



Data sheet

## MBS2250 Heavy-Duty Pressure Transmitter

### Principle of Operation

The pressure transmitter converts the 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:



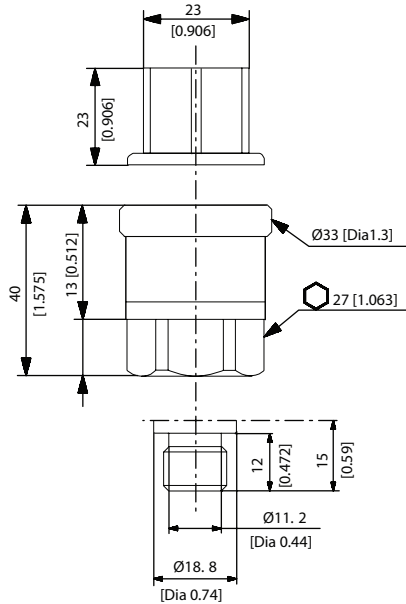
*MBS2250 Heavy-Duty Pressure Transmitter  
DIN Thread Version*

### Features

- 3 pin AMP® Econoseal J-series
- DIN pressure connection
- PLUS+1 Compliant
- Resistant to cavitation, liquid hammer, and pressure peaks
- Overload pressure 10 to 20 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]



P005 252

## Specifications

### Pressure Connection

Thread Version	
DIN	DIN 3852 - G 1/4 A, NBR O-ring 13.3 x 1.8, 630 bar [9140 psi]

### Performance (IEC 770)

<b>Accuracy (at reference conditions)</b>	± 0.3% of full-scale (typical) ± 1% of full-scale (maximum)
<b>Non-linearity (best fit straight line)</b>	< ± 0.2% of full-scale
<b>Hysteresis and repeatability</b>	≤ ± 0.1% of full-scale
<b>Thermal zero point shift</b>	≤ ± 0.1% of full-scale/10k (typical) ≤ ± 0.2% of full-scale/10k (maximum)
<b>Thermal sensitivity (span) shift</b>	≤ ± 0.1% of full-scale/10k (typical) ≤ ± 0.2% of full-scale/10k (maximum)
<b>Response time (liquids) 10 to 20% of full scale - depending on measuring range</b>	< 4 ms
<b>Overload static and burst pressure</b>	Maximum overload: 1500 bar Maximum burst: 2000 bar
<b>Durability, P: 10 to 90% of full-scale</b>	> 10 million cycles

### Electrical Characteristics

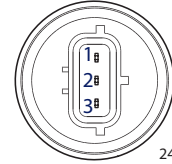
<b>Nominal output signal</b>	10 to 90% of V supply
<b>Supply voltage V supply (polarity protected)</b>	4.75 to 8 Vdc 5 Vdc (nominal)
<b>Power consumption</b>	< 5 mA at 5 Vdc
<b>Output impedance</b>	< 25Ω
<b>Load resistance</b>	R <sub>L</sub> > 5 kΩ at 5 Vdc

### Pinout and Wiring Information

Pin	Function
1	+ supply
2	÷ supply
3	Output

Material: Glass filled polyamid, PA 6.6

### AMP® Econoseal J Series (Male)



2452

### Mechanical Characteristics

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

### Environmental Parameters

<b>Temperature range</b>		
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)	
<b>EMC - Emission</b>		
EN 50081-1		
<b>EMC - Immunity</b>		
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 <sub>g</sub> = 42Ω	EN 50082-2 (IEC 801-5)
<b>Insulation resistance</b>		
> 100 MΩ at 500 Vdc		
<b>Vibration stability</b>		
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
<b>Shock resistance</b>		
Shock: 500 G / 1 ms	IEC 68-2-27	
Free fall	IEC 68-2-32	
<b>Mains frequency test</b>		
500 V, 50 Hz	SEN 361503	
<b>Enclosure</b>		
AMP 173065-2	IP 67 - IEC 529	

### Product Part Numbers

Measuring range	Sauer-Danfoss part number
0 to 2.5 bar [36 psi]	162U9901
0 to 40 bar [580 psi]	162U9902
0 to 160 bar [2320 psi]	162U9903
0 to 250 bar [3626 psi]	162U9904
0 to 400 bar [5800 psi]	162U9905
0 to 500 bar [7250 psi]	162U9906
0 to 600 bar [8700 psi]	162U9907

Sauer-Danfoss product literature is online at: [www.sauer-danfoss.com](http://www.sauer-danfoss.com)