

Connection diagram for several actuators and one controller with switchbox and with computer interface.



1.0 Operation Modes

The NanoPZ controller has two major modes of operation, REMOTE and LOCAL. At power up, the controller will default into REMOTE mode. In REMOTE mode the controller will respond to computer communication only and the speed adjustment knob is disabled. In the LOCAL mode, the speed adjustment knob is enabled and the computer communication is disabled.

A tri-color LED (yellow, green, red) on the body of the NanoPZ controller is used to indicate the mode of operation of the controller. Different colors in conjunction with blinking state represent different operating conditions of the NanoPZ controller. The LED status table (table 1) summarizes the possible states for the LED. Additionally, the PZC-SB switchbox utilizes a bank of 8 tri-color LED's to indicate the status of each channel. The LED status table for the PZC-SB is summarized in table 2.

A solid yellow indicates that the controller is in REMOTE mode and only computer communication is active. A solid green is indicative of the controller being in LOCAL mode, where only the speed adjustment knob is active. A solid red is seen whenever a motion related error is detected. The possible motion related errors are "driver fault", "no motor Connected" and "soft limit" detected.

LED	YELLOW	GREEN	RED
Solid	REMOTE mode	LOCAL mode	Error Condition
Blinking	REMOTE mode, LOCAL mode, in motion		in motion

Table 1: LED Status Table on PZC200.

LED status	GREEN	RED	YELLOW	OFF
Connected and selected	○			
Disconnected and selected		○		
Connected and unselected			○	
Disconnected and unselected				○

Table 2: LED Status Table on PZC-SB.



Newport & Spectra-Physics sales offices

Newport Corporation, Irvine, California, has been certified compliant with ISO 9001 by the British Standards Institution

Belgium

Newport B.V.
Phone: +32-(0)1 6402927
Fax: +32-(0)1 6402227
belgium@newport-de.com

France

MICRO-CONTROLE
Phone: +33-(0)1-60-91-68-68
Fax: +33-(0)1-60-91-68-69
france@newport-fr.com

Germany / Austria / Switzerland

Newport GmbH
Phone: +49 (0) 6151-708-0
Fax: +49 (0) 6151-708-954
verkauf@newport-de.com

Italy

Newport/Micro-Controle Italia
Phone: +39-(0)2-929-0921
Fax: +39-(0)2-923-2448
newport@tin.it

Netherlands

Newport B.V.
Phone: +31-(0)30 6592111
Fax: +31-(0)30 6592120
netherlands@newport-de.com

United Kingdom / Ireland

Newport Ltd.
Phone: +44-(0)1635-521757
Fax: +44-(0)1635-521348
uk@newport.com

USA

Newport Corporation
Phone: +1-949-863-3144
Fax: +1-949-253-1680
sales@newport.com



Newport®
Experience | Solutions

2.0 User Controls

In the LOCAL operation mode, the controller responds to the speed adjustment knob. Simply turn the control knob in the forward or reverse direction, and let go to stop motion. There are seven speed settings for each direction. As the knob is turned farther in either direction, the speed will increase for that direction. The knob is spring loaded and the resting position corresponds to zero speed.

The knob may also be used as a push button switch which changes the mode of operation between REMOTE (power up default) and LOCAL mode. This switch is also used for “Zeroing” the actuator position. When this push button is pressed for longer than 2 seconds the current actuator position is set to zero and the error of the controller gets cleared, when allowed.

Selection of local and remote mode

Press in the control knob to toggle between LOCAL and REMOTE. The new selection will only become effective after any ongoing motion has stopped. In REMOTE mode (yellow LED) the controller responds to computer commands only, and the control knob is disabled. In LOCAL mode (green LED), the control knob is enabled, and computer commands are disabled.

Zeroing the actuator position.

Pressing the control knob for longer than 2 sec will set the current actuator position to 0 and will clear the error of the controller, if allowed by hardware. This function is of main use in combination with remote mode. It also resets the current positions with respect to the software limits.

Scanning of switchbox channels

When a PZC200 is connected to a switchbox, it must first learn which switchbox channels are connected and store this information in non-volatile EEPROM. Simultaneously press down the **V** and **P** buttons for 2 seconds, and the controller will scan all eight channel positions. The 8 LEDs of the switchbox will light up in sequence. Following the scan, the LED for each connected channel except one will be yellow. The LED for the one selected channel will be green if there is no problem or red if there is an error or problem, such as the actuator is at its limit of travel.

Selection of switchbox channel

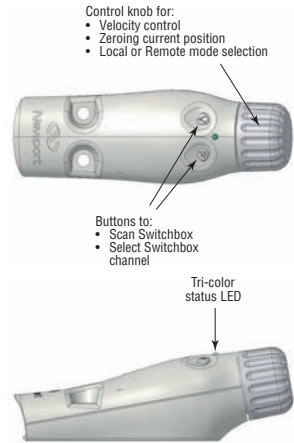
Press the **V** (left button) to decrement and **P** (right button) to increment the active switchbox channel. The LED associated with the active switchbox channel will turn green (no problem) or red (error or problem encountered). When toggling the switchbox channels, the PZC200 will skip those channels that had no PZA12 connected during the last scan.

Resetting RS-485 bus address

Use a small diameter rod to press the reset button on the back of the controller. This will reset the RS-485 bus address of the controller to its factory default setting of zero (0) so that the controller can be recognized as not initialized by the NanoPZ utility software. Once a desired RS-485 bus address has been entered, the controller can then be digitally addressed in Remote mode using either the NanoPZ utility software or ASCII commands.

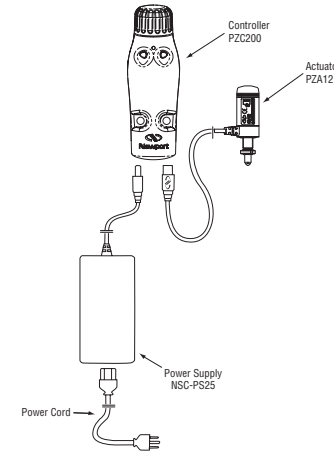
NOTE

The reset button must be pressed during a 3-second period to restore the RS-485 address.



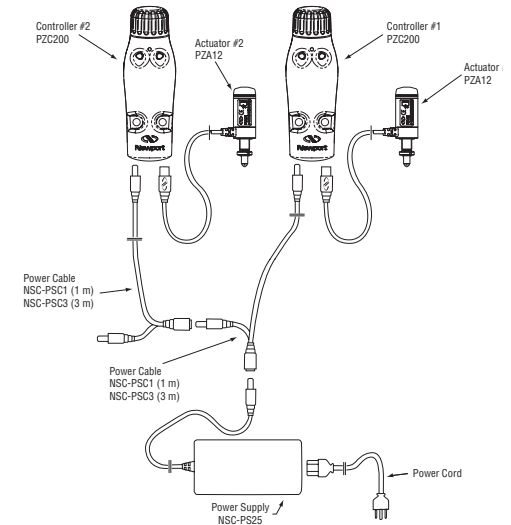
3.0 Connection Diagrams

Connections: 1 Controller and 1 Supply



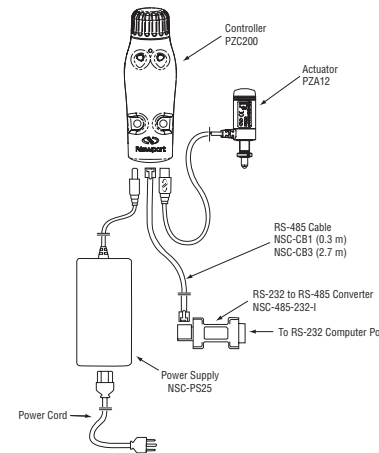
Connection diagram for one actuator and one controller with no computer interface.

Connections: 2 Controllers and 1 Supply



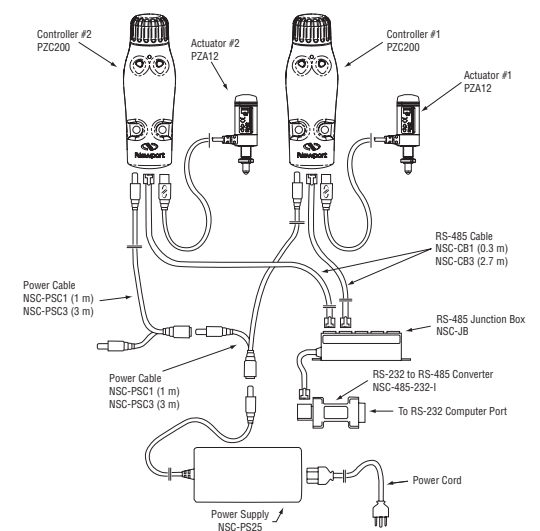
Connection diagram for two actuators and two controllers with one power supply and with no computer interface.

Connections: 1 Controller, 1 Supply and Computer Control



Connection diagram for one actuator and one controller with computer interface.

Connections: 2 Controllers, 1 Supply and Computer Control



Connection diagram for two actuators and two controllers with computer interface.