

MBS2250 Heavy-Duty Pressure Transmitter

Principle of Operation

The pressure transmitter converts measured pressure into a linear temperature-compensated output signal proportional to the transmitter supply voltage. The output signal varies between 10 to 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. Sauer-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.

Local Address:



 **E1™**
COMPLIANT

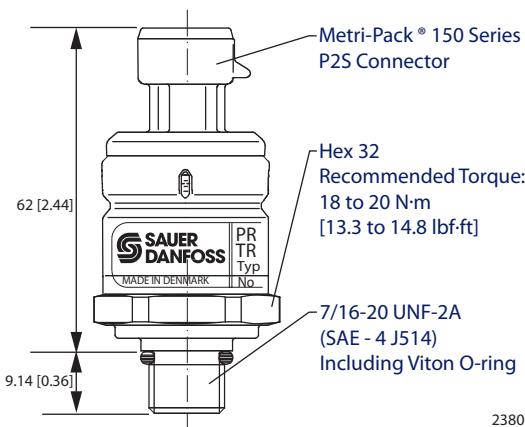
*MBS2250 Heavy-Duty Pressure Transmitter
SAE Thread Version*

Features

- 3 pin Delphi® Metri-Pack™
- SAE pressure connection
- PLUS+1 Compliant
- Resistant to cavitation, liquid hammer, and pressure peaks
- Overload pressure up to 6 times measuring range
- Durability: >10 million cycles
- For use in severe industrial environments:
 - High vibration stability
 - IP 67 environmental sealing
 - Wetted parts and enclosure of acid resistant steel
- CE marked: EMC protected in accordance with EU EMC directive
- Temperature compensated, linearized, and laser calibrated
- Ratiometric output signal: 10 to 90% of supply voltage

Dimensions

mm [in]



Specifications

Pressure Connection

Thread Version	
SAE 4	7/16-20 UNF-2A (SAE - 4 J514) including Viton O-ring

Performance (IEC 770)

Accuracy (at reference conditions)	± 0.3% of full-scale (typical) ± 1% of full-scale (maximum)
Non-linearity (best fit straight line)	< ± 0.2% of full-scale
Hysteresis and repeatability	≤ ± 0.1% of full-scale
Thermal zero point shift	≤ ± 0.1% of full-scale/10k (typical) ≤ ± 0.2% of full-scale/10k (maximum)
Thermal sensitivity (span) shift	≤ ± 0.1% of full-scale/10k (typical) ≤ ± 0.2% of full-scale/10k (maximum)
Response time (liquids)	< 4 ms
Response time (air and gases)	< 35 ms
Overload static and burst pressure	Maximum overload: up to 6 x FS Maximum burst: up to 6 x FS
Durability, P: 10 to 90% of full-scale	> 10 million cycles

Electrical Characteristics

Nominal output signal	10 to 90% of V supply
Supply voltage V supply (polarity protected)	4.75 to 8 Vdc 5 Vdc (nominal)
Power consumption	< 5 mA at 5 Vdc
Output impedance	< 25Ω
Load resistance	R _L > 5 kΩ at 5 Vdc

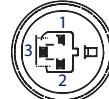
Mechanical Characteristics

Materials	Wetted parts: DIN 17440 - 1.4404 Enclosure: (AISI 316 l)
Weight	0.2 kg [0.44 lb]

Pinout and Wiring Information

3 pin Delphi® Metri-Pack™

Pin	Function
1	Power supply +
2	Ground
3	Signal output



2381

Environmental Parameters

Temperature range

Operating -40 to 85°C (-40 to 185°F)

Compensated 0 to 80°C (32 to 176°F)

Storage -50 to 85°C (-58 to 185°F)

EMC - Emission

EN 50081-1

EMC - Immunity

Electrostatic discharge	Air mode: 8 kV Contact mode: 4 kV	EN 50082-2 (IEC 801-2)
RF	Field: 100 V/m 26 MHz to 1 GHz	EN 50082-2 (IEC 801-3)
	Conducted: 10 V rms 150 kHz to 30 MHz	EN 50082-2 (IEC 801-6)
Transient	Burst: 4 kV (CM, clamp)	EN 50082-2 (IEC 801-4)
	Surge: 1 kV (CM, DM) R _g = 42Ω	EN 50082-2 (IEC 801-5)

Insulation resistance

>100 MΩ at 500 Vdc

Vibration stability

Sinusoidal	20 G 25 Hz to 2 kHz	IEC 68-2-6
Random	7.5 G rms 5 Hz to 1 kHz	IEC 68-2-34 IEC 68-2-36

Shock resistance

Shock: 500 G / 1 ms IEC 68-2-27

Free fall IEC 68-2-32

Enclosure

IP 67 - IEC 529

Product Part Numbers

Measuring range	Sauer-Danfoss part number
0 to 2.5 bar [36 psi]	10105363
0 to 40 bar [580 psi]	10105364
0 to 160 bar [2320 psi]	10105365
0 to 250 bar [3626 psi]	10105366
0 to 400 bar [5800 psi]	10105367
0 to 500 bar [7250 psi]	10105368
0 to 600 bar [8700 psi]	10105369

Related Product Part Number

Type	Sauer-Danfoss part number
3 pin Delphi Metri-Pack bag assembly	10105567

Sauer-Danfoss product literature is online at: www.sauer-danfoss.com