motralec Danfoss Pressure Transmitter Type DST P150 For hydrogen applic· DEMANDE DE PRIX >
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ENGINEERING TOMORROW

Data Sheet

Pressure Transmitter Type **DST P150**

For hydrogen applications (OEM)



The Danfoss DST P150 series pressure transmitter is designed to support your demanding Hydrogen applications, such as:

- Fuel cells
- Hydrogen powered combustion engines
- Electrolysis

Drawn from over 30 years of experience with MEMS pressure sensing, the DST P150 offers outstanding performance in a compact and durable stainless-steel package.

All wetted parts in media contact are made of 316L stainless steel.

Running a powerful ARM-based microcontroller, the DST P150 offers diagnostic features and scalable performance features at a competitive price.

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Features

- Hermetically sealed media interface (all stainless steel, fully welded)
- Highest quality standards due to automatic check of all sensors in production
- All wetted parts in media contact 316L stainless steel
- Checked against EC79/2009 standard
- Industry leading accuracy over a broad temperature range
- Compact and cost-effective design for OEM applications
- Self-diagnostics minimize warranty costs
- Superior shock and vibration resistance
- High overload and burst pressure
- Robust electronics platform for harsh electrical environments
- Various electrical and pressure port variants available for product platform
- ATEX Zone 2 (Non standard - available on request)

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Product specification

Technical data

Table 1: Performance

Pressure Range[1]	0-50 bar (0-725 psi) Absolut and Gauge
Accuracy/Total error band	± 1,5 % FS within specific temperature range 0-85°C (see below)
Response time (10%-90%)	< 2 ms
Overload pressure	4 × FS
Burst pressure	5 × FS, max. 250 bar (3626 psi)
Durability, P: 10-90% FS	>10 mil. Cycles. 10%-110 FS

[1] For higher pressure ranges, max 60 bar(870psi), contact Danfoss sales representative.

Figure 1: Measurement Performance

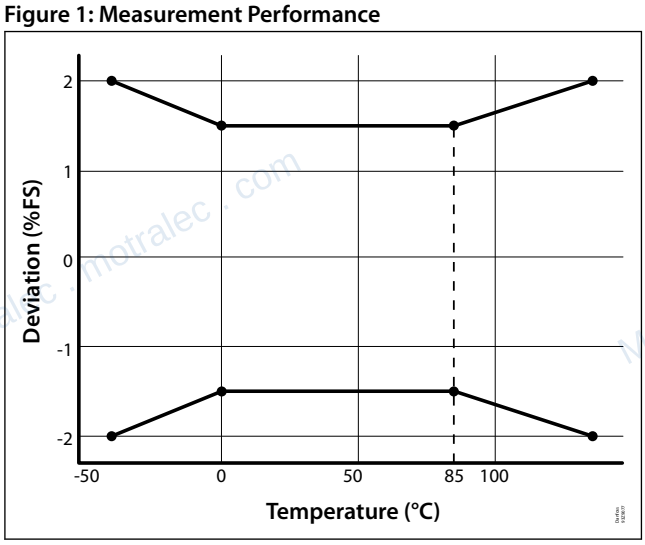


Table 2: Electrical specifications/ Environmental conditions

Media temperature range (ratiometric output)		-40 – 135 °C
Media temperature range EC79 certification		-40 – 120 °C
Ambient temperature range (ratiometric output)		-40 – 125 °C
Storage temperature range		-40 – 125 °C
Voltage supply(Vss)		5 V ± 10%
Load [RL] (load connected to ground)		RL ≥ 2 kΩ at 5 V DC
Output modes [3]		Ratiometric (10-90% Vss)
Output limiting (clamping)		Low clamp 5% Vss
Over and reverse voltage		Protected to 16 V
Short circuit		Protected to 16 V
Miswiring		Protected
Diagnostic fault signal		2% Vss
EMC compatibility		EN 61000-6-3 EN 61000-6-2
ESD		IEC 61000-4-2 8 kV contact, 15 kV air
Insulation resistance		>100M Ohm at 500 V DC
Vibration resistance	16.5 g (20-2000 Hz)	EN 60068-2-64
Shock resistance	1000 g (half sinus, 1 ms)	EN 60068-2-27

[3] mA output with reduced media temperature available upon request.

Table 3: Explosive atmospheres (Non standard - available on request)

Zone 2 applications	Ex II 3 G Ex ec IIC Gc	EN IEC 60079-0:2018; EN IEC 600079-7: 2015/A1:2018

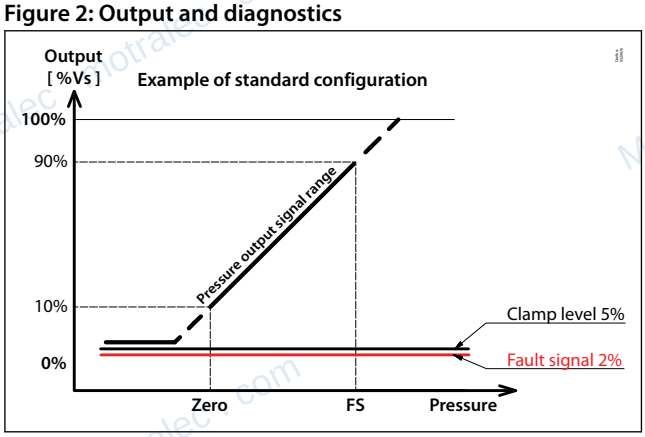
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Table 4: Mechanical characteristics

Enclosure material (housing/electrical connector)	AISI 304L Stainless steel and PBT (30% glass reinforced)
Material with media contact	AISI 316L Stainless steel
Weight	Approx. 62 g
Enclosure (IP Protection)	IP 67 and IP69K

Output and diagnostics

Figure 2: Output and diagnostics



Defines the measuring range of the sensor.

Output clamp level

- Limits the pressure output signal if the pressure falls below the normal range

Sensor fault signal

- Placed below the pressure output range. Output at this level signals a sensor fault

Harness fault detection

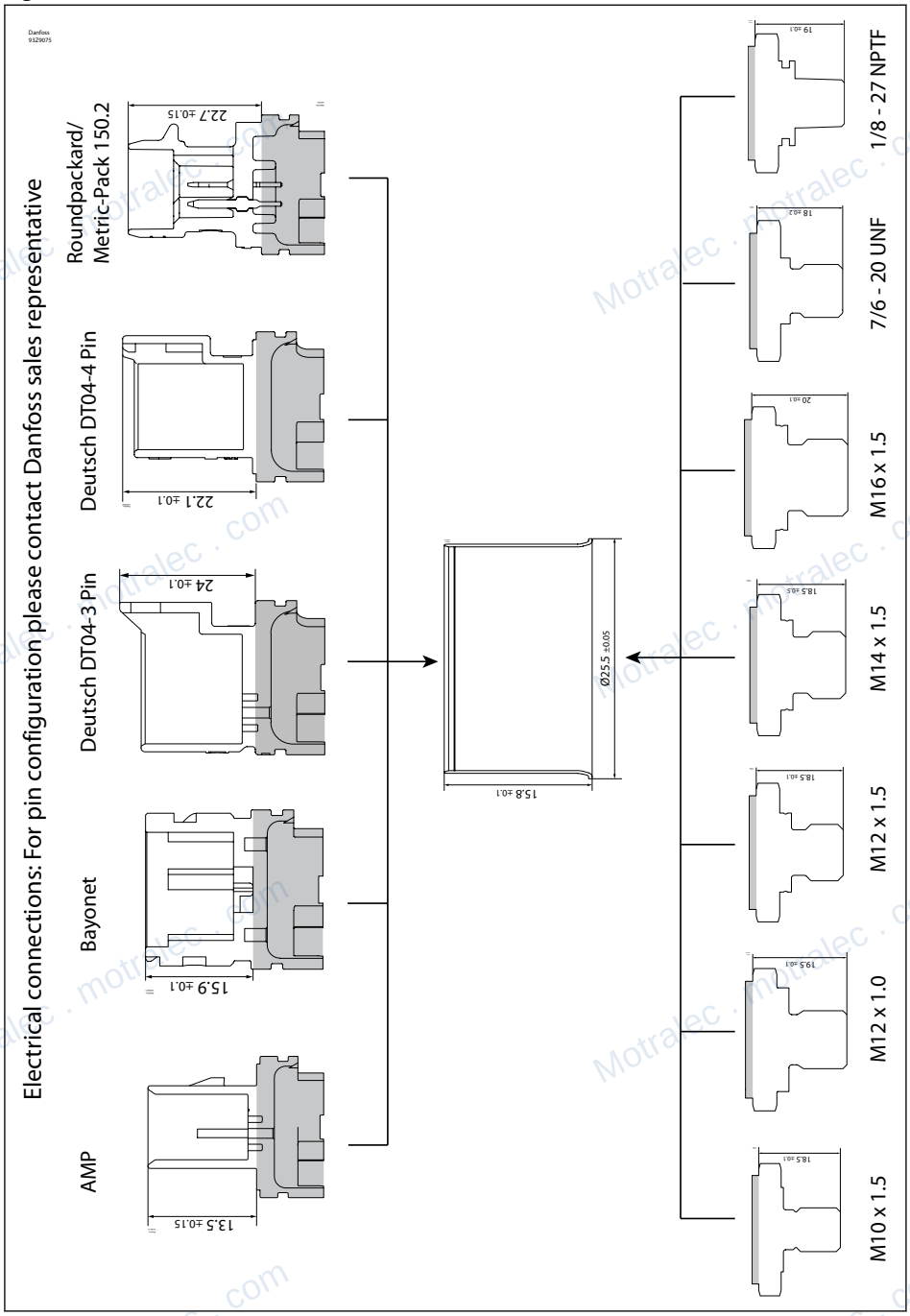
- Low leakage current of the sensor allows the controller to recognize harness fault conditions. (Requires a pull-down or pull-up resistor at controller interface).

If the connected controller has an internal pull up or pull down resistor at the analog channel input, then the loss of ground or supply voltage (Vss) connection to the sensor will result in a near Vss or near ground signal voltage. Contact Danfoss sales representative for detailed information and requirements.

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Dimensions/Combinations

Figure 3: Dimensions/Combinations



Recommended torque (Depends on different parameters such as gasket material, mating material, thread lubrication and pressure level)
NPT: 2-3 turns after finger tightened
Others: 30-35 Nm

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Certificates, declarations, and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

File name	Document type	Document topic	Approval authority
075R0030.00	Manufacturers Declaration	PED	Danfoss
075R00110.04	Manufacturers Declaration	EU-UK Declaration (Incl. RoHS)	Danfoss
IECEx_ULD_23.0014U_000 (optionally available)	Explosive Safety Certificate	ATEX Zone 2	UL
UL23UKEX2865U Rev. 0 (optionally available)	Explosive Safety Certificate	UK ATEX Zone 2	UL

Conformity

- CE marked
- RoHS compliant
- EC79 / 2009

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