PLF2000 Series

MEMS LIQUID FLOW SENSOR

131 E. Brokaw Road | San Jose CA 95112 | +1 (408) 392-0989 | info@posifatech.com | www.posifatech.com

DESCRIPTION

- Measures water flow up to 200 ml/min
- Supports push-to-connect fitting for easy integration

PLF2000 complies with NSF/ANSI 61: Drinking Water System Components – Health Effects.

PLF2000 provides both analog (voltage) and digital I2C output.

APPLICATIONS

- Lab automation reagent delivery
- Microfluidics and organ-on-chip perfusion
- Flow cytometry and cell sorting fluidics
- Bioreactors
- Rodent infusion pumps for pharma research

FEATURES

- No moving parts
- Extremely fast response time (100 ms)
- Does not obstruct flow (low pressure drop)

MAXIMUM RATINGS

- Operating Temperature: 5 °C to 40 °C
- Storage Temperature: 5 °C to 80 °C
- Operating Pressure: 50 psi

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SPECIFICATIONS

Test Conditions: 5VDC supply, Ta=25 °C.					
SPECIFICATIONS	**MIN**	**TYP**	**MAX**	**UNIT**	**CONDITIONS**
Ranges	30, 40, 50, 100, 200			ml/mm	H_20
Analog Output	0.5		4.5	V	
Accuracy		± 10		Reading	5 ~ 40 °C
Resolution		1 %		Reading	
Repeatability		2 %		Reading	
Response Time[1]		100		ms	
Supply Voltage		5		VDC	We recommend using 1 % voltage regulator
Operating Current		22		mA	
Operating Temperature	5		40	°C	
Storage Temperature	-25		80	°C	
Materials	Nylon, silicone & food-grade waterproof coating (NSF/ANSI 61 compliant)				

Notes:
1. Response time = 10 % - 90 % output rise time; may vary with pneumatic interface.

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CONVERSION FORMULAS

For PLF2000 Analog Output

Flow Rate = [(Vout - 0.5V) / 4V] x Full Scale Flow Rate

For example, for PLF2005 full scale flow rate is 50 ml/min. When Vout reads 3.5V, the Flow Rate is:

[(3.5 V - 0.5 V)/4V x 50 ml/min] = 37.5 ml/min

For PLF2000 Digital Output

Flow Rate = [(Count - 6553) / 52428] x Full Scale Flow Rate

For example, for PLF2005 full scale rate is 50 ml/min. When digital output reads 10000, the Flow Rate is:

[(10000 - 6553)/52428 x 50 ml/min] = 3.28 ml/min

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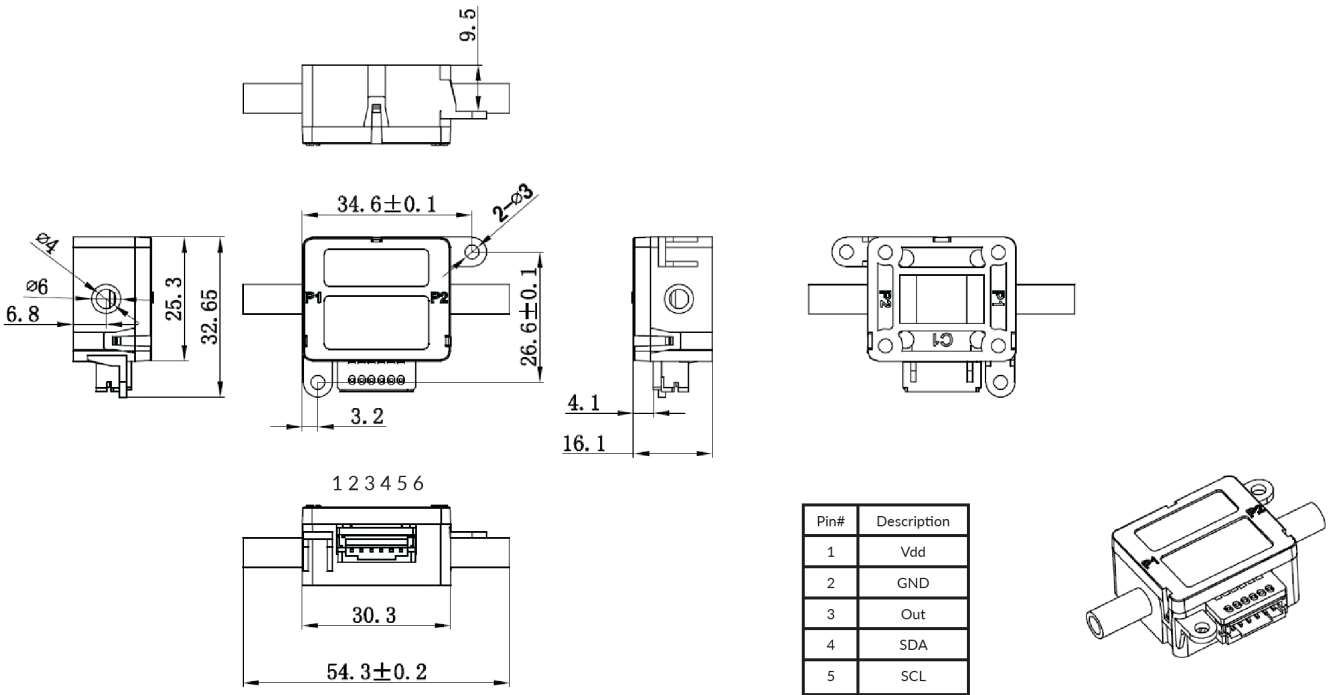
PACKAGE DIMENSIONS



Pin#	Description
1	Vdd
2	GND
3	Out
4	SDA
5	SCL
6	N/C

Notes:
1. Flow direction is from P1 to P2.
2. Mating connetor is JST S6B-PH-SM4-TB or equivalent.

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ORDERING INFORMATION

PART NUMBER	SPECIFICATIONS
PLF2003	0-30 ml/min, analog & I²C, linear
PLF2040	0-40 ml/min, analog & I²C, linear
PLF2005	0-50 ml/min, analog & I²C, linear
PLF2010	0-100 ml/min, analog & I²C, linear
PLF2020	0-200 ml/min, analog & I²C, linear

Note: Contact Posifatech or distributors for additional models and technical support.