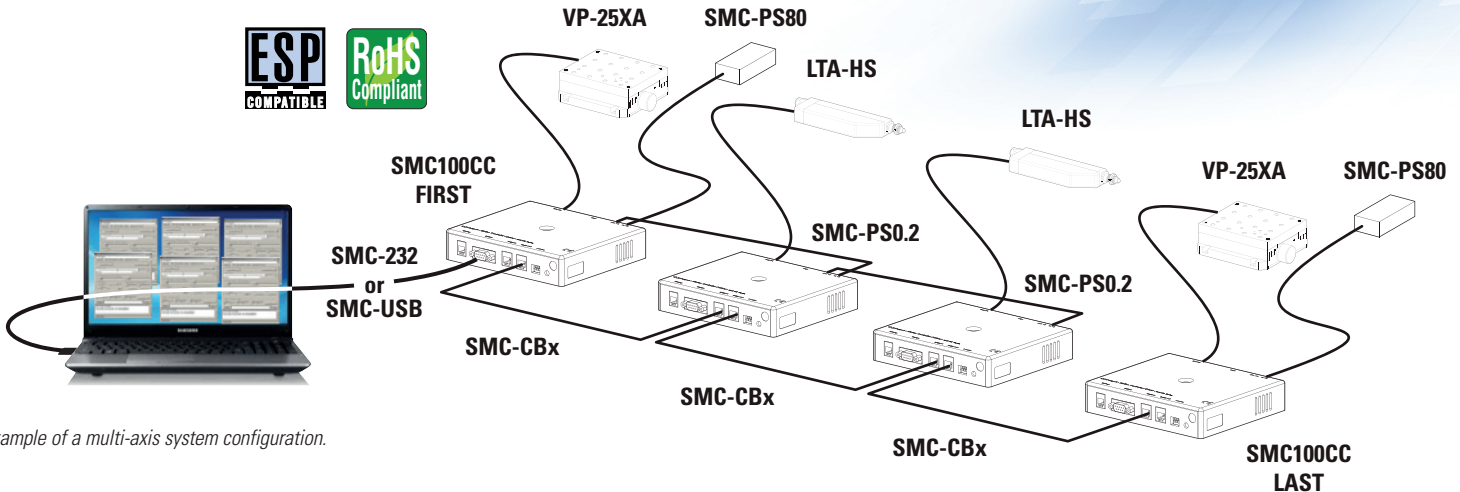


# Single-Axis DC or Stepper Motion Controller



SMC 100



Example of a multi-axis system configuration.

The compact, single-axis SMC motion controller is a low-cost solution for commanding DC servo motors and 2-phase stepper motors. Its applications are not limited to one dimension through its ability to daisy-chain up to 31 devices.

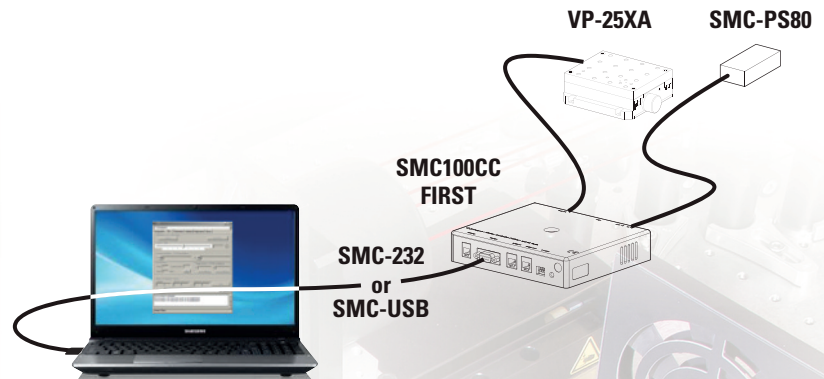
## Daisy-chain up to 31 Controllers

The SMC Motion Controllers are single axis motion controllers/drivers for DC servo motors (SMC100CC) and 2-phase stepper motors (SMC100PP) up to 48 VDC at 1.5 A rms. Both controller types can be daisy-chained in a communication bus with up to 31 devices. SMC controllers can also power daisy-chained depending on attached positioner. For stand-alone usage, a single controller can be equipped with an easy feature key pad with position display. Communication interface to a computer or a programmable logic control is available through a RS232 interface with ASCII commands.

## Simple Programming with Extensive Language Options

Advanced application programming is simplified by using mnemonic ASCII commands. There are over 40 intuitive commands to choose from. Alternatively, additional drivers are available for other languages including LabVIEW™ drivers and communication DLL's.

- Affordable single-axis control for DC or Stepper motors
- Plug-and-play with ESP compatible stages & actuators
- Control 31 axis systems by daisy-chaining through RS-485 port
- RS-232-C or USB communication for easy user interfacing
- A complete library of LabVIEW drivers and a convenient GUI
- Over 100 simple, two-character ASCII commands



Example of a single-axis system configuration.



**Remote Controller**

The optimal SMC-RC is an affordable remote control for the SMC100 controller. It features a 16-character LCD for position display and 4 push buttons for ± jog motion, configuration, homing, motor on and motor off.

**Micromanager Software**

SMC drivers are available for µManager. µManager is a software package for control of automated microscopes. Together with the image processing application ImageJ, µManager provides a comprehensive, open source, imaging solution.

**Plug-and-Play With ESP Compatible Stages**

When an ESP compatible stage is connected to the SMC, the stage is quickly recognized and operating parameters are configured without the need for user inputs. This Plug-and-Play feature is not only transparent to the user, but it also ensures the safe operation of the stage.

**RS-232-C or USB Communication**

Communication with the SMC100 is achieved via the integrated RS-232-C interface, or from a USB port using the external adapter SMC-USB (requires Windows™ operating system). Intuitive, Windows-based software supports all configurations and enables basic motion.

**Advanced Compensation Modes**

The SMC features a floating point digital PID loop with velocity and friction feedforward at 2 kHz servo rate with backlash or hysteresis compensation. These features allow for improved overall stage performance.

**STAGE AND CONTROLLER COMPATIBILITY**



visit <http://www.newport.com/n/stage-and-controller-compatibility>

The table lists all Newport positioners and the compatible Newport motion controllers. Most stages feature ESP technology that provides true plug and play compatibility, wherein the Newport controller recognizes the connected stage and automatically uploads the stage operating parameters.

**ORDERING INFORMATION**

| Model           | Description                                 |
|-----------------|---|
| <b>SMC100CC</b> | Single-axis DC motor controller/driver      |
| <b>SMC100PP</b> | Single-axis stepper motor controller/driver |

**ACCESSORIES**

| Model           | Description  |
|-----------------|--|
| <b>SMC-RC</b>   | Remote Control, SMC100, 16-Character LCD Display                     |
| <b>SMC-232</b>  | RS-232-C cable, 3 m length, DB9F to DB9F                             |
| <b>SMC-CB3</b>  | RS-485 Cable for SMC100 Series, 3 m Length                           |
| <b>SMC-USB</b>  | USB Interface, Includes USB to COM Port Adapter & RS-232-C Cable     |
| <b>SMC-CB1</b>  | RS-485 Cable for SMC100 Series, 1 m Length                           |
| <b>SMC-PS80</b> | Power Supply, SMC100 Series, 80 W, 100–240 VAC, 47–63 Hz, 1.9 A max. |



Newport Corporation, Global Headquarters  
1791 Deere Avenue, Irvine, CA 92606, USA

PHONE: 1-800-222-6440 1-949-863-3144 FAX: 1-949-253-1680 EMAIL: [sales@newport.com](mailto:sales@newport.com)  
Complete listings for all global office locations are available online at [www.newport.com/contact](http://www.newport.com/contact)

[www.newport.com](http://www.newport.com)