Pressure Transmitter
HDA 8700 for series applications

Relative pressure | **Accuracy 0.25 %**

Functional Safety PL d SIL 2

DIN EN 61508 DIN EN 13849-1 SIL 2 PL d

Increased Functional Safety

Description:

This version of the pressure transmitter series HDA 8700 has been specially developed for use in safety circuits / safety functions as part of the functional safety of machinery and equipment up to SIL 2 (IEC 61508) or PL d (ISO 13849).

During normal operation the pressure transmitter HDA 8700 generates an output signal proportional to the pressure. In the background, the pressure transmitter performs cyclical diagnostic tests to detect internal errors.

If an instrument error is detected, the pressure transmitter HDA 8700 supplies an output signal < 3 mA which is recognised by the user as an unacceptable discrepancy.

This means that the pressure transmitter HDA 8700 achieves Performance Level d in the Safety category (based on a Category 2 of the architecture) and SIL 2. As a result, the pressure transmitter can be recommended for use in applications where safety is critical.

The main fields of application are in mobile and stationary safety-oriented systems such as load torque displays or load torque limitation in loading cranes or working platforms.

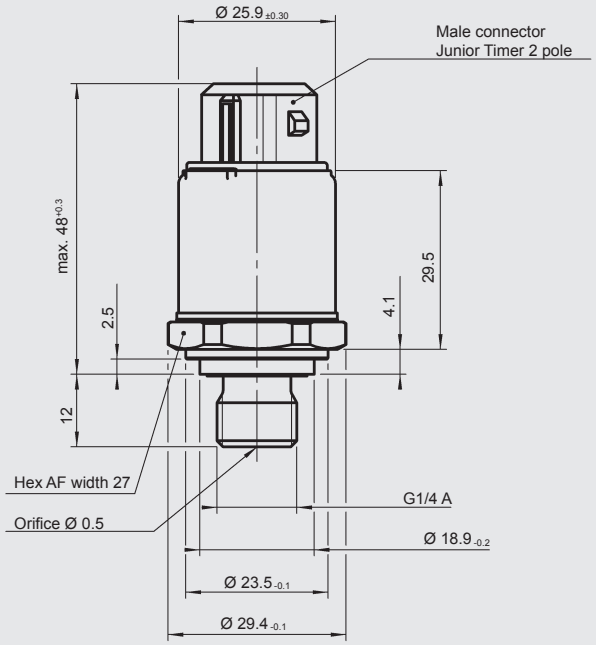
Technical data:

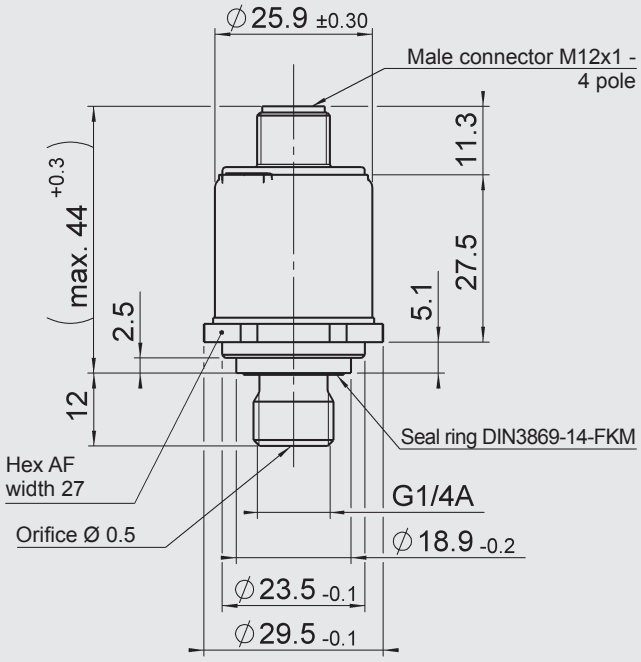
Input data								
Measuring ranges	bar	40	60	100	160	250	400	600
Overload pressures	bar	80	120	200	320	500	800	1000
Burst pressure	bar	200	300	500	800	1250	2000	2000
Mechanical connection (Tightening torque, recommended)				G1/4 A ISO 1179-2 7/16-20 UNF 2A (SAE 4) 9/16-18 UNF 2A (SAE 6)			(20 Nm) (15 Nm) (20 Nm)	
Parts in contact with fluid [1]				Mech. connection: Stainless steel Seal: FKM				
Output data								
Output signal, permitted load resistance				4 .. 20 mA $R_{L max} = (U_B - 12\ V) / 20\ mA\ [k\Omega]$				
Output signal with error recognition				< 3 mA				
Accuracy acc. to DIN 16086, terminal based				≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.				
Accuracy, B.F.S.L.				≤ ± 0.15 % FS typ. ≤ ± 0.25 % FS max				
Temperature compensation Zero point / span				≤ ± 0.01 % FS / °C typ. ≤ ± 0.02 % FS / °C max.				
Non-linearity acc. to DIN 16086, terminal based				≤ ± 0.3 % FS max.				
Hysteresis				≤ ± 0.1 % FS max.				
Repeatability				≤ ± 0.1 % FS				
Rise time				≤ 10 ms				
Long-term drift				≤ ± 0.3 % FS typ. / year				
Environmental conditions								
Compensated temperature range				-25 .. +85 °C				
Operating temperature range [2]				-40 .. +100 °C / -25 .. +100 °C				
Storage temperature range				-40 .. +100 °C				
Fluid temperature range [2]				-40 .. +125 °C / -25 .. +125 °C				
CE mark				EN 61000-6-1 / 2 / 3 / 4				
Vibration resistance acc. to DIN EN 60068-2-6 at 0 .. 500 Hz				≤ 25 g				
Shock resistance acc. to DIN EN 60068-2-27 (11 ms)				100 g / 6 ms / half-sine 500 g / 1 ms / half-sine				
Protection class acc. to DIN EN 60529 [3]				IP 67				
Safety-related data								
Performance level								
Based on				DIN EN ISO 13849-1:2008				
PL				d				
Architecture				Category 2				
Safety Integrity Level								
Based on				DIN EN 61508: 2010				
SIL				2				
Other data								
Electrical connection				M12x1, 4 pole AMP Junior Power Timer, 2 pole				
Supply voltage				12 .. 32 V DC				
Residual ripple of supply voltage				≤ 5 %				
Current consumption				≤ 25 mA				
Life expectancy				> 10 million cycles (0 .. 100 %)				
Weight				~ 75 g				

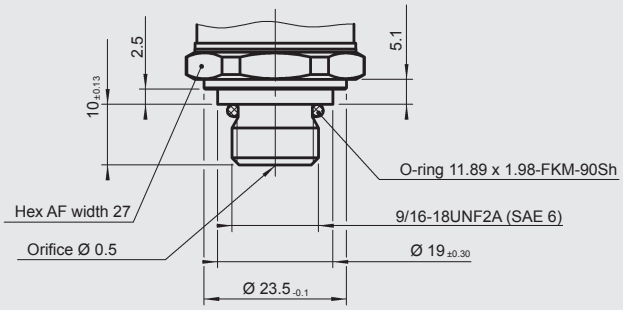
Note: Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection are provided.
FS (**F**ull **S**cale) = relative to complete measuring range
B.F.S.L. = **B**est **F**it **S**traight **L**ine

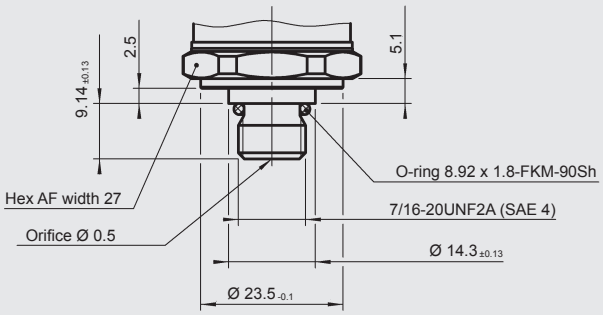
[1] Other seal materials on request
[2] -25 °C with FKM seal, -40 °C on request
[3] With mounted mating connector in corresponding protection class

Dimensions:









Order details:

This version of the electronic pressure transmitter HDA 8700 has been specially developed for OEM customers and is available for minimum order quantities of 500 pieces per type.

For exact specification, please contact the Sales Department of HYDAC ELECTRONIC.

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.

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