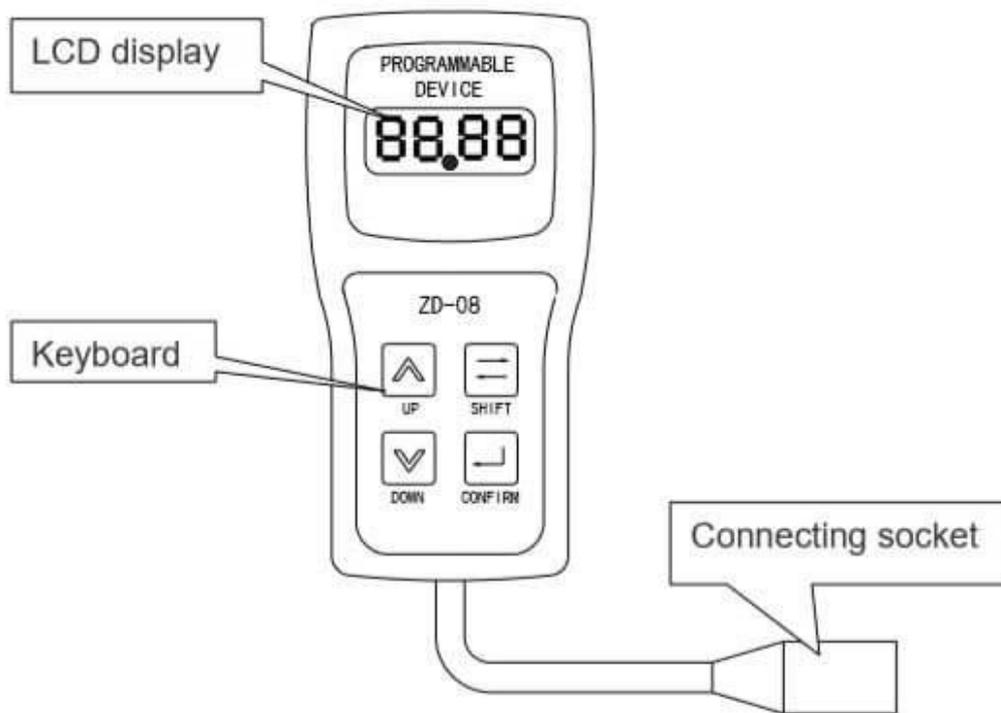




## Setup Guide for WS-24V Controller



### **1. Acceleration**

Settings range = level 1 to level 20, the greater the level, the greater the acceleration.

### **2. Deceleration**

Settings range = level 1 to level 50, the greater the value, the greater the deceleration.

### **3. Radial acceleration**

Settings range = level 1 to level 10, the greater the value, the greater the radial acceleration.

### **4. Radial deceleration**

Settings range = level 1 to level 10, the greater the value, the greater the radial deceleration.

## **5. Threshold for low-voltage protection**

Settings range = level 1 to level 5. For a device operated at 24V, when you set the threshold to level 3, the threshold is 21V. Each interval between levels is 2V. The greater the level, the greater the threshold.

## **6. Backward speed**

Settings range = level 1 to level 10, the greater the level, the faster the backward speed.

## **7. Maximum forward speed**

Settings range = level 1 to level 20, the greater the level, the faster the maximum speed.

## **8. Reversing beep (alert tone when go backward)**

Settings range = 0 or 1. Value of 0 = tone off, value of 1 = tone on.

## **9. Electromagnetic brakes**

Settings range from 0 to 1. 0 to be able to open no electromagnetic brake, electromagnetic brake must be 1 to open.

## **10. Time for auto power off**

Settings range = level 1 to level 5, 10 minutes per level (for example, level 3 means auto power off after being idle for 30 minutes);

## **11. Phase setting (Left Motor)**

Settings range = level 1 to level 6, a total of six states. Push the joystick to change a state. Press confirm button if the direction of joystick is consistent with the direction of motor rotation (and the motor is running smoothly and the electric current is at minimum); if it doesn't meet the above requirements, then change the state once again, until it works normally.

## **12. Brushless motor direction setting (Left Motor)**

Setting range = 0 / 1, 0 = forward/clockwise direction, 1 = backward/anti-clockwise direction.

## **13. Phase setting (Right Motor)**

Settings range = level 1 to level 6, a total of six states. Push the joystick to change a state. Press confirm button if the direction of joystick is consistent with the direction of motor rotation (and the motor is running smoothly and the electric current is at minimum); if it doesn't meet the above requirements, then change the state once again, until it works normally.

## **14. Brushless motor direction setting (Right Motor)**

Setting range = 0 / 1, 0 = forward/clockwise direction, 1 = backward/anti-clockwise direction.

## **15. Adjust the speed deviation of left motor**

Setting range = 0 - 20, 0 = ground state, progressively slow down from level 1 to level 20.

## **16. Adjust the speed deviation of right motor**

Setting range = 0 - 20, 0 = ground state, progressively slow down from level 1 to level 20.

## **17. Electromagnetic brake release time delay settings**

Setting range = 0 – 4. Level 0 = delay 0.5s. Increase a level, the delay time will be increased by 0.5s.

## **18. Electromagnetic Brake CBL Setting**

Setting range = 0 to 1. Do not adjust this setting.

## **19. Left and Right Turning Speed**

Setting range = 1 to 20. This sets the speed of the chairs turning to the Left or to the Right.

## **20. Battery Choice Setting.**

Setting range = 0 to 1. At 0, CPU is set to use Lithium Battery. At 1, CPU is set to use Sealed Lead Acid Battery.

## **21. Speed Compensation Setting.**

Setting range = 0 to 20. This controls the ability of the CPU to adjust the timing of machine components in proportion to machine speed. At 0, no compensation is set. The higher the value, the higher the compensation, making the chair more responsive to the controls. This allows less lag between your inputs (manipulation of the Joystick throttle) versus the time it takes for the controller system to perform maneuvers based on your input.

The last page contains instructions and precautions. Please read that section prior to making any changes.

### **\*\*\* Warning: Use This Joystick Programming Kit at Your Own Risk \*\*\***

Any damages caused to any component of your device by improper use of this programming kit will not be covered under warranty. **Please proceed with extreme care!**

If you are not able to perform the changes, we recommend that you take this programming kit to a medical equipment shop that is skilled in programming electric wheelchairs.

### **Usage Tips**

1. With the Joystick powered off, plug in the programming kit to the circular connection on the joystick, where you would normally connect the charger.
2. Turn on the Joystick. The programming kit will go through a count on the screen.
3. The joystick will indicate a number, a decimal and another number: **##.##**
4. The first set is the “Setting” corresponding to the numbers above (#1 – 17)
5. After the decimal point is the “Value” corresponding to the “Setting” you have selected.
6. The number (“Setting” or “Value”) that is flashing is the one that is selected.
7. To switch from the “Setting” to the “Value” press the “Shift” button.

8. To change a "Setting" number or a "Value" number, press the Up and Down arrows.
9. Confirm any changes you make by pressing the "Confirm" button.
10. Power Joystick Off when you've completed making changes, and want to test the changes that were made.
11. Unplug the programming kit.
12. Repeat steps to make additional changes.

### **Precautions**

1. Power Off Joystick before connecting and disconnecting the programming kit.
2. Power On Joystick to use programming kit.
3. Don't press the buttons too hard.
4. Prevent moisture and shock.
5. Do not change setting #11 and #13 – It will cause the motors to drive improperly! **\*\*THIS IS A SERIOUS WARNING!\*\***
6. Adjusting setting #12 and #14 from their default values will cause your chair to drive Backwards! (i.e. Pushing Forward on Throttle will make the chair drive in Reverse.)