

Data Sheet

# Pressure transmitter Type **DST P140**

For industry applications



The Danfoss Sensor Technology (DST) P140 is designed for use in industrial applications like Booster Pumps and Air Compressors.

Drawn from over 30 years of experience with MEMS technology, the DST P140 offers outstanding performance in a compact and durable stainless-steel package.

Running a powerful ARM-based microcontroller, the DST P140 offers diagnostic features and performance features at a competitive level.

#### Features

- Hermetically sealed media interface (all stainless steel, fully welded)
- Compact and cost effective design for OEM applications
- Superior shock and vibration resistance
- High overload and burst pressure
- Robust electronics platform for harsh electrical environments

## Product specification

### Technical data

**Table 1: Performance**

|                          |                                  |
|--------------------------|----------------------------------|
| Accuracy @ 20 °C         | ≤ ±0.5% FS                       |
| Total error band         | 0 - 100 °C: 2%<br>-40 - 0 °C: 3% |
| Response time            | < 2 ms                           |
| Overload pressure        | 4 × FS                           |
| Burst pressure           | 5 × FS                           |
| Durability, P: 10-90% FS | >10 mil. cycles                  |

**Table 2: Electrical specifications**

|  |                      |
|--|----------------------|
| Nom. output signal (short-circuit protected) | 4 – 20 mA            |
| Supply voltage [UB], polarity protected      | 8 - 28 V             |
| Supply voltage dependency                    | ≤ ±0.1% FS/10 V      |
| Load [RL] (load connected to 0 V)            | RL ≤ (UB-8V)/0.022 A |

**Table 3: Environmental conditions**

|                                 |        |                       |                               |
|---------------------------------|--------|-----------------------|-------------------------------|
| Media temperature range         |        |                       | -20 – 110 °C - (0.34*ambient) |
| Ambient temperature range       |        |                       | -40 – 85 °C                   |
| Storage temperature range       |        |                       | -50 – 150 °C                  |
| EMC - Emission                  |        |                       | EN 61000-6-3                  |
| EMC Immunity up to 6 GHz        |        |                       | EN 61000-6-2                  |
| Insulation resistance           |        |                       | > 100 MΩ at 500 V             |
| Vibration resistance            | Random | 10 grms, 5 Hz - 2 kHz | IEC 60068-2-64                |
| Shock resistance                | Shock  | 500 g / 1 ms          | IEC 60068 - 2 - 27            |
| Enclosure with mating connector |        |                       | IP67                          |

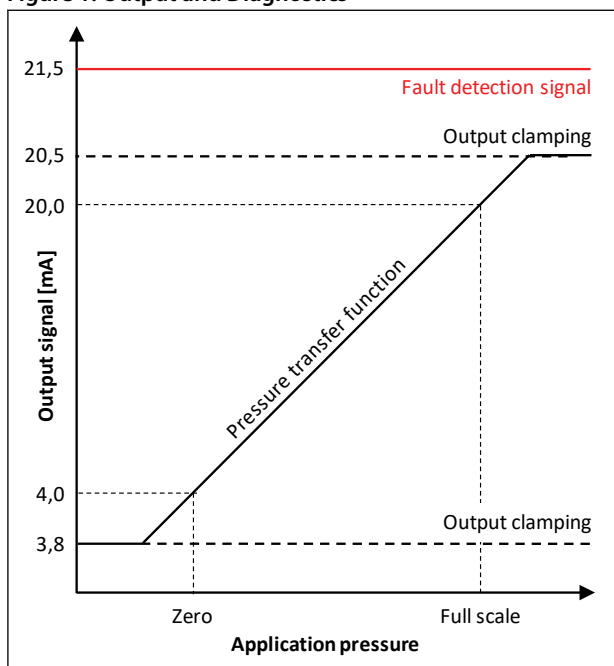
**Table 4: Mechanical characteristics**

|   |  |
|---|--|
| Wetted parts  | AISI 304L  |
|   | AISI 316L  |
| Electrical connections  | see <a href="#">Electrical connections</a> section |
| Weight (depending on pressure connection and electrical connection) | < 100 g  |

## Output and diagnostics

4 - 20 mA example

Figure 1: Output and Diagnostics



### Output clamping levels

- Limit the output signal if the pressure rises above or falls below the normal range

### Fault detection signal level

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

Contact Danfoss for detailed information and requirements.

## Dimensions / Combinations

Table 5: Dimensions

| M12x1.0   | Metri-Pack 150.2 (Round)                                  |
|---|---|
| <p>45,45</p> <p>31,46</p> <p>G1/4</p> <p>G 1/4 - ISO 1179-2</p> | <p>59,1</p> <p>44,1</p> <p>1/4-18NPT</p> <p>1/4-18NPT</p> |

Table 6: Dimensions

| Metri-Pack 150.2 (Round)                                      | M12   |
|---|---|
| <p>58,1</p> <p>44,1</p> <p>G1/4</p> <p>G 1/4 - ISO 1179-2</p> | <p>46,45</p> <p>31,45</p> <p>R 1/4</p> <p>R 1/4 - ISO 7-1</p> |

## Electrical connections

Table 7: Electrical connection specifications

|                   | M12x1.0  | Metri-Pack 150.2 (Round)                                 |
|-------------------|--|--|
| HEX 27            | <p>2</p> <p>1</p> <p>3</p> <p>Ø29.5</p> <p>No pin in position 4.</p> | <p>Pin C</p> <p>Pin B</p> <p>Pin A</p> <p>Ø29.5</p>      |
| Pin-plating       | Gold (Au)  | Tin (Sn)   |
| Pin configuration | Pin 1: +Supply<br>Pin 2: not connected<br>Pin 3: -Supply             | Pin A: -Supply<br>Pin B: +Supply<br>Pin C: not connected |

## Ordering

Table 8: Ordering type

| Type     | Pressure reference | Pressure ranges | Electrical connection  | Output signal | Pressure connection | Standard          | Code no. <sup>(1)</sup> |
|----------|--------------------|-----------------|------------------------|---------------|---------------------|-------------------|-------------------------|
| DST P140 | Gauge              | 0 -4 bar        | M12x1.0                | 4 - 20 mA     | G ¼A                | ISO 1179-2        | 075G4034                |
|          |                    | 0 - 6 bar       |                        |               |                     |                   | 075G4035                |
|          |                    | 0 - 10 bar      |                        |               |                     |                   | 075G4027                |
|          |                    | 0 - 16 bar      |                        |               |                     |                   | 075G4029                |
|          |                    | 0 - 25 bar      |                        |               |                     |                   | 075G4031                |
|          |                    | 0 - 40 bar      |                        |               |                     |                   | 075G4033                |
|          |                    | 0 - 4 bar       | Metri-Pack 150 (Round) |               | G ¼A                | ISO 1179-2        | 075G4064                |
|          |                    | 0 - 6 bar       |                        |               |                     |                   | 075G4052                |
|          |                    | 0 - 10 bar      |                        |               |                     |                   | 075G4053                |
|          |                    | 0 - 16 bar      |                        |               |                     |                   | 075G4054                |
|          |                    | 0 - 25 bar      |                        |               |                     |                   | 075G4055                |
|          |                    | 0 - 40 bar      |                        |               |                     |                   | 075G4056                |
|          |                    | 0 - 100 psi     | Metri-Pack 150 (Round) |               | ¼-18NPT<br>8 mm Ø   | ANSI/ASME B1.20.1 | 075G4026                |
|          |                    | 0 - 150 psi     |                        |               |                     |                   | 075G4028                |
|          |                    | 0 - 200 psi     |                        |               |                     |                   | 075G4030                |
|          |                    | 0 - 300 psi     |                        |               |                     |                   | 075G4032                |
|          |                    | 0 - 4 bar       | M12x1.0                |               | R ¼                 | None              | 075G4073                |
|          |                    | 0 - 6 bar       |                        |               |                     |                   | 075G4074                |
|          |                    | 0 - 10 bar      |                        |               |                     |                   | 075G4059                |
|          |                    | 0 - 16 bar      |                        |               |                     |                   | 075G4060                |
|          |                    | 0 - 25 bar      |                        |               |                     |                   | 075G4061                |
|          |                    | 0 - 40 bar      |                        |               |                     |                   | 075G4075                |

<sup>(1)</sup> Are delivered in I-pack of 60 pcs., and must therefore be ordered in multiplum of 60 pcs.

## Accessories

Table 9: Cable accessories

| Type   | I-Pack Code no.         | Qty/Box | Description                |
|--|-------------------------|---------|----------------------------|
| Cable with Metri-Pack 150 (Round) mating connector | 060G8085                | 60 pcs  | 0.8 m with outer sheath    |
| Cable with Metri-Pack 150 (Round) mating connector | 060G8086                | 60 pcs  | 1.3 m with outer sheath    |
| Cable with Metri-Pack 150 (Round) mating connector | 060G8193                | 100 pcs | 1.7 m with outer sheath    |
| Cable with Metri-Pack 150 (Round) mating connector | 064G0910 <sup>(1)</sup> | 14 pcs  | 10 m with outer sheath     |
| Cable with Metri-Pack 150 (Round) mating connector | 060G8195                | 100 pcs | 1 m without outer sheath   |
| Cable with Metri-Pack 150 (Round) mating connector | 060G8196                | 100 pcs | 2.5 m without outer sheath |
| Cable with M12 mating connector                    | 060G8198                | 60pcs   | 2m shielded                |
| M12 to PG9 angle adaptor                           | 060G8227                | 60pcs   | -                          |
| M12 to PG9 straight adaptor                        | 060G8228                | 60pcs   | -                          |

<sup>(1)</sup> Multi Pack code number is 064G0950

For more options and info, please go to <https://store.danfoss.com>

## 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](https://danfoss.com) or contact your local Danfoss representative if you have any questions.

**Table 10: Certificates and declarations**

| File name   | Document type                   | Document topic | Approval authority |
|-------------|---------------------------------|----------------|--------------------|
| 060R3142.06 | Manufacturers Declaration       | PED            | Danfoss            |
| E494625     | Electrical - Safety Certificate | -              | UL                 |
| E510763     | Electrical - Safety Certificate | -              | UL                 |

### Conformity

- CE marked
- RoHS compliant
- EAC declaration
- UL (file no: E494625)
- NSF and WRAS listed for 1/4-18NPT and R1/4 versions