

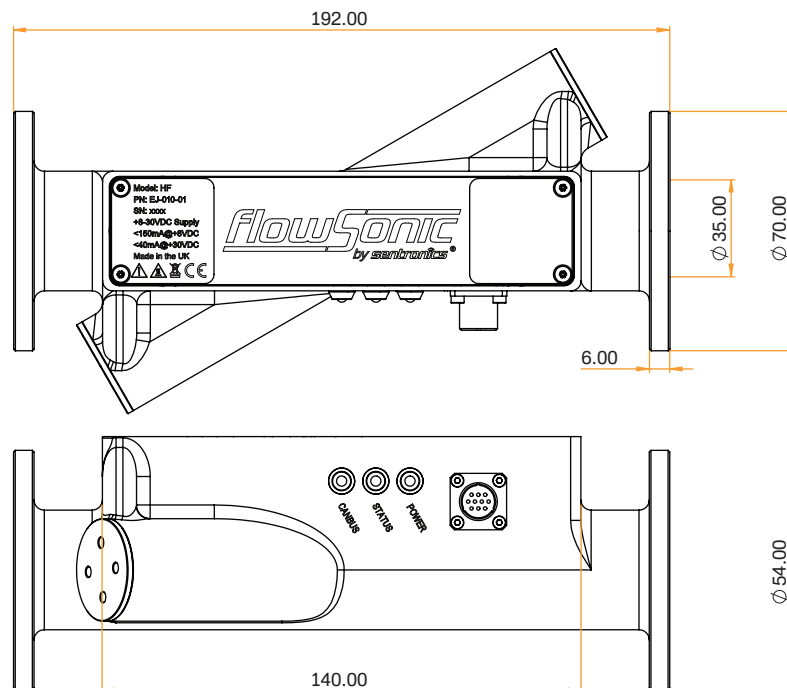
FlowSonic[®]

by sentronics[®]

The FlowSonic[®] HF ultrasonic sensor from Sentronics[™] represents a breakthrough in fluid flow measurement technology for automotive engines of every type. The FlowSonic HF has been designed for the high-volume fuel, oil, and coolant flow conditions found in heavy-duty commercial and industrial vehicle powerplants. Its precision makes the HF an ideal tool for efficiency-focused R&D as well as emissions testing. Key features and advantages include:

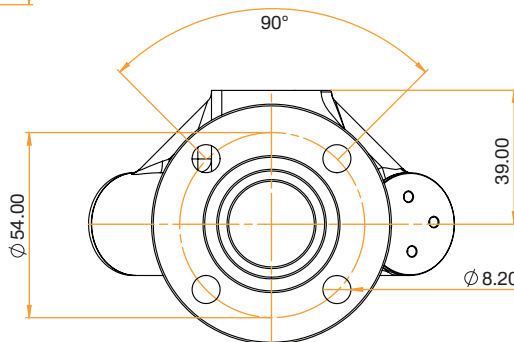
- ✓ Compact, lightweight, no moving parts
- ✓ Easily installed on test bench or vehicle
- ✓ Highly accurate and repeatable
- ✓ Extremely robust and vibration-tolerant
- ✓ -40°C to +120°C temperature range
- ✓ Internal processing and diagnostics
- ✓ Fast measurement rate for dynamic flows
- ✓ CAN, TTL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

FlowSonic[®] HF Dimensions (mm)



Optional -16AN adapters and fitting kit shown above available separately as part number EJ-023-01

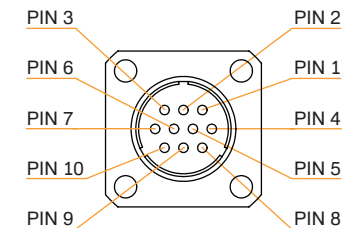
Complete general assembly drawings and CAD data available for download at www.sentronics.com



FlowSonic[®] HF High-Flow Sensor



FlowSonic[®] HF Pin Out Functions



Amphenol 2M801-010-02-M-7-10PA 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)
Pin 10	No Connect (NC)

FlowSonic® HF Specifications and Features EJ-010-01

Flow Measurement

Repeatability	+/- 0.15% of reading
Uncertainty*	+/- 0.5% of reading
Turndown ratio	500:1
Operating flow range	+/- 0-500 l/min
Measurement flow range	10-500 l/min
Measurement rate	2.2 kHz
Maximum operating pressure	50 barg (5000 kPag)
Pressure drop at maximum flow	No pressure drop (straight section)
Fluid temperature range	-20°C to +120°C
Ambient temperature range	-40°C to +120°C
Temperature Measurement	1 x 1000 Ohm RTD (1/3 DIN standard)

Mechanical

Dry weight	650 g
Fluid capacity	150 ml
Wetted materials	FPM, anodised aluminium alloy, stainless steel
Fluid line connection	70mm diameter sealed flange coupling (custom adapters available)
Amphenol sensor connector	2M801-010-02-M-7-10PA
Amphenol mating connector	2M801-007-26-M-7-10SA

Environmental

Storage temperature	-40°C to 85°C
External pressure rating	100 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	30 (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

Fluid Compatibility	Petrol, diesel, bio-diesel, ethanol, methanol, oil, engine coolant, water <i>please contact us about other fluids</i>
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Specifications subject to change without prior notice