posifa TECHNOLOGIES

PLF1000 Series

LIQUID FLOW SENSOR FOR WATER MONITORING

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DESCRIPTION

Posifa designed the PLF1000 series of liquid flow sensors to replace mechanical turbine flow sensors. With a MEMS thermal flow die at its core, PLF1000 is far more accurate, even when flow is pulsatile. Because it has no moving parts, PLF1000 does not get stuck nor suffer mechanical breakdown. Cleaning does not require disassembly. Also, because it does not introduce an obstruction (i.e. turbine) in the flow path, it presents minimal flow resistance, making it possible to circulate liquid via gravity, a boiler, or a low-power pump.

PLF1000 features Posifa's third-generation thermal flow die, benefiting from the latest innovations in microfabrication. The sensor die uses a pair of thermopiles to detect changes in temperature gradient caused by mass flow, delivering excellent signal-to-noise, and repeatability. The "solid state" thermal isolation structure eliminates the need for surface cavity or fragile membrane used in competing technologies. The sensor die, with its silicon carbide protective film, is capable of direct contact with liquid, allowing the highest level of sensitivity and minimizing the cost of packaging.

PLF1000 complies with NSF/ANSI 61: Drinking Water System Components – Health Effects and can be used safely in water and beverage appliaces.

APPLICATIONS

- Coffee and expresso machines
- Water dispensers
- Water purifiers and filtration systems
- Beverage vending machines
- Detergent vending machines
- Cleaning chemical mixing systems
- Liquid cooling systems

FEATURES

- No moving parts
- Extremely fast response time
- Can be used with pulsatile flow systems
- Does not obstruct flow (low pressure drop)
- Disassembly not required for maintenance

MAXIMUM RATINGS

- Operating Temperature: 5 to 75 °C
- Storage Temperature: 5 to 80 °C
- Operating Pressure: 30 psi

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SPECIFICATIONS

Test Conditions: Vin=5±0.01VDC, Ta=22°C.					
SPECIFICATIONS	**MIN**	**TYP**	**MAX**	**UNIT**	**CONDITIONS**
PLF1105V	0	3		Liter/Min	
PLF1135V	0	15		Liter/Min	
Flow Output		0 to 4.5		VDC	
Flow Null	0	0.1	0.3	VDC	
Flow Repeatability		0.5		% F.S.	
Flow Response Time[1]		5		mSec	
Warm Up Time			30	mSec	
Temperature Output		4.25		VDC	at 5 °C
		1.00		VDC	at 80 °C
Commom mode pressure			30	PSI	
Operating Temperature	5		75		
Supply Voltage		5	5.5	VDC	
Supply Current		15		mA	at 5 VDC supply
Wetted Materials	NSF/ANSI 61 compliant nylon, silicone and food grade conformal coating				

Notes:
1. 10% to 90% rise time of the flow sensor to electrically respond to any mass flow change. May be affected by the pneumatic interface.

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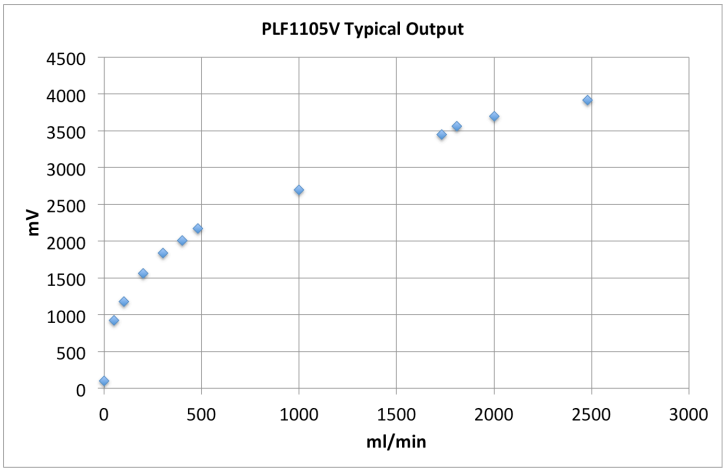
OUTPUT DESCRIPTION

For PLF1105V



Flow Rate (ml/min)	Output (mV)
0	100
50	926
100	1178
200	1560
300	1840
400	2010
480	2170
1000	2700
1730	3450
1810	3560
2000	3700
2480	3920

For PLF1135V

Information pending

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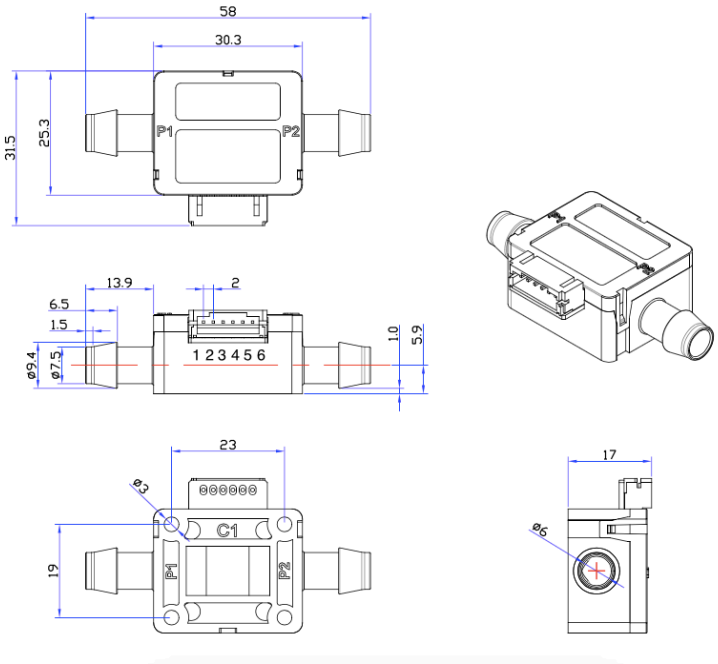
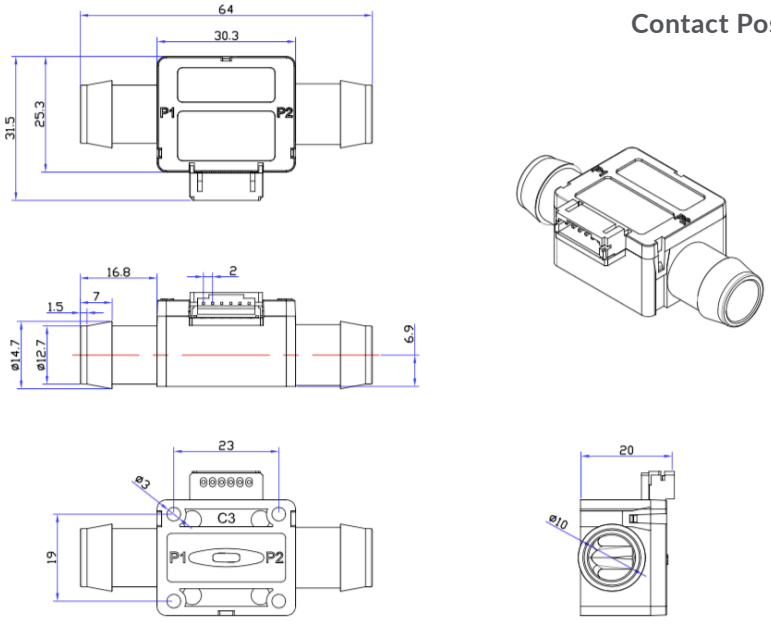
PACKAGE DIMENSIONS

PLF1105V



Pin#	Description
1	VDD (5V)
2	GND
3	Out (Flow)
4	N/C
5	Heater Enable 5V
6	Out (Temp)

PLF1135V



Contact Posifa for sensor CAD model.

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ORDERING INFORMATION

PART NUMBER	SPECIFICATIONS
PLF1105V	0 to 3 Liter/Min, Analog Output, Non-linear
PLF1135V	0 to 15 Liter/Min, Analog Output, Non-linear

Please contact Posifa to place an order.

CUSTOMIZATION OPTIONS

If the standard product described in this data sheet does not completely meet your needs, please contact Posifa Technologies to discuss other options. Help us understand your application and sensor requirements and we can work together to find the best overall solution.

EUROPEAN DISTRIBUTOR

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