The Heat Resistant One

S K E

High Temperature Pressure Transmitter with Detached Electronics

Main Features

- Measuring ranges -1 bar to 5000 bar
- All standard signals for industry, hydraulics and pneumatics
- Media temperature range -40°C to 200°C* (*others on request)
- Ambient temperature range -40°C to 105°C
- Shock and vibration-resistant > 1000 g shock, 20 g vibration
- No internal transmitting media (fully welded, "dry" measuring cell)
- Degree of protection from IP65 (special version up to IP69K)
- Compact and robust stainless steel design
- Highly reliable
- Accuracy class 1%, option for 0.5%

Applications

- Hydraulics
- Pneumatics
- Plant engineering and automation
- Test stand design
- Chemical industry

Description

The SKE is a high-temperature pressure transducer with remote electronics. This makes the sensor fit for use in temperatures of up to 200°C. The electronics are remotely connected to the pressure cell by Teflon cable, allowing it to be placed in lower-temperature environments. This pressure transducer features excellent properties thanks to its stainless-steel membrane and semi-conductor thin-film technology. It may also come as a titanium version.

The stainless-steel and the titanium sensing elements are entirely vacuumtight, extremely burstproof and can be used with all standard media. Furthermore, its modular design offers a variety of output signals, threading and connecting options. And on top of that, special customized calibration in a desired measuring range is available on request.

AZ NAGANO Sensortechnik

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High Temperature Pressure Transmitter
with Detached Electronics

Specification

PRESSURE RANGE									
Measuring range*	p [bar]	**1,0**	**1,6**	**2,0**	**2,5**	**4,0**	**6,0**	**10,0**	**16,0**
Overload pressure	p [bar]	6	6	6	6	10	20	20	40
Burst pressure	p [bar]	9	9	9	9	15	30	30	60
Measuring range*	p [bar]	**20**	**25**	**40**	**60**	**100**	**160**	**200**	**250**
Overload pressure	p [bar]	40	100	100	200	200	400	400	750
Burst pressure	p [bar]	60	150	150	300	300	600	600	1000
Measuring range*	p [bar]	**400**	**600**	**1000**	**1600**	**2000**	**2500**	**4000**	**5000**
Overload pressure	p [bar]	750	840	1200	2400	2400	3600	4800	6000
Burst pressure	p [bar]	1000	1050	1500	3000	3000	4500	6000	7000

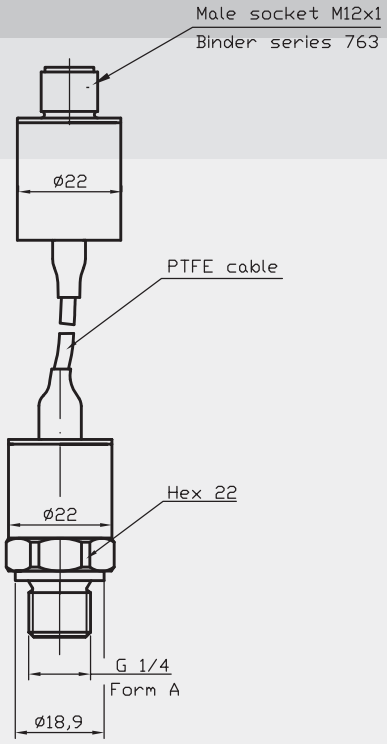
ELECTRICAL PARAMETER						
		2-wire	3-wire	3-wire	3-wire	3-wire
Output signal*		4...20 mA	0...20 mA	0...10 V	0...5 V	0,5...4,5 V ratiometric
Supply voltage	U_S [V_{DC}]	10...32**	9...30	12...32	8...32	5 ± 10 %
Load resistor	R_A in Ohm	R_A=(Us-10V)/0,02A	max. 200Ω**	≥4.7kΩ	≥4.7kΩ	≥4.7kΩ
Response time	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_{DC}]	50				

ACCURACY				
Accuracy @ RT	% of the range	≤ 1,00***	Option ≤ 0,5	*** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)
Non-linearity	BFSL	≤ 0,15		
Stability/year	% of the range	≤ 0,15		

ACCEPTABLE TEMPERATURE RANGES ****						**** customized configurations possible
Measuring medium	T [°C]	-40...180		Option -200 ... +200°C		
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%	Option -200°C	4,00%	
	% of the range	105°C	2,00%			
	% of the range	180°C	3,00%	Option +200°C	4,00%	

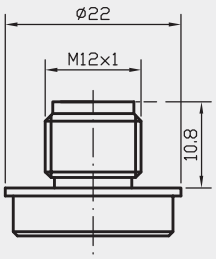
MECHANICAL PARAMETER			
Wetted components		stainless steel, titanium	
Housing		stainless steel	
Weight	m [g]	80-120	depending on design
Shock resistance/drop	g	1000	acc. to DIN EN 60068-2-32 – free fall
Vibration resistance	g	20	acc. to DIN EN 60068-2-6 – vibration sinusoidal
Shock resistance/constant	g	50	acc. to DIN EN 60068-2-27 – shock
Approvals	CE Declarations of conformity 2014/30/EU		
	Note: Not every specification listed here applies to all configurations, thus affecting the appropriate approval.		
IP system of protection (IEC 605029) up to IP69K			The IP system of protection as specified in the data sheets generally applies, with appropriate mating plug connected.

Configurations -examples-

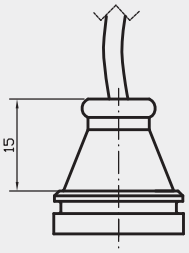


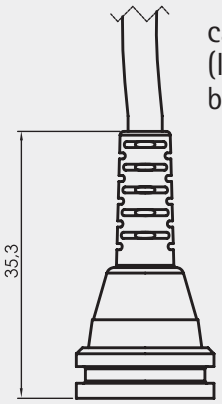
Electrical connections* -examples-

male socket
M12x1 (S 763)
(IP67)



cable output
(IP67/IP69K)

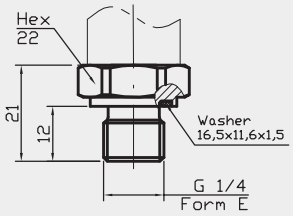




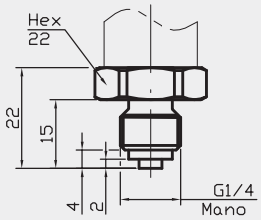
cable output
(IP67) with
bend protection

Pressure Connections* -examples-

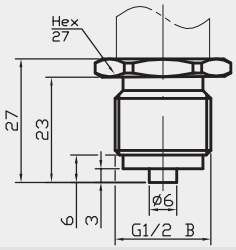
G ¼ A; DIN 3852; Form E



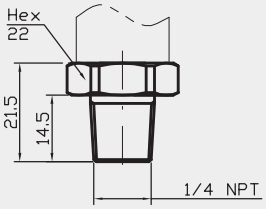
G ¼ B



G ½ B



¼ NPT



* customer specific configurations available

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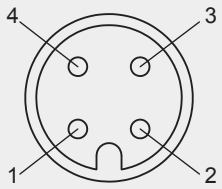
Electrical Configuration*

Plug M12x1	Cable
	
2-wire 1: UB+ 2: nc 3: out 4: nc	2-wire red: UB+ black: out white: nc
3-wire 1: UB+ 2: nc 3: UB- 4: out	3-wire red: UB+ black: UB- white: out

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		

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Subject to change
due to technical progress.
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