

PLC Reciprocator

COLO-2200D Using Instruction



Hangzhou Color Powder Coating Equipment Co.,Ltd

www.colourspray.com

Tel/Tex: 0571-88194898

Phone: 13758211498

Characteristics:

- Power components using worm gear reducer, with the precision of the integration of the position sensor, so that the whole machine at a very high speed of the smooth operation of the full play.
- The speed control part uses the Shenzhen sine frequency changer, uses the microprocessor control and the IGBT technology, causes it to have the reliability and the flexibility. Complete protection function provides the protection for the inverter itself and the motor.
- The control part adopts the pioneer TG765 touch screen and XC2-14RPLC control xinje. Touch screen with a 16 million 770 thousand color - quality and delicate without marks, download, start, run, the trinity of ultra high speed response, the user can easily set through the touch key to spray the data. The controller has the spraying program selection, fault diagnosis, data set limit, remote control, and can save up to 20 spraying procedures.
- The transmission part adopts linear slide driven synchronous belt wheel, linear slide rail fixed on the square bracket, driven by the gun under sliding. The linear slide rail made of special materials,

with stable operation and no jitter, low noise, low wear rate, convenient installation.

- A gun clip is made up of Aluminum Alloy material, has the advantages of light weight, stable operation and beautiful look.
- Reciprocator lift travel speed from 0.08 M / s ~0.8 M / s is adjustable, the trip have 1.5 meters, 2 meters, 2.5 meters, special requirements can be customized

Wire connection guide:

1. ground line and whole set machine shell should be grounded, grounding resistance <100 ohm.
2. Reciprocator power should connect to the single phase main supply which could switch on/of anytime.

Power requirement:

- ◆ Input frequency: 50HZ / 60HZ
- ◆ Input voltage: Single phase 170V~264V
- ◆ Power capacity: 2.5KVA
- ◆ Recommended main insurance: 10A

Mechanical installation instruction:

Temperature: Max.+50°C Min.-10°C

Altitude: <1500m

Strike: Avoid the cabinet suffer from hard strike

Vibrate: Do not put the control cabinet in the frequently vibrative place.

Electromagnetic Interference: Do not put the control cabinet near the electromagnetic interference source

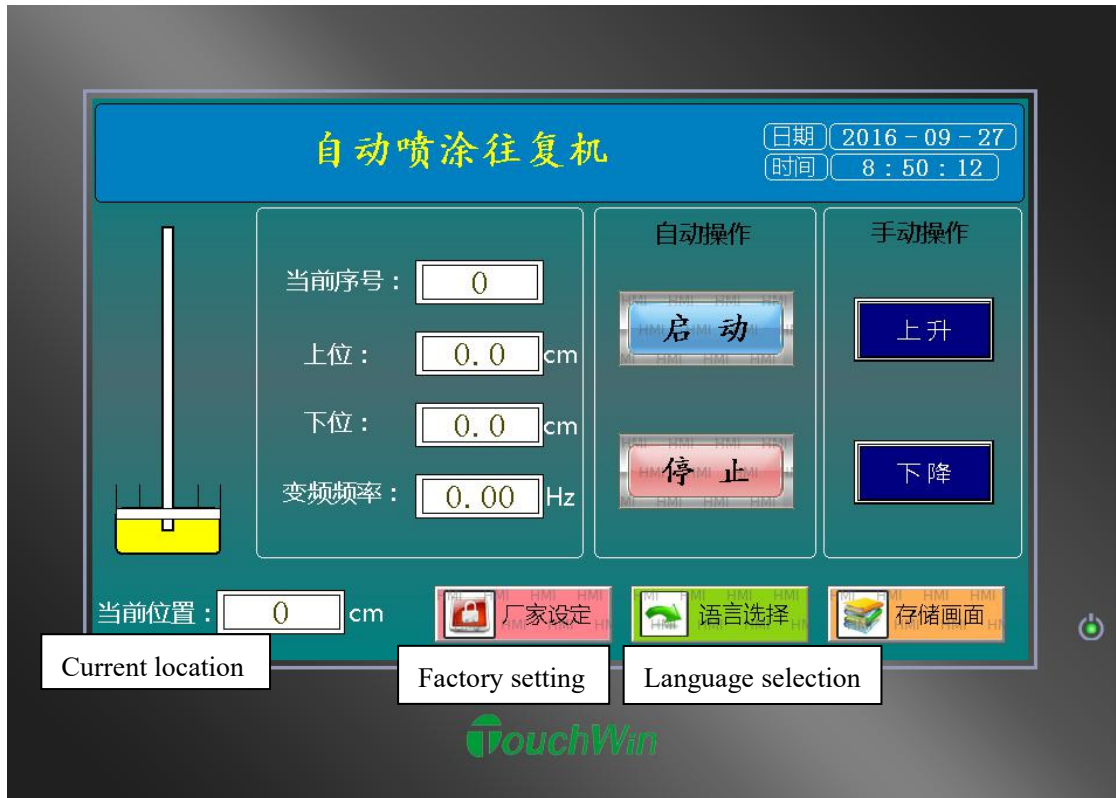
Air pollution: Do not install the control cabinet in the dusty place and place full of corrosive gases.If in polluted environment,should prevent the powder gets in the control cabinet

Wet: Beware not install the control cabinet in a potential damp areas.

Horizon: The machine must put on the flat place,use the screws to tighten it on the ground.

Operating procedure:

1. Switch on touch scree operation panel



2. Entering “language selection” ,Chinese, English and Spanish are optional



3. After entering the storage screen can set “upper bound”、 “lower bound” “frequency”。 20 sets of parameters can be set. (highest

frequency is 50HZ, when the frequency is 0 does not start).

Upper bound/cm	Lower bound/cm	Frequency/Hz	
上位/cm	下位/cm	频率/Hz	
P1	120.0	20.0	50.00
P2	0.0	0.0	0.00
P3	0.0	0.0	0.00
P4	0.0	0.0	0.00
P5	0.0	0.0	0.00
P6	0.0	0.0	0.00
P7	0.0	0.0	0.00
P8	0.0	0.0	0.00
P9	0.0	0.0	0.00
P10	0.0	0.0	0.00

4. On the homepage can set the current serial number (serial number is the parameter number in the homepage),after set the number,you can see current upper bound 、 lower bound and frequency on original page.
5. After finish parameter setting, press the stat button to begin the auto spray.

Note:

- 1) When speed faster,upper bound shorter,lower bound longer.For example:(1.5 travel reciprocator) upper bound 128cm,lower bound 20cm,frequency 50HZ.
- 2) On homepage, Limit space for Upper bound and lower bound can not be set ,only can set the serial number.

- 3) Factory setting are for factory parameter debugging, users can not get in (need password)
- 4) “Current location” can exactly know the actual position of reciprocator, if it is not in accordance with the upper and lower bound, it is because the fast speed which cause the overshoot.

Maintenance:

1. Regularly check the drive chain, tension the drive chain when loose, replace it in time if it has problems. Be aware of during changing the drive chain. do not change it's mechanical position.

2. Regularly blow away the duster on the linear slide rail and support, if there is any powder layer, it should be eliminated, so as to ensure the smoothly slide. Also need to make sure the dustproof tape is in a good condition, it is the best way to prevent the powders get in.

3. Regularly check the seal degree of control cabinet, if any seal damages or serious deformation occurs, it should be replaced. Clean the electric components including frequency converter in the cabinet, after that, close the cabinet and tighten the screws which will prevent the powder gets in.

4. Regularly open the bottom of the base to clean the inner powders, blow away the dust on the motor. Check wear condition of

wheels and replace when necessary.

5. When repairing, if mechanical position changed, then need to focus on adjusting the electrical reference point, or will run out of control. The specific methods refer to appendix adjustment.

Troubleshooting:

Problems	Cause	Measure
1、 Switch on the power,control panel not light	①no power ②Switch power supply damaged ③Circuit board damage	①connect the power supply ②Replace switching power supply ③Replace or repair circuit board
4、 Touch screen operation is normal, running shows “on”but don’t work	①under voltage or over voltage ②frequency inverter damaged ③Mechanical part is lag (Above 3 problems ,the frequency will have trouble code, and will have warning flashers,specific can refer to the appendix.)	①Repair the mechanical part ②Replace the frequency inverter
5、 Touch scree operation is slow or on action	①Touch screen and PLC system break down	①open the control box and insert the communication cable ②Open control box and change the communication cable
6 、 After repairing the mechanical parts , the top and down stop location changed a lot or out of control	①Mechanical location changed	①need to adjust the location (refer to the appendix)
7 、 Top stop location or down stop location is not stable or out of control	①Rotary encoder damaged ②belt is loose and slipping	①Change the rotary encoder ②tensioning the belt or change it
8 、 During working,machine creaked or the gun rack shake hard when up and down	①belt is way too loose	①tensioning the belt or change it

Warning:

- When reciprocator is running ,do not come close to the moving guns.Unplug the device during machine repairing,in order to prevent human suffer from damage.
- Do not add lubricant on the track and gun rack,or it will stuck because of powders adhere to the machine.
- When setting values on touch screen,just need touching lightly ,do not overexert or use fingers to press hard,do not use sharp object to press,it will cause damage.
- Reciprocaor is prohibited to run in high speed and short travel,or it will cut down it's lifespan.
- If any operation like above mentioned and then cause to the significant accidents,we are not going to responsible any of it.

Appendix 1

Basic troubleshooting

If show as below "inverter fault", can manually press the button and reset inverter,or switch off the power and restart the reciprocator.



1. If the the upper or lower bound way too higher or lower,can lower the “upper bound”,higher the “lower bound”until back to normal.If need to increase the upper and lower limit space,can open the case and connect the upper and lower limit space.
2. If reciprocator’s inverter has been alarm,can open the case,and adjust the parameters:F00.09=acceleration time、 F00.10=deceleration time.

Appendix 2

Adjust the factory setting process

3. Enter the factory setting. Turn to the operation display screen, press "factory settings", and input the password 12345, then press "ENT" to enter the page.
4. Encoding value setting. Set "Encoder line number" for current Encoder line number, after debugging, a circle distance of encoder is set to 435"
5. Lower limit adjustment. Press up and down can find the current value for encoder, let the slider down to a lowest and safe location, long press "origin confirmation", 5 seconds after can reset the value of encoder (now the value for "Encoder present value" is "0")
6. Upper limit adjustment. Press up to make the slider to a highest location, press long on "highest point confirmation", 5 seconds after can input the "Encoder present value" in the "Encoder highest point".
7. Press "back", turn to the homepage, and setting complete.

Appendix 4

Mechanical component schematic

