



ENGINEERING
TOMORROW



eBook | Danfoss Smart Sensors™

Smart sensing solutions for the future

Discover the smart sensor solutions leading you into the #DigitalSensorAge.

Global megatrends are setting the bar to new heights for a connected future. OEMs, wholesalers, and installers across many industries are at a crossroads, facing hard choices as they navigate the digital frontier. To boost your journey into the digital sensor age, Danfoss' Smart Sensor™ portfolio is a robust, future-proof suite of smart solutions for monitoring and controlling fluids, position, pressure, and temperature.

> START HERE

Discover the **Smart Sensors™** of tomorrow



Danfoss Smart Sensors™

Introduction to Danfoss
Smart Sensors™

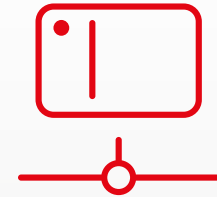
[Read more >](#)



Smart Sensor White Papers

Understand the digitalization
of industrial sensors
– now and into the future.

[Read more >](#)



Smart Sensor™ products and solutions

Industries we serve
Smart Sensors

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Danfoss Smart Sensors™

Welcome to the #DigitalSensorAge

Danfoss Sensing Solutions makes smart sensor technology a reality for industrial applications around the world.

Embrace the digital-focused future with our comprehensive portfolio of advanced smart sensor technologies for monitoring and controlling position, pressure, and temperature.

Our mission is to actively develop and expand our offering with new intelligent sensor technologies that satisfy the demands of today's applications – and anticipate the needs of tomorrow.

The Danfoss Smart Sensors™ platform makes customization, programmability, and scalability possible. Across applications, the sensor's self-diagnostic features improve safety, maximize efficiency, and reduce downtime.

Intelligent solutions for the future

Watch the video to learn how smart sensors increase efficiency and make your solutions more intelligent.



**Danfoss Smart
Sensors™**



**Smart Sensor
White Papers**



**Smart Sensor™
products and
solutions**

How are **smart sensors** driving **Industry 4.0** forward?

A central driving force for implementing connectivity, smart sensors empower businesses to achieve ambitious goals for optimization – meeting demands for greater efficiency and safety around the world.

In a new white paper from Danfoss Sensing Solutions – Smart Sensor Connectivity of Tomorrow – we explore the role of smart sensors in taking full advantage of the Industrial Internet of Things (IIoT), now and into the future.

You will learn:

- The challenges of digitalization – and the payoff
- The transformation from Industry 3.0 to Industry 4.0
- What defines smart sensor technology
- Drivers of smart sensor technology
- The power of remote technical support
- The influence of smart sensors on machine learning and AI

[Read the white paper now >](#)



**Danfoss Smart
Sensors™**



**Smart Sensor
White Papers**



**Smart Sensor™
products and
solutions**



Communication Protocols for Wired Digital Sensor Interfaces

Tap the **potential of smart sensor connectivity**

Digital communication protocols are increasingly important in industrial automation – and while smart sensors are paving the road to optimization, analog sensors continue to dominate certain industries.

Our white paper, 'Communication protocols for wired digital sensor interfaces', details how wired connectivity protocols enable the integration of smart features with analog sensors – instantly adding new value.

You will learn:

- Digital sensors and connectivity
- Drivers behind digital sensor communication
- Examples of wired digital communication protocols for sensors
 - Low-level digital communication
 - Fieldbus communication
 - Industrial Ethernet

[Read the white paper now >](#)



Danfoss Smart Sensors™



Smart Sensor White Papers



Smart Sensor™ products and solutions

Industries we serve

Smart sensors to support **global primary industries**

Danfoss Smart Sensors™ have been engineered for robust, reliable, and safe performance in a wide range of industrial applications that require fluid, pressure, and temperature monitoring and control.



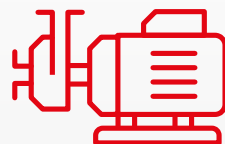
Mobile Hydraulics

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Marine & Engine

[Read more >](#)



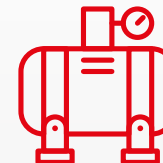
Water

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Wind

[Read more >](#)



Air Compressors

[Read more >](#)



HVAC & Refrigeration

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Smart Sensor
White Papers



Smart Sensor™
products and
solutions

Industries we serve

Mobile Hydraulics

We see the mobile hydraulic industry paving the way to reduce emissions and fuel consumption, demanding optimized performance, safety, and precision of machines. Danfoss is your partner in navigating the digital frontier, with our engineers and support around the world helping you approach the future with certainty.

Your machines build cities, feed nations, and keep supply chains going. And they have hardworking people that need to confidently maneuver in tight spaces, in time-critical situations, and with precision. Our growing portfolio of digital sensing solutions will consist of digital communication protocols and sensor self-diagnostics.



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**Smart Sensor
White Papers**



**Smart Sensor™
products and
solutions**

Industries we serve

Marine & Engine

Whether on land or at sea, engines power the machines that sustain growth. And demands on those engines to optimize, consume less fuel, control exhaust gas emissions, and enhance performance are growing every day. Our series of digital sensors are the workhorses delivering reliable data to the heart and brain of the engines, regulating and monitoring critical pressure and temperature controls.

Danfoss smart sensors not only feed data into your control applications but also deliver data for advanced analytics and machine learning algorithms. This allows for predictive maintenance and greatly improves functions such as fuel consumption and emissions. And digital sensor technology opens up the possibility to seamlessly integrate and connect a network of applications.



**Danfoss Smart
Sensors™**



**Smart Sensor
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**Smart Sensor™
products and
solutions**

Industries we serve

Water

It's no secret that pressure control is key to reducing water and energy loss. Our digital sensing solutions help to future-proof your application, enabling critical diagnostics to prevent water loss and wasted energy.

The digital transformation of the water industry presents a great opportunity to implement stronger solutions for the future and our engineers are constantly striving to research, develop, and provide you with the latest technology to empower your business. Together, we can help preserve a precious resource with intelligent digital solutions and support.



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**Smart Sensor™
products and
solutions**

Industries we serve

Wind

Located in isolated, harsh locations, wind turbines must sustain powerful forces of nature. Danfoss smart sensing solutions provide instant diagnostics, allowing you to troubleshoot and react – remotely and quickly. This means you can secure optimal machine uptime, avoiding costly losses and damage to other components.

The wind industry has long established itself at the forefront of renewable energy. In the next decades, onshore and offshore wind markets will expand across the globe, demanding larger, more efficient equipment. As part of your innovative solutions for tomorrow, our digital sensor technology – which serves almost all applications in the nacelles of wind turbines – puts the power to optimize, analyze, and monitor vital applications in your hands.



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**Smart Sensor
White Papers**



**Smart Sensor™
products and
solutions**

Industries we serve

Air Compressors

With more than 30 years as a global player in the compressed air industry, Danfoss places a premium on innovation and application expertise – especially in a segment with large-scale variety and complexity.

From small units for medical use to large industrial compressors operating in the kilowatt power band, Danfoss smart sensor technology is tailor-made for a wide variety of applications. Equally varied are the fundamental compressor technologies used, with reliable, efficient, and intelligent sensing solutions for fluid, pressure, and temperature control.



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products and
solutions**

Industries we serve

HVAC & Refrigeration

Our smart sensor technologies for the HVACR industry enable innovative design-in features for customization and programmability for your refrigeration and air-conditioning applications. Plus, instant diagnostics minimize application downtime, preventing costly losses.

We believe that connected HVACR is the future – and we are your partner in providing reliable and cutting-edge smart sensing solutions based on nearly a decade of serving the industry.



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Danfoss Smart Sensors™ fieldbus protocols

The future of smart sensing is here

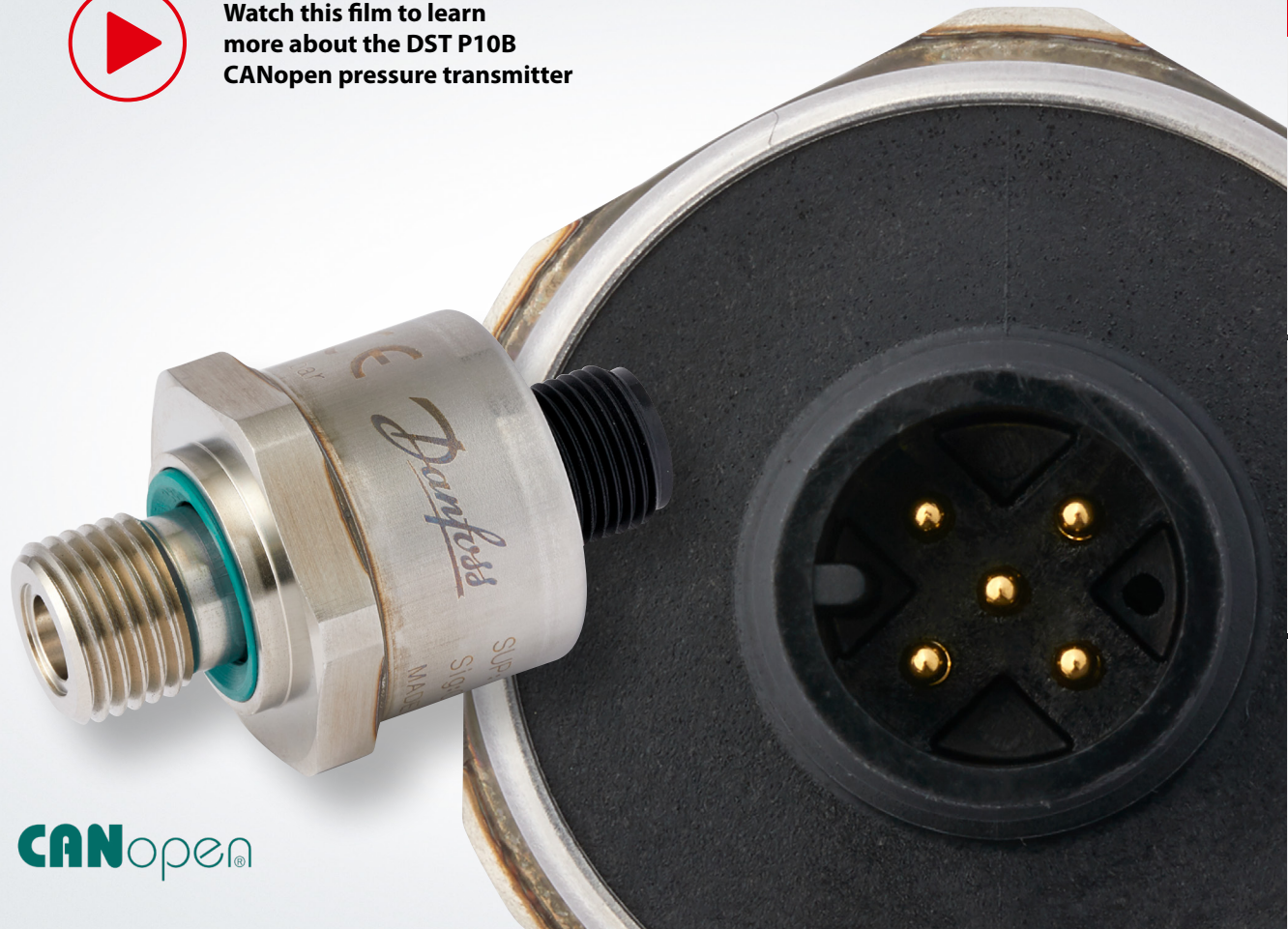
with the DST P10B CANopen pressure transmitter

As the first release of a new pressure transmitter platform based on the DST P1xx product series, the DST P10B CANopen pressure transmitter supports greater energy efficiency, operational optimization, and performance in water, air, and HVACR applications.

Built on top of our well-known and market-proven DST P1xx pressure transmitter, the DST P10B delivers an embedded CANopen DS 301/DS 404 communication profile – empowering you to easily add sensors to your existing high-level fieldbus communication with less complexity.



Watch this film to learn more about the DST P10B CANopen pressure transmitter



CANopen®



Danfoss Smart Sensors™



Smart Sensor White Papers



Smart Sensor™ products and solutions

- Access actionable data from your sensor with the CANopen interface
- Scalable electronics platform that enables fine-tuned sensor performance
- Durable packaging of the MEMS sensor and signal conditioning electronics
- Improved time-to-market with our test-to-failure development process
- Future-proof performance with access to sensor diagnostics
- Lower system cost and faster troubleshooting with simplified wire harness

Products

Intelligent solutions for the future

Our smart sensor technology is based on the new Danfoss ASIC® electronic platform that provides a strong foundation for future development projects, enabling customized, programmable features. Discover the potential that unlocks fast, easy scalability prepared for any objectives you need to meet – now and into the future.

DST P300 Pressure Transmitter for water, air, and industrial applications

A flexible smart sensor engineered for reliable, scalable performance and new digital possibilities.

[Learn more >](#)



DST P30M Pressure Transmitter for marine applications

A robust pressure transmitter with self-diagnostic features providing ultimate reliability in the harshest marine environments.

[Learn more >](#)

DST P310 Pressure Transmitter for HVACR applications

A highly flexible solution available with a wide variety of electrical connectors and pressure ports – now with digital possibilities.

[Learn more >](#)



Danfoss Smart
Sensors™



Smart Sensor
White Papers



Smart Sensor™
products and
solutions

DST P100 Pressure Transmitter for industrial engine and mobile hydraulic applications

Unrivaled reliability, durability,
and performance enhanced
with digital possibilities.

[Learn more >](#)



DST P110 Pressure Transmitter for HVACR applications

Engineered to withstand harsh
applications with a stainless steel
design and hermetically-sealed
media interface.

[Learn more >](#)



**Danfoss Smart
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**Smart Sensor
White Papers**



**Smart Sensor™
products and
solutions**

DST P140 Pressure Transmitter for water and air applications

Diagnostic features and a scalable
electronics platform enhance
reliability and durability.

[Learn more >](#)



DST P10B CANopen Pressure Transmitter for water, air, and HVACR applications

Access smart sensor technology for
maximum application performance,
optimization, and scalability.

[Learn more >](#)



Embrace the future of **smart sensor connectivity**

The Danfoss Smart Sensors™ platform brings brand new opportunities in the digital journey, enabling businesses to achieve more with less – right now. Faster, easier, and more intuitively than ever before.

Are you ready to join the #DigitalSensorAge?

[Learn more >](#)



957

+35%

225

-17%

570

+48%

