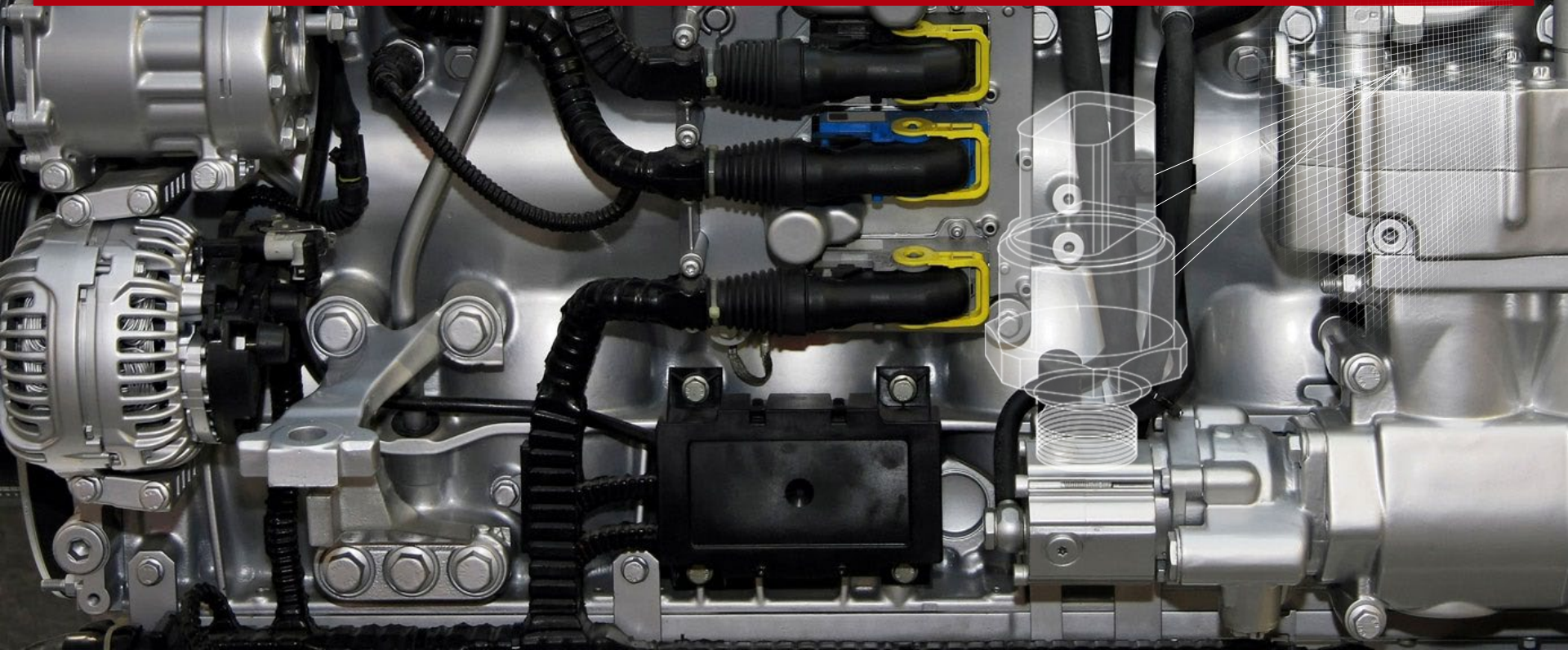


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DST P100 OEM Pressure Sensor Engine Applications



Agenda

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- **DST P100 introduction**
- **New Electronics Platform**
- **Diagnostic features**
- **Next steps**





DST P100 Pressure Transmitter

Technical Features

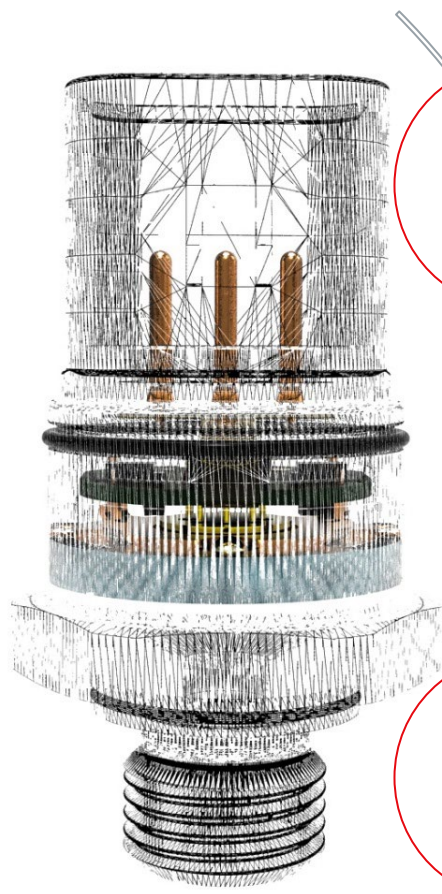
- Pressure range: up to 0-50 bar
- Operating temperature: -40 to 135°C (ratiometric output)
- **Output signals:** ratiometric, voltage, current, CANOpen
- Overload pressure: 4 x FS
- Burst pressure: 5 x FS
- Total error band: +/- 1% F.S. typical
- Self-diagnostics: available
- Wetted parts: stainless steel AISI 304L/316L
- Sealing: Fully-welded design
- Conformity: CE, UL

*Standard program available. For other requests, please contact Danfoss



The new **DST P100** modular low pressure sensor series

From simple, **robust** and **reliable pressure measurement** to **diagnostic** features



Reliable and robust

Designed for harsh environment
Hermetic solution

Diagnostics

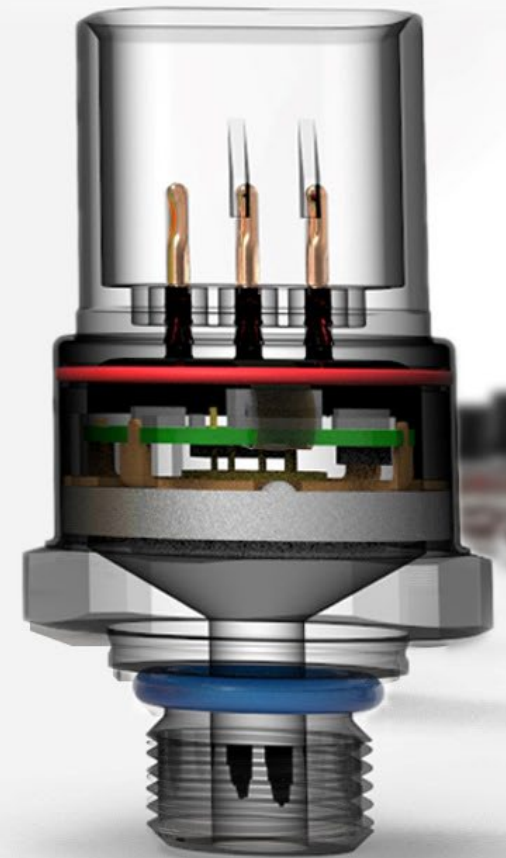
Broken sensor and harness fault detection
Data logging of over pressure and temperature

Scalable performance

Application fit
Improved Total Error Band at outer temperature ranges

Robust and proven DST P100 MEMS technology

- The new P100 sensor is built on the robust **Piezo resistive Silicon (MEMS) technology for a competitive pricing**
- Danfoss' **30+ years expertise** with this technology and the packaging of hermetically-sealed sensors makes this sensor the perfect choice for applications, where robustness and reliability are a focus.
- The MEMS chip will be isolated from the pressure media by an internal oil filling and a stainless steel diaphragm, which ensures **excellent compatibility with media.**



DST P100 Designed for high volume OEMs

- Using a **state-of-the-art automated production line**, the DST P100 series will meet the high-volume demand of our customers while adhering to **the high-quality standards of Danfoss.**

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New **electronics platform**

- Best-in-class sensor performance through DAN001 ASIC with **high precision digital signal processor for future proof sensor requirements**
- Flexible diagnostics enables the platform to adapt to user needs
- Excellent long-term stability and reliability of sensor signal over lifetime
- Prepared for:
 - Advanced diagnostics
 - Digital output

32bit

ARM SoC
24 bit ADC
14 bit DAC

10x

Signal-to-noise ratio

Flexible

diagnostics

QDC®

Patent

Electronics Platform

Danfoss
ASIC with high
precision digital
signal processor

QDC® patent

EMI robustness

TEB accuracy

▶ State-of-the-art sensor performance through Danfoss **ASIC & PCBA** design.

Custom ASIC 32 bit ARM processor
(SoC: System on a Chip)

- Software programmable features to adapt to your application needs
- Provides a very strong electronic backbone of the P100 series enabling a future ready platform of next generation sensors

Electronics Platform

Danfoss
ASIC with high
precision digital
signal processor

QDC® patent



Unique supply voltage excitation of the sensor bridge provides excellent long-term stability and reliability of sensor signal over its lifetime.

EMI robustness



Improves sensor long term stability

TEB accuracy

TESTING

Electronics Platform

Danfoss
ASIC with high
precision digital
signal processor

QDC® patent

EMI robustness

TEB accuracy

Fullfills severe automotive and off-highway level EMI/EMC standards.

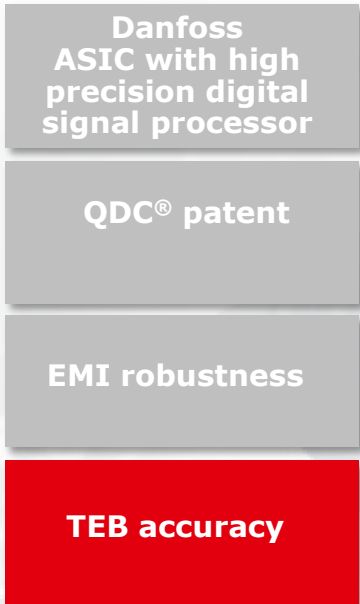
▶ Protected from over- and reverse-voltage situations.



Suitable for challenging applications in harsh environments.

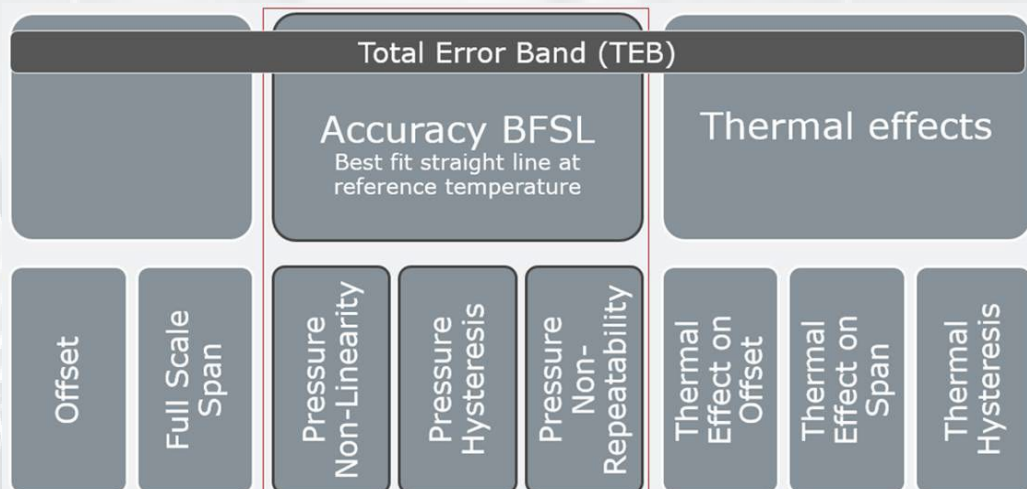
Reduces cost due to improper installations.

Electronics Platform



Scalable performance — from standard to tailored Total-Error-Band (TEB) for application fit

Optional improved TEB at outer temperature ranges



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Diagnostics



Power-up & Run-time diagnostics

Software defined features

Harness fault detection

Greater than 50% of field returned sensors are proven to be not defective.

Diagnostics allow us to monitor the health of the sensor, preventing damage during normal operation and **reducing downtime.**

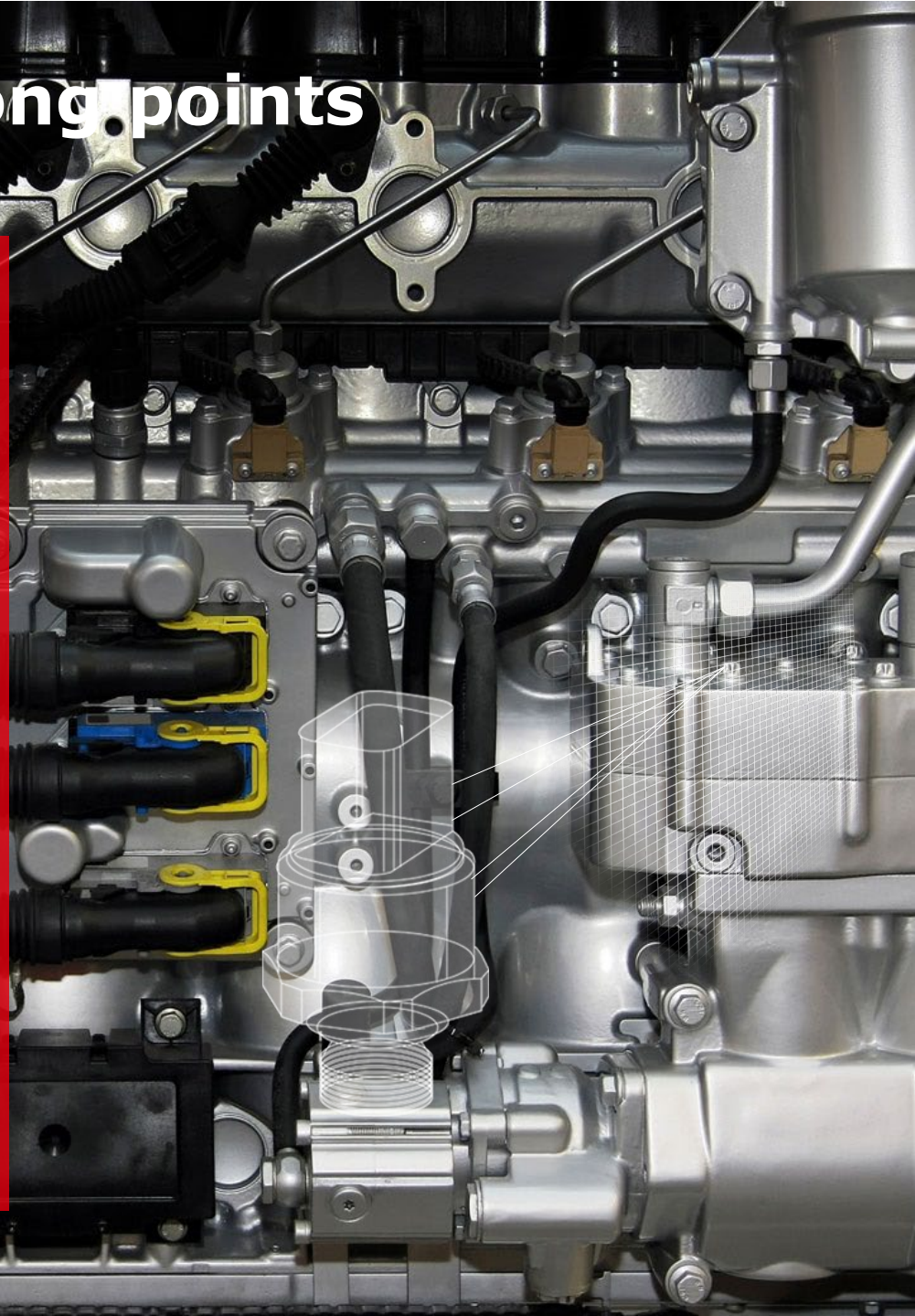
- **Minimize warranty costs.**
- Enables fast troubleshooting in the field.
- Enhances and speeds complaint handling and failure analysis.

DST P100 – Four strong points

Industrial engine industry

Robust and reliable Piezo Silicon MEMS technology provides a competitive price level for a ceramic capacitor.

- **Improve long-term reliability** — The hermetic solution provides excellent media compatibility and lowers the failure rate of the sensor.
- **Save troubleshooting costs** — diagnostics sends error signals to the controller.
- **Tailor sensor performance** to your specific application
- **Faster qualifications** — with “test-to-failure” methods and documentation





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