

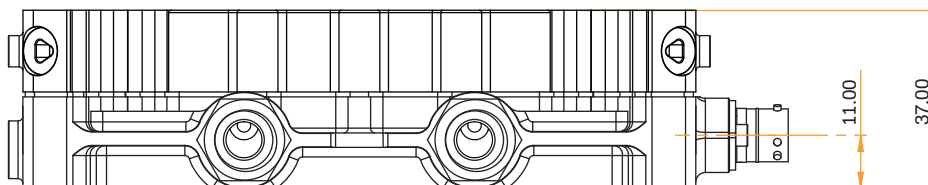
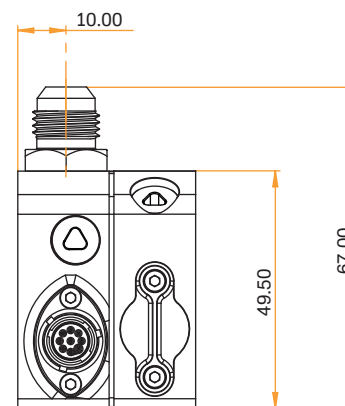
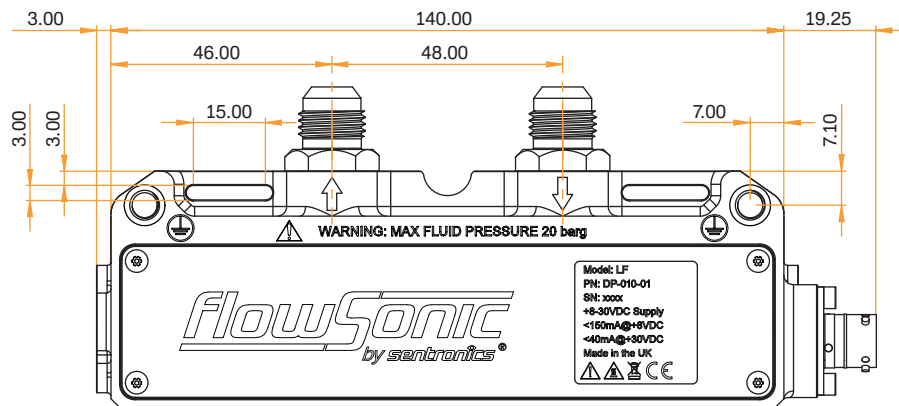
FlowSonic[®]

by sentronics[®]

The FlowSonic[®] LF ultrasonic sensor from Sentronics[™] represents a breakthrough in fuel flow measurement technology for automotive engines of every type. The FlowSonic LF has been designed for the ultra low-volume fuel flow conditions found in today's high-efficiency road car engines, making it an ideal tool for R&D as well as emissions testing to the new RDE and WLTP standards. Key features and advantages include:

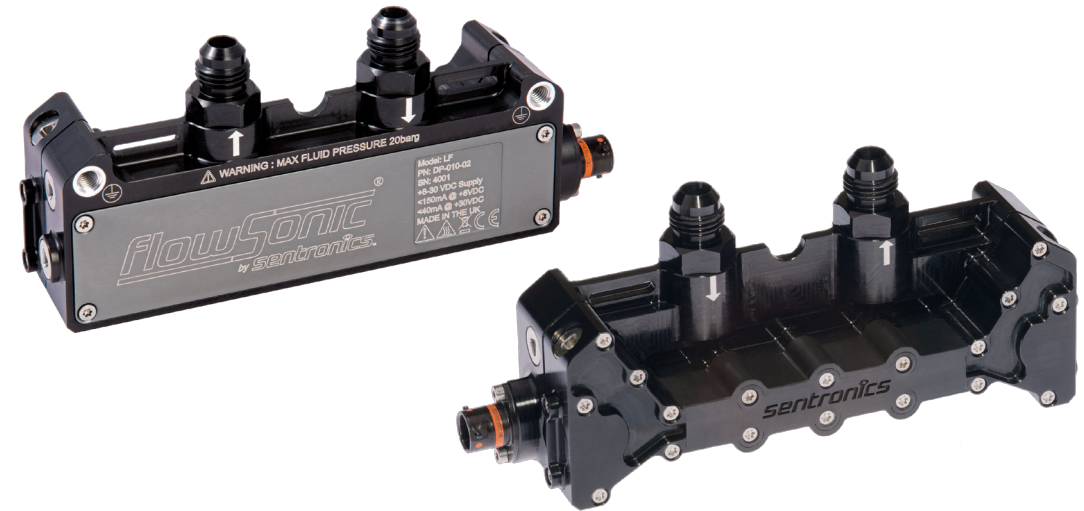
- ✔ Compact, lightweight, no moving parts
- ✔ Easily installed on test bench or vehicle
- ✔ Highly accurate and repeatable
- ✔ Extremely robust and vibration-tolerant
- ✔ -40°C to +120°C temperature range
- ✔ Internal processing and diagnostics
- ✔ Fast measurement rate for dynamic flows
- ✔ CAN, TTL pulse, analog output formats
- ✔ Class-leading ultrasonic turndown ratio
- ✔ Minimal operating and maintenance cost

FlowSonic[®] LF Dimensions (mm)

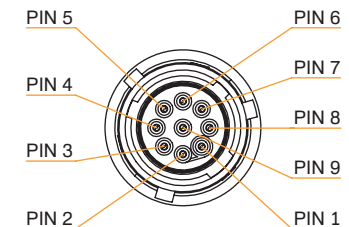


Complete general assembly drawing and CAD data available for download at www.sentronics.com

FlowSonic[®] LF Low-Flow Sensor



FlowSonic[®] LF Pin Out Functions



Deutsch ASDD006-09PC-HE Sensor Connector

Pin 1	Supply +
Pin 2	CAN High
Pin 3	CAN Low
Pin 4	TTL Pulse Output
Pin 5	Analog Output
Pin 6	Comms A
Pin 7	Comms B
Pin 8	CAN Select
Pin 9	Ground (GND)

FlowSonic® LF Specifications and Features DP-010-02

Flow Measurement	
Repeatability	+/- 0.15% of reading
Uncertainty*	+/- 0.5% of reading
Turndown ratio	500:1
Operating flow range	+/- 0-4000 ml/min
Measurement flow range	8-4000 ml/min
Measurement rate	2.2 kHz
Maximum operating pressure	20 barg (2000 kPag)
Pressure drop at maximum flow	< 20 kPa (4000 ml/min for pump petrol @ 20°C)
Fluid temperature range	-20°C to +120°C
Ambient temperature range	-40°C to +120°C
Temperature Measurement	2 x 1000 Ohm RTD (1/3 DIN standard)
Mechanical	
Dry weight	330 g
Fluid capacity	15 ml
Wetted materials	FPM, anodised aluminium alloy, stainless steel
Fuel line connection	-6AN fittings 9/16-inch UNF thread
Deutsch sensor connector	ASDD006-09PC-HE
Deutsch mating connector	ASDD606-09SC-HE
Environmental	
Storage temperature	-40°C to 85°C
External pressure rating	300 kPa
Environmental protection	IP69K (when mated to connector)

* Calculated according to ISO/TR using root-sum square method yielding 95% confidence

Electrical Supply	
Voltage	8V to 30V DC
Current	< 70 mA @ +12V DC
Voltage protection	Over-voltage 45V DC, reverse polarity -45V DC
CAN Communications	
Design standard	ISO 11898-2 (high-speed applications)
Message format	2.0A (11-bit identifier)
Baud rate	1 Mbit/sec
CAN termination resistor	No
TTL Pulse Output	
Voltage output range	0-5V
Pulses per cc	3000 (fully configurable)
Duty cycle	50%
Output resistance	1.0 kOhm
Analog Output	
Voltage output range	0-10V DC
Resolution	16-bit
Output resistance	47.0 Ohm
Load resistance	> 1.0 kOhm
Configuration Interface	3.3V serial interface
Fuel Compatibility	Petrol, diesel, bio-diesel, ethanol, methanol <i>please contact us about other fluids</i>

Specifications subject to change without prior notice