HDA 3800 Series

Pressure Transducer, Very High Accuracy Steel Works

Applications

Description

This high-precision pressure transmitter has been specially developed and adapted for the sophisticated measurement demands of steelworks technology.

The unit has a very robust sensor cell with a thin-film strain gauge on a stainless steel membrane.

Its outstanding specifications in respect of temperature effect (temperature drift for zero point and range are in each case max. ≤ ±0.01% FS/°C) and accuracy (≤ ±0.15% BFSL) make it ideally suited for use in the ambient conditions found in steelworks.

The excellent EMC characteristics guarantee signal stability during the harshest high-frequency, electro-magnetic interference.

Special Features

- Accuracy ≤ ±0.15% BFSL
- Specially designed for use in steelworks
- Highly robust sensor cell
- Very small temperature error
- Excellent EMC characteristics
- Excellent long term stability

Approvals

CE mark is a mandatory conformity mark on many products placed on the single market in the European Economic Area

Technical Details

Sensor Specifications	
Measuring ranges - psi	150, 500, 750, 1000, 1500, 3000, 6000, 9000
Overload pressure - psi	290, 1160, 1160, 2900, 2900, 7250, 11600, 14500
Burst pressure - psi	1450, 2900, 2900, 7250, 7250, 14500, 29000, 29000
Mechanical connection	G 1/4 A DIN 3852 *(bar ranges only)* G 1/2 A DIN 3852 *(bar ranges only)* SAE 6 9/16-18 UNF 2A male *(psi ranges only)*
Tightening torque	G 1/4 A DIN 3852: 15 lb-ft (20 Nm) G 1/2 A DIN 3852: 33 lb-ft (45 Nm) SAE 6 9/16-18 UNF 2A male: 15 lb-ft (20 Nm)
Parts in contact with media	Stainless Steel, Viton seal (G 1/4 A) Stainless Steel, NBR O-ring (G 1/2 A)
Accuracy (B.F.S.L.) including linearity, hysteresis, and repeatability	≤ ± 0.15% BFSL
Temperature compensation zero point	≤ ±0.003%/°F typ. ≤ ±0.006%/°F max.
Temperature compensation over range	≤ ±0.003%/°F typ. ≤ ±0.006%/°F max.
Rise time	≤ 0.5 ms
Long-term drift	≤ ±0.1% FS typ. / year
Life expectancy	10 million load cycles (0 to 100% FS)
Weight	Approximately 210 g
Output signal	4 to 20 mA, 2 wire, R_{Lmax} = (UB - 10V) / 20 mA [kΩ] 0 to 20 mA, 3 wire, R_{Lmin} = (U_B - 7V) / 20 mA [kΩ]
Environmental Condition	
Compensated temperature range	-13° to 185°F (-25° to 85°C)
Operating temperature range	-40° to 185°F (-40° to 85°C)
Storage temperature range	-40° to 212°F (-40° to 100°C)
Media temperature range	-40° to 212°F (-40° to 100°C)
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 10 to 500 Hz	≤ 25g
Environmental protection	IP 68
Electrical Specifications	
Supply voltage, 2-wire	10 to 30 VDC
Residual ripple suppy voltage	≤ 5%
Max supply current, 3-wire	approximately 25 mA
Electrical connection	PG gland with open ended cable, silicon-free
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	Standard

Model Code

HDA 3 8 X X - X - XXXX - 124 (PSI) XXM

Mechanical Connection
- 0 = G1/2 A male thread *(bar ranges only)*
- 4 = G1/4A DIN 3852 male *(bar ranges only)*
- 7 = SAE 6 9/16-18 UNF2A *(psi ranges only)*

Electrical Connection
- 0 = Open ended cable *(Teflon cable, silicone free)* with cable gland

Output Signal
- A = 4-20mA, 2-wire
- E = 0-20mA, 3-wire

Pressure Range

For HDA 387X *(SAE 6 9/16-18 UNF2A only)*
0150, 0500, 0750, 1000, 1500, 3000, 6000, 9000 psi

Modification Number
- 124 = Standard

(psi)

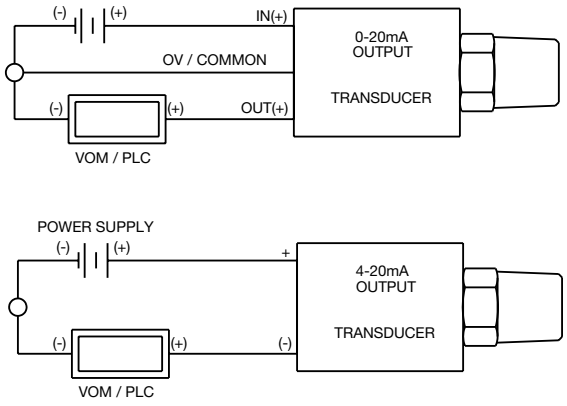
psi version *(leave blank for bar version)*

Cable Length
- 06M = 6 meters
- 10M = 10 meters
- 15M = 15 meters
- 25M = 25 meters
- 30M = 30 meters

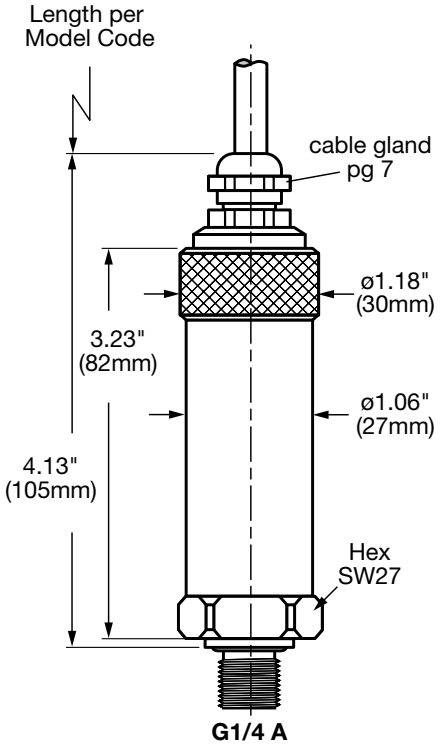
Pin Connections

Wire	HDA 38x0-A	HDA 38x0-E
black	nc	$+U_B$
brown	Signal +	Signal
blue	Signal -	0 V
green / yellow	nc	nc

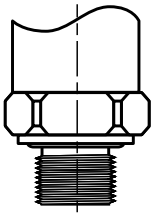
Circuit Diagram



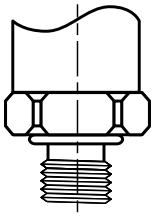
Dimensions



G1/4 A



G1/2 A



SAE 6