

Data sheet

# Modular pressure transmitters for harsh environments

## DST P500, DST P507 and DST P550



The P500 / P507 / P550 utilizes the thin film strain gauge sensing technology, incorporating an hermetically sealed design with no internal sealing required. Designed for harsh environments, a rugged 304 stainless steel housing surrounds the P500 / P507 / P550 transducer.

The P500 / P507 / P550 small, compact design as well as its low overall weight makes it ideal for applications with spacing and weight limitations. This easy-to-use sensor is media resistant, which allows it to be used for a broad range of liquid and gaseous media. It can be used at high operating temperatures and has internal temperature compensation.

Highly reliable, the P500 / P507 / P550 provides accurate, high pressure measurements every time.

P507 is suitable in applications where cleanliness is a must. All transmitter parts in contact with the medium meet the cleanliness requirements according to the ISO 15001 standard.

P550 with integrated pulse-snubber is suitable in applications with severe medium influences like cavitation, liquid hammer or pressure peaks.

### Features

- Designed for use in harsh industrial environments
- For media and ambient temperatures from -30° – 120 °C
- Reverse polarity protected
- Excellent shock and vibration performance
- Outstanding long-term stability and repeatability
- Compact and light-weight design
- Hermetically sealed to the application
- RoHS conformity

### Approvals

CE Compliance:  
EMC directive 2014/30/EU, EN61000-6-2:2005  
and EN61326-1:2006

Other:  
2011/65/EU ROHS Directive  
UL - E494625  
EAC

**Technical data**
**Performance (EN 60770)**

Accuracy @ 25 °C (incl. non-linearity, hysteresis and non-repeatability)	± 0.5% FS
Non-linearity BFSL (conformity)	≤ ± 0.2% FS
Thermal zero point shift	≤ 0.2% FS / 10° K @ 0-80 °C
Thermal span shift	≤ 0.2% FS / 10° K @ 0-80 °C
Non-repeatability	≤ ± 0.1% FS
Durability, P: 10 – 90% FS	> 10 × 10 <sup>6</sup> cycles

**Overload and burst pressure**

Nominal pressure [bar]	6	10	16	25	40	60	100	160	250	400	600
Overload pressure	12	20	32	50	80	120	200	320	375	600	900
Burst pressure	60	100	160	200	320	480	600	960	1000	1600	2400

**Electrical specifications**

Nom. output signal (short-circuit protected)	4 – 20 mA	0.5-4.5 V DC Ratiometric	0-5 V DC/0-10 V DC
Supply voltage [U <sub>s</sub> ], polarity protected	8 – 30 V DC	5 V DC ± 0.25 V	8-30/14-30 V DC
Supply – power consumption	≤ 600 mW	≤ 25 mW	≤ 600 mW
Overvoltage protection	min. 33 V DC	min. 6 V DC	min. 33 V DC
Short-circuit protection	N/A	Yes <sup>1)</sup>	Yes <sup>1)</sup>
Insulation voltage	500 V DC	500 V DC	500 V DC
Reverse polarity protection	Yes <sup>2)</sup>	Yes <sup>2)</sup>	Yes <sup>2)</sup>
Load	≤ (V <sub>sup</sub> - 8 V DC)/0.02 A[Ω]	≥ 4.7 kΩ	≥ 4.7 kΩ
Response time	≤5 ms max. to 63% of FS pressure with step change on input		

<sup>1)</sup> for min. 3 intervals at 5 minutes each

<sup>2)</sup> for min. 10 sec. on assigned pins

**Environmental conditions**

Media temperature range			-30 – 120 °C
Ambient temperature range			-30 – 100 °C
Storage temperature			-30 – 100 °C
Vibration stability	Random	20 PSD	IEC 60068-2-64
Shock resistance	Shock	25 g	IEC 60068-2-27
	Free fall	1 m	IEC 60068-2-3-1
Enclosure (depending on electrical connection)			IP 65 or IP 67, depending on electrical connection

**Mechanical characteristics**

Materials	304 stainless steel (1.4301 / 1.4307)
Net weight (depending on pressure connection)	<0.05 kg

Ordering

DST P	5		-																	
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Standard .....	00																			
Cleanliness according to ISO 15001 .....	07																			
With pulse-snubber .....	50																			

  

**Measuring range**

0 – 6 bar .....	18																			
0 – 10 bar .....	20																			
0 – 16 bar .....	22																			
0 – 25 bar .....	24																			
0 – 40 bar .....	26																			
0 – 60 bar .....	28																			
0 – 100 bar .....	30																			
0 – 160 bar .....	32																			
0 – 250 bar .....	34																			
0 – 400 bar .....	36																			
0 – 600 bar .....	38																			
Others .....	99																			

  

Gauge (relative) .....

1
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**External Seal Ring**

0	None
1	Fluorocarbon FKM>-20 °C (Viton)
9	Others

  

**Pressure connection**

GB04	G ¼ A DIN 3852-E
AD10	7/16 - 20 UNF-2B (female)
AD08	7/16 - 20 UNF-2A (male)
GB06	G ¼ A DIN 3852-A
99	Others, please specify

  

**Electrical connection**  
 Figures refer to plug and standard Pin figuration - see page 5

A0	EN 175301-803-A - male (18 mm) <sup>1)</sup>
C5	EN 175301-803-C-male (9.4 mm) <sup>2)</sup>
E3	M12 - 4 pin
C2	Packard Metri-Pack 150
99	Others

  

**Output signal**

1	4 – 20 mA
6	0.5 – 4.5 V DC Ratio Metric
2	0 – 5 V DC
5	0 – 10 V DC
9	Others, please specify

<sup>1)</sup> Mating connector can be ordered, code no.: 060G0008

<sup>2)</sup> Mating connector can be ordered, code no.: 063G0306

For other variants please contact Danfoss



**Electrical connections**

Type code		E3	A0	C2	C5
		<p>M12, 4 pin</p>	<p>EN 175301-803-A, 18 mm</p>	<p>Round Packard Metri-Pack</p>	<p>EN 175301-803-C 9.4 mm</p>
Ambient temperature	4 – 20 mA	-30 – 100 °C			
	0.5-4.5 V DC Ratiometric				
	0-5 V DC				
	0-10 VDC				
Enclosure (IP protection fulfilled together with mating connector)		IP67	IP65	IP67	IP65
Materials		Tin plated on Nickel, Nylon 66, 40% Glass	Tin plated on Nickel, Nylon 66, 40% Glass	Tin plated on Nickel, Zytel 33% Glass	Tin plated on Nickel, Nylon 66, 40% Glass
Electrical connection	4 – 20 mA (2 wire)	Pin 1: + supply Pin 2: not used Pin 3: ÷ supply Pin 4: not used	Pin 1: + supply Pin 2: ÷ supply Pin 3: not used Pin 4: not used	Pin 1: ÷ supply Pin 2: + supply Pin 3: not used	Pin 1: + supply Pin 2: ÷ supply Pin 3: not used Pin 4: not used
	0.5-4.5 V DC Ratiometric	Pin 1: + supply Pin 2: not used Pin 3: + output Pin 4: ÷ common	Pin 1: + supply Pin 2: + output Pin 3: ÷ common Pin 4: not used	Pin 1 ÷ common Pin 2: + supply Pin 3: + output	Pin 1: + supply Pin 2: + output Pin 3: ÷ common Pin 4: not used
	0-5 V DC, 0-10 V DC	Pin 1: + supply Pin 2: not used Pin 3: + output Pin 4: ÷ common	Pin 1: + supply Pin 2: + output Pin 3: ÷ common Pin 4: not used	Pin 1 ÷ common Pin 2: + supply Pin 3: + output	Pin 1: + supply Pin 2: + output Pin 3: ÷ common Pin 4: not used

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