



SmartCap[™] GT 850

High-Temperature High-Speed Pressure Sensor

Unprecedented capabilities in the world's harshest environments

WORK HOTTER AND SMARTER

The SmartCap GT[™] 850 capacitive pressure sensor and smart electronics simultaneously measure pressure and temperature in high-temperature environments to provide high-speed data and customizable analytics.



Harsh Environment

Including up to 850°C
in gas environments



High Bandwidth

Visibility into high-frequency
pressure phenomena up to 39 kHz



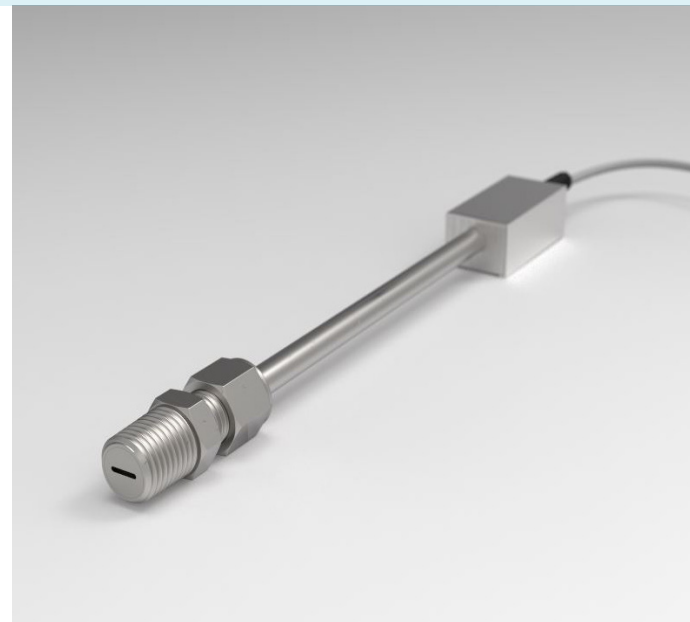
Smart

Onboard processing for predictive
analysis or other real-time analytics

Key Features

- Operates in extreme environments
- In-situ capabilities enable real-time, accurate measurements
- Eliminates need for stand-off pneumatic tubes
- Access to previously unavailable measurement data
- Converts data to useful prognostics
- Pressure and temperature outputs
- Modifiable packaging to meet most mounting specifications
- Smart line-replaceable unit (LRU) features
- Digital interface – Easy to install/set up
- Static pressures up to 300 psi

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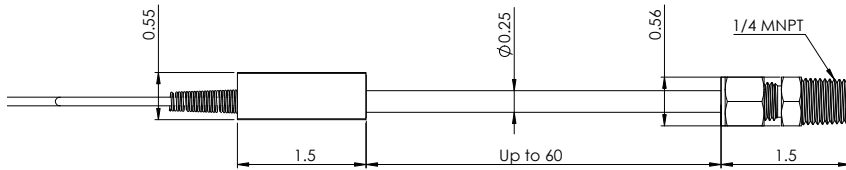
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Technical Specifications

Part # 940-000-0319-01



Default configuration shown.
Custom packaging available upon request.

Measurements are in inches.

Performance

Pressure Measurement Accuracy	+/- 0.2%FS to 600°C +/- 1%FS to 850°C
Temperature Measurement Accuracy	+/- 1°C, integrated K-type thermocouple
Pressure Measurement Resolution	Down to 0.5 PSI or better
Temperature Measurement Resolution	0.1°C
Proof Pressure.....	1.5x max measurement pressure, nominally 450 psi
Sensing Element Mechanical Resonance.....	>100 kHz
Burst Pressure.....	3000 psi minimum
Response Time.....	≤ 13 μs for 200 psi max delta

* Dependent upon temperature and pressure measurement range design

Physical

Weight*	210 grams nominal
Inline Electronics Temperature	-30°C to 105°C
Signal Conditioning Temperature	-30°C to 70°C
Inertial Vibration	MIL-STD-810F, additional test OEM specified profiles
Media**	All non-conductive media (oxidizing, reducing, corrosive). Safe in combustion environments.

* Nominal weight for just the probe assembly, actual weight dependent upon package configuration.

** Inquire about isolated-media sensor for conductive environments like molten salt.

Electrical

Output Signal Type	Digital
Communications.....	Ethernet (UDP, 320 kbps max)
Power	12-24 VDC, 1.8 W max
Max Sampling Rate	78 ksp/s
EMI.....	MIL-STD-461F, RE102
Electronics Input Under/Over Voltage.....	<16 VDC, >60 VDC - MIL-STD-704F
Available Optional Interfaces	USB, RS-485, CAN, 0-5 V analog

Applications

- Aerospace Propulsion Systems
- Energy Generation Systems
- Compressor Performance Monitoring
- Combustion Dynamics
- Prognostic System Health Monitoring
- Propulsion Test Cells
- R&D
- Other High Temperature Gaseous Pressure Measurement Applications



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