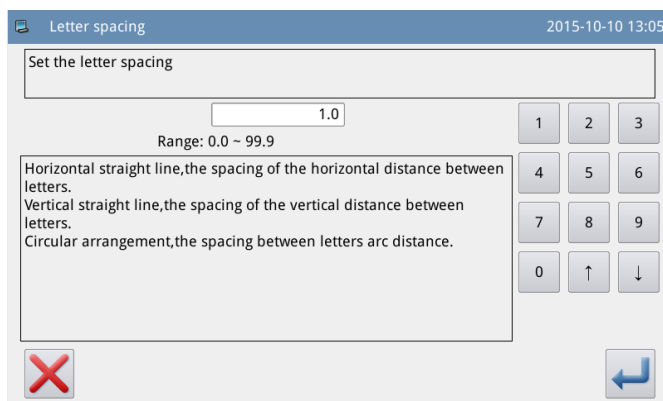
Press “Density” to enter the interface for setting satin density. The range is among 50~200.

6、 Scaling in Height

Press “Height” to enter the interface for setting letter height, where user can scale the height of letter. Range: 50~200.

7、 Scaling in Width

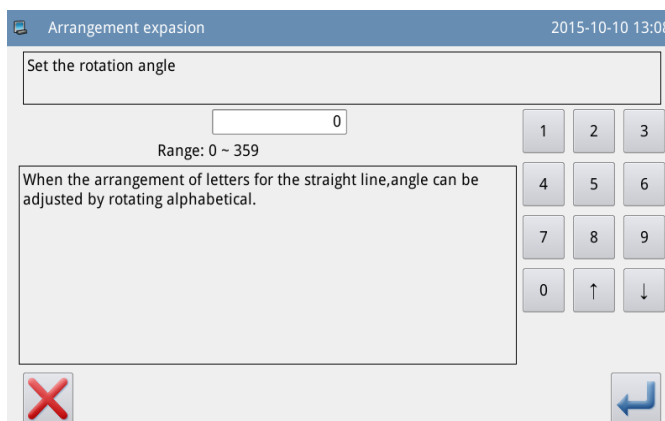
Press “Width” to enter the interface for setting letter width, where user can scale the width of letter. Range: 50~200.



8、 Rotation Angle Setting

When the array method is set at “Horizontal” or “Vertical”, user can set the rotation angle of the letter. Press the “Rotation” to enter the interface for setting rotation angle.

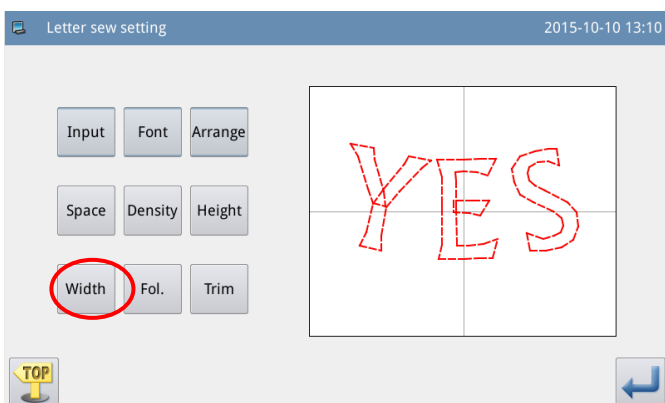
The rotating direction is counter-clockwise. Range: 0°~359°.



[Note]: When the array method is arc (Upper Arc or Down Arc), this button is to set whether the letter rotates with the arc.

9、 Follow/Not Follow

When the array method is arc (Upper Arc or Down Arc), user can set whether the letter rotates with the arc. Press “Follow” to shift it to “Not Follow”, vice versa.

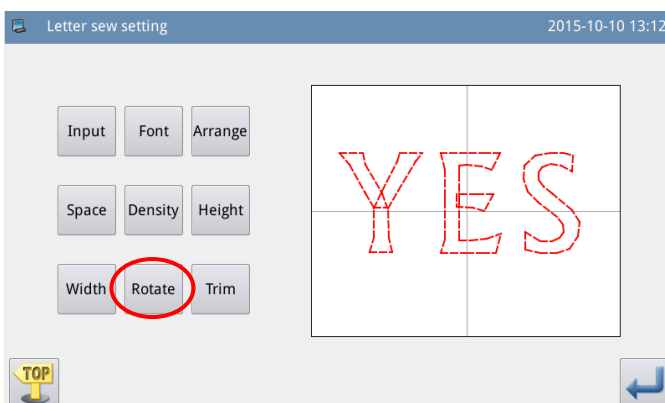


[Note]: when the array method is “Horizontal” or “Vertical”, this button is to set the rotating angle.

10、 Add Auto-Trimming


In default setting, the system will add auto-trimming, which is to add trimming code at the end of sewing, joint of empty feeding (or sewing).

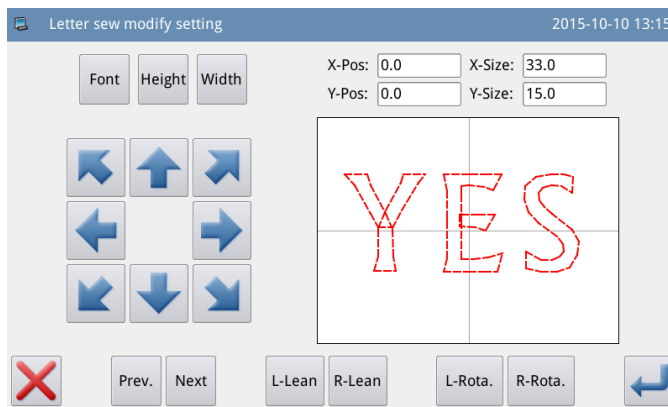
Press “Trim” to change the content on button and cancel the function for automatically adding trimming functions.




11、 Confirm the Pattern

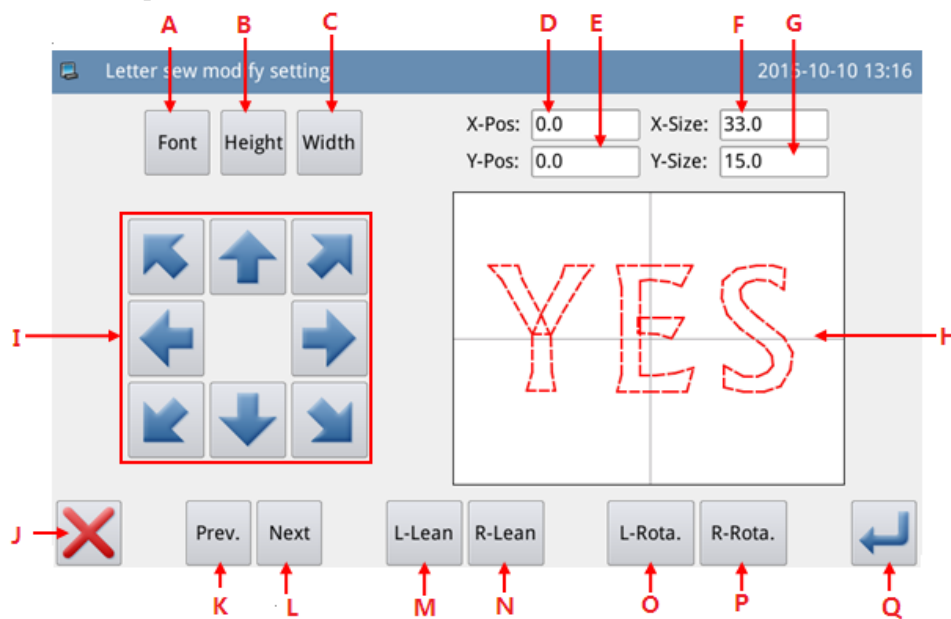
Set the letter sewing pattern

for generation. Press  to enter the interface for adjusting the letter sewing pattern.



2.10.2 Adjustment of Letter Sewing Pattern

In the interface for setting parameters of the letter sewing, user can press  to enter the interface for adjusting the letter sewing pattern. In this interface, user can have the further adjustment on the pattern.



Functions:

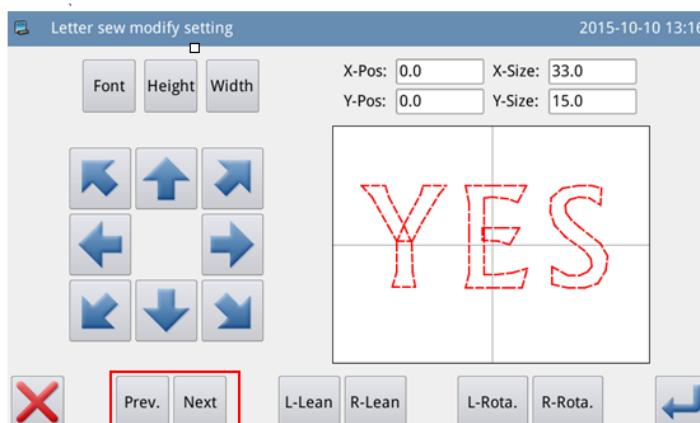
No.	Functions	Content
A	Font Selection	Change the font of selected letter. The setting method is the same as that in Parameter Setting.
B	Scale in Height	Scale the height of the selected letter. The setting method is the same as that in Parameter Setting.
C	Scale in Width	Scale the width of the selected letter. The setting method is the same as that in Parameter Setting.
D	X Position	Display the X coordinate of center point of the selected letter
E	Y Position	Display the Y coordinate of center point of the selected letter
F	X Size	Display the width of the selected letter
G	Y Size	Display the height of the selected letter

H	Pattern Display	Display the current pattern for letter sewing. The selected letters are displayed in red; the unselected letter is displayed in green.
I	Direction Key	Adjust the position of the selected letter.
J	Esc	Return to the previous interface
K	Previous Letter (from right to left)	Select the letter for adjustment from right to left. The selected figure is displayed in red. When the icon still goes to left at selecting the last letter, the entire letters will be selected.
L	Next Letter (from left to right)	Select the letter for adjustment from left to right. The selected figure is displayed in red. When the icon still goes to right at selecting the last letter, the entire letters will be selected.
M	Left Tilt/Radian Down	When the array method is horizontal array or the vertical array, this button will display “Left Tilt”. Pressing this button will rotate the entire pattern counterclockwise in the center of origin When the array method is arc, this button will display “Radian Down”. Pressing this button will reduce the radian of entire pattern. [Note] This operation is for the entire pattern.
N	Right Tilt/Radian Up	When the array method is horizontal array or the vertical array, this button will display “Right Tilt”. Pressing this button will rotate the entire pattern clockwise in the center of origin When the array method is arc, this button will display “Radian Up”. Pressing this button will increase the radian of entire pattern. [Note] This operation is for the entire pattern.
O	Left Rotation	Adjust the rotating angle of the selected letter counterclockwise. The rotation center is the center of the letter
P	Right Rotation	Adjust the rotating angle of the selected letter clockwise. The rotation center is the center of the letter
Q	Enter	Press it to Enter the pattern save interface

Example:

1、Select Single Letter for Adjustment

Press “Previous Letter” or “Next Letter” to select the single letter for adjustment. The selected letter is displayed in red, while the unselected are displayed in green



2、Letter Position Adjustment

Press direction keys to adjust the position of the selected letter. User can see the coordinates from “X Position” and “Y Position”

With the same operations, user can adjust the position of other letters.



3、Adjust the Rotating Angle of Entire Pattern

Press “Left Tilt” or “Right Tilt” to adjust the rotating angle of the entire pattern

“Left Tilt”: Counter-clockwise Rotation

“Right Tilt”: Clockwise Rotation

[Note]: When the array method is arc, these buttons will turn to “Radian Up”/“Radian Down”, which are to adjust the radian of the entire pattern



4、Rotation of Single Letter


Select a letter and then press “Left Rotation” or “Right Rotation” to adjust the rotating angle of the selected letter

[Note] When adjusting the rotating angle, user had better adjust the rotating angle of the entire pattern at first. If user adjust the rotating angle of the single letter at first, the adjustment will be canceled when user




rotates the entire pattern.

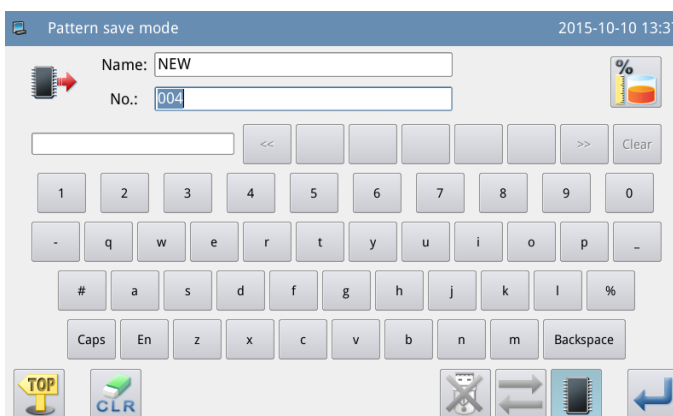
5、 Save Pattern

After the adjustment, press  to enter interface for saving patterns.



Input name and number, and then press . The system will display “Letter Sewing Pattern Saved Successfully”. (For other operations, please refer to [2.6 Save Pattern].)

[Note] After the successful saving, the letter sewing pattern will not turn to current pattern automatically. User has to enter the pattern loading interface to select it.



3 Appendix 1

3.1 Warning Information List

Number	Name of Malfunction	Sub-information Content	Solution
E-001	Pedal not at normal position	Please adjust pedal position	
E-002	Machine is in emergency stop	Check the condition of emergency switch	Turn and release the emergency button. If the screen keep displaying this hint, please check in the following way: 4、 Check the condition of emergency button. 5、 Check the connection between the emergency button and head transfer board. 6、 Check the connection between the X9 terminal on cable L433 and the head transfer board. Open cable L433 to seek breakage.
E-004	Main voltage is too low (300V)	Please turn off power and check system hardware	1. Check if the AC power supply has abnormal fluctuation; Make sure there is no high-power device that is turned on/off frequently; equip the voltage regulator.
E-005	Main voltage is too high (300V)	No	2. If the AC power supply is normal, the problem may be at the hardware. Please return the main control board for repair.
E-007	IPM is over-voltage or over- current	Please turn off power and check system hardware	3、 Make sure no short circuit at main motor; check if the value of each winding is equal and not 0; 4、 Check whether the output at U\V\W is shorted out to earth or the 300V power supply, so as to judge the condition of IPM.
E-008	Voltage of assistant device (24V) is too high	Please turn off power and check system hardware	3、 Check if the peripheral solenoids and valves are shorted. 4、 Make sure the cores in both plugs on L478 cable are not shorted. Check whether the head transfer board is shorted out to head at installation
E-009	Voltage of assistant device (24V) is too low	Please turn off power and check system hardware	5、 Check if the peripheral solenoids and valves are damaged 6、 Check whether cores in both plugs on L478 (For Hai Ling, it is L432) cable are shorted. 7、 Check whether the head transfer board is shorted to head at

Number	Name of Malfunction	Sub-information Content	Solution
			installation. 8、 Check the power part at the main control board; check the pin on CPU for collecting 24V power signal
E-010	Valve (Fan) has problem	Please turn off power and check system hardware	1. Check whether the power of fan has problem 2. Check the condition of 24V for head board 3. Search short connecting at peripheral valve
E-013	Encoder is error or unconnected.	Please turn off power and check system hardware	1. Turn off the machine and check the connection between the encoder cable and the plug at control box.
E-014	Motor running abnormal	Please turn off power and check system hardware	6、 Check whether the main shaft is blocked by the load. 7、 Turn the hand wheel and repower the machine when the main shaft is at another angle. 8、 Motor reply signal error, replace motor
E-015	Exceeds sewing area	Please press Enter.	1. Pattern data process is abnormal. Re-pick the pattern and search the origin for sewing again. Make sure the problem is at pattern or caused by BUG in software. 2. Check whether the sewing range set in operation head matches to the selected pattern.
E-016	Needle bar Upper position abnormal	Please press Enter.	Turn the hand wheel to lift the needle bar to the upper position of the upper dead point, and then step the pedal.
E-017	Thread breakage detection error	Please press Enter.	Check CZ424 port on head transfer board and cable L433.
E-018	Trimmer position abnormal	Please turn off power.	
E-019	Emergency switch is not at the right position	Check the condition of emergency switch.	1. It is common hint, not the problem. Please release the emergency switch. 2. Refer to the solution in EB002
E-020	Stepping software version error	Please turn off power.	
E-023	Thread-catching position abnormal	Please turn off power.	
E-024	Wrong connection between operation head and sewing machine	Please turn off power.	

Number	Name of Malfunction	Sub-information Content	Solution
E-025	X origin detection abnormal	Please turn off power.	7、 Use debugging function to move the frame manually and test whether the coupler signal is displayed; 8、 When the machine is on, user can use a piece of metal sheet to approach the proximity switch. This is to test whether the system can give the vocal warning. 9、 Adjust the installation position of the proximity switch to ensure its reliable actions.
E-026	Y origin detection abnormal	Please turn off power.	
E-027	Presser origin detection abnormal	Please turn off power.	
E-028	Thread-catching origin detection abnormal	Please turn off power.	
E-029	Intermediate presser origin detection abnormal	Please turn off power.	10、 Test the working condition of the stepping motor and make sure they have no step missed; 11、 Test the conditions of the stepping cables and sensor cables 12、 Check the connection of L433 cable, make sure this cable has no short or breakage at the connectors at both ends
E-030	Stepping driver communication abnormal	Please turn off power.	3、 Check the connection of cable between the main control board and the stepping board 4、 Make sure the stepping board power is normal or not. Ensure the power indicator and the working indicator are sparking normally
E-031	Stepping motor over-current	Please turn off power.	3、 The stepping motor is broken; user needs to replace the stepping motor 4、 The stepping drive board is broken; user needs to replace the stepping drive board
E-032	Stepping driver power abnormal	Please turn off power.	
E-034	Abnormal current	Please turn off power.	6、 Turn off the power. Turn the hand wheel to test the running of the main shaft. Check whether any mechanism is blocked. 7、 Turn off the power. Check the connection at the coupling of the main shaft motor. The large interval at the coupling will cause the over-current at the motor 8、 Turn off the power. Measure whether the resistance values at the three-phase resistance are equal. If not, the motor is down. 9、 Turn off the power. Use the multimeter to test the IPM module, if IPM is down, please do not repower the machine. User needs to
E-035	IPM over current frequently 1	Please turn off power.	
E-036	IPM over current frequently 2	Please turn off power.	

Number	Name of Malfunction	Sub-information Content	Solution
			<p>replace or repair it.</p> <p>10、 When the system gives warning, please make sure whether the machine is at the process of trimming or stop. If so, please adjust the main shaft parameters to solve this problem.</p>
E-037	Motor is blocked 1	Please turn off power.	<p>6、 Due to the wrong location of the main shaft angle, the trimmer is jammed on the needle when cutting the thread, thus causes the main shaft to be blocked. Solution: Relocate the main shaft angle</p> <p>7、 The needle rod is jammed on the intermediate presser at moving, which causes the blockage of the main shaft. Solution: check the action of the intermediate presser and the connection between the air valve and the solenoid valve.</p> <p>8、 The trimmer can't cut the thread due to lacking of strength, which causes the blockage of the main shaft. Solution: adjust the main shaft parameter and increase the strength of trimming.</p> <p>9、 The mechanism has dead point, so the main shaft is blocked. Solution: adjust the mechanism;</p> <p>10、 The encoder at the main shaft motor has problem, which responses the wrong signal, thus causes the blockage of the motor. Solution: replace the main shaft motor</p>
E-038	Motor is blocked 2	Please turn off power.	<p>5、 The used fabric is too thick to be penetrated by the needle. Solution: adjust the main shaft parameters or change to a motor with larger power capacity;</p> <p>6、 The needle rod is jammed on the intermediate presser at moving, which causes the blockage of the main shaft. Solution: check the action of the intermediate presser and the connection between the air valve and the solenoid valve</p> <p>7、 The mechanism has dead point, so the main shaft is blocked. Solution: adjust the mechanism</p> <p>8、 The encoder at the main shaft motor has problem, which responses the wrong signal, thus causes the blockage of the motor. Solution:</p>

Number	Name of Malfunction	Sub-information Content	Solution
			replace the main shaft motor
E-039	Motor over speed	Please turn off power.	
E-040	Over current in stop status	Please turn off power.	
E-041	Motor overload	Please turn off power.	
E-042	Bus voltage abnormal	Please turn off power.	
E-043	X stepping motor position error	Please turn off power.	
E-044	Y stepping motor position error	Please turn off power.	
E-045	Presser not down	Step the pedal	
E-046	Not at origin cannot operate	Press key to return to origin	
E-047	Motor overload 1	Please turn off power.	
E-048	Motor overload 2	Please press Enter.	
E-049	Motor overload 3	Please turn off power.	

3.2 Hint Information List

No.	Name	Content of Sub-information
M-001	Up counter reaches set value	Press Enter
M-002	Down counter reaches set value	Press Enter
M-003	Not at origin, cannot operate	Return to origin firstly
M-004	Pattern data not exist	Please reload or input again
M-005	Set value is too large	Please input value within valid range
M-006	Set value is too small	Please input value within valid range
M-007	Please press "Return to Origin"	
M-008	Save parameter abnormal	Press Enter to restore the default values
M-009	Cannot find pattern in memory	Press Enter to load the default patterns
M-010	Memory full	Please delete the idle sewing data
M-011	Delete pattern data from memory?	No
M-012	Replace pattern data in memory?	No
M-013	Can not delete pattern data.	The selected sewing data is being used
M-014	Format memory?	All the patterns within the memory will be deleted
M-015	Communication error	Abnormal event occurs in the communication between the operation head and the control box. Please turn off power and check it
M-016	Beyond sewing range	Make sure pattern data is in sewing range

No.	Name	Content of Sub-information
M-017	Fail to load letter sewing file	No
M-018	Operation head not match to machine type	Please check the model and the software version
M-019	Low memory	Please delete the unused pattern data
M-020	Wrong pattern number	Please input the right pattern number
M-021	Beyond max stitch interval	No
M-022	Wrong password	Please input password again
M-023	Hardware clock error	The hardware clock has problem, please contact manufacturer for repair.
M-024	Stitch number beyond range	Please reduce stitch number
M-025	Inputted stitch interval is too low	Please input value within valid range
M-026	Inputted stitch interval is too low	Please input value within valid range
M-027	Offset origin existed	User can only input one offset origin.
M-028	Fast move is set too much or little	Please input value within valid range
M-029	Please press Return to Origin	No
M-030	Copy the pointed pattern?	No
M-031	Copy all pattern data?	No
M-032	Restore to default setting?	No
M-033	USB is pulled out	U Disk Is Pulled Out !
M-034	Cannot find pattern data in U disk	No
M-035	At least input one letter	At making pattern of letter sewing, user has to input at least one letter
M-036	No alarm record	
M-037	Replace needle	Reach set value for needle replacement, please replace needle!
M-038	Replace oil	Reach set value for oil replacement, please replace oil!
M-039	Clean machine	Reach set value for cleaning machine, please clean machine!
M-040	Different data format	Please confirm the data format
M-041	Cannot create curve	Please input again according to the standards of curve input.
M-042	Cannot insert trimming at current position	Please add trimming behind sewing data
M-043	Cannot add same function code in one position	
M-044	Cannot insert offset origin at current position	Please add offset origin after feeding
M-045	Cannot create arc or circle at the inputted point	Please input again
M-046	Cannot create overlapped sewing data	Please add overlapped sewing after close shape
M-047	Cannot insert trimming after down pause	No

No.	Name	Content of Sub-information
M-048	Cannot insert down pause before trimming	No
M-049	Not find offset sewing data	Function of offset sewing data transfer is unavailable
M-050	Not find multi-sewing data	Function of multi-sewing data transfer is unavailable
M-051	Select wrong position	No
M-052	Cannot scale	No
M-053	Distance over 12.7mm	No
M-054	Wrong pattern data	No
M-055	Create arc?	No
M-056	Create circle?	No
M-057	Create curve?	No
M-058	Create polygon?	No
M-059	Presser is not down	Please step pedal
M-060	Wrong User ID	Please input again
M-061	Fail to conform password	Please input password again
M-062	Cannot change system time	The periodical password is set. Can not change system time.
M-063	Fail to save password file	No
M-064	Fail to load password file	No
M-065	Password saved successfully	No
M-066	Fail to clear all passwords	Cannot delete password file
M-067	Fail to clear password	After the password is cleared, the file input becomes abnormal
M-068	Password file is deleted without authorization	Periodical password is deleted without authorization, please turn off machine
M-069	User ID file damage	
M-70	Input pattern name	Please input pattern name no more than 8 figures
M-71	Please clear current combination data	Press "CLR" to delete current combination data
M-72	Empty input invalid	Can not input empty password
M-73	Password not match	Current password is wrong
M-74	New password is different.	New password is different from the retry password
M-75	Touching panel correction successful	Correction is successful. Please turn off power to restart.
M-76	Clear alarm records?	Yes: Enter No: X
M-77	Delete the selected file?	Yes: Enter No: X
M-78	Copy all patterns	Cover the original patterns? Yes: Enter No: X

No.	Name	Content of Sub-information
M-79	Fail to copy file	Please check the space in memory
M-80	Fail to copy file	Please check if the USB disk is pulled out!
M-81	Fail to open file	Fail to open file
M-82	Format not match	Formats don't match, current load denied
M-83	Parameter over range	Parameter is over range. After confirmation, the parameter over range will be restored according to the default parameters!
M-84	Please create catalogue and file	Please create catalogue bakParam in U disk. Name the back-up file as backup.param and copy it to bakParam catalogue!
M-85	File I/O error	File I/O error
M-86	Please select file	Select the file for input/ output
M-87	File not exist	Cannot find the corresponding file
M-88	Not input move amount	Please input move amount
M-89	Enter touching panel correction mode?	Yes: Enter No: X
M-90	Clear accumulated running time?	Yes: Enter No: X
M-91	Clear accumulated sewing pieces?	Yes: Enter No: X
M-92	Clear accumulated power-on time?	Yes: Enter No: X
M-93	Clear accumulated stitch numbers?	Yes: Enter No: X
M-94	Periodical passwords can't be same to super password	Please input password again
M-95	Cannot change up counter (NUP)	At change, please turn off setting (NUP)
M-96	Cannot change down counter (NDP)	At change, please turn off setting (NUP)
M-97	Pattern list (hotkey) is empty	If the pattern list is empty, the system will automatically input the current pattern to list
M-98	Not select update item	Please select item for updating. At least select one item
M-99	Some selected update items don't exist.	The item not existing will be cancelled after return. For updating the rest items, please confirm again
M-100	Update successful	Update is successful, please restart machine.
M-101	Format U Disk?	Press Enter to perform formatting operation. Press Esc to quit current operation. After formatting, all pattern files will be deleted.
M-102	Can not find U disk	Please insert the U disk for formatting.
M-103	Successful	Current operation is successful!
M-104	Failed	Current operation is failed!
M-105	Format pattern list (hotkey)?	Press Enter to perform formatting operation. Press Esc to quit current operation
M-106	Cover the pattern with same name in U disk?	Press Enter to cover files. Press Esc to quit current operation
M-107	Fail to correct touching panel	Please perform correction again

No.	Name	Content of Sub-information
M-108	Letter sewing pattern saved successfully	Please enter pattern loading interface to select newly created letter sewing pattern
M-109	The selected pattern is not normal format, please transform.	Press Enter to perform transforming operation. Press Esc to quit current operation
M-110	Cannot transform this pattern	Please confirm pattern
M-111	Restore all the settings?	Yes: Enter No: X
M-112	Restore the selected item?	Yes: Enter No: X
M-113	Not select item	Please select one or more parameters
M-114	SRAM initialization	Clear all data in SRAM. Please turn off power and restore the setting of DIP switch.
M-115	Cannot copy and cover current pattern	Current pattern number in copy group, system cannot cover it.
M-116	Need transform pattern format	After transforming, user can preview the pattern
M-117	Cannot perform operation to combined pattern	Please enter pattern connection mode, press "CLR" to cancel the combined pattern
M-118	Delete original pattern?	Delete original pattern after format transforming? Yes: Enter No: X
M-119	Intermediate presser in down position	Please lift intermediate presser
M-120	Turn off machine, Bye	No
M-121	Format of pattern with 20mm stitch interval	Not support this pattern format in this system
M-122	Wrong transformed pattern format	Please confirm pattern
M-123	Transformed pattern data is too long	Please confirm pattern
M-124	Cannot open transformed pattern	Please confirm pattern
M-125	Wrong accuracy of transformed pattern	Please confirm pattern
M-126	Parameter recovery successful	Parameter recovery is successful, please restart machine
M-127	Software version saving successfully	Software version is saved to the base catalogue of U disk successfully

4.Appendix 2

4.1 Installation Size of Control Box

1、 Installation Size of Control Box

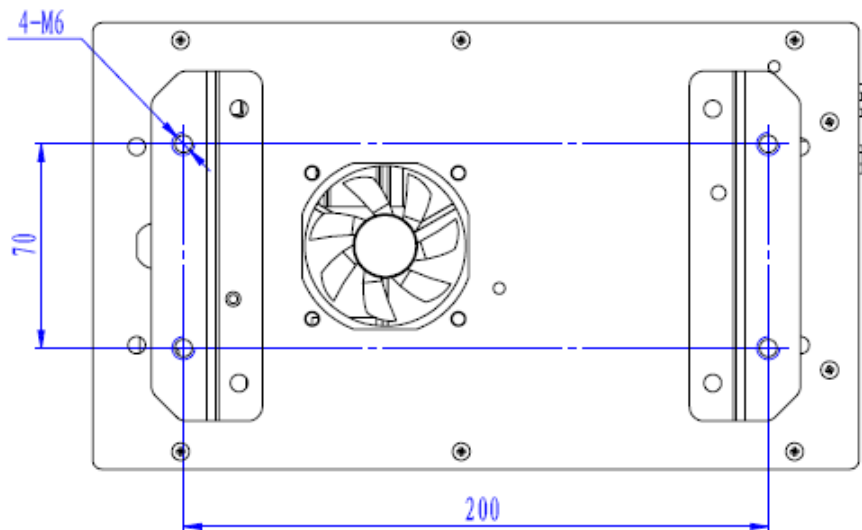
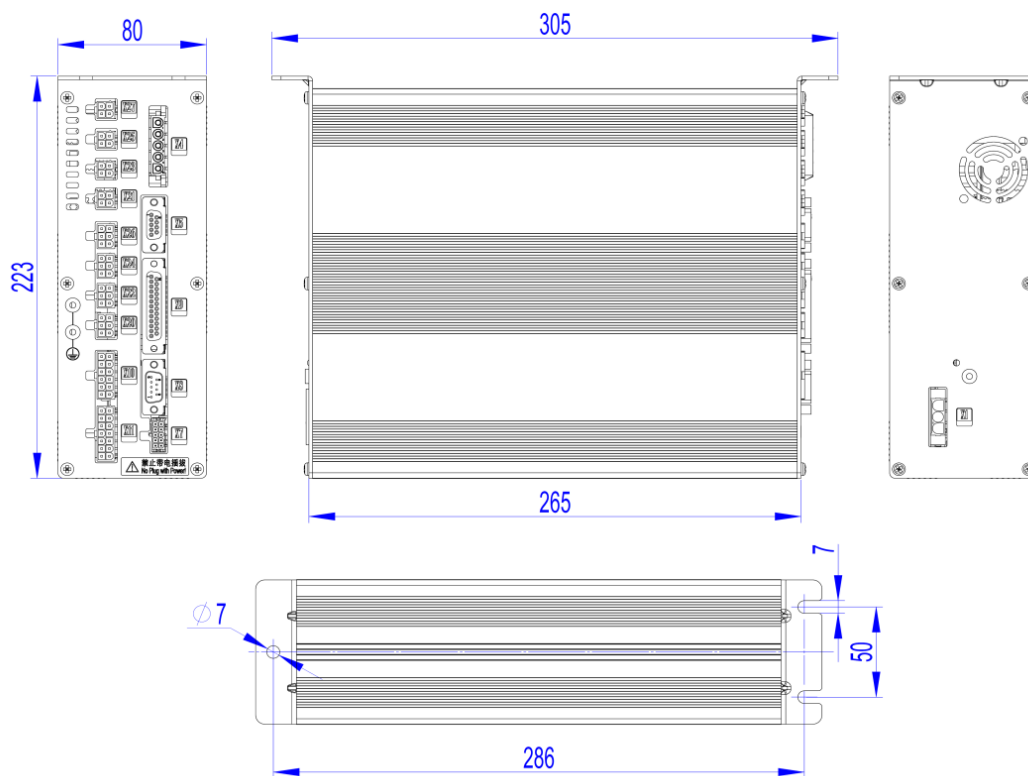
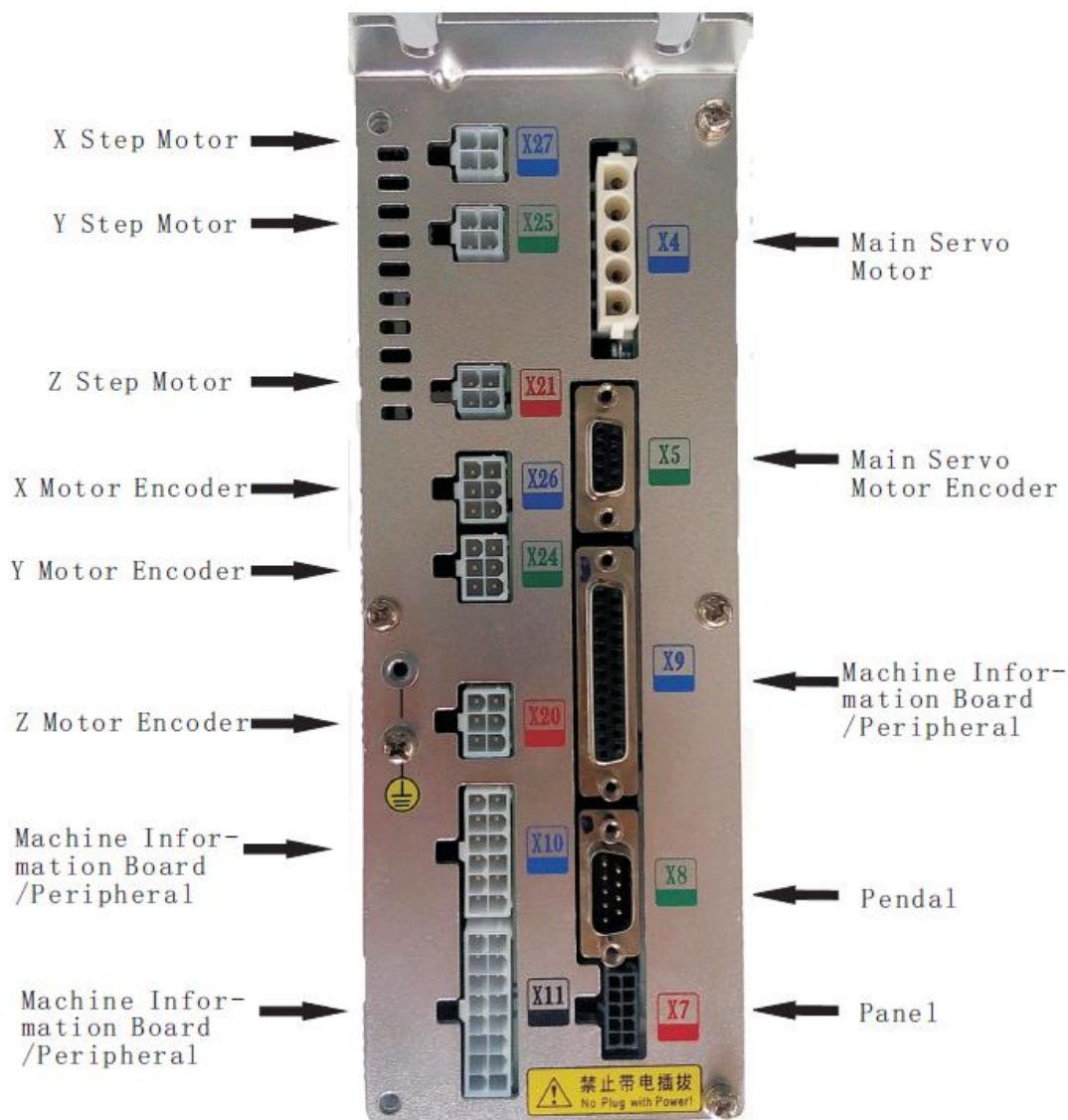


Figure 1 Installation Size (4 Holes)

1、 MAS41X/MASC44X Installation Size of Control Box



4.2 External Cable Connection of Control Box



MAS41X/MASC44X Control Box Back Wiring Interface Diagram

4.3 Installation Size of Control Panel

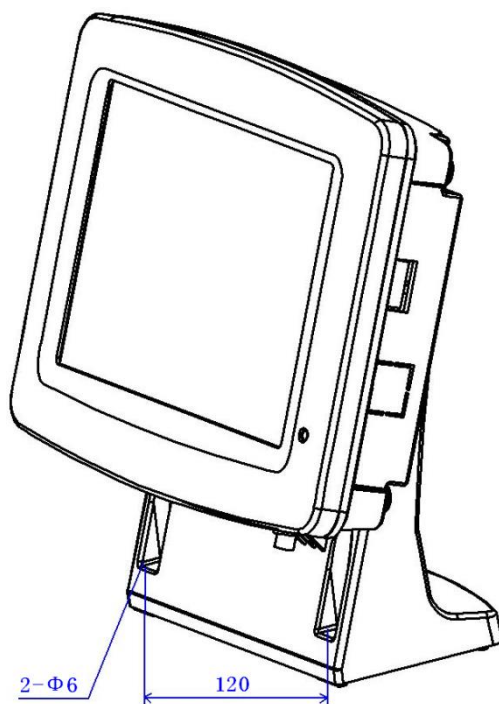
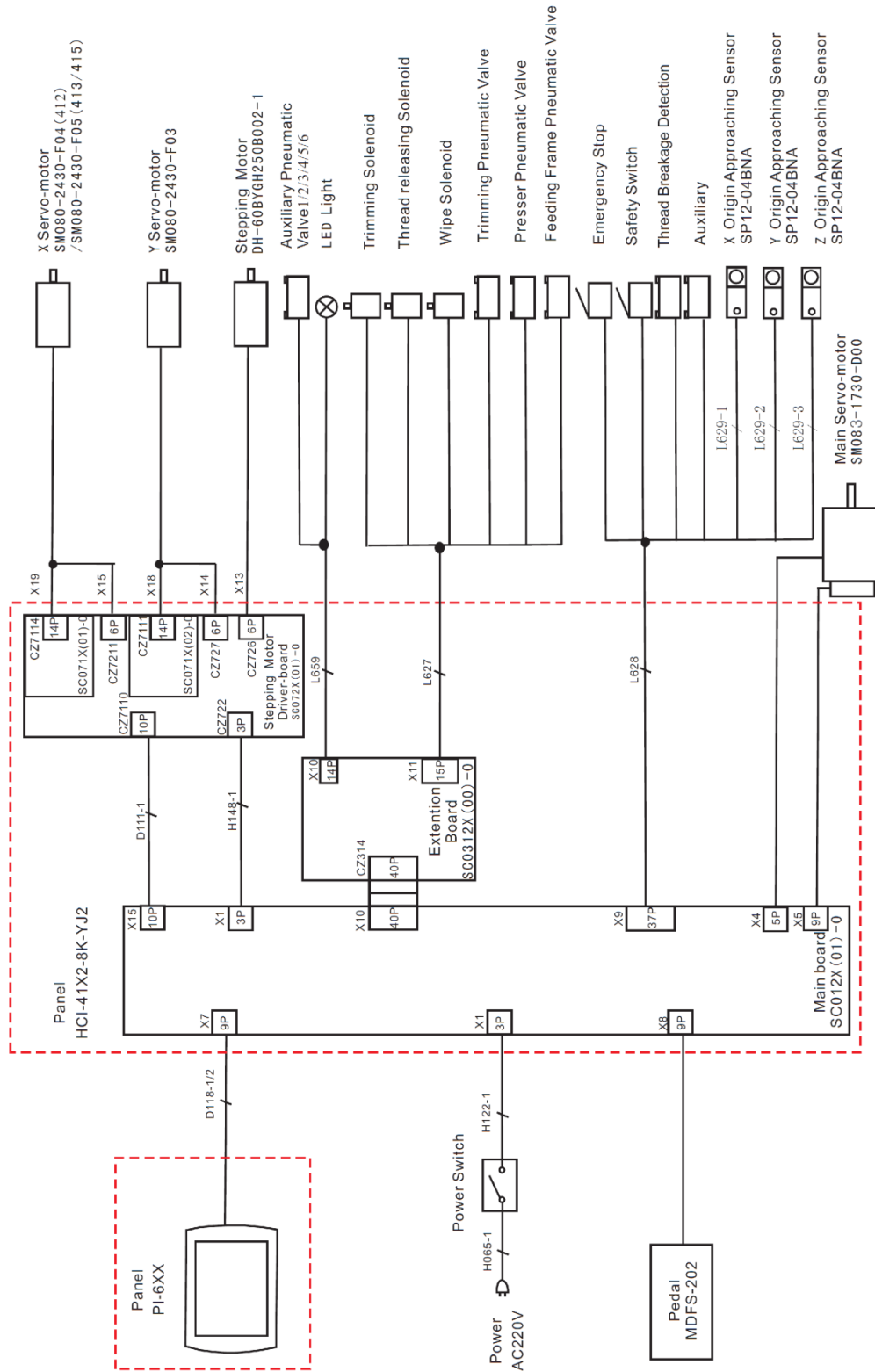


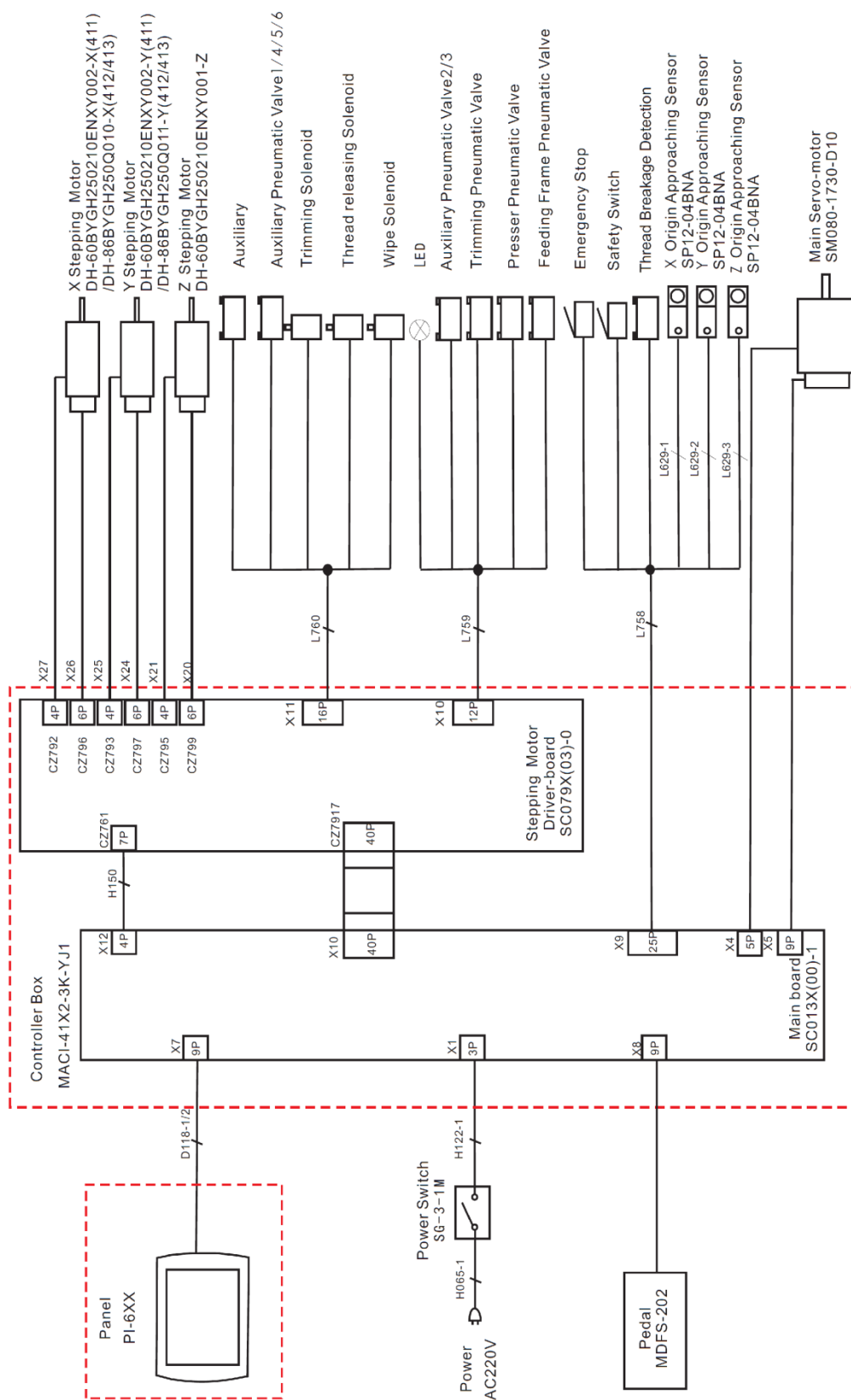
Figure 2 Installation Size of Control Panel

4.4 Diagram and Cable Connection

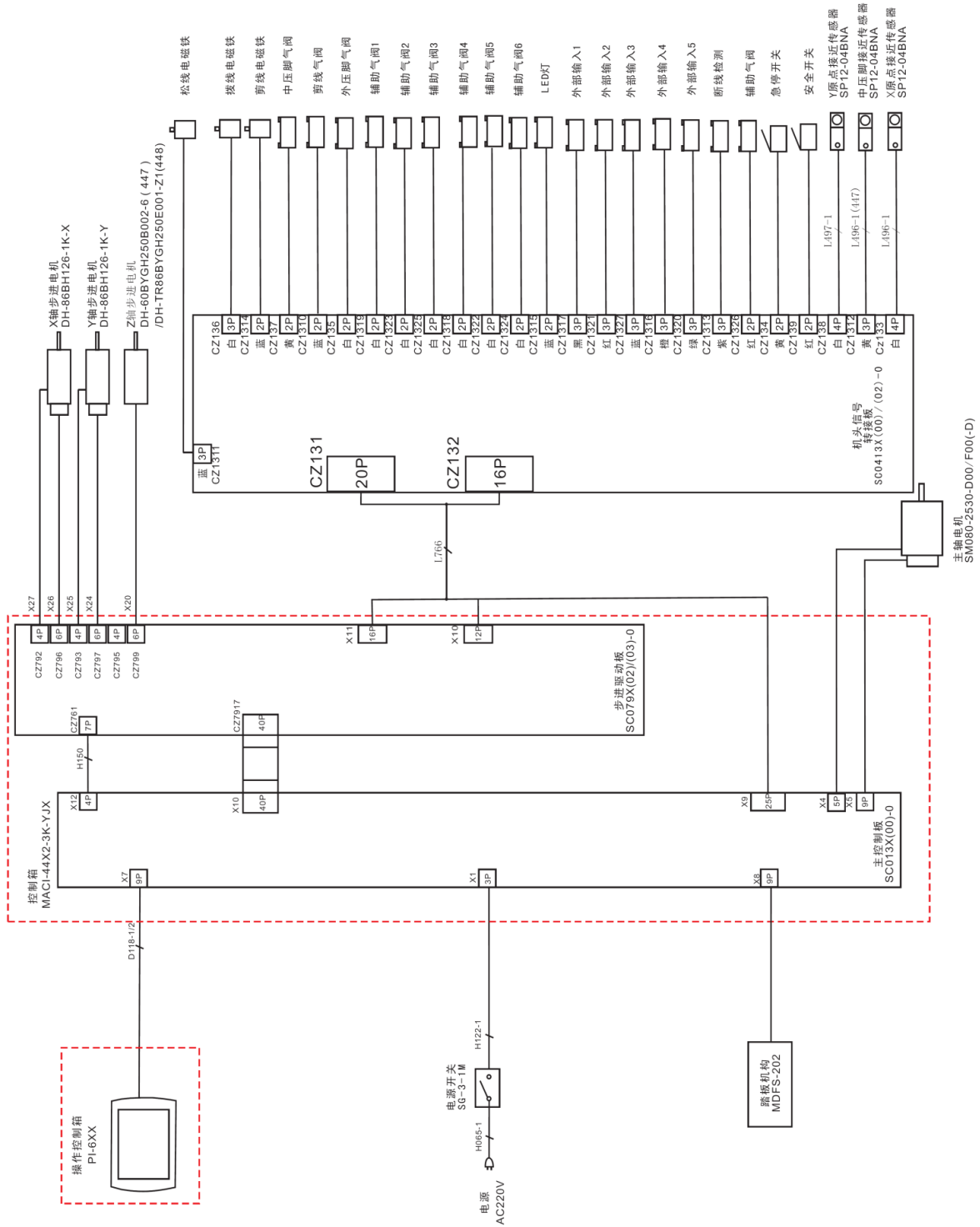
1、HSC41X Diagram



2、MASC41X Diagram



3、MASC44X Diagram



4.5 Cable Connection

1、HSC41X Cable Connection

Socket	Functions	Pin definitions
L627 (White)	Presser Pneumatic Valve	1+, 2-
L627 (Yellow)	Feeding Frame Pneumatic Valve	1+, 2-
L627 (Blue)	Trimming Pneumatic Valve	1+, 2-
L627 (Black)	Wipe Solenoid	1+, 2-
L627 (Red)	Thread releasing Solenoid	1+, 2-
L627 (White)	Trimming Solenoid	1+, 2-
L628 (White)	Auxiliary	1+, 2-
L628 (Yellow)	Emergency Stop	1+, 2-
L628 (Black)	Safety Switch	1+, 2-
L628 (White)	X Origin	1-, 2, 3+
L628 (Yellow)	Y Origin	1-, 2, 3+
L628 (Red)	Z Origin	1-, 2, 3+
L628 (Black)	Thread Breakage Detection	2
L659 (Yellow/White/White/Black/Blue/White)	Auxiliary Pneumatic 1/2/3/4/5/6	1+, 2-
L659 (Red)	LED Light	1+, 2-

2、MASC41X Cable Connection

Socket	Functions	Pin definitions
L758 (Yellow)	Emergency Stop	1+, 2-
L758 (Black)	Safety Switch	1+, 2-
L758 (Black)	Thread Breakage Detection	2
L758 (White)	X Origin	1-, 2, 3+
L758 (Yellow)	Y Origin	1-, 2, 3+
L758 (Red)	Z Origin	1-, 2, 3+
L759 (White)	Feeding Frame Pneumatic Valve	1+, 2-
L759 (Yellow)	Presser Pneumatic Valve	1+, 2-
L759 (Blue)	Trimming Pneumatic Valve	1+, 2-
L759 (Red)	LED Light	1+, 2-
L759 (White)	Auxiliary Pneumatic	1+, 2-

	Valve 2/3	
L760 (Yellow/Black/Blue/White)	Auxiliary Pneumatic Valve 1/4/5/6	1+, 2-
L760 (White)	Auxiliary	1+, 2-
L760 (Black)	Wipe Solenoid	1+, 2-
L760 (White)	Trimming Solenoid	1+, 2-
L760 (Yellow)	Thread releasing Solenoid	1+, 2-

3、MASC44X Signal Transform-connecting Board Connection SC0413 Signal Transform-connecting Board

Socket	Functions	Pin definitions
CZ134	Emergency Stop	1+, 2-
CZ139	Safety Switch	1+, 2-
CZ1313	Thread Breakage Detection	2
CZ1317/1321/1327 /1316/1320	Input 1/2/3/4/5	1-, 2, 3+
CZ133	X Origin	1-, 2, 3+
CZ138	Y Origin	1-, 3, 4+
CZ1312	Z Origin	1-, 2, 3+
CZ1326	Auxiliary Pneumatic Valve	1+, 2-
CZ135	Presser Pneumatic Valve	1+, 2-
CZ137	Feeding Frame Pneumatic Valve	1+, 2-
CZ1310	Trimming Pneumatic Valve	1+, 2-
CZ1314	Trimming Solenoid	1+, 2-
CZ136	Wipe Solenoid	1+, 3-
CZ1311	Thread releasing Solenoid	1+, 3-
CZ1315	LED Light	1+, 2-
CZ1319/1323/1325 /1318/1322/1324	Valve 1/2/3/4/5/6	1+, 2-