

# **SOMA**

**SCIENTIFIC INSTRUMENTS**

**MC300 MOTION CONTROLLER  
OPERATION MANUAL**

## **Introduction**

**The MC300 controller is designed to control up to three Newport 860A motorized drives simultaneously or individually. The speed and direction of each axis can be controlled independently. The controller also has a remote option. Model MC300-K enables the user to control the direction of all three motorized drives from a hand held remote with a 6 foot cable. This enables the user to control the motorized drives without removing his eyes from the object or instrument being monitored.**

## Specifications

1. Three separate servo amplifiers provide instantaneous starting and stopping power for the 860A motorized drives.
2. Three independent speed controls provide a 0 to 0.3 mm/sec speed range for each of the 860A motorized drives connected to the controller.
3. A fast /slow switch provides a coarse/fine resolution.
4. Outputs are standard two conductor .25mm subminiature phono jacks.
5. Each output can be individually adjusted to facilitate speed and load requirements.
6. The remote option is a hand held controller with 6 momentary pushbutton switches to control the forward and reverse direction to each axis.
7. The remote jacks on the controller and on the remote are 6 pin modular sockets.
8. Power Supply is a wall mount 105-130 VAC input and +/-15 DC @ .24A regulated output supply.
9. Temperature range 68 +/-15 F
10. 

Weights	Controller	1 lb
	Power Supply	2 lbs
	Remote	.3 lb
11. 

Size	Controller	7.0"x5.0"x3.0"
	Power Supply	4.4"x2.5"x2.0"
	Remote	3.7"x2.3"x0.8"

## **Set-up and Operation**

### **MC300**

- 1. Power switch on rear panel of controller in off position. Plug power supply cord into controller. Plug power supply into AC source.**
- 2. Attach cables between motorized drives and controller. Make sure connector is firmly plugged into controller and motorized drive.**
- 3. Select fast or slow speed.**
- 4. Switch power switch on rear panel to on position (power light on). There should be no motion by motorized drives.**
- 5. Press forward or reverse switch for desired direction.**
- 6. Rotate velocity control desired speed.**
- 7. Avoid operating the motorized drives at a limit for a prolonged period of time.**

### **MC300-K**

- 1. Attach cable between remote and controller.**
- 2. Press forward or reverse switch for desired direction and adjust desired velocity on controller.**
- 3. The switches on the remote are a duplicate of the switches on the controller.**

## MC300 Troubleshooting

**Problem:** No power indication or motorized drive motion when power switch is "on".

1. Check power cord connection.
2. Check AC source.
3. Check cable connections between controller and motorized drive.

**Problem:** Motorized drive vibrates when the direction switch is off.

1. Motorized drive at limit (move away from limit).
2. Servo out of balance (call Soma Scientific Instruments for instructions).

**Problem:** Motor runs continuously when direction switch is "off".

1. + or - voltage is missing (check power supply voltage).
2. Faulty component (call Soma for instructions).

**Problem:** Faulty remote operation.

1. Check cable connection.
2. Faulty remote switch.

## **Service**

**This section contains information regarding obtaining factory service for the MC300 Motion Controller. The user should not attempt any service of the MC300 Motion Controller beyond the Troubleshooting procedures. Contact Soma Scientific Instruments for further assistance.**

**To obtain information concerning factory service contact the Soma representative. Please have the following information available:**

- 1. Instrument Model Number.**
- 2. Instrument Serial Number.**
- 3. Description of the Problem.**

**If the instrument is to be returned to Soma Scientific Instruments, you will be given a Return Number, which you should reference in your shipping documents.**

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