

# The Strong One

S M H

## High Pressure Transmitter

### Main features

- Measuring ranges 0...1001 bar to 0...5000 bar
- Standard signals for the industry, hydraulics and others
- Highly flexible options by its modular design
- Plug systems MVS/A acc. to DIN EN 17530, MVS/C acc. to DIN EN 17530, M12 and other
- Highly reliable

### Applications

- Hydraulics
- Mechanical engineering
- Test stand design (Automotive engineering)
- Water-power engineering
- Diesel engine technology

### Description

THE STRONG – this is the SMH in our portfolio. Popular applications are injection systems on generators or high pressure cleaning or cutting machines. Very popular are monitoring tasks on hydraulic pumps.

The transducer is designed for pressures as high 5000 bar and withstand very high dynamic pressure impulses. Also the output signal can provide a high dynamic range as well as a high accuracy. A high media compatibility is provided by the use of stainless steel and titanium. A limited flexibility on pressure fittings can be provided.



### Specifications

#### PRESSURE RANGE

Measuring range*	p [bar]	1600	2000	2500	4000	5000
Overload pressure	p [bar]	2400	2400	3600	4800	6000
Burst pressure	p [bar]	3000	3000	4500	6000	7000

#### ELECTRICAL PARAMETER

		2-wire	3-wire	3-wire	3-wire	3-wire
Output signal *		4...20 mA	4...20 mA	0...10 V	1...5 V <sub>DC</sub>	0,5...4,5 V ratiometric
Supply voltage	U <sub>s</sub> [V <sub>DC</sub> ]	10...32**	9...30	12...32	8...32	5 ± 10 %
Load resistor	R <sub>A</sub> in Ohm	R <sub>A</sub> =(U <sub>s</sub> -10V)/0,02A	max. 200Ω**	≥4.7kΩ	≥4.7kΩ	≥4.7kΩ
Response time	t [ms]	≤ 2	≤ 1	≤ 1	≤ 1	≤ 1
Maximum supply current	I [mA]	23	40	10	10	7,5

\*\* > AppNote (see www.adz.de)

Isolation voltage*	U [V <sub>DC</sub> ]	50	option 500/710
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#### ACCURACY

		for pressure range ≤ 2000 bar	for pressure range > 2000 bar
Accuracy @ RT	% of the range	≤ 0,50***	≤ 1,00***
Non-linearity	BFSL	≤ 0,15	≤ 0,30
Stability/year	% of the range	≤ 0,15	≤ 0,20

\*\*\* incl. nonlinearity, hysteresis, repeatability, zero-offset-and final-offset  
(acc. to IEC 61298-2)

#### ACCEPTABLE TEMPERATURE RANGES

Media	T [°C]	-40...125	
Ambience	T [°C]	-40...105	
Storage	T [°C]	-40...125	
Compensated range****	T [°C]	-20...85	**** The mean TC are relevant for the compensated range only, outside the compensated range the total error statements apply.
Mean TC offset	% of the range	≤ 0,15 / 10K	
Mean TC range	% of the range	≤ 0,15 / 10K	
Total error	% of the range	-40°C 2,00%	
	% of the range	105°C 2,00%	

#### MECHANICAL PARAMETER

Parts in contact with the measuring medium		stainless steel, titanium	
Housing		stainless steel	
Weight	m [g]	120-150	depending on design
Shock resistance/drop	g	1000	acc. to DIN EN 60068-2-32 – free fall
Vibration resistance	g	20	acc. to DIN EN 60068-2-6 – vibration sinusoidal
Shock resistance/constant	g	50	acc. to DIN EN 60068-2-27 – shock
Approvals		CE Declarations of conformity 2014/30/EU Railway application (DIN EN 50155); Germanischer Lloyd to 2000bar Note: Not every specification listed here applies to all configurations, thus affecting the appropriate approval.	
IP system of protection (IEC 60529) up to IP69K		IP rating applies with appropriate mating connector only.	

Configurations -examples-

SMH (MVA/C Conn.)



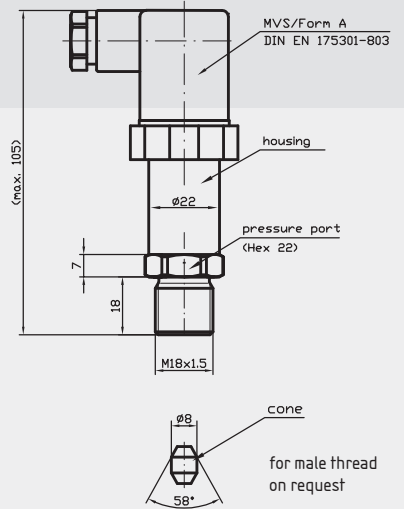
Adapter  
M16x1,5 MVS/C



M18x1,5  
Junior Timer

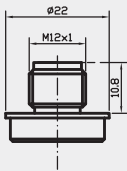


M18x1,5  
Packard

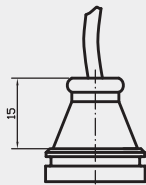


Electrical connections\* -examples-

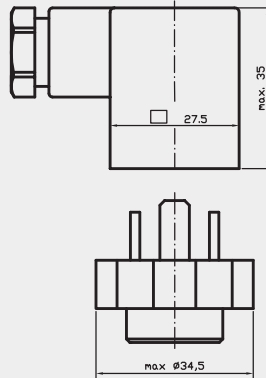
male socket  
M12x1 (S763)  
(IP67)



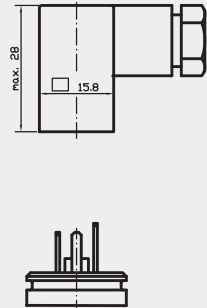
cable output  
plastic  
(IP67 / IP69K)



MVS/A  
DIN EN 175301-803  
(IP65)

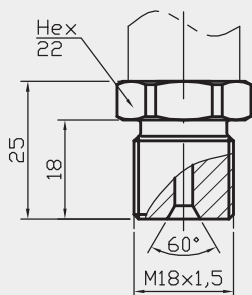


MVS/C  
DIN EN 175301-803  
(IP65)

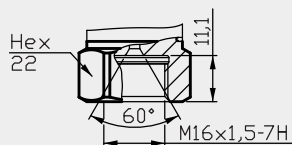


Pressure Connections\* -examples-

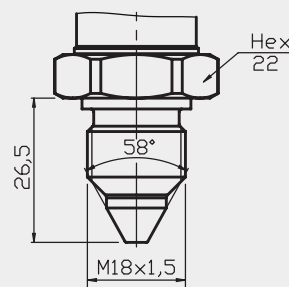
M 18x1,5



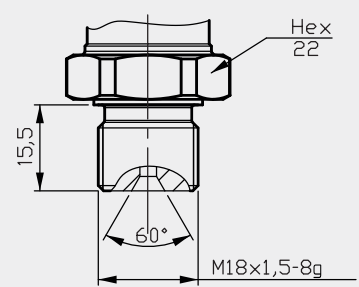
M 16x1,5 fem. / IK 60°



M 18x1,5 / K

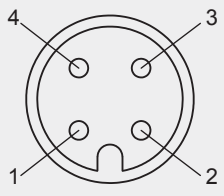
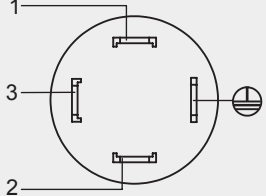
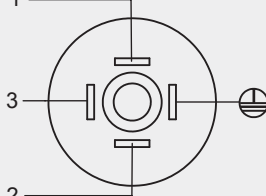


M18x1,5 / IK 60°



\* customer specific configurations available

### Electrical Configuration\*

Plug M12x1	Cable	DIN EN 175301-803-A	DIN EN 175301-803-C
			
<b>2-wire</b> 1: UB+ 2: nc 3: out 4: nc	<b>2-wire</b> red: UB+ black: out white: nc	<b>2-wire</b> 1: UB+ 2: out 3: nc ⊕: nc	<b>2-wire</b> 1: UB+ 2: out 3: nc ⊕: nc
<b>3-wire</b> 1: UB+ 2: nc 3: UB- 4: out	<b>3-wire</b> red: UB+ black: UB- white: out	<b>3-wire</b> 1: UB+ 2: UB- 3: out ⊕: nc	<b>3-wire</b> 1: UB+ 2: UB- 3: out ⊕: nc

nc =  
not connected

The electrical connection must be made in accordance with the respective connection diagram unless otherwise agreed upon.

\* custom-made adjustments are possible

### Product line

DS5	Electronic Pressure Switch	SMC	Pressure Transmitter with CANopen Interface and J1939
DPSX9I	Intrinsically Safe Electronic Pressure Switch for Current	SME	Pressure Transmitter in Miniature Design
DPSX9U	Intrinsically Safe Electronic Pressure Switch for Voltage	SMF	Pressure Transmitter with Flush Diaphragm
PS1/17	Level Sensor	SMH	High Pressure Transmitter
PSX2	Intrinsically Safe Level Sensor	SML	Pressure Transmitter for Industrial Application
SH2	Pressure transmitter for hydrogen applications	SMO	Pressure Transmitter in Mobile Hydraulics
SHP	High Precision Pressure Transmitter	SMX2	Intrinsically Safe Pressure Transmitter for Industrial Application
SIS	Low Pressure Transmitter in Short and Compact Design	TPSE	Multi-Function Transmitter for Pressure and Temperature – external sensor
SIL	Low Pressure Transmitter for Industrial Application	TPSI	Multi-Function Transmitter for Pressure and Temperature – internal sensor
SKE	High Temperature Pressure Transmitter with Detached Electronics	TS1	Temperature transmitter for industrial application
SKL	High Temperature Pressure Transmitter with Cooling Fins		

