HYDAC INTERNATIONAL

Electronic Pressure Transmitter
HDA 4800
for Iron and Steelworks Applications

Description:

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

The instrument 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. ≤ ± 0.006 % FS / °F) and accuracy (≤ ± 0.125 % FS B.S.F.L.) make it ideally suited for use in the environmental conditions found in steelworks. The excellent EMC characteristics guarantee signal stability during the harshest high-frequency, electro-magnetic interference.

Additional protection against humidity and vibrations is achieved by encapsulation. By using a shrink-on sleeve, the sensor is protected against bending.

Special features:

- Accuracy ≤ ±0.125% FS B.F.S.L.
- Specially designed for the use in steel and rolling mills
- Very robust sensor cell
- Very low temperature errors
- Excellent EMC characteristics
- Excellent long-term stability
- Additional protection against humidity and vibration

Technical Data:

Input data							
Measuring ranges [1]	psi	150	500	750	1000	1500	3000
		5000	6000	9000	15000		
Overload range	psi	290	1160	1740	2900	2900	7250
		11600	11600	14500	23200		
Burst pressure	psi	1450	2900	4350	7250	7250	14500
		29000	29000	29000	43500		
Mechanical connection [1] (Torque value)	9/16-18 UNF 2A (SAE 6 male) with 0.5 mm orifice (15lb-ft (20Nm)) 7/16-20 UNF 2B (SF 250 CX20, Autoclave) with 0.5mm orifice (30lb-ft (40Nm))						
Parts in contact with medium	Mech. conn.: Stainless steel Seal: FPM						
Output data							
Output signal, permitted load resistance	4 ..20 mA, 2 conductor $R_{Lmax.} = (U_B - 10\ V) / 20\ mA\ [k\Omega]$ 0 ..20 mA, 3 conductor source $R_{Lmax.} = (U_B - 4\ V) / 20\ mA\ [k\Omega]$						
Accuracy to DIN 16086, Max. setting	≤ ±0.125 % FS typ. ≤ ±0.25 % FS max.						
Accuracy at minimum setting B.F.S.L (**B**est **F**it **S**traight **L**ine)	≤ ±0.06 % FS typ. ≤ ±0.125 % FS max.						
Temperature compensation, zero point	≤± 0.003 % FS / °F typ. ≤± 0.006 % FS / °F max.						
Temperature compensation, over range	≤± 0.003 % FS / °F typ. ≤± 0.006 % FS / °F max.						
Non-linearity at max. setting to DIN 16086	≤ ± 0.15 % FS max.						
Hysteresis	≤ ± 0,1 % FS max.						
Repeatability	≤ ± 0.05 % FS						
Rise time	≤ 1.5 ms						
Long-term drift	≤ ±0.1 % FS typ./ year						
Ambient conditions							
Compensated temperature range	-13 .. +185 °F						
Operating temperature range [2]	-13 .. +185 °F / -40 .. +185 °F						
Storage temperature range	-40 .. +212 °F						
Fluid temperature range [2]	-13 .. +212 °F / -40 .. +212 °F						
CE - mark	EN 61000-6-1 / 2 / 3 / 4						
cULus - Marked [3]	Certificate No.: E318391						
Vibration resistance to DIN EN 60068-2-6 at 10...500Hz	≤20 g						
Protection class to IEC 60529	IP 68						
Other data							
Supply voltage when applied according to UL the specifications	10 .. 30 V DC 2 conductor / 3 conductor *– limited energy –* *according to 9.3 UL 61010;* *Class 2; UL 1310/1585; LPS UL 60950*						
Residual ripple of supply voltage	≤5%						
Current consumption	≤15 mA						
Additional protection against water, humidity and vibration	Encapsulation of the device, cable outlet with strain relief, shrink sleeve						
Life expectancy	>10 million cycles (0 ..100% FS)						
Weight	~180 g plus 90 g/m cable						

Note: Reverse polarity protection of the supply voltage, overvoltage, override and and short circuit protection are provided.

FS (Full Scale) = relative to the full measuring range

1) 15000 psi only with mechanical connection SF 250 CX20, Autoclave and vice versa

2) -13 °F with FPM seal, -40 °F on request

3) Environmental conditions according to 1.4.2 UL 61010-1; C22.2 no. 61010-1

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Model Code:

HDA 4 8 X 0 - X - XXXX – 424 (PSI) XXM

Mechanical connection
7 = 9/16-18 UNF 2A male (SAE 6 male)
C = SF 250 CX20, Autoclave (only for "15000 psi" press. range)

Electrical connection
0 = Open ended cable (Teflon cable, silicone free) with cable gland

Signal
A = 4 .. 20 mA, 2 conductor
E = 0 .. 20 mA, 3 conductor

Pressure ranges in psi

0150; 0500; 0750; 1000; 1500; 3000; 5000; 6000; 9000;
15000 psi(only in conjunction with mechanical connection type "C")

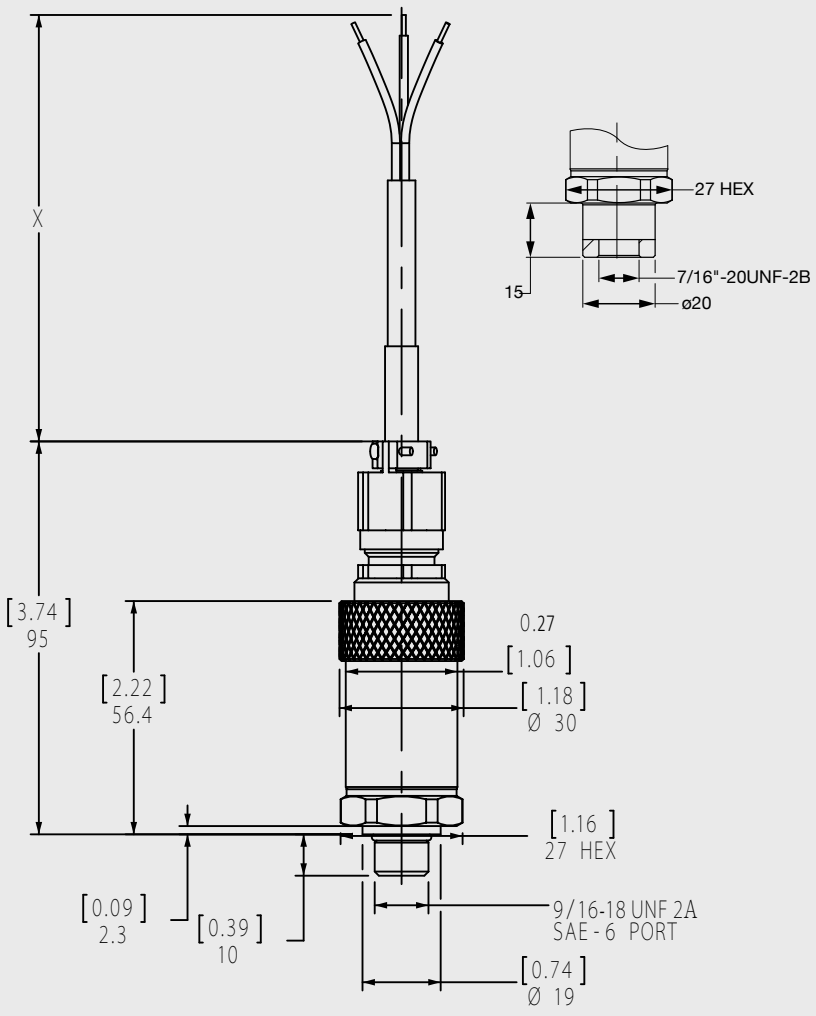
Modification Number
424 = Iron and Steel Works Applications

Version

PSI = Pounds per square inch

Cable length in meters
06; 10; 15; 20; 25; 30

Dimensions:



Cable assignment:

Lead	HDA 48X0-A	HDA 48X0-E
black	n.c.	$+U_B$
brown	signal +	signal
blue	signal -	0 V

Cable type:

Ölflon cable 3 x 0.75 mm^2 shielded.
Outer sheath FEP black
Outer diameter 5.9 ± 0.15mm

Note:

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described please contact the relevant technical department.
Subject to technical modifications.

For European mechanical connection and bar ranges see European Catalog.

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