Electronic Pressure Transmitter
HDA 4700
CANopen

Description:

The HDA 4700 CAN is a digital pressure transmitter which is used to measure relative pressures in hydraulics and pneumatics. The measured pressure value is digitized and made available to the CAN field bus system via the CANopen protocol. The instrument parameters can be viewed and configured by the user via the CANopen object directory using standard CAN software.

This pressure transmitter, which is based on the HDA 4700, has a very accurate and robust sensor cell with a thin-film strain gauge on a stainless steel membrane.

Due to their outstanding temperature and EMC characteristics, together with their compact dimensions, these instruments can be used in a wide range of applications in the mobile and industrial sectors.

Special features:

- CANopen interface
- Accuracy ≤ ± 0.25 % FS typ.
- Robust thin-film cell
- Excellent EMC characteristics
- Very compact design

Technical data:

Input data	
Measuring ranges[1)]	40; 100; 250; 400; 600; 1000 bar
Overload pressures	80; 200; 500; 800; 1000; 1600 bar
Burst pressures	200; 500; 1000; 2000; 2000; 3000 bar
Mechanical connection[1)]	G1/4 A DIN 3852; G1/2 A DIN 3852
Torque value	20 Nm (G1/4); 45 Nm (G1/2)
Parts in contact with medium	Mech. conn.: Stainless steel Seal: FPM
Output data	
Output signal	CANopen protocol
Accuracy to DIN 16086, Max. setting	≤ ± 0.25 % FS typ. ≤ ± 0.5 % FS max.
Accuracy at min. setting (B.F.S.L.)	≤ ± 0.15 % FS typ. ≤ ± 0.25 % FS max.
Temperature compensation Zero point	≤ ± 0.008 % FS / °C typ. ≤ ± 0.015 % FS / °C max.
Temperature compensation Over range	≤ ± 0.008 % FS / °C typ. ≤ ± 0.015 % FS / °C max.
Non-linearity at max. setting to DIN 16086	≤ ± 0.3 % FS max.
Hysteresis	≤ ± 0.1 % FS max.
Repeatability	≤ ± 0.08 % FS
Rise time	≤ 1 ms
Long-term drift	≤ ± 0.1 % FS typ. / year
Environmental conditions	
Compensated temperature range	-25 .. +85 °C
Operating temperature range[2)]	-40 .. +85 °C / -25 .. +85 °C
Storage temperature range	-40 .. +100 °C
Fluid temperature range[2)]	-40 .. +100 °C / -25 .. +100 °C
CE mark	EN 61000-6-1 / 2 / 3 / 4
cULus mark[3)]	Certificate No. E318391
Vibration resistance to DIN EN 60068-2-6 at 10 .. 500 Hz	≤ 20 g
Protection class to IEC 60529	IP 67
Other data	
Supply voltage for use acc. to UL spec.	10 .. 35 V DC - limited energy - according to 9.3 UL 61010; Class 2; UL 1310/1585; LPS UL 60950
Residual ripple of supply voltage	≤ 5 %
Current consumption	≤ 25 mA
Life expectancy	> 10 million cycles 0 .. 100 % FS
Weight	approx. 150 g

Note: Reverse polarity protection of the supply voltage and excess voltage 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
Special models available on request.
[1)] 1000 bar only with mechanical connection G1/2 A DIN 3852 and vice versa
[2)] -25 °C with FPM seal, -40 °C on request
[3)] Environmental conditions according to 1.4.2 UL 61010-1; C22.2 No 61010-1

Model code:

HDA 4 7 X 8 – K – XXXX – 000

Mechanical connection
2 = G1/2 A DIN 3852 (only for "1000 bar" press. range)
4 = G1/4 A DIN 3852 (male)

Electrical connection
8 = Male M12x1, 5 pole
(connector not supplied)

Signal
K = CANopen

Pressure ranges in bar
0040; 0100; 0250; 0400; 0600
1000 (only in conjunction with mechanical connection type "2")

Modification number
000 = Standard (Baud Rate: 250k Node Id: 1)

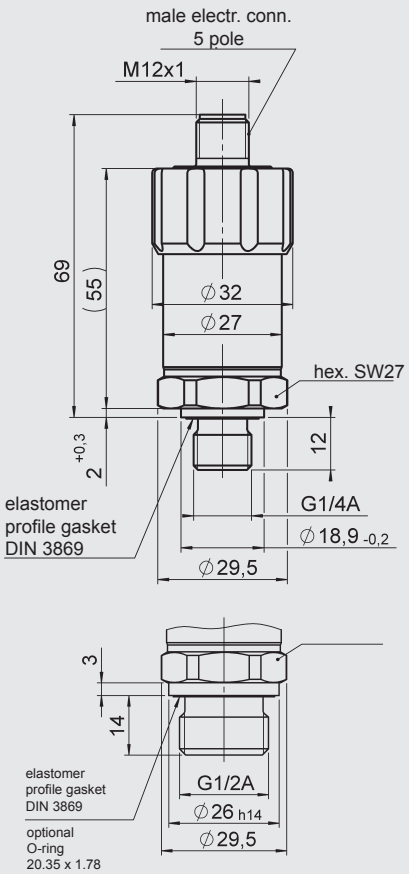
Note:
On instruments with a different modification number, please read the label or the technical amendment details supplied with the instrument.

Accessories:
Appropriate accessories, such as electrical connectors, can be found in the Accessories brochure.

Protocol data for CANopen:

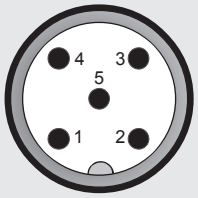
Communication profile	CiA DS 301 V4.2
Device profile	CiA DS 404 V1.3
Layer setting services and protocol	CiA DSP 305 V2.2
Automatic bit-rate detection	CiA AN 801
Baud rates	10 kbit .. 1 Mbit corresp. to DS305 V2.2
Transmission services - PDO - Transfer	 Measured value as 16/32 bit, float status synchronous, asynchronous, cyclical, measured value change, exceeding boundaries
Node ID/Baud rate	Can be set via Manufacturer Specific Profile

Dimensions:



Pin connections:

M12x1



Pin	Signal	Description
1	Housing	shield/housing
2	$+U_B$	supply +
3	0 V	supply -
4	CAN_H	bus line dominant high
5	CAN_L	bus line dominant low

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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