## FAULT INFORMATION AND TROUBLESHOOTING METHOD

| Fault code | Fault description | Cause of failure and solution | Recovery procedure |
|---|---|---|---|
| P0 | Hardware over-current | The controller output loop is short-circuited.<br><br>Controller driver module error Starting the rotating motor<br><br>Check for open circuits in the UVW three-phase system. Reconnect the wiring after power is restored to ensure proper installation of the UVW.<br><br>After the power is cut off, remove the motor wires and power the controller again. If the P0 fault still occurs, the controller hardware is damaged. | Manual button reset is required, or the device will be cleared when powered off |
| P1 | Backwater protection | The motor pump is in the process of reverse water flow. Wait for the water to flow back before restarting.<br><br>If the pipeline is not in the return water state, or the fault is reported after more than 10 minutes of return water, check the motor output UVW.<br>Check for any leakage or short circuits in the ground. | The first 5 failures will be displayed for 90 seconds and then automatically cleared and restarted. Subsequent restarts will occur every 30 minutes. |
| P42 | Input phase loss protection | The three-phase power supply RST input is open. Reconnect the wiring after power is restored to ensure reliable RST contact. | Clear automatically after recovery |
| P43 | Output phase loss protection | The UVW three-phase motor has an open circuit. Reconnect the wiring after power is restored to ensure reliable UVW contact. | After a failure, the first 5 attempts will wait 30 seconds to clear the fault and restart. Starting from the 6th attempt, the system will wait.<br>30 Clear the fault and restart. |
| P44 | Start Failed | Check for foreign objects in the pump impeller and abnormal motor load. | After the failure, the first 5 times wait 30 seconds to clear the fault and restart, the 6th time wait 30 minutes to clear the fault and restart. |
| P45 | Slip protection | The motor model is not compatible. Select a compatible pump. | After the failure, the first 5 times wait 30 seconds to clear the fault and restart, the 6th time wait 30 minutes to clear the fault and restart. |
| P46 | Stall protection | The motor model is not compatible. Select a compatible pump. The pump extension cable is too long. Reduce the extension cable.<br><br>The power supply is too low. Increase the power supply.<br>The pump bearing is stuck. Clean the pump bearing. | After the failure, the first 5 times wait 30 seconds to clear the fault and restart, the 6th time wait 30 minutes to clear the fault and restart. |
| P47 | Speed protection | The pump extension cable is too long. Reduce the extension cable.<br>The pump bearing is stuck. Clean the pump bearing. | After the failure, the first 5 times wait 30 seconds to clear the fault and restart, the 6th time wait 30 minutes to clear the fault and restart. |
| P48 | Dry run protection / drop load protection | The air in the pump has not been completely expelled. Cut off the power, power on again after 30 seconds, and start the pump to drain the air.<br><br>If the motor's operating power is lower than the preset dry-run protection power value, adjust the power value from P0.5 to P0.8 in the menu. | The time is determined by the P 1.9 setting, and when the time reaches<br>After that, clear the error and restart. |
| P51 | High voltage protection | The voltage input is too high. Refer to the electrical characteristics ofthe corresponding model for normal distribution. | Restore the voltage to normal and clear immediately |
| P59 | Power supply mode selection error | If the controller cannot detect the corresponding power input when selecting the power supply mode set by P0.2,it will report this fault code. Check whether the power supply mode selection matches the controller wiring. | Clear automatically after recovery |
| P60 | High temperature protection | The MCU temperature in the controller exceeds<br>85℃ | Clear automatically when temperature normal |
| P63 | Pressure sensing over pressure protection | Check if the constant pressure setting is correct and verify that the pressure sensor wiring is properly connected. | Restore pressure and eliminate the fault |
| P64 | Pressure sensing break wire protection | Check if the pressure sensor model is correct and verify that the sensor wiring is properly connected. | Restore normal pressure feedback and eliminate the fault |
| PL | Low voltage protection / power deficiency | The voltage input is too low. Refer to the electrical characteristics ofthe corresponding model for normal distribution.<br><br>The solar panel is not properly selected. Refer to the recommendations for correct selection. | Clear automatically after recovery |
| E8 | Current Sampling Failure | •Cut off the power and restart after 30 seconds. | Restart the power |
| ALARM | Reverse connection protect | •Exchange the positive and negative wire. | Restart the power |