

## uProcess™ System Quick Start Guide Version 1.0

This guide will show you how to connect the components of your **uProcess™ system** and verify that they are functioning. For more complete instructions, please refer to the **uProcess™ System User Guide**, which can be accessed from the **uProcess™ software** (Help>About uProcess) or on our website at [www.labsmith.com](http://www.labsmith.com).

Figure 1 below shows the major components of a **uProcess™ system**.

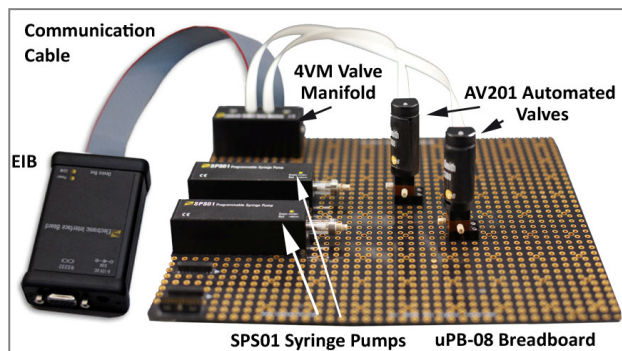


Figure 1. uProcess™ system

### Connect the uProcess™ System

Every system requires at least one **EIB**.

1. Connect the **RS232 Serial Cable** from the EIB's COM port to the computer's RS232 port. Connect a RS232-to-USB adapter to the RS232 cable if you wish to connect the EIB to a USB port.

A **breadboard** is used to mount multiple uProcess components.

2. Connect the **Communication Cable** from the EIB's **Device Bus** port to the female connector on the top left corner of the breadboard. Line up the tab on the cable with the notch on the connector.

### Connect uDevice™ Hardware

A uDevice is a device that connects to the EIB (directly or via a breadboard) and is controlled through the software. Current **uDevices** offered by LabSmith include the **4VM01 valve manifold** and the **SPS01 syringe pump**.

#### Valves and Manifolds

A **4VM01 valve manifold** is required to actuate an automated valve. Each manifold can support up to 4 valves.

3. Plug a **valve manifold** into one of the connectors located along the left side of the breadboard.
4. Secure each **valve** to the desired location on the breadboard using two ¼" mounting screws.
5. Connect a **ribbon cable** from each valve to a port on a manifold. Labels on the valve and manifold indicate the correct orientation of the cable.

#### Syringe Pumps

6. Plug the **syringe pump** into a connector along the side of the breadboard.
7. Secure the syringe(s) to the breadboard using two M3 screws (optional).

### Install Software

**uProcess™ software** runs under Microsoft Windows® XP, NT or 7.

8. Install the software using the included CD, or from our website at [www.labsmith.com](http://www.labsmith.com).

9. If using a RS232-to-USB adapter, you may need to also install a driver for the adapter.

### Power Up and Check Out

10. Connect the power transformer from the EIB to a wall outlet.
11. When power is connected the following lights will illuminate for properly connected **uDevices**:
  - **EIB**: The two LEDs will flash, after which the **Power LED** will glow red. The **COM LED** will light only when the data is being transmitted between the EIB and computer.
  - **Syringe Pump**: The LED will flash red/green and turn off.
  - **Valve Manifold**: The LED will flash red/green and then glow green.
  - **Valve**: The LED will *not* light at this time.

### Verify uDevices

12. Launch the **uProcess™ software**. The **uProcess™ dashboard** will open.
13. In the **left pane** of the window, right-click on **Interfaces** and choose **New Interface**.
14. Select the computer port to which the EIB is connected, and click **OK**. If multiple EIBs are installed, repeat for each EIB.
15. The **uProcess™ dashboard** should now show all **uDevices** in the left pane, and controls for the **uDevices** in the right pane (Figure 2).

**NOTE:** The **uDevices** are listed according to their name and address. The order of the listing is based on the address, not the position on a breadboard.


16. Click on each **uDevice** name under the **Interfaces** listing to determine which hardware belongs with each address. The indicator light on the device will flash red/green when that device is selected.
17. As each **uDevice** is selected this also brings up the individual control panel for that device. To return to the **uProcess™ dashboard** (as shown in Figure 2), click the **Interfaces** heading in the **uDevice** window.

### Valve Operation

Valves can be manually operated via controls on the **uProcess™ dashboard** or the individual valve control panel.

18. Select the desired valve position and

click **Apply Settings Now** .

**Note:** To continuously update your **uDevices** as settings change, select the **Update Continuously**  button.

19. The LED on the valve will glow red when it is moving towards the “A” position or green when it is moving to the “B” position.



### Syringe Operation

20. Choose a syringe pump from the **uProcess™ dashboard**, or select a pump from the **uDevice** list and access the individual syringe pump control panel.
21. Set the volume and flow rate for the syringe pump by typing in the desired

values or moving the corresponding slider bar.

22. When the plunger is loading (pulling) the status bar on the control software changes between blue and red, and when it is dispensing (pushing) the color will change between blue and green. The **syringe pump’s LED** will glow red as it loads and green as it dispenses.

### Automated Control

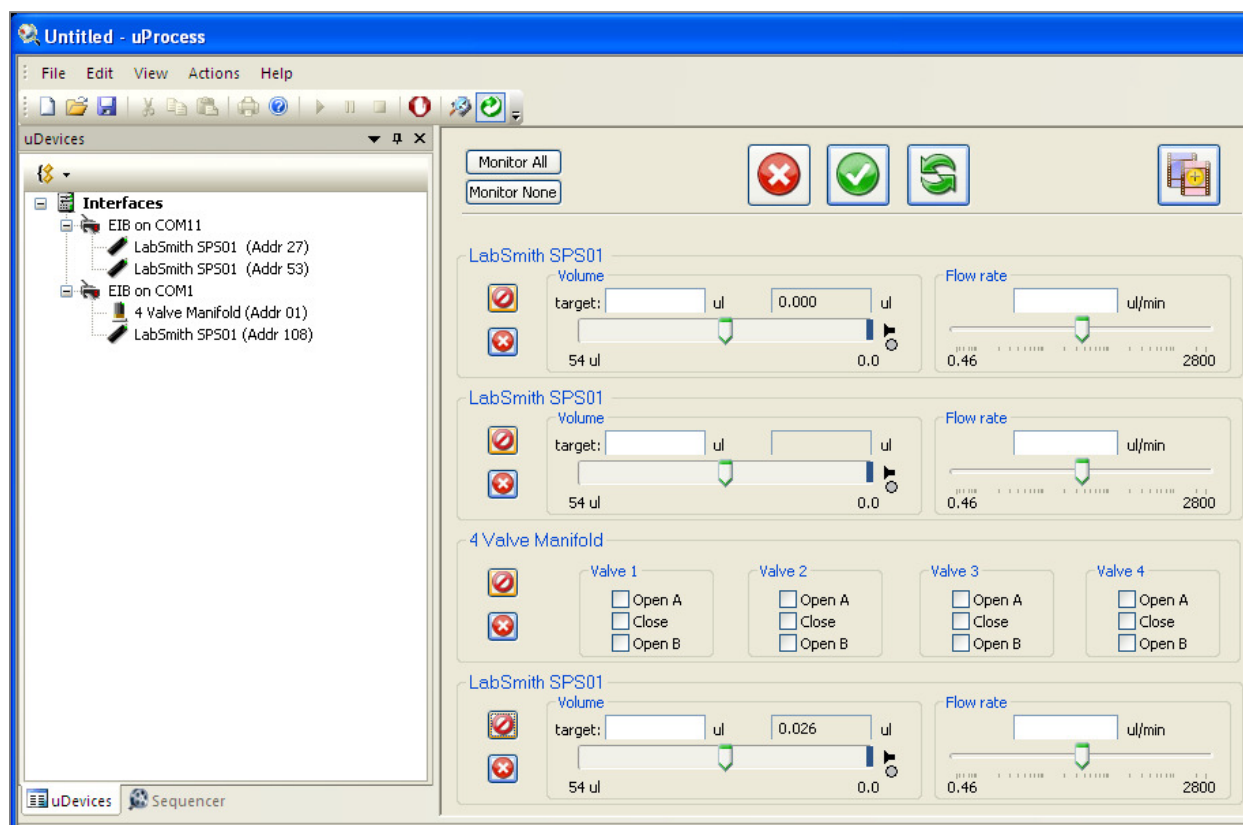
23. The **uProcess™ software** can be used for creating process sequences.
24. From the **uProcess™ dashboard**, set the initial target state for each **uDevice** and click the **Save as New Sequence Step**  button. Select the appropriate continuance criteria and click **OK**.
25. Repeat for additional steps. Select **Run**  to start the sequence.
26. See the **uProcess™ System User Guide** for more information on creating automated scripts.

### Support

More information on **uDevices** and **uProcess™ software** is included in your **uProcess™ System User Guide**, which can be accessed from the **uProcess™ software** (Help>About uProcess) or on our website at [www.labsmith.com](http://www.labsmith.com).

If you cannot find the information you need, call LabSmith technical support at (925) 292-5161 or email [support@labsmith.com](mailto:support@labsmith.com).

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**Figure 2.** uProcess™ dashboard showing connected uDevices in list on left and their controls on right.