

Data Sheet

Heavy Duty Pressure Transmitter

MBS1250



Principle of Operation

The pressure transmitter converts measured pressure into a linear temperature compensated output signal that is proportional to the transmitter supply voltage. The output signal varies between 10 and 90% of the supply voltage.

This output signal is well suited for direct connection to an A/D converter provided that the transmitter and the ratiometrically coupled A/D converter use the same voltage reference. Danfoss PLUS+1[®] and other microcontrollers use ratiometric A/D conversion.

Integrated Pulse Snubber

The heavy duty pressure transmitter with an integrated pulse snubber is specially suited for hydraulic applications where cavitation, liquid hammer, or pressure peaks may occur. The pressure peaks are often short but in extreme excess of the measuring range of the transmitter.

The integrated pulse snubber is principally a nozzle in the passage between the measured medium and the pressure sensitive element of the transmitter



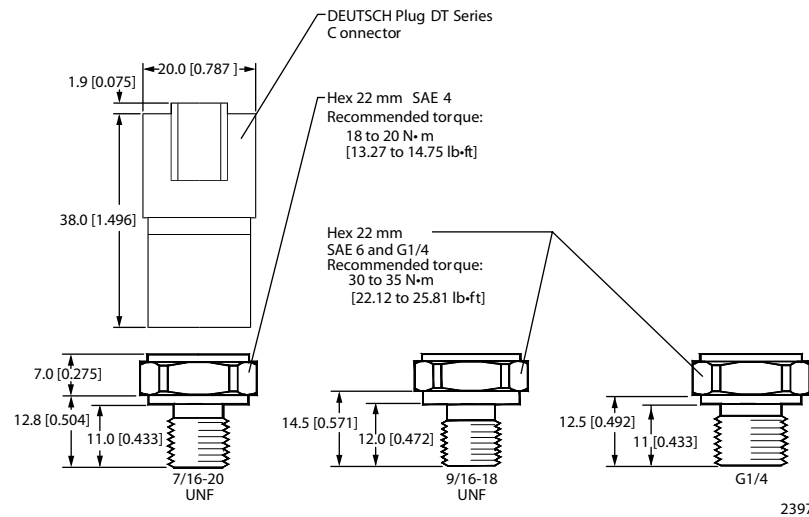
Features

- Integrated DEUTSCH DT-04 electrical connector
- SAE 4, SAE 6, and G1/4 pressure connections
- Six pressure ranges available
- PLUS+1[®] Compliant
- Resistant to cavitation, liquid hammer, and pressure peaks
- Overload pressure up to 3 times measuring range
- Durability: >10 million cycles
- For use in severe environments
 - High vibration stability
 - IP 67 environmental sealing
 - Wetted parts and enclosure of stainless steel
- CE marked: EMC protected in accordance with EU EMC directive
- Temperature compensated
- Ratiometric output signal: 10 to 90% of supply voltage
- Accuracy: 0.5% full scale

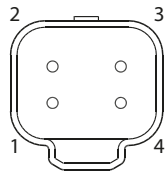
[Comprehensive technical literature online at powersolutions.danfoss.com](http://powersolutions.danfoss.com)

Mounting Dimensions

mm [in]



4 pin DEUTSCH Receptacle DT-04



Pinout and Wiring Information

| Pin | Function |
|-----|-------------------|
| 1 | Supply - |
| 2 | Supply + |
| 3 | P. E. (not used)* |
| 4 | Output + |

* Pin 3 connected to case; typically not used (P. E. = protective earth).

Specifications

Pressure Connection

| Thread Versions | |
|-----------------|--|
| SAE 4 | 7/16-20 UNF-2A (SAE - 4 J514) including viton O-ring |
| SAE 6 | 9/16-18 UNF (SAE - J1926-2) including viton O-ring |
| G1/4 | G1/4 DIN 3852-E including viton O-ring |

Performance (EN 60770)

| | |
|--|------------------------------|
| Accuracy (including nonlinearity, hysteresis and repeatability) | < ± 0.5 % full scale |
| Thermal zero point shift | < ± 0.15% full scale/ 10K |
| Thermal sensitivity (span) shift | < ± 0.15% full scale/ 10K |
| Hysteresis and repeatability | < ± 0.1% full scale |
| Response time liquids (10 to 90%) | < 1 ms |
| Overload pressure (static) | 2.5 x full scale |
| Burst pressure | > 4000 bar |
| Durability, P: 10 to 90% full scale | >10 x 10 ⁶ cycles |

Electrical Characteristics

| | |
|--|---------------------------------|
| Nominal output signal (short-circuit protected) | Ratiometric 10 to 90% of supply |
| Supply voltage—V supply (polarity protected) | 5 Vdc ± 0.5 Vdc |
| Current consumption | 4.5 mA |
| Load resistance (R_L) | R _L > 5 kΩ |
| Output impedance | R _L < 90 Ω |

Mechanical Characteristics

| | |
|-------------------------------|--------------------------------|
| Wetted parts, material | 17-4PH |
| Enclosure material | EN 10088-1 (1.4404) / AISI316L |
| Weight | 0.2 kg |

Environmental Parameters

| | |
|--|--|
| Operating and storage temperature range | -40 to +125 °C [-40 to 257 °F] |
| EMC- emission | EN 61000-6-3 |
| EMC- immunity | EN 61000-6-2 |
| Vibration stability | Sinusoidal, 20g, 10 Hz - 2 kHz (EN 60068-2-27) |
| Shock resistance | 100 g (IEC 60068-2-6) |
| Enclosure | IP 67 |

Ordering Information

Pressure Connection

| Measuring range | Danfoss material number | | |
|-------------------------|-------------------------|----------|----------|
| | SAE 4 | SAE 6 | G1/4 |
| 0 to 40 bar [580 psi] | 11044499 | 11044545 | 11044551 |
| 0 to 160 bar [2320 psi] | 11044500 | 11044546 | 11044562 |
| 0 to 250 bar [3626 psi] | 11044501 | 11044547 | 11044563 |
| 0 to 400 bar [5800 psi] | 11044542 | 11044548 | 11044564 |
| 0 to 500 bar [7250 psi] | 11044543 | 11044549 | 11044565 |
| 0 to 600 bar [8700 psi] | 11044544 | 11044550 | 11044566 |

Related Product

| Mating connector | Danfoss material number |
|---|-------------------------|
| 4 pin DEUTSCH Plug DT-06-45-E003 Series bag assembly | 11028348 |

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