Hydroge



HT-H2 Pressure sensor



- Durable & rugged industrial pressure transmitter
- Up to 1000 bar
- Designed for used with Hydrogen gases
- Adapted piezo-resistive measuring cell prevents embrittlement

Storage Fuel Cells

Gas Engineering

Chemical Engineering

Automotive



DESCRIPTION

The piezoresistive stainless steel measuring cell has especially been adapted to suit the chemical and physical properties of hydrogen. The entire sensing element is made from of a single piece without welds, which is designed to prevent embrittlement of the metal surface by ionised hydrogen. It is also completely vacuum tight and elastomer free.

Leaks caused by material fatigue on internal seals are thus eliminated from the outset. It has no disturbance due to pressure transfer fluid and no large pressurised surfaces.

The link into the connection pins are made by wedge wedge bonding and is therefore completely stable even at low temperatures, or when subject to shocks or vibrations. The measuring bridge evaluates the pressure via a mixed signal ASIC. The HT-H2 can also be used for other critical media.

HYDROGEN PRESSURE TRANSMITTER

Stainless steel single piece measuring cell

- Suitable for Hydrogen
- Measuring cell, free from welds & seams
- Elastomer seal free
- Long term durability & accuracy

TECHNICAL PARAMETERS

- Vacuum and 1 bar to 1,000 bar
- relative pressure, sealed reference
- (0)4...20 mA, 0...(5)10 V, ratiometric and more
- M12x1, Packard Metri-Pack, AMP and many more
- precision < 0,5 % FS (limit-point calibration)
- medium-contacting parts of stainless steel 1.4404/316L
- response time < 1ms</p>
- optionally with EX protection (ATEX, IECEx, CSA)

TECHNICAL DATA

Pressure measuring ranges available between 01000 bar	P nominal -11 to -1600 bar	-11000 bar
	P overload 2x	1.5x
	P burst 3x	2x
Type of pressure	Relative pressure	
Measuring principle	Piezoresistive (semiconductor on stainless steel)	
Medium contacting parts	Stainless steel 1.4404 (316L) (others on request)	





TECHNICAL DATA (Continued)

Internal seals	None (single piece solid stainless steel measuring cell)	
Pressure-transmitting medium	None (dry stainless-steel measuring cell)	
Housing material	1.4301 / AISI 304	
Process connections *	1/4" and 1/2" NPT, 9/16"-18 UNF-2A with sealing cone, 9/16"-18 UNF-2A HF 4 G1/4" BSP and G1/2" BSP acc. to EN 837 (manometer nipple) or to ISO 228-1	
Electrical connections *	Plug connectors acc. to EN 175301-803 Form A and C, M12x1, Packard Metri-Pack, AMP Superseal, German, field housing, wire output port	
Mass	Approx. 120g	
Output signal, supply voltage and load resistance *	420 mA, 2-wire RA ≤ (UB-10V) / 20mA (supply 1032VDC) 010V, 3-wire RL> 5kΩ (supply 122VDC) 05 V, 3 -wire RL> 2.5kΩ (supply 72VDC) 0.54.5V ratiometric, 3 Leiter RL> 4.7kΩ (supply 5VDC +/-10%)	
Response time (T90)	< 1 ms	
Total error **	\leq 0.5%FS after limit-point calibration (\leq 0.35% FS BFSL) acc.to DIN EN 61298-2 (incl. non-linearity, zero offset, hysteresis and repeatability) in the compensated range	
Non-linearity	\leq 0.2% FS after limit-point calibration (\leq 0.1% FS acc. to BFSL)	
Non-repeatability	≤ 0.10% FS	
Hysteresis	≤ 0.15% FS	
Medium TK of the offset	≤0.15%FS/ 10K	
Medium TK of the range	≤0.15%FS/ 10K	
Long-term durability	≤ 0.1% FS per year in referential conditions	
Permissible temperatures Temperature of the medium Ambient temperature Storage Temperature Compensated Range	-40+125°C -40+105°C -40+125°C 0+80°C	
CE-conformity	EC Directive 89 / 336 / EEC 2014	
ATEX option	II 2G Ex ia IIC T4 Gb	
Pressure devices EMC directive	68/EU 2004 /108 / EC acc. To EN 61326g	
Shock resistance	1000 acc. to IEC 60068-2-32 g 20	
Vibration resistance	Acc. to IEC 60068-2-6	
Weight	~ 50g	
Electrical protection Dielectric strength Short circuit resistance Reverse polarity protection	350VDC Out+ / UB- (for 1s) UB+ / UB in place	
IP ratings *	plug connections acc. to EN 175301-803 IP65, M12 x 1, Packard Metri-Pack, AMP, Deutsch DT04-3P and 4P IP67/IP6K9K. The IP types specified in the data sheets generally apply to a mating plug connected. An aerated counter plug and / or wire is usually required for relative transmitters to enable atmospheric pressure balance. From a pressure range of 60 bar, no ventilated mating connector and / or cable is necessary.	
* Others on request:		

** Special custom made solutions with optionally higher precision on request.





UKAS

ELECTRICAL CONNECTIONS EXAMPLES



HT-H2-X1-UR-0600-01-05-01

HT-H2 with Zone 1 approval, 0.5...4.5V (ratiometric) output signal, 0...600 bar pressure range, Binder M12x1 (plastic); 4P electrical connections and G1/4" form E.