

# The perfect transmitter made from expert know-how

A typical pressure transmitter has three general functional elements:

- The electronics
- The sensing element
- The packaging

It is the solution of each of these elements and the combination that determines the performance of the products. All Danfoss pressure transmitters are certified according to ISO/TS 16949:2009 and ISO 14001:2004.

### 1 Electronics

Danfoss pressure transmitters are available with analogue or digital electronic solutions and offer unique specifications in terms of:

- Accuracy
- Temperature range coverage
- EMI/RFI protection
- Multi-variable transmitter function
  - Pressure
  - Pressure and switch function

### 3 Packaging

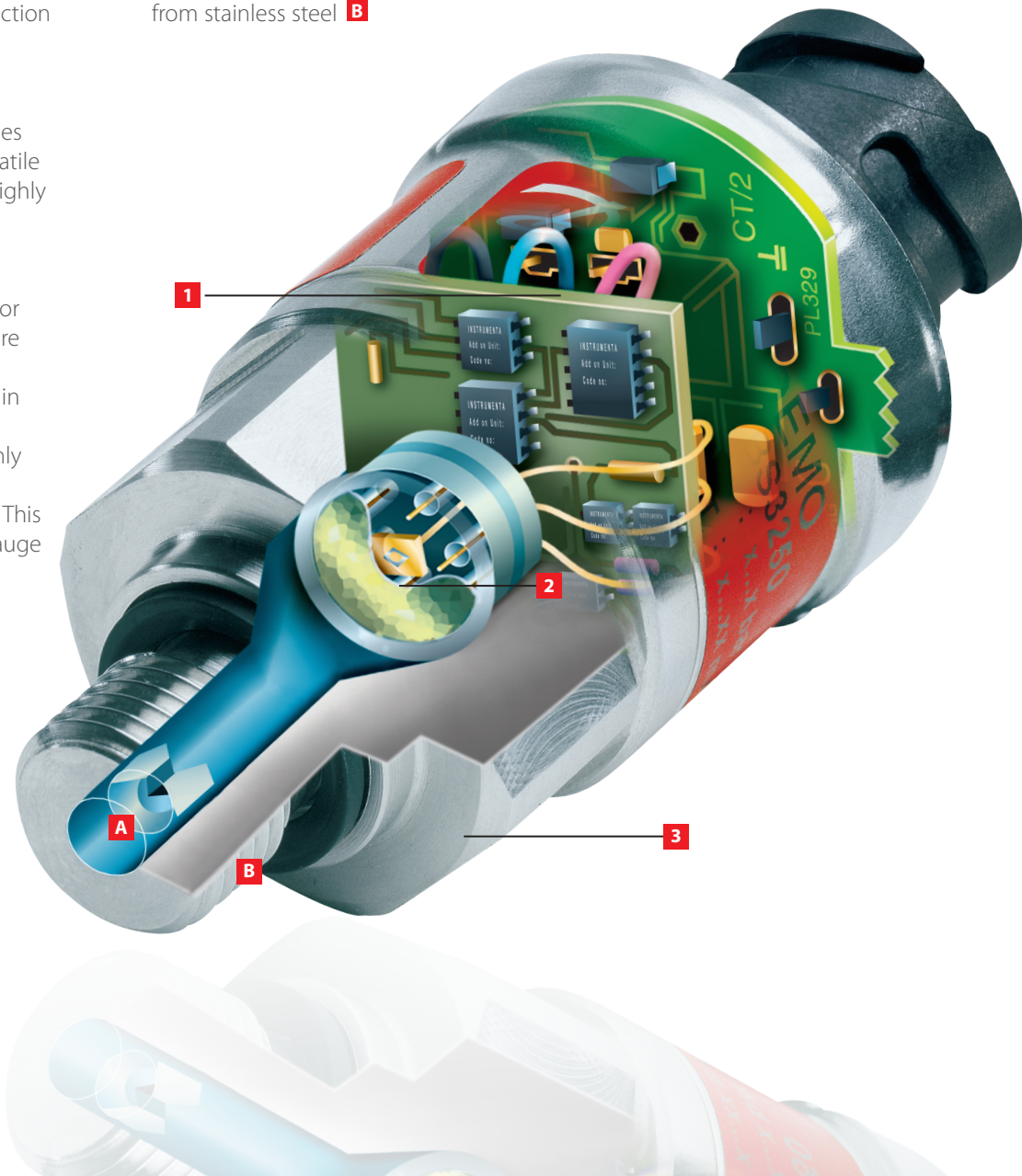
The transmitter design offers long-life stability through:

- High shock and vibration stability
- High enclosure grade (special version up to IP69K)
- Pulse restriction solution which prevents liquid hammering and cavitation **A**
- Wetted parts that are all made from stainless steel **B**

### 2 Sensing element

Offering two sensing technologies Danfoss is able to cover the versatile application requirements with highly competitive solutions. Both technologies are designed to operate in severe environments:

- Piezoresistive semi-conductor technology covering pressure ranges from 1 to 600 bar. This technology is available in absolute or gauge versions
- Thin-film technology is mainly used for high-pressure applications up to 2200 bar. This technology is available in gauge version



## Engineering Tomorrow



Danfoss is a leading global player within the development and production of mechanical and electronic products and controls. Since 1933, our extensive know-how has made modern life easier and we continue to break new ground within our core business areas.

Every day, more than 250,000 items are produced at 70 factories in 25 countries. Impressive as these figures are, we are most proud of the way our dedicated employees apply the high-quality components in customer solutions, adding value to the end products. Building strong partnerships is of great importance to us, because it is purely by understanding our customers' needs that we can meet the expectations of tomorrow.

This is also true in Industrial Automation, a Danfoss entity dedicated to focusing on the industrial world of today. Through us, you gain access to the entire Danfoss pool of technologies, with special emphasis on sensors and controls.

**We offer safer, more reliable and more efficient solutions in a close cooperation based on firm values.**

Learn more at [www.danfoss.com/ia](http://www.danfoss.com/ia)

### Danfoss A/S, Industrial Automation

DK-6430 Nordborg · Denmark · Tlf: +45 7488 2222 · [ia@danfoss.com](mailto:ia@danfoss.com) · [www.danfoss.com/ia](http://www.danfoss.com/ia)

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequent changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.

ENGINEERING  
TOMORROW

*Danfoss*

## Pressure Transmitters designed for customer needs

A pressure transmitter overview



**ONE**  
stop shop  
for your  
sensor needs.



We've made your challenges our business

When you choose Danfoss as your supplier of pressure transmitters, you choose a dedicated partner who truly understands the challenges in your specific applications. Years of experience allow us to provide you with advanced solutions that will meet your every requirement in terms of

both performance and life cycle cost. Choose from our wide range of standard devices or team up with our worldwide transmitter experts to design a customised solution for your equipment.

Marine and railway equipment



Marine, Mobile Hydraulics and Railways

The increasing global focus on environmental and safety legislation calls for more control and automation. Danfoss accommodate this by optimising product functions and specifications, allowing you to comply with the new demands. Our wide transmitter range comprises solutions for:

- Marine equipment
- Mobile hydraulic equipment
- Railway equipment

Machine and equipment



Industrial Hydraulics, AirCompressors, Water Pumps and Industrial Engines

Within machines and equipment the transmitter specifications depend on the specific application. Close cooperation with customers has allowed us to develop dedicated transmitter solutions for:

- Water pumps and air compressors
- Engines
- Industrial hydraulics

Heating and sanitation



Sterilisers, Autoclaves, Boiler and Boiler Room Equipment

Energy efficiency and safety are frequent challenges in heating and sanitation applications. The answer is highly reliable and accurate measurement, which is achieved by unique process control. For this specific purpose, Danfoss has developed a unique solution.

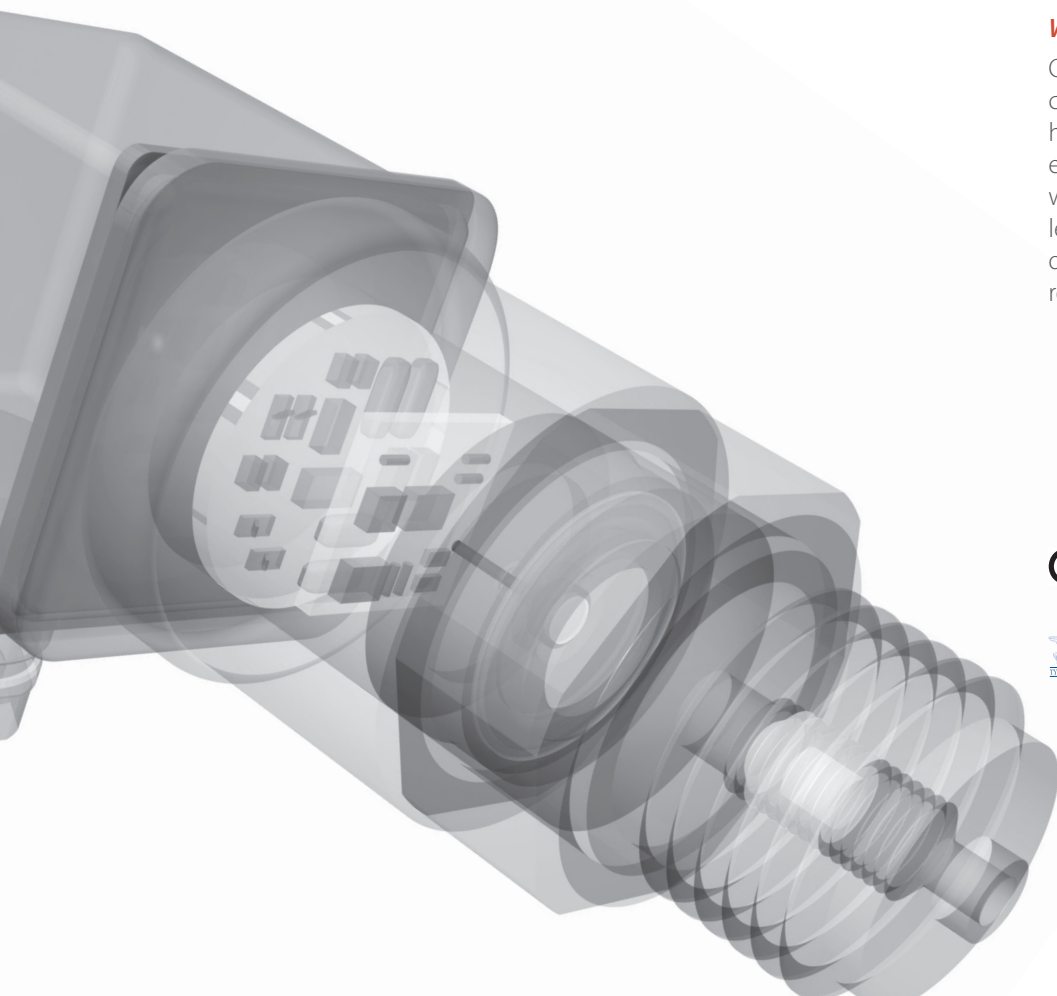
Energy
































Wind Turbines and Electric Power

One of the most distinct global challenges now and in the future is how to produce energy in a both efficient and environmentally friendly way. In cooperation with some of the leading manufacturers, Danfoss has developed – and is continuously refining – solutions for:

- Wind turbines
- Gen sets



PRESSURE TRANSMITTERS OVERVIEW

								
TYPE	STANDARD	MBS 1700	MBS 3000	MBS 3200	MBS 3100	MBS 5100	EMP	MBS 4510
	WITH PULSE-SNUBBER	MBS 1750	MBS 3050	MBS 3250	MBS 3150	MBS 5150		
SEGMENTS	Transportation							
	Heating and sanitation							
	Machine and equipment							
	Energy							
CHARACTERISTICS	Sensor technology		Piezo resistive	Piezo resistive	Piezo resistive	Piezo resistive	Piezo resistive	Piezo resistive
	Accuracy FS (max)		± 1%	± 1%	± 1%	± 1%	± 0.3%	± 0.5%
	Max. measuring range [bar]		0 – 400 <sup>1)</sup>	0 – 600	0 – 600	0 – 600	0 – 600	0 – 25
	Max. measuring range [psi]		0 – 5800 <sup>1)</sup>	0 – 9000	0 – 9000	0 – 9000	0 – 9000	0 – 360
	Output signal		4 – 20 mA	4 – 20 mA	4 – 20 mA	4 – 20 mA	4 – 20 mA	4 – 20 mA
			–	Absolute voltage	Absolute voltage	–	–	–
			–	–	–	–	–	–
	Medium temperature	°C	-40 – 85 °C	-40 – 85 °C	-40 – 125 °C	-40 – 85 °C	-40 – 85 °C	-40 – 100 °C
		°F	-40 – 185 °F	-40 – 185 °F	-40 – 257 °F	-40 – 185 °F	-40 – 185 °F	-40 – 212 °F
								
	Enclosure IP		IP65	IP65 IP67	IP65 IP67	IP65 IP67	IP65	IP65
	Wetted parts material		AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L	AISI 316L
	Housing material		AISI 316L, PA 6.6	AISI 316L, PA 6.6	AISI 316L, PA 6.6	AISI 316L, PA 6.6	AI	AISI 316L, PA 6.6
	Zero point and span adjustment					•	•	•
	Marine approvals				•	•	•	
	ATEX approval			Zone 2	Zone 2	Zone 2	Zone 2	Zone 2
	UL Hazloc			Class 1, Div. 2	Class 1, Div. 2	Class 1, Div. 2		Class 1, Div. 2

<sup>1)</sup> Pressure ranges 0 – 6 bar — 0 – 25 bar in relative (gauge)  
Pressure ranges 0 – 87 psi — 0 – 363 psi in relative (gauge)

All transmitters are available with a variety of electrical and process connections. Please contact your Danfoss dealer.