

Model ESA-CSA Electrostrictive Actuator Controller

Operation of ESA-CSA Electrostrictive Actuator Controller

Please read and understand all instructions before operating.

Warning

The following precautions should be observed at all times:

- Care must be taken as high voltages are present inside the controller and at the actuators. Do not operate the unit with damaged cables or with the controller opened.
- Do not operate the unit with a damaged power cord or if the controller has been dropped or damaged. Contact Newport immediately and arrange to return it for service.

Warning

To avoid the danger of potential electrical shock to the user:

- Keep all fluids away from the controller and actuators.
- Do not insert metal (conductive) objects into the rear panel connectors or vent holes.
- **Do not remove the cover!** There are no user serviceable components inside the controller.
- Refer all service requirements to the factory or Newport authorized service facility.

Actuator Compatibility

This unit is intended for use only with Newport ESA Series electrostrictive actuators. These actuators feature a standard micrometer-style bezel which is compatible with most Newport mirror mounts and stages.

Caution

Clamp-type micrometer/actuator mounts are capable of very high clamping forces. Do not over-clamp the actuators! Tighten the clamp only as much as necessary to firmly grip the actuator. Performance degradation and/or damage can occur if the clamps are overtightened.

Do not connect or disconnect actuators while power is applied. Damage may result.

Front Panel of ESA-CSA Controller

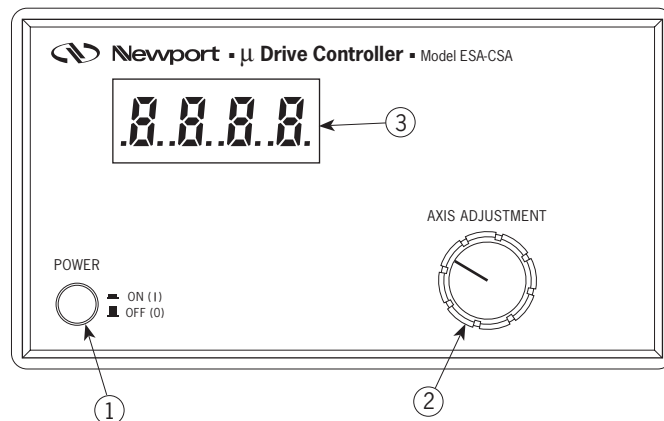


Figure 1: Front panel of the ESA-CSA controller

[Refer to numbers in Figure 1]

1. On/Off switch

Power switch to turn the power of the ESA-CSA on and off.

2. Voltage adjust knob

The DC voltage can be adjusted with the 10-turn potentiometer and is limited to the range of approximately 10 to 160 volts. (The actuator has no motion at voltages less than 10V.) Since voltage may be present at the output connector on the controller, do not probe this area with any conductive material.

3. Voltage display

The LCD readout display shows the voltage output to the actuator which is set by the axis adjustment knob.

Back Panel of ESA-CSA Controller

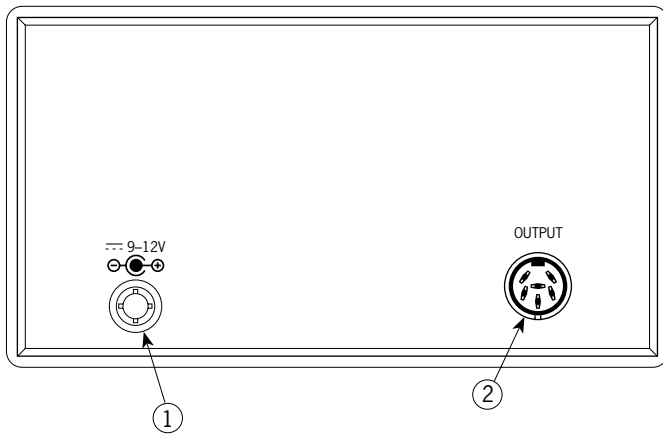


Figure 2: Back panel of the ESA-CSA controller

[Refer to numbers in Figure 2]

1. Power-input

DC phone plug (2.5 mm diameter center pin positive)

2. Actuator drive output connector

The voltage-output connector is labeled output and supplies voltage to the ESA Series actuator. When the controller is switched on, the output is active at all times (maximum current = 2.5mA) and precautions should be taken not to probe this area with any conductive material. Figure 3 shows the connector pin wiring.

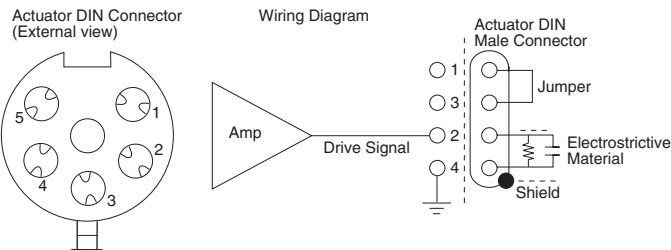


Figure 3: DIN connector wiring diagram

Warranty

Newport Corporation warrants this product to be free from defects in material and workmanship for a period of one year from date of shipment. If found to be defective during the warranty period, the product will either be repaired or replaced at Newport's option.

To exercise this warranty, write or call your local Newport office or representative, or contact Newport's headquarters in Irvine, California, U.S.A. You will be given prompt assistance and return instructions including a "Return Authorization Number", which must accompany all paperwork with the returned unit. Send it, transportation prepaid, to the instructed service facility. Repairs or replacement will be made and the instrument returned, transportation prepaid. Repaired products are warranted for the balance of the original warranty period, or 90 days, whichever is longer.

This warranty does not apply to defects resulting from modification or misuse of any product or part. This warranty also does not apply to fuses.

This warranty is in lieu of all other warranties, expressed or implied, including any implied warranty of merchantability or fitness for a particular use. Newport Corporation shall not be liable for any indirect, special, or consequential damages.

EC DECLARATION OF CONFORMITY

We declare that the accompanying product, identified with the "CE" mark, meets the intent of the Electromagnetic Compatibility Directive, 89/336/EEC and Low Voltage Directive 73/23/EEC.

Compliance was demonstrated to the following specifications:

EN50081-1 EMISSIONS:

Radiated and conducted emissions per EN55011, Group 1, Class A

EN50082-1 IMMUNITY:

Electrostatic Discharge per IEC 1000-4-2, severity level 3
Radiated Emission Immunity per IEC 1000-4-3, severity level 2
Fast Burst Transients per IEC 1000-4-4, severity level 3
Surge Immunity per IEC 1000-4-5, severity level 3

IEC SAFETY:

Safety requirements for electrical equipment specified in IEC 1010-1.


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Newport Corporation, Irvine, California, has been certified compliant with ISO 9001 by the British Standards Institution. Certificate No.: FM 27207.

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