

LabSmith Pressure Sensors

Part of the uProcess™ Microfluidic Automation System

- ▶ Compact, low-dead-volume design
- ▶ Threads directly into LabSmith CapTite™ ports
- ▶ Simple to use with uProcess™ Software
- ▶ Available pressure ranges of 0 – 250 kPa abs. and 0 – 800 kPa abs.

The uPS Pressure Sensor is part of LabSmith's uProcess™ system of hardware and software that simplify construction and control of microfluidic systems. Other uProcess™ devices include AV series automated selector valves, SPS01 syringe pumps, and prototyping breadboards.



Small Size In-line Microfluidic Sensing

LabSmith has added the versatile **uPS pressure sensors** to its uProcess™ family. The uPS is designed for accurate, low-dead-volume pressure regulation and monitoring of microfluidic systems.

The compact sensors (12.4 mm diameter) can be used with liquid or gas. They thread into any LabSmith CapTite™ port, such as reservoirs, bonded port connectors, and interconnects, for in-line pressure control.

The sensors are also a valuable tool for troubleshooting microfluidic systems, such as detecting bubbles, clogs, and leaks.

Accurate Pressure Monitoring and Regulation

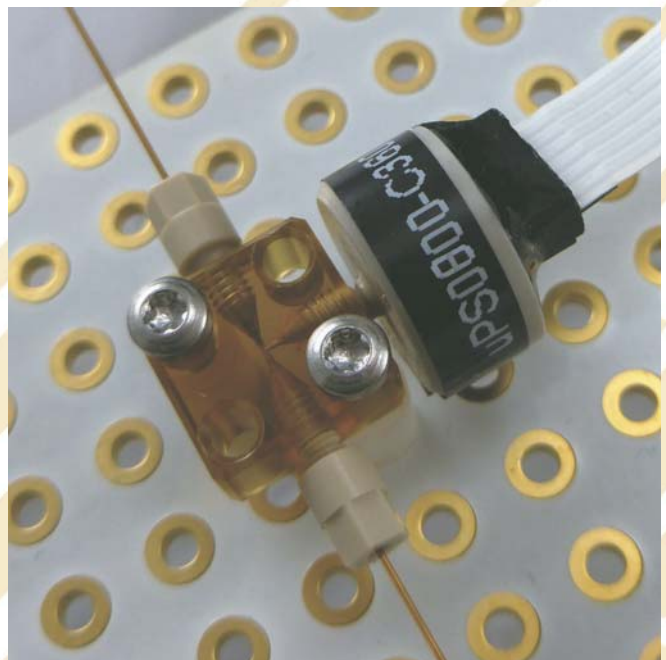
uPS sensors are currently offered in two pressure ranges: 0 – 250 kPa abs. (0 – 35 psia) and 0 – 800 kPa abs. (0 – 115 psia). Accuracy is 1% of range.

The uPS sensors require LabSmith's **4AM01** analog manifold for electronically control the pressure sensors (one 4AM01 manifold can control up to 4 sensors). An Electronic Interface Board (EIB) is also required for pressure sensor monitoring and regulation; a single EIB can monitor over 100 devices, while simultaneously operating up to 10 valves and/or syringe pumps.

Programmable Automated Operation

uProcess™ Software provides a user-friendly interface for configuring and controlling devices via a laptop or PC. Automated sequences are easily programmed into the uProcess™ Software for multistep, coordinated control of uProcess™ devices.

Coupling the uPS pressure sensors with the SPS01 syringe pumps and/or AV series automated valves makes the uProcess system ideal for controlled-pressure flow applications.



LabSmith Pressure Sensor Specifications

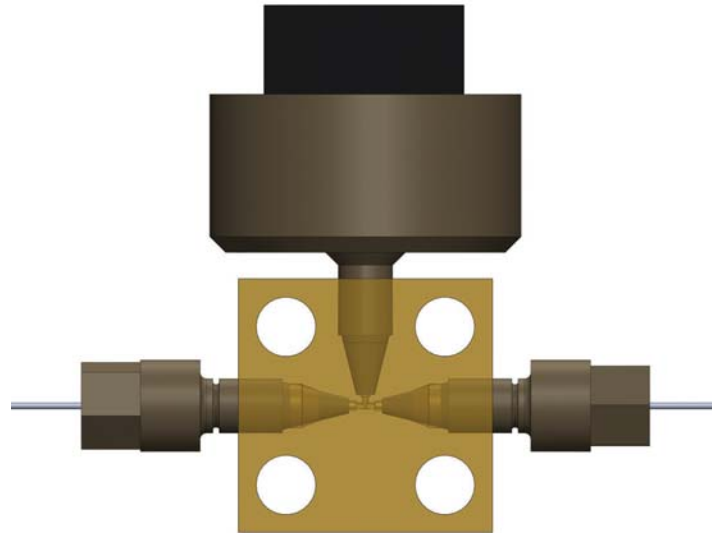
uPS Product Key & Selection Criteria

uPSXXXX-YYY-ZZ

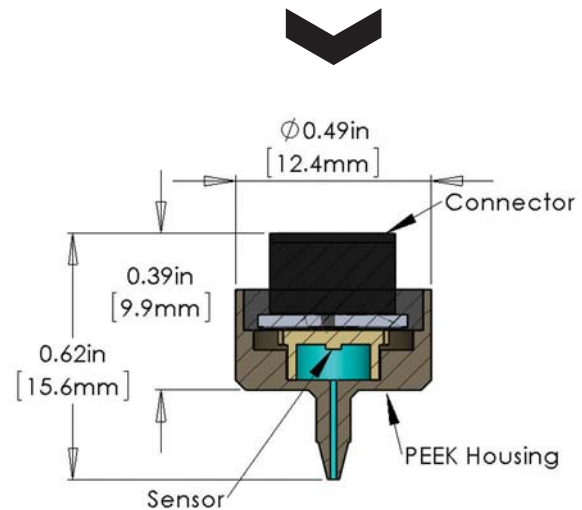
XXXX = Pressure max; YYY = Component size; ZZ = Pressure accuracy

Select from the following:

PERFORMANCE		
X	Pressure Range	Resolution
0250	0 – 250 kPa abs. (0 – 35 psia)	1 Pa (0.00014 psi)
0800	0 – 800 kPa abs. (0 – 115 psia)	5 Pa (0.0007 psi)
Y	CapTite™ Component Interface	
360	360 μm & 1/32"	
116	1/16"	
Z	Accuracy (% full scale)	
10	1.0 %	
PHYSICAL		
Temperature Range (for specified accuracy)	15 °C – 60 °C	
Working Temperature	0 °C – 100 °C	
Damage Pressure	2X maximum pressure	
ADDITIONAL HARDWARE		
4AM01 (required)	Analog Sensor Manifold (controls up to 4 sensors)	
EIB (required)	Electronic Interface Board (controls up to 128 devices)	
Breadboard (optional)	For mounting uDevice™ and CapTite™ components	



uPS0800-C360 installed in a T-interconnect (C360-203).



Cutaway of uPS0800-C360.
Internal volume (blue) filled with perfluorinated oil.

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