SHD
Pressure Transmitter for industrial applications

- ***Vacuum, 0...600 mbar, 0...2000 bar***
- ***(0)4...20 mA, 0...(5)10V, ratiometric and more***
- ***Accuracy < 0,5 % FS (limit point adjustment)***
- ***Media-contacting parts made of stainless steel***
- ***Process temperature -40 ... +125°C***

Description

The SHD is used for challenging measurement and control tasks. Its high-quality and robust design provides a high-level of reliability and safety even in harsh environments. The design ist extremely variable and enables the use in most different applications. Combined with the high accuracy, this transmitter is the ideal solution for our customers.

The MEMS thin-film measuring cell is made of stainless steel. The cell is firmly bonded to the process connection and therefore fully vacuum-tight and extremely burst resistant. The connection to the pins is made via gold-bonding, which makes it resistant to low temperatures, shocks and vibrations.

Applications

The SHD captivates with a high variety of different designs. It can be provided with customary electrial connections, e.g. angle connectors acc. EN 175301-803 A and C, as well as internationally established process connections.

In summary this makes the SHD an absolute allrounder, which can be used in many industries:

- ***HYDRAULICS***
- ***MECHANICAL ENGINEERING***
- ***MEDICINE TECHNOLOGIES***
- ***PROCESS TECHNOLOGIES***
- ***PNEUMATICS***
- ***TRAFFIC ENGINEERING***
- ***BUILDING AUTOMATION***
- ***GAS TECHNOLOGIES***
- ***RESEARCH & DEVELOPMENT***
- ***PLANT ENGINEERING***

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Technical specifications

Pressure ranges [bar] *	-1	0,6	1	1,6	2,5	4
	25	40	60	100	160	250
	400	600				
Overload pressure *	Max. 1,5-times; range above 400 bar: 1,2-times					
Burst pressure *	3-times; range above 600 bar: 1,5-times					
Pressure type	Relative pressure					
Measuring principle	piezo-resistive thin-film technology (MEMS) (semiconductor gold-bonded to stainless steel)					
Media-contacting parts	up to 400 bar: membrane 17-4 PH (1.4542 / AISI 630), thread 1.4301					
	(AISI 304); from 600 bar : completely 17-4 PH (1.4542 / AISI 630)					
Internal seals	none (hermetically welded stainless steel measuring cell)					
Pressure transmission medium	none (dry stainless steel measuring cell)					
Housing material	1.4301 / AISI 304					
Process connections *	G1/4 and G1/2 acc. DIN 3852-form E, G1/4 and G1/2 acc. En837 (manometer nipple), 1/4" and 1/2" NPT					
Elektrical connections *	angle connectors acc. EN 175301-803 form A and C, M12x1, cable output					
Mass	~ 120 g					
Output signal	4...20 mA, 2-wire RA ≤ (UB-10V) / 20 mA (Supply 10...32 V DC)					
Supply voltage and	0...10 V, 3-wire RL > 5 kΩ (Supply 12...32 V DC)					
load resistance	0...5 V, 3-wire RL > 2,5 kΩ (Supply 7...32 V DC)					
	0,5...4,5 V ratiometric, 3-wire RL > 4,7 kΩ (Supply 5 V DC ± 10%)					
Response time (T90)	< 1 ms					
Accuracy **	≤ 0,5% FS limit point adjustment (≤ 0,35% FS BFSL) acc. DIN EN 61298-2 (incl. non-linearity, zero point error, hysteresis and repeatability) in compensated range					
Non-linearity	≤ 0,2% FS limit point adjustment (≤ 0,1% FS to BFSL)					
Non-repeatability	≤ 0,10% FS					
Hysteresis	≤ 0,15 % FS					
Mean TC offset	≤ 0,15 FS / 10 K					
mean TC range	≤ 0,15 FS / 10 K					
Long term stability	≤ 0,1 FS per year at reference conditions					
Acceptable temperatures						
Media temperature	-40 ... +125°C					
Environment temperature	-40 ... +100°C					
Storage temperature	-40 ... +125°C					
Compensated range	0 ... + 80°C					
CE-conformity	EG Directive 89 / 336 / EWG					
Pressure devices	2014 / 68 / EU					
EMC Directive	2001 / 108 / EG acc. EN 61326					
Shock resistance	g 1000 acc. IEC 60068-2-32					
Vibration resistance	g 20 acc. IEC 60068-2-6					
Electrical resistance						
Voltage resistance	350 V DC					
Short circuit resistance	Out + / U_B- (für 1 s)					
Voltage reversal protection	yes U_B+ / U_B					
IP Protection	angle connectors acc. EN 175301-803 IP65, M12x1 and cable IP67. The IP level of protection as specified in the data sheet generally applies, with their mating plug connected. Relative pressure transmitters usually require a ventilated mating plug and/or cable to allow pressure compensation. At pressure ranges exceeding 60 bar, a ventilated mating plug and/or cable ist not necessarily needed.					

* Others on request ** Customized solutions with higher accuracy possible

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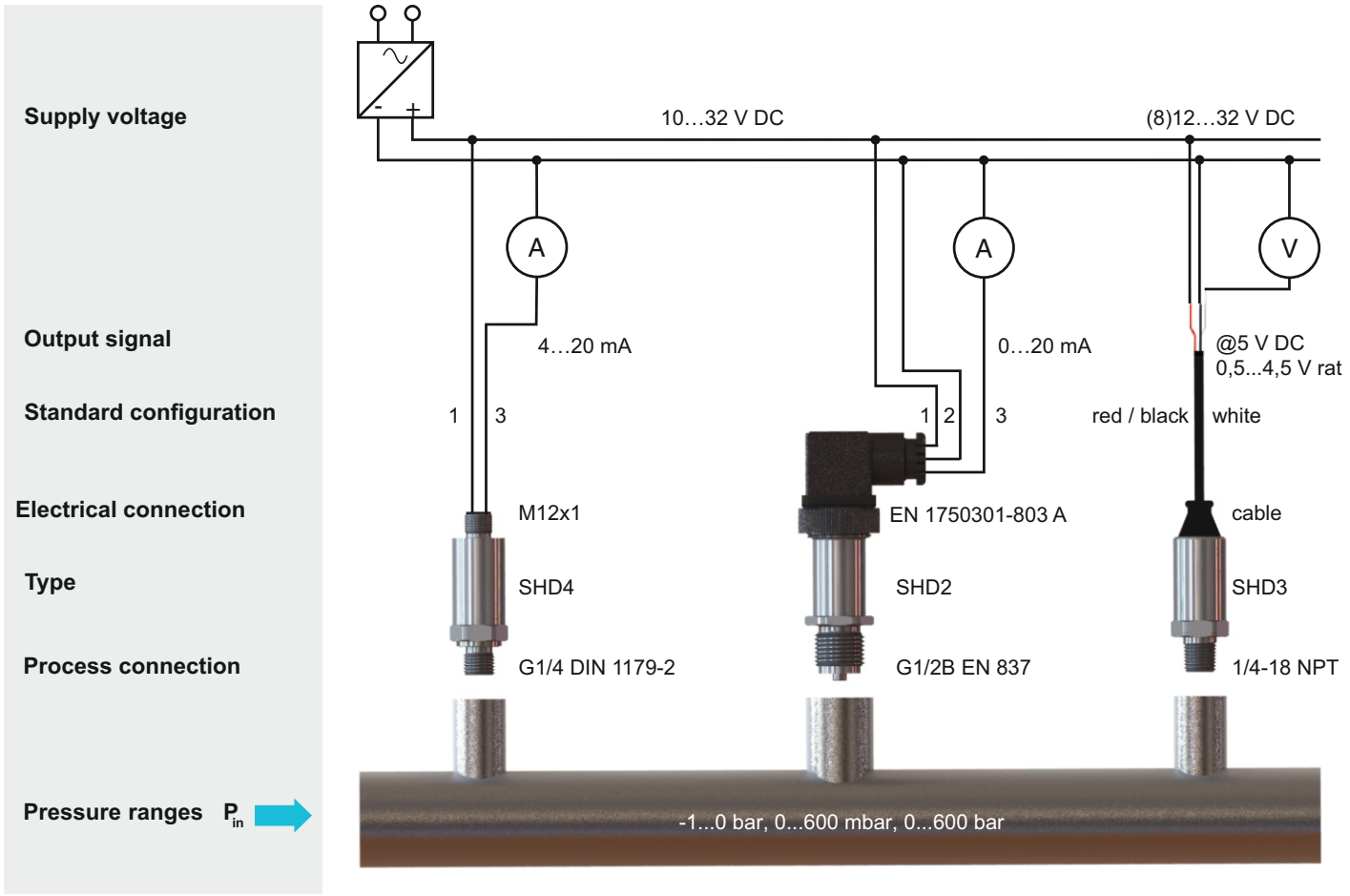
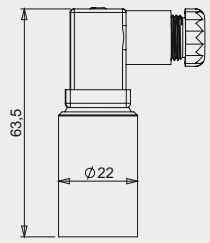
System construction examples



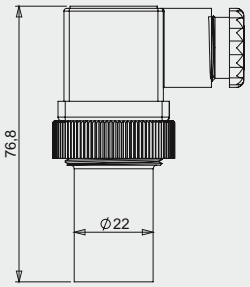
Electrical connections *

type SHD



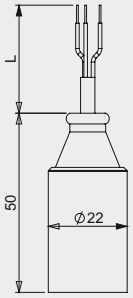
Connector EN 175301-803 C

type SHD2



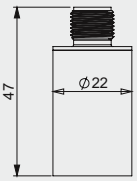
Connector EN 175301-803 A

type SHD3



Cable output

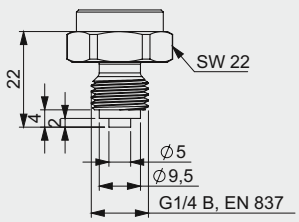
type SHD4



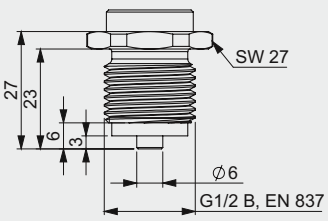
M12x1 connector

Process connections *

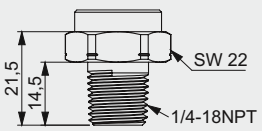
G1/4 B



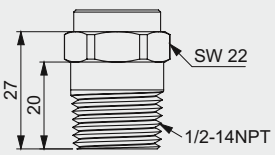
G1/2 B



NPT1/4



NPT1/8



* Customized solutions and adjustments are possible

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