ENGINEERING TOMORROW

Data Sheet

Heavy-Duty Pressure Transmitter
MBS2250 DIN

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

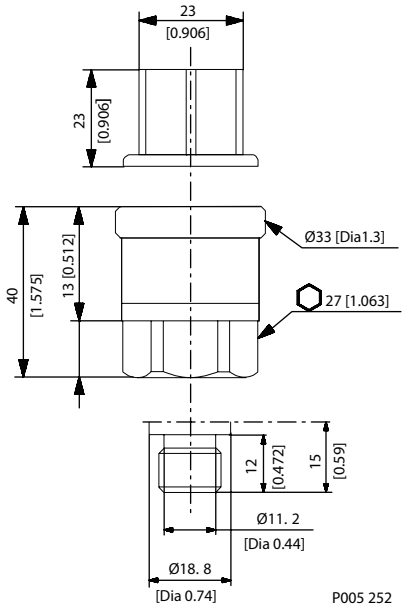
Features

- 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

Comprehensive technical literature online at *powersolutions.danfoss.com*

Dimensions

mm [in]



Specifications

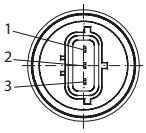
Pressure Connection

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

Performance (IEC 770)

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) 10 to 20% of full scale - depending on measuring range	< 4 ms
Overload static and burst pressure	Maximum overload: 1500 bar; Maximum burst: 2000 bar
Durability, P: 10 to 90% of full-scale	> 10 million cycles

AMP® Econoseal J Series (Male)



Pinout and Wiring Information

Pin	Function
1	+ supply
2	÷ supply
3	Output

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]

Product Part Numbers

Measuring range	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

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)
	RF (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)
	Transient (surge)	1 kV (CM, DM) Rg = 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 m	IEC 68-2-27
	Free fall		IEC 68-2-32
Mains frequency test		500 V, 50 Hz	SEN 361503
Enclosure		AMP 173065-2	IP 67 - IEC 529