

Data sheet

# Pressure transmitters for harsh environment

## DST P40I



Danfoss Sensor Technology (DST) P40I pressure transmitter has been designed for use in corrosive industrial environments such as desalination systems, sea water cooling, waste water, etc..

The enclosure of the pressure transmitter is machined out from a single piece of Titanium to eliminate any structural weaknesses. Titanium is exceptionally resistant to a broad range of acids and alkalis, as well as Sodium Chloride and polluted waters. Titanium's corrosion resistance together with its low density, high strength and erosion resistance, make this pressure transmitter ideal for numerous chemical processing and marine uses.

The pressure sensing element is made from ceramic  $Al_2O_3$  96% which has excellent chemical immunity and is suitable for nearly all aggressive media. The pressure transmitter works following the piezo resistive principle and the Wheatstone bridge is screen printed directly on one side of the ceramic diaphragm by means of Thick Film technology.

### Features

Designed for use in corrosive industrial environments such as desalination systems, medical industry, chemical processing, chlorate containing liquids, hydro-carbon processing, etc.

- Enclosure Titanium grade 2
- Temperature compensated

- Reverse polarity protected
- Gauge (relative)
- Wetted parts: Titanium & Ceramic
- Ceramic  $Al_2O_3$  96%
- High linearity and low hysteresis value
- ROHS compliance

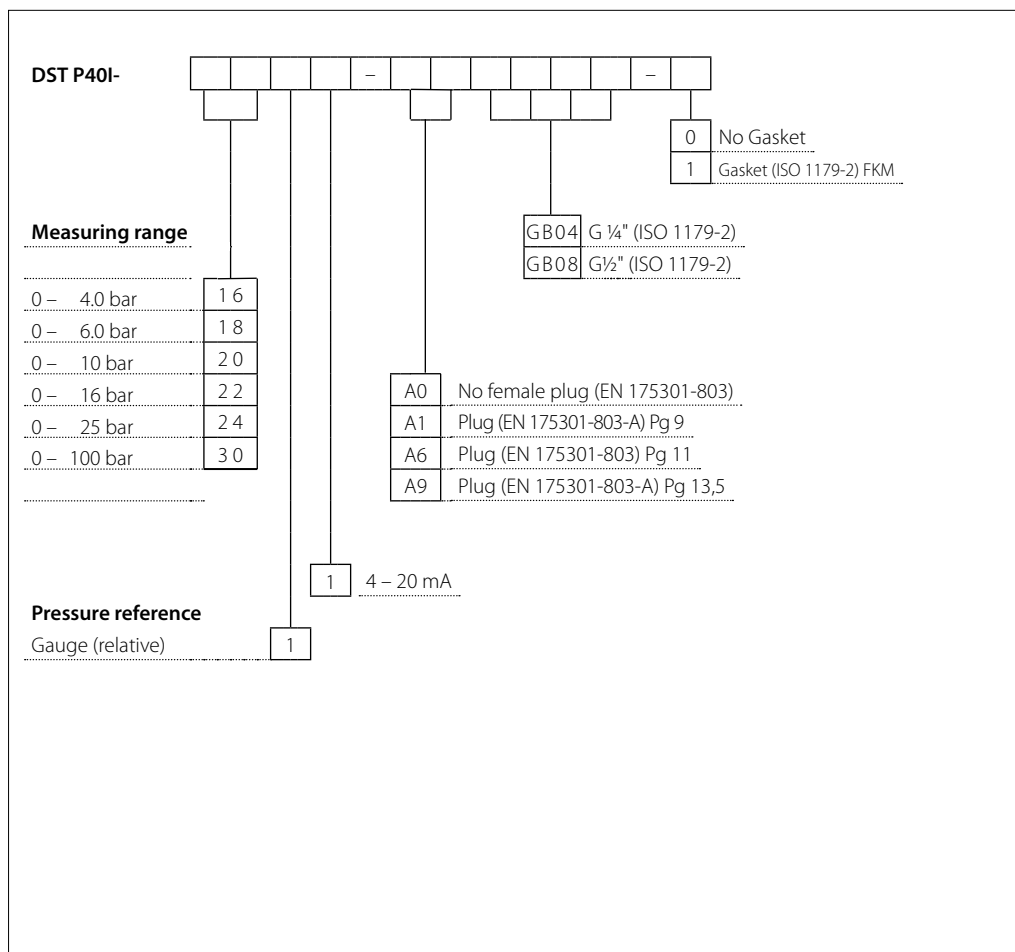
**Data sheet | Pressure transmitters for harsh environment, DST P40I**
**Technical data**

Transmitter type		DST P40I	
Accuracy (incl. non-linearity, hysteresis and repeatability)		< ± 1% FS (typ.) @ ambient temperature	
Compensated temperature range		0 – 80 °C	
Total error band within compensated temperature range		± 1.5% FS (typ.)	
Output type		4 – 20 mA	
Pressure reference		Gauge	
Supply voltage range		9 – 32 V DC	
Rise time (10 – 90%)		< 5 ms	
Overload pressure		2 x FS	
Burst pressure		2.5 x FS	
Durability		P:10-90%FS > 10 mio cycles	
Media temperature range		-15 – 85 °C	
Ambient temperature range		Depending on electrical connection see page 5	
Storage temperature range		-40 – 105 °C	
Load [R <sub>L</sub> ]		$R_{L} \leq (U_B - 8V) / 0,02A$	
EMC – Emission		EN 61000-6-3	
EMC – Immunity		EN 61000-6-2	
Vibration stability	Sinusoidal	15.9 mm-pp, 5 Hz – 25 Hz	IEC 60068-2-6
		20 g, 25 Hz – 2 kHz	
Shock resistance	Shock	100 g / 1 ms	IEC 60068-2-27

**Pressure range**

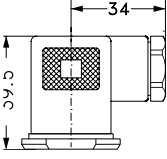
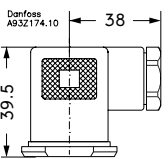
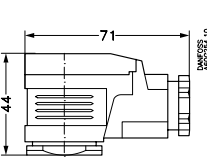
0 – 4 bar	Gauge
0 – 6 bar	Gauge
0 – 10 bar	Gauge
0 – 16 bar	Gauge
0 – 25 bar	Gauge
0 – 100 bar	Gauge

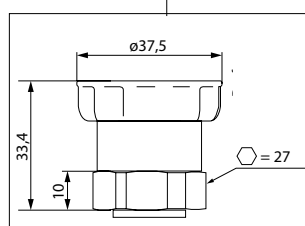
Ordering standard

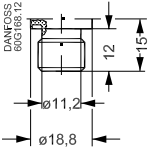
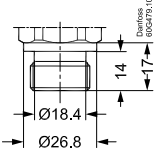


Non-standard build-up combinations may be selected. However, minimum order quantities may apply. Please contact your local Danfoss office for further information or request on other versions.

Dimensions / Combinations

Type code	A1	A6	A9
Connector	 <p>EN 175301-803-A, Pg 9</p>	 <p>EN 175301-803-A, Pg 11</p>	 <p>EN 175301-803-A, Pg 13.5</p>



Connection Types		
Type	G ¼"; ISO 1179-2	G ½"; ISO 1179-2
Gasket	FKM	FKM
Type code	<b>GB04</b>	<b>GB08</b>
Recommended torque <sup>1)</sup>	30 – 35 Nm	30 – 35 Nm

<sup>1)</sup> Depends on different parameters such as gasket material, mating material, thread lubrication and pressure level

**Electrical connections**

Type code	A0: Male A1: Pg 9 A6: Pg 11 A9: Pg 13.5
	<p>EN 175301-803-A, Pg 9</p>
Ambient temperature	-25 – 85 °C
Enclosure (IP protection fulfilled together with mating connector)	IP65
Electrical connection, 4 – 20 mA output (2 wire)	Pin 1: + supply Pin 2: - supply Pin 3: not used Pin 4: not connected to housing