



PERMANENT MONITORING SYSTEMS

Sapphire and Quartz Multi-Drop PDHG

Spartek Systems specializes in providing the oil and gas industry with high quality data to monitor well performance and diagnose potential problems. Spartek Systems can provide cost effective solutions for your Real Time Permanent Downhole Monitoring needs.

Product Overview

Spartek's proven multi-drop Sapphire and Quartz Permanent Downhole Gauge (PDHG) technology provides the ability to monitor multiple zones on a single TEC. Eight or more gauges can be acquired at a one second sample rate from a single line using the FSK-2 line card.

Engineered for durability in harsh downhole environments, our gauge is built to withstand extreme temperatures, pressure differentials, and corrosive conditions. This ensures longevity and reliability, reducing downtime and maintenance costs.

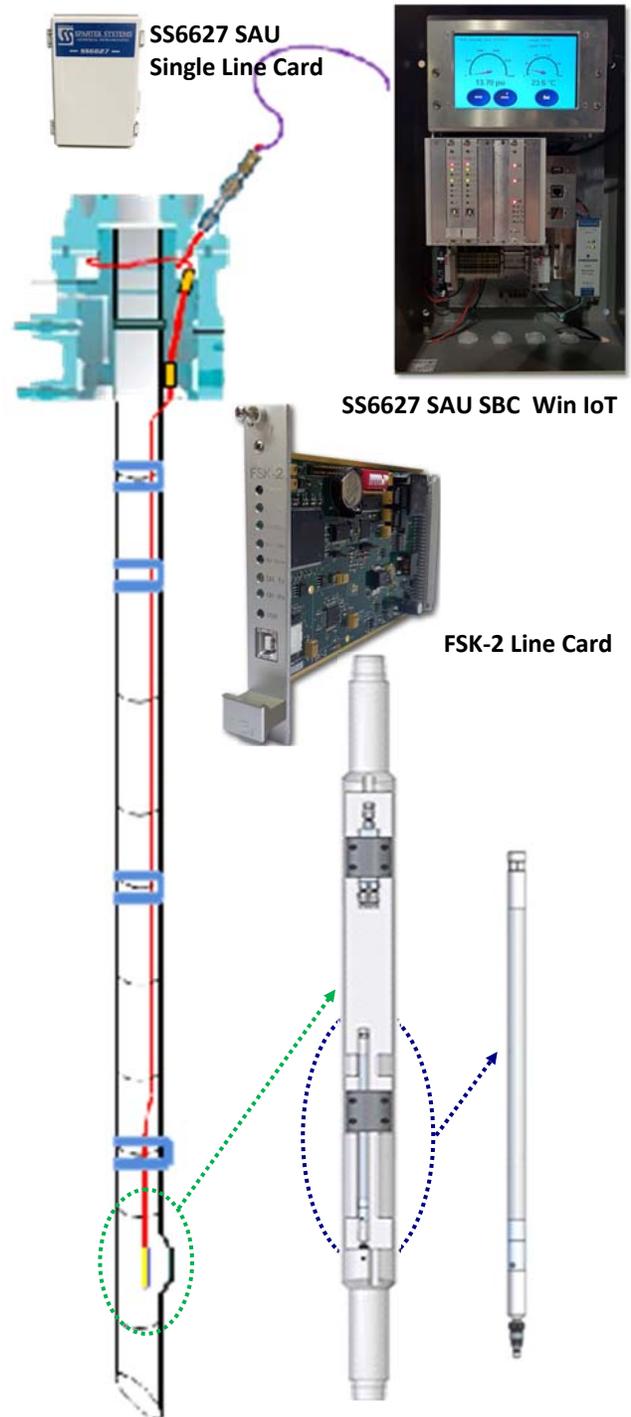
- ▶ All metal seals. (Fully welded construction).
- ▶ Quartz ASIC tested to > 220°C
- ▶ Corrosion Resistant NACE MRO175

Features and Applications

The Multi-Drop PDHG is designed to operate with our FSK-2 Line Card. The Line interface card provides power and communication to the gauge. The card uses a standard USB interface for card setup, and has industry standard Modbus Interface for integration with any third party systems.

- ▶ Redundant independent measurements on a single conductor TEC..
- ▶ Tubing and Annulus pressure monitoring.
- ▶ Seamless integration with our existing multi-drop downhole measurement systems (Dual Quartz, Sapphire, etc.)
 - 1 second sampling
 - Real time display of data.
 - 1-8 gauges on single TEC conductor
 - Rugged 64 Gigabyte SSD OS and Data
- ▶ Superior performance at a competitive price.

Upgrade to the future of downhole monitoring with the Quartz PDHG – where precision meets reliability. Ensure the success of your operations with a tool designed to exceed expectations. Contact us today to learn more and experience the next level of permanent downhole monitoring.



SPARTEK SYSTEMS

Providing Our Customers With "Best In Class" Technology

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Specifications:

| Multi-Drop Quartz Gauge System | | | | | |
|--------------------------------|--|---------------|------------------|--------------------------------|--------------------------------|
| Gauge | | | Cable | | |
| Gauge Type | Sapphire (piezo) | Quartz | Size | 0.25 OD | |
| Diameter (OD) | 0.75 inches | | | 0.028 (0.25 OD) inch wall | |
| Length | 20.4 inches | 26.1 inches | | 16 AWG | |
| Material | 17-4 or Inconel 718 - NACE | | | Solid Copper | |
| Seal Configuration | metal-to-metal cable connection fully welded gauge body | | Encapsulation | As required | |
| Power Consumption | 6 - 10 mA | | Material | A825 Inconel or 316 SS | |
| Deployment Method | Multi-Drop Cable Suspended | | | | |
| Sample Rate | 1 sample / sec (max) (depending on deployment method) | | | | |
| Pressure | | | Temperature | | |
| Sensor Type | Sapphire | Quartz | Sensor Type | Sapphire | Quartz |
| Pressure Ranges (psi) | 3k, 6k, 10k 15k | 10k, 16k, 20k | Calibrated Range | 25°C - 150°C (77°F - 302°F) | 25°C - 177°C (77°F - 350°F) |
| Accuracy (% FS) | 0.03% | 0.02% | Accuracy | < 0.5°C (0.9°F) | < 0.25°C (0.5°F) |
| Resolution (% FS) | 0.0003% | 0.00006% | Resolution | <0 .001°C (<0.0018°F) | <0 .001°C (<0.0018°F) |
| Drift (% FS/year) | < 0.03% | < 0.02% | Drift | < 0.1°C (<0.18°F) | < 0.1°C (<0.18°F) |
| Surface Acquisition Systems | | | | | |
| Channels | 4 Card slots (Other options available) | | | | |
| Sample Rate | 4 sample/sec (max, Configurable) | | | | |
| Operating Temperature | -40°C to 60°C | | | | |
| Memory | 64 Giga Bytes SSD (OS and Data), USB-Flash Drive | | | | |
| Communication | USB, RS485, Modbus, Modbus TCP/IP, RDP, MQTT | | | | |
| Controller Software | Window 10 IoT Enterprise 2019 LTSB | | | | |
| | SparSAU, SparSBC | | | | |
| Size (W x H X D) | 16 x 20 x 10 inches | | | | |
| Weight | 51 lbs | | | | |
| Power | 24 VDC (15 Watts) | | | | |
| Desert Application | YES | | | | |
| Area | Class 1, Div 2 Group B, C, D | | | | |
| Relative Humidity | 0 to 95% | | | | |
| Enclosure | NEMA 4-4X-12 / IP-65 CSA Class 1, Div 2 (optional) | | | | |

Specifications subject to change without notice

For More Information, Pricing, and Technical Support Contact:



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Providing Our Customers With "Best In Class" Technology