

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<sup>®</sup> 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



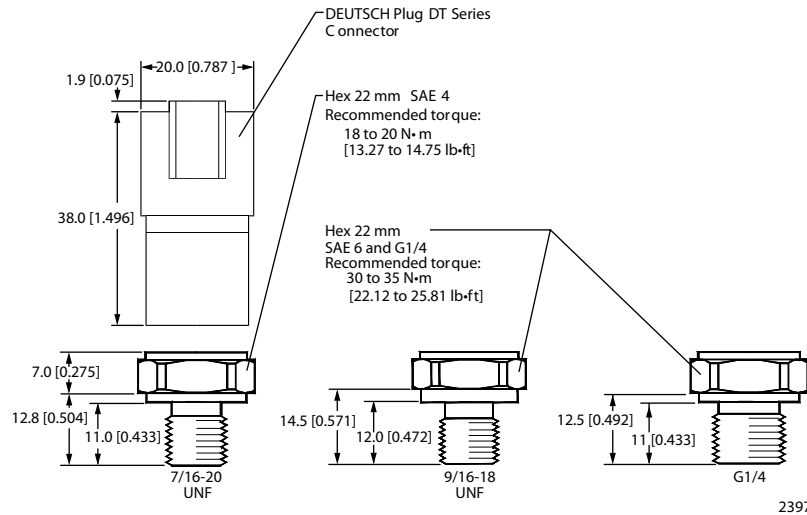
### Features

- Integrated DEUTSCH DT-04 electrical connector
- SAE 4, SAE 6, and G1/4 pressure connections
- Six pressure ranges available
- PLUS+1<sup>®</sup> 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

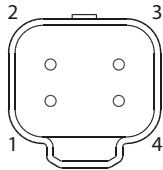
[Comprehensive technical literature online at powersolutions.danfoss.com](http://powersolutions.danfoss.com)

**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)

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

*Electrical Characteristics*

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

*Mechanical Characteristics*

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

*Environmental Parameters*

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