

Data sheet

# Pressure transmitters for marine applications

## DST P40M



The P40M pressure transmitter has been designed specific for pressure monitoring of marine applications such as Ballast water treatment systems, Exhaust gas scrubbers, Desalination and Sea water cooling systems where high corrosion resistance and longevity are essential for the continued operation of auxiliary & propulsion systems onboard the vessel.

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<sub>2</sub>O<sub>3</sub> 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<sub>2</sub>O<sub>3</sub> 96%
- High linearity and low hysteresis value
- RoHS compliance

### Approvals

Pending Marine approvals:  
 Det Norske Veritas: DNV-GL  
 Nippon Kaiji Kyokai: ClassNK  
 Korean Register of Shipping: KR  
 China Classification Society: CCS

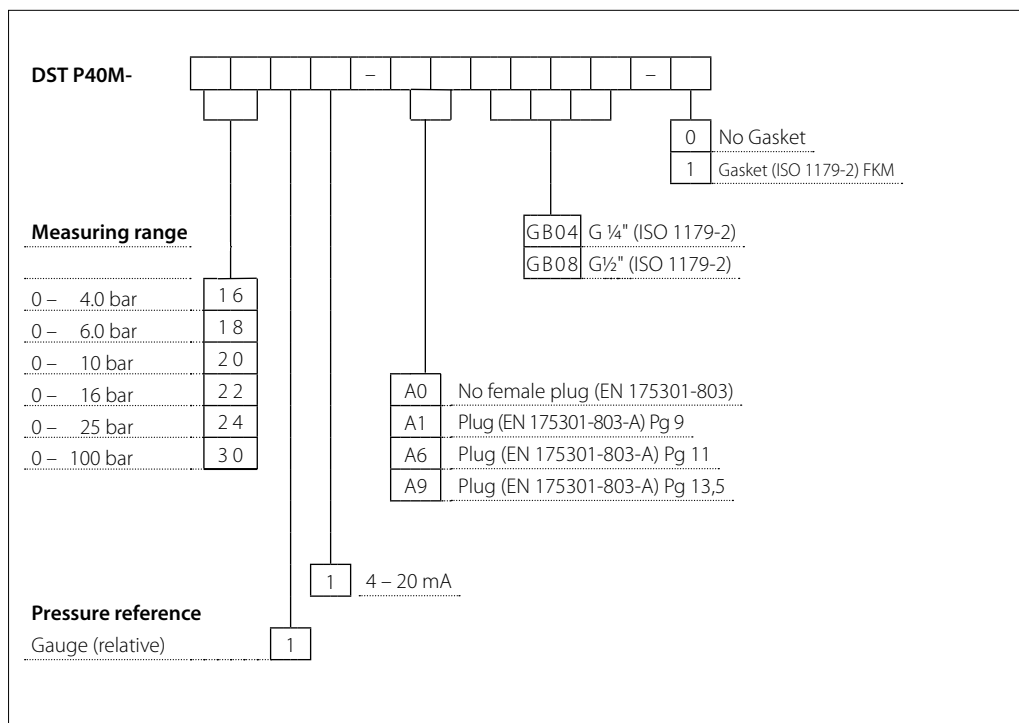
**Technical data**

Transmitter type		DST P40M	
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**

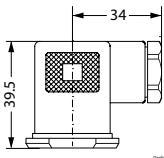
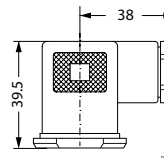
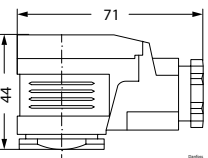
0 – 4 bar	Gauge
0 – 6 bar	Gauge
0 – 10 bar	Gauge
0 – 16 bar	Gauge
0 – 25 bar	Gauge
0 – 100 bar	Sealed gauge

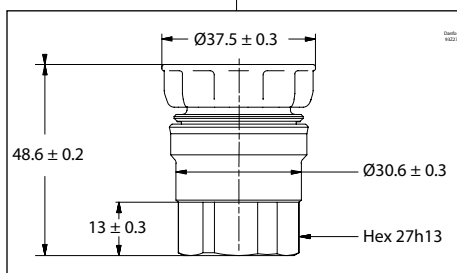
**Ordering standard**

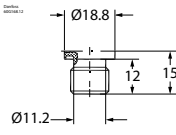
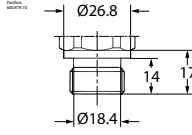


Non-standard build-up combinations may be selected. However, minimum order quantities may apply. Please contact your local Danfoss office for further information or request on other versions.

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 1/4"; ISO 1179-2	G 1/2"; 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	<p>A0: Male A1: Pg 9 A6: Pg 11 A9: Pg 13.5</p>
	<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)	<p>Pin 1: + supply Pin 2: ÷ supply Pin 3: not used Pin 4: not connected to housing</p>