## Product maintenance manual

## A. Maintenance contents of control system

- 1. Maintenance cycle of control box and accessories: once a year.
- 2. Dust cleaning: after cutting off the power supply of the control box, clean the inside and outside of the control box with a vacuum cleaner or blower to keep the control box clean without dust.
- 3. Terminal maintenance: check the tightness of terminal screws every year, and tighten the loose screws.
- 4. Control box button: test the three buttons on the control box in the control box to ensure that the button control is normal. If the components in the control box do not work after the button is pressed, use the remote control to test whether the control box works. If it works, replace the button in the control box.
- 5. EPS backup manual power supply system works normally: the emergency battery is tested once a year. If the actual voltage is lower than 12V, the battery needs to be replaced.
- 6. Remote control: when the control distance of the remote control is shortened, it can be maintained by replacing the battery. When the button is not sensitive but the battery is fully charged, replace the remote control.
- 7. Precise control of time relay: by comparing the setting time of rise time relay, fall time relay and warning light time relay in the control box with the actual working time, if it is not necessary to replace the relevant devices all the time.

## B. Maintenance contents of road pile equipment

- 1. The maintenance period of road pile equipment and accessories is one year
- 2. Inspection of mechanical screws: check the integral screw parts of road piles every year to prevent equipment operation failure caused by screw loosening.
- 3. Inspection of internal connector of equipment: outdoor environment may cause corrosion and aging of lines and connectors. It is necessary to inspect the internal connector of fuselage every three years. If aging phenomenon is found, it shall be handled in time.
- 4. Regular inspection or maintenance is the basis to ensure that the equipment works with the best efficiency. When carrying out equipment maintenance, please pay attention to the following aspects:
- (1) During electrical maintenance, relevant power supply shall be cut off and maintenance signs shall be hung at prominent positions.
- 2 Regularly carry out dust removal maintenance for equipment surface, electrical control system and hydraulic control system.
- (3) Screw the transmission mechanism and mechanical fixing mechanism of the equipment regularly.

## C<sub>2</sub> Faults and treatment methods

1. It is difficult to lift the column

Fault analysis: large mechanical deformation friction, uneven mechanical clearance friction

Treatment method: correct the mechanical structure and adjust the mechanical clearance

2. The column pulsation rises or falls

Fault analysis: lack of oil or large return of hydraulic oil

Treatment method: add oil or pressure reducing valve in oil cylinder

3. The column body rises in place and then slowly drops

Failure analysis: overflow valve or relief valve failure

Treatment methods: ① adjust the relief valve or replace the top spring inside the valve body

- ② Power up to rise, descend with emergency descent, descend with battery, and operate repeatedly for about 15 times
- 4. The column is inclined

Fault analysis: the upper limit of the column is deviated

Treatment method: pull out the frame, adjust the upper limit height of the column (45-55mm), and fine tune after inspection during lifting

5. The controller settings return to the original state

Fault analysis: high voltage or temporary power failure caused by the motherboard self-protection

Processing method: reset