

Pressure Transmitter with CAN-Interface

Main features

- Measuring ranges -1...0 bar; 0...1 bar and to 0...5000 bar
- Available protocols: CANopen CiA DS 404, SAE J1939
- Media temperature range -40°C to 125°C
- Shock and vibration resistance > 1000 g shock, > 20 g vibration
- No internal transmitting media (fully welded, "dry" measuring cell)
- Degree of protection to IP69K
- Compact and robust stainless steel design (option for titanium)
- Highly reliable

Applications

- General industrial applications
- Hydraulics
- Pneumatics
- Mechanical engineering
- Plant engineering and automation
- Automotive industry
- Environmental engineering
- Air conditioning
- Agricultural engineering

Description

The SMC pressure transmitter is equipped with an intelligent signal conditioning, which can be adjusted to flexible and customized needs. Due to the bus-structure of the CAN bus multiple transmitters can be connected to the same network. The communication and data transmission for all transmitters is guaranteed. The SMC provides many flexible features and configurations and provide high media flexibility, if stainless steel sensing elements are selected. The robust design guarantees reliable application in harsh environments.

The SMC complies to the DIN ISO 11898 standard and allows data rates up to 1Mbit/s. The protocol ISO J1939 is also supported and is used in truck-trailer-communication.

CANopen®

SAE J1939



Specifications

PRESSURE RANGE

Measuring range*	p [bar]	0,2	1,0	1,6	2,5	4,0	6,0	10,0	16,0
Overload pressure	p [bar]	0,5	6	6	6	10	20	20	40
Burst pressure	p [bar]	1,0	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	4000	5000	
Overload pressure	p [bar]	750	840	1200	2400	2400	5000	6000	
Burst pressure	p [bar]	1000	1050	1500	3000	3000	6000	7000	

(Other pressure range as -1...0 bar, -1...9/24 bar etc. or absolute pressure are available.)

ELECTRICAL PARAMETER

		4-wire
Supply voltage*	U [V _{DC}]	10...32**
CAN interface		acc. to DIN ISO 11898
CAN protocol		CANopen, SAE J1939
Response time*	t [ms]	< 1 ** > AppNote (see www.adz.de)
Maximum supply current	I [mA]	< 30
Isolation voltage*	U [V _{DC}]	50

ACCURACY

Accuracy applies only up to 2000 bar; above 2000 bar 1% applies

Accuracy @ RT	% of the range	≤ 0,50*** option ≤ 0,25 *** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)
	BFSL	≤ 0,125
Non-linearity	% of the range	≤ 0,15
Stability/year	% of the range	≤ 0,10

ACCEPTABLE TEMPERATURE RANGES

Media	T [°C]	-40...125
Ambience	T [°C]	-40...105
Storage	T [°C]	-40...125
Compensated range*	T [°C]	-20...85
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, silicon and titanium
Housing*		stainless steel, silicon and titanium
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 resistance
Approval		CE Declaration of conformity 2014/30/EU
		Note: Not every specification listed here applies to all configurations.

IP system of protection (IEC 60529) to IP69K IP rating applies with appropriate mating connector only.

Configurations -examples-

SMC with M12-conn.

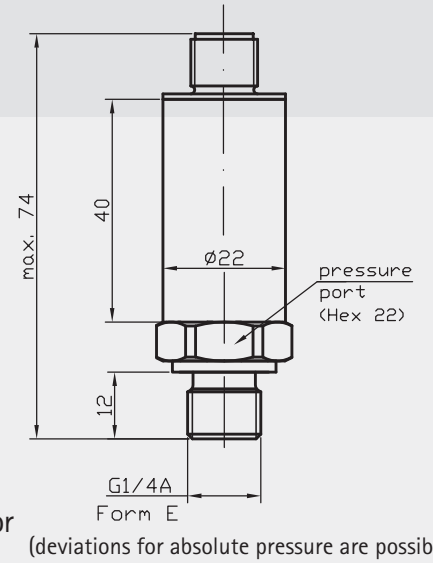


MIL-C26482
G1/4E

M16
M18/M16 female

cabel
G1/4 Form E

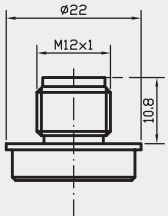
M12x1
G1/4 Form E with
external temperature sensor



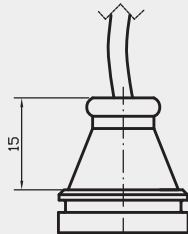
(deviations for absolute pressure are possible)

Connectors* -examples-

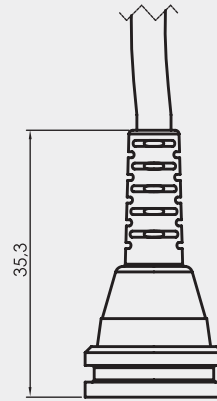
male socket
M12x1 (S763)
(IP67)



cable output
(IP67 / IP69K)

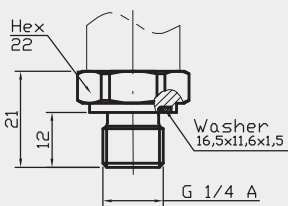


cable output
with bend protection
(IP67)

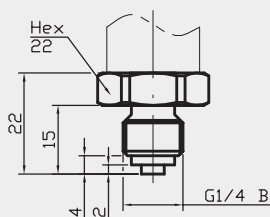


Pressure Connections* -examples-

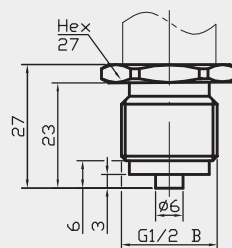
G 1/4 A; Form E



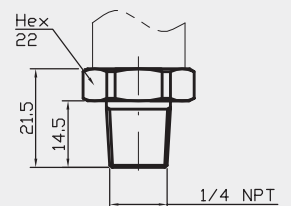
G 1/4 B



G 1/2 B

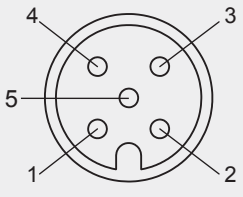


1/4 NPT



* customer specific configurations available

Electrical Configuration*

Plug M 12x1 (S 763)	Cable
	
4-wire 1: nc 2: UB+ 3: GND 4: CAN HIGH 5: CAN LOW	4-wire red: UB+ black: GND white: CAN HIGH green: CAN LOW

nc = not connected

* 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		

