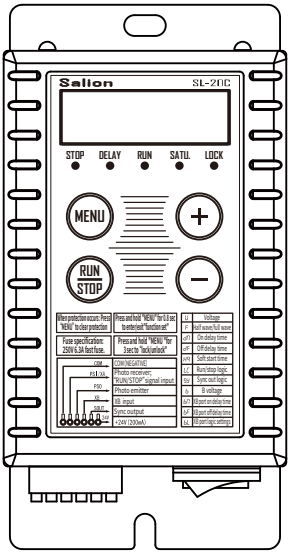
Digital display voltage stabilizing vibrating feeder controller



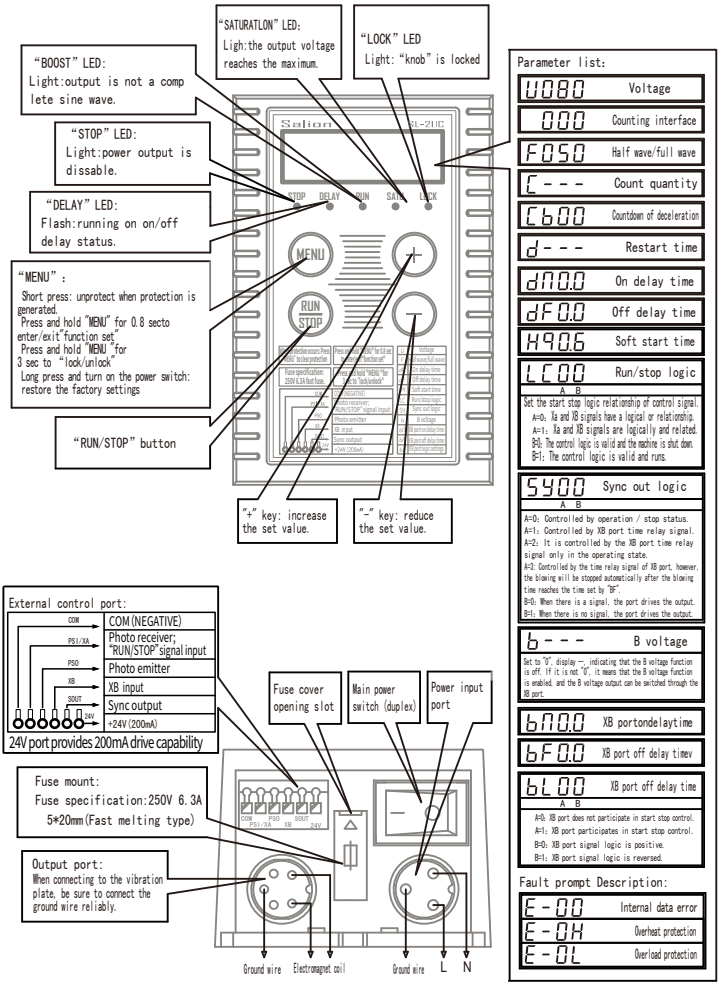
Product features:

1. Two sets of external control ports support photoelectric radiation switch and NPN two-wire and three wire sensor, with a variety of logic settings to realize multi track full shutdown and other functions.
2. A group of external control ports with time relay function can flexibly realize the control of blowing, alarm and shutdown through logic parameter setting.
3. Two sets of output voltage parameters can quickly switch the output voltage through the external control port to realize the non-stop control function of the end feeding speed and full deceleration of counting, weighing and other applications at low cost.
4. A set of synchronous output ports can directly drive the solenoid valve, which can be controlled by the operating state or the built-in time relay for blowing, alarm, shutdown and other control.
5. It has slow start, slow stop and slow change mechanism during output voltage switching. Ensure smooth feeding under various working conditions.
6. Excellent voltage stabilizing performance to ensure constant feeding speed in case of large fluctuation of grid voltage.
7. The algorithm is optimized especially for various power grid sudden interference in industrial occasions to minimize the abnormal jitter of feeding caused by sudden power grid interference in the feeding process.
8. It can output 24v200ma DC power supply to supply power to the sensor and solenoid valve.
9. Enclosed enclosure, suitable for harsh working environment.
10. It has overheating, overload and output short circuit protection.

Attentions in operation:

1. Power supply voltage range: 85V~265V AC 50/60Hz, the input power supply voltage should not exceed 285V, otherwise it will cause irreparable damage.
2. In order to prevent accidental electric shock accidents, the grounding port of the power plug must be reliably connected, and the power supply needs to have overcurrent and leakage protection measures.
3. In order to ensure long-term stable operation, the controller should not be fix in a position where the vibration amplitude is too large.
4. The controller will generate heat when it works. To ensure long-term stable operation, the controller should be vertically installed in a ventilated place.
5. To ensure long-term stable operation, avoid any dust, liquid contact with the controller
6. The output port has a ground wire, and the vibration plate must be reliably connected to the ground wire.
7. It is strictly forbidden to use any way to cut off the input power and cut off the power output to control the run/stop of the vibration plate, which will seriously shorten the service life of the controller. The external run/stop control signal should be used for run/stop control.
8. The load current on the output port of the controller's 24V dc power supply cannot be greater than 200mA, otherwise it will lead to the disconnection the 24V power supply or the failure of saving parameter.
9. To prevent electric shock, it is strictly forbidden to pull out the power output port when the controller is powered on.
10. No connecting the power input cable and turning on the power switch of the controller before all wiring is completed, .

Operation panel and port introduction:



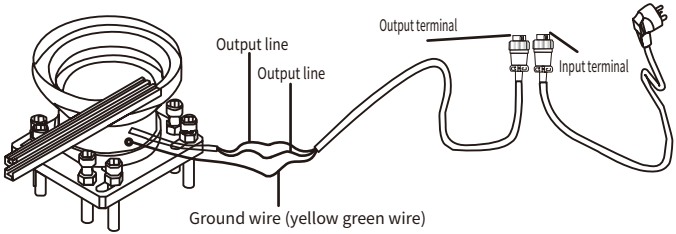
Quick installation and use guide:

Step 1:

Open the outer package of the controller, check the appearance and side mark model of the controller, and judge whether it is the required model.

Step 2:

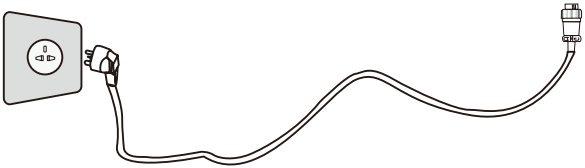
Take out the output line and input line, connect the output line to the electromagnetic coil of the vibration plate, ensure the reliable connection of the ground wire, insert the aviation plug of the output line and input line into the controller, and lock the nut.



- Make sure that the electromagnetic coil is connected to the two output pins, and the heat sink of the controller needs to be reliably grounded. Otherwise, the controller will be impacted by static electricity and controller failure may occur. The yellow and green ground wires shall be reliably connected. Failure to connect may lead to serious safety accidents!!!

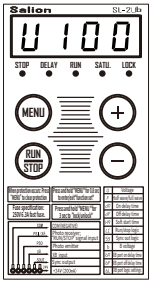
Step 3:

Insert the three claw plug of the input line into the power supply socket.



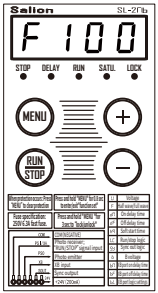
Step 4:

Turn on the power switch of the controller and adjust the output voltage "U" to an appropriate value.



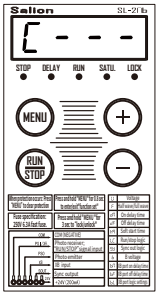
Step 5:

Long press "set" for 0.8 seconds to enter the function menu and adjust the "F" half wave / full wave state.



Step 6:

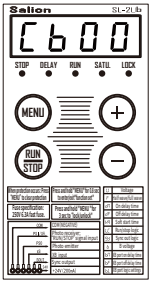
When the natural frequency of the vibrating body is found, press "set" for 2 seconds to enter the "C" count quantity setting,The number of counts can be set, and the number of counts can be set to 1~999 according to the demand.



- The maximum number of counts is 999.

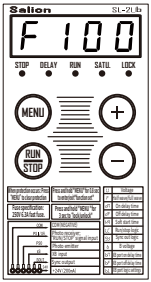
Step 7:

Short press "set" to enter "CB" from "C" to count the number of countings. Turn on the speed setting of section B. 1-99 can be set according to the demand.



Step 8:

Short press "setting" to enter "d" counting from "CB" and restart the new round of counting time setting, which can be set for 0~999 seconds.



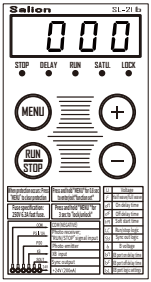
Step 9:

After setting, briefly press "setting" for 0.8 seconds to enter the "000" counting interface. In the counting interface,

"▁ 001" when a horizontal bar is displayed, the speed of section a can be adjusted by "+" - "key.

"▔ 008" when two horizontal bars are displayed, the speed of section B can be adjusted by "+" - "key.

"☰010" when three horizontal bars are displayed, it means that the counting is completed.

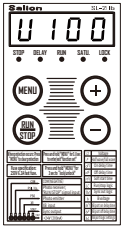


- In order to achieve the best working state, you can quickly adjust "a/b" to the ideal feeding speed on this interface.

Parameter setting:

U (output voltage):

By default, the panel displays "U", indicating that it is in the output voltage setting state. At this time, it can be set through the "+" and "-" keys. The setting range is 0 ~ 250V in steps of 1V.



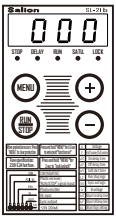
Tips:

1、when the output voltage is set high, if the "excitation" indicator on the panel is on, it indicates that the current output is in the excitation state, the output voltage waveform is not a complete sine wave, and the anti beat frequency ability will be affected.

2、when the output voltage is set high, if the "saturation" indicator on the panel is on, it indicates that the current output voltage has reached the limit and the voltage stabilizing capacity will be affected.

000(Counting interface):

After the counting is set, press "set" for 0.8 seconds to enter the counting interface, where you can quickly set the speed of section A/b.



Tips:

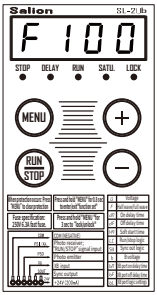
1."▁001" indicates the speed of section a when a horizontal bar is displayed, and the speed of section a can be adjusted by "+" - "keys.

2. "▁008" indicates the speed of section B when two horizontal bars are displayed, and the speed of section B can be adjusted by "+" - "key.

3. "☰010" when three horizontal bars are displayed, it means that the counting is completed.

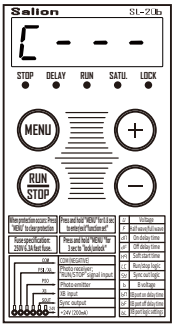
F (half wave / full wave):

Long press the setting for 0.8 seconds to enter the function menu to adjust the "F" half wave / full wave state.



C(Count quantity):

Long press "set" for 2 seconds to enter the counting setting menu, and the panel displays "c---". At this time, press "+" or "-" to set. The setting range: 1~999, in steps of 1.

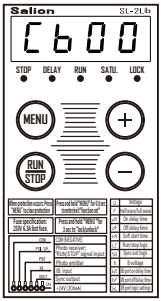


Tips:

1. When the "c--" status is displayed, the counting function is not turned on. At this time, press "+" or "-" to set.
2. When the "C005" status is displayed, the counting function is turned on. At this time, the counting quantity is 5 rounds. You can also press "+" or "-" to set the counting quantity.

Cb(Countdown of deceleration):

Long press "set" for 2 seconds to enter the counting function menu, short press "set" to select function parameters until the panel displays "CB", at this time, press "+" or "-" to set, the setting range: 1~99, in steps of 1.

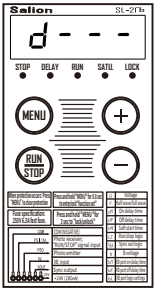


Tips:

1、"Cb"If you set it to 5, the speed of segment B will be turned on when it is the penultimate.

d(Restart time):

Long press "set" for 2 seconds to enter the counting function menu, short press "set" to select function parameters until the panel displays "d", at this time press "+" or "-" to set, the setting range: 0.1~999 seconds, in steps of 0.1 seconds.

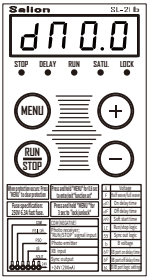


Tips:

1. When the "d--" status is displayed, the self start function is not turned on. At this time, press "+" or "-" to set.
2. When the "d05.0" status is displayed, the counting function is turned on. At this time, the next round of counting is turned on for 5 seconds, and it can also be set by pressing "+" or "-".

dn (on delay time):

Long press "Settings" for 0.8 seconds to enter the function settings, press "Settings" to select the function parameters until the panel displays "dn", then press "+" or "-" to set, setting range: 0.0-99 seconds, step by 0.1 seconds.

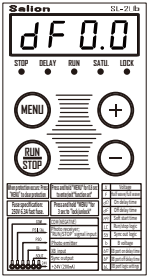


Tips:

1、In the running state (the running light is on), when the signal of the external start-stop or photoelectric sensor port meets the starting conditions, it will take "start delay time" to start the output, while the "delay light" of the panel will blink.
2、For stop conditions, see the description of LC (start-stop logic).

dF (Off Delay Time):

Long press "Settings" for 0.8 seconds to enter the function settings, press "Settings" to select the function parameters until the panel displays "dF", then press "+" or "-" to set, setting range: 0.0-99 seconds, step by 0.1 seconds.

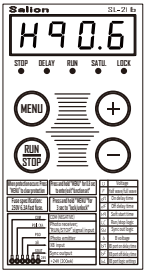


Tips:

1、In the running state (the running light is on), when the signal of the external start-stop or photoelectric sensor port meets the stop condition, the output will stop after the "off delay time", while the "delay light" of the panel will blink.
2、For stop conditions, see the description of LC (start-stop logic).

Hq (slow start time):

Long press "Settings" for 0.8 seconds to enter the function settings, select the function parameters until the panel displays "Hq", then press the "+" or "-" key to set, setting range: 0.1-9.9 seconds, step by 0.1 seconds.

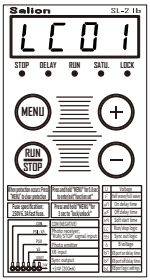


Tips:

1、When the controller starts the output, the output voltage will gradually (at the speed of the slow start time) increase linearly from 0V to the set output voltage to eliminate the impact on the vibration disc and prevent the workpiece from dropping.

LC (start-stop control):

Long press "Settings" for 0.8 seconds to enter the function settings, select the function parameters, until the panel displays "LC", then press "+" or "-" key to set, setting range: 00~11.

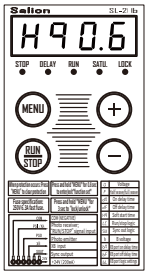


Tips:

A=0：Xa and XB signals have a logical or relationship.
A=1：Xa and XB signals are logically and related.
B=0：The control logic is valid and the machine is shut down.
B=1：The control logic is valid and runs.

Hq (slow start time):

Long press "Settings" for 0.8 seconds to enter the function settings, select the function parameters, until the panel displays "Sy", then press "+" and "-" keys to set, setting range: 00~31.

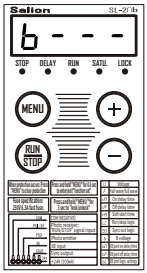


Tips:

A=0：Controlled by operation / stop status.
A=1：Controlled by XB port time relay signal.
A=2：It is controlled by the XB port time relay signal only in the operating state.
A=3: Controlled by the time relay signal of XB port, however,the blowing will be stopped automatically after the blowing time reaches the time set by "BF".
B=0：When there is a signal, the port drives the output.
B=1：When there is no signal, the port drives the output.

b (B voltage):

Long press "Settings" for 0.8 seconds to enter the function settings, select the function parameters until the panel displays "b", then press "+" and "-" keys to set, the range of settings is 0~250v

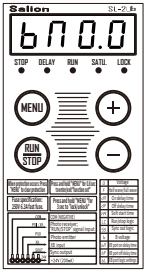


Tips:

Set to "0", display --, indicating that the B voltage function is off. If it is not "0", it means that the B voltage function is enabled, and the B voltage output can be switched through the XB port.

bn (XB port on delay time):

Long press "Settings" for 0.8 seconds to enter functional settings, short press "Settings" to select functional parameters until the panel displays "bn", then press "+" or "-" to set, setting range: 0.0-99 seconds, step by 0.1 seconds.

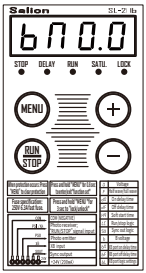


Tips:

1、In the running state (the running light is on), when the external start-stop of the XB port or the signal of the photoelectric sensor port meets the starting conditions, it will take "open delay time" to start the output, while the "delay light" of the panel will blink.
2、See the description of "bL (XB Port Logical Settings)" for operating conditions.

bF (XB port shutdown delay):

Long press "Settings" for 0.8 seconds to enter the function settings, press "Settings" to select the function parameters until the panel displays "bF", then press "+" or "-" to set, setting range: 0.0-99 seconds, step by 0.1 seconds.

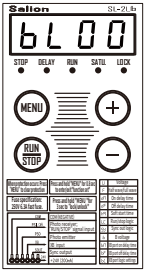


Tips:

1、In the running state (the running light is on), when the signal of XB's external start-stop or photoelectric sensor port meets the stop condition, the output will stop after the "off delay time", while the "delay light" of the panel will blink.
2、See the description of "bL (XB Port Logical Settings)" for operating conditions.

bL (XB port logic settings):

Long press "setting" for 0.8 seconds to enter the function setting, and short press "setting" to select the function parameters until "BL" is displayed on the panel. At this time, press "+" or "-" to set. The setting range is 00 ~ 11.



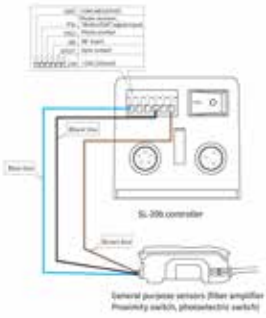
Tips:

A=0：XB port does not participate in start stop control.
A=1：XB port participates in start stop control.
B=0：XB port signal logic is positive.
B=1：XB port signal logic is reversed.

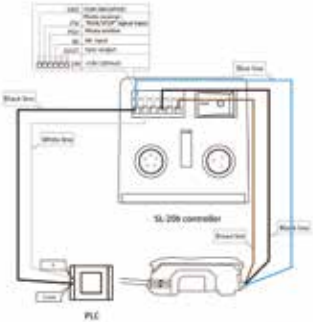
Panel lock

Long press "set" for 3 seconds, except for the "run / stop" button, the operation of other functions are locked, and the "lock" light on the panel is on. Long press "set" again for 3 seconds to unlock. When operating in the locked state, the "lock" light on the panel will flash to indicate that it is in the locked state.

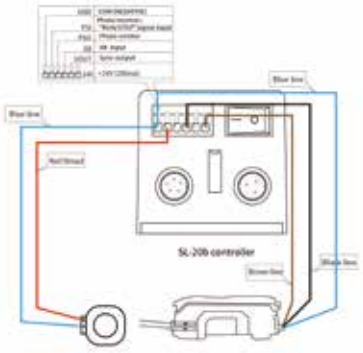
20bCounting wiring:



SL-20b Counting wiring (general sensor)



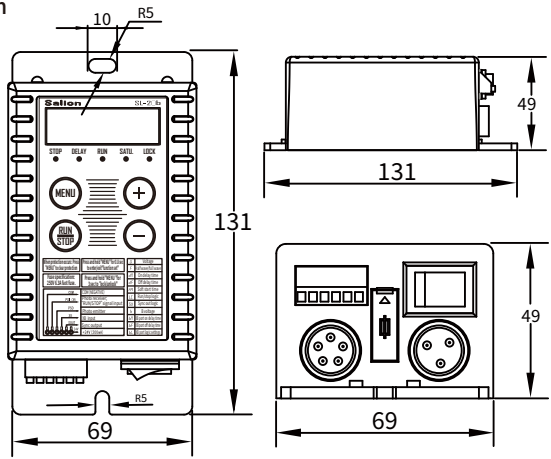
SL-20b count complete PLC restart wiring



SL-20b External key restart wiring

20b Overall dimension of controller:

Unit：mm

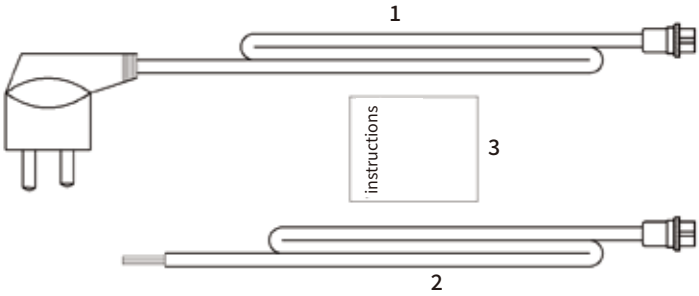


Troubleshooting:

No Display	Verify that the power is on and check that the fuse is intact. (Fuse specification: 250V 6.3A fast melt 5*20mm)
EC-0H	Overheat protection. Install the controller in a ventilated place. If possible, install it on the metal machine to facilitate heat dissipation.
EC-0L	Overload protection. Check: whether the gap between the electromagnet coil and armature is too large, and whether the power of the vibrating disk matches the controller.
Unable to store data after power failure	Solution: after adjusting the data, manually turn off the red power switch under the controller and then turn it on to store the data.
The controller power indicator is still flashing after power failure	Solution: the power control is to control the start and stop through the solid-state relay, and replace it with an ordinary relay.
The vibration disk has no vibration or the vibration is very weak	Solution: check whether the output line is correctly and reliably connected to the vibrating plate; Whether the voltage setting is too small, increase the output voltage by adjusting u080 to find the voltage suitable for the speed of the vibrating plate; Whether the frequency setting deviates from the resonance point of the vibrating disk, set it in the middle for 0.8 seconds, and adjust the half wave full wave to the frequency point suitable for the vibrating disk.
The controller lock light is always on, and the keys do not respond	Solution: long press the middle setting for 3 seconds, and release the hand after the locking light is off.
The stop light on the controller is always on. After pressing the run / sleep key, the green light is on, but it still does not run (the stop light is always on)	R solution: remove the sensor, long press the middle setting for 0.8 seconds, enter the function setting, short press the setting, find the lc00 menu, and set the logical relationship (for example, if it was lc01, change it back to lc00).
Why can't I connect the solenoid valve I bought by myself	Solution: check whether the solenoid valve is 24V and whether the power exceeds 5W. Our output port power can only drive 5W. If it exceeds 5W, it is recommended to replace the solenoid valve not exceeding 5W.

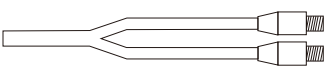
Standard accessories:

1. Power plug wire 2. Output cable 3. Instructions



Optional accessories:

1. Intelligent photoelectric ray pair 2. Proximity switch (M12)
3. Intelligent photoelectric ray pair (double parallel)
4. Solenoid valve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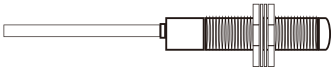
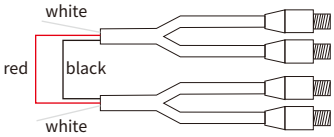

2



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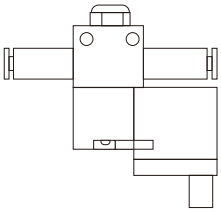
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