

KRS Series Manual

Thank you for buying our product. Please read this manual carefully to use. This manual describes common functions of KRS red version series.

[For your safety]

● ***Danger***

Don't touch or close your face and hands during the servo motor working.

The device works under strong torque. Severe damage or harm user. Or fire by too much load.

● ***Caution***

- Confirm input signal and power voltage. Don't use power voltage of out of range.
- Pay attention connector direction to attach your equipment.
- Keep dry. Don't use it in wet condition to avoid short circuit.
- Don't dismantle and remodel.

[Attention]

- This product is specialized for robot. It can't apply radio control car.
- Please confirm less friction when the product is attached servo hones or brackets.
- The product doesn't work in maximum torque if you use a dry cell.
- The degree of the product is depending on input signal. It is not guaranteed the degree under any condition.
- The product widens the range of degree. Minimum pulse period is 700 μ sec. Maximum pulse period is 2300 μ sec (maximum degree). It can set limit value to avoid noise and miss-setting. Software on PC can set the function. (It requires exclusive equipment. Software can be downloaded from <http://www.kondo-robot.com> The site is only Japanese.)

[Specification]

Power supply DC6V

Maximum degree 180 degree (KRS-949 is 120 degree)

[Special functions]

The product can connect with PC to set up the characteristics.

- Pulse stretch: Setting of servo motor mode. It is digital servo motor, but it can use like a analog servo motor.
- Speed: It can set maximum speed of servo motor.
- Punch: It can set initial response of servo motor.
- Dead band: Setting of neutral band
- Dumping: Setting of servo motor stop characteristics. Breaking before stopping point or overshoot.
- Pulse operation timer: Setting of time to release control when there is no input pulse.
- Protection timer: Setting of start time to begin protection action. Protection function guards servo motor from lock by 25% power down during setting time.
- Limit: Setting of maximum degree. It can set left and right respectively or same.
- Reverse: Reverse rotate direction depending on the pulse width.

This function requires exclusive equipment to connect PC. (ICS PC interface No.01018)

The software can be downloaded from <http://www.kondo-robot.com/>

[Control Signal]

General signal period is the same of radio control car signal. (Neutral 1.5msec, Period 8-20 msec)
Adding to this function, the product has position capture function.

1. Characteristic change function

In general, radio control car servo motor has input period about 0.7 – 2.3msec to control position.
Adding to this function, the product can change 3 modes by input short pulse period. It can change 3 mode of each pulse stretch and speed.

Input 100 μ sec => parameter 1

Input 150 μ sec => parameter 2

Input 200 μ sec => parameter 3

2. Power reduction (Motor off)

In the case of input 50 μ sec, the motor is turned off until next signal(700-2300 μ sec) coming.
(Output axis is free.) If next signal is characteristic change, the product keeps status of the function.
It means the motor is still power reduction mode. And also, the product keeps power reduction mode if there is no signal which is set up by pulse operation timer.

3. Position capture

When characteristic change pulse or power reduction pulse is input, servo motor changes the signal line mode from input to output within 100 μ sec. In this case, output value is pulse period of according to the current degree. To measure of width of this pulse, position can be captured. After 100 μ sec from pulse output, servo signal line is back to input mode. During the sequence of this function, servo motor output keeps previous status of setting.

Input	100~200 μ sec		50 μ sec		700~2300 μ sec	
Servo Signal Line	Input	Output	Input	Output	Input	
Action	Normal	Keep status		Power reduction		Normal

If you make control board by yourself, please put pull up resistor to CPU. And also, CPU board must handle input/output mode change which is attached the servo signal line.

[Repair Information]

Please inform us details of problem.

- Description of trouble
- Details of application or hardware which the product was applied.
- Packing list (number of products and parts name)
- Address, Telephone number and name to deliver and e-mail address

[Contact us]

Product by

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