

Low Pressure Transmitter for Industrial Applications

SIL

Main Features

- Measuring ranges 0...10 mbar to 0...40 bar
- Standard signals 4...20 mA, 0...10 V, 1...5 V
- Media temperature range -40°C to +85°C
- Protection class up to IP67 (special version up to IP69K)
- Compact and robust model in stainless steel
- Highly flexible options by its modular design
- Highly reliable
- Approval
 - CE Declaration of conformity 2014/30/EU
 - CE Declaration of conformity 2014/68/EU
 - Railway application DIN EN 50155

Applications

- General industrial use
- Hydraulics / Pneumatics
- Mechanical engineering
- Plant engineering and automation technology

Description

The SIL low pressure transducer makes use of the benefits of silicon technology. For, unlike its "big brother" SML, it has no stainless steel cell installed, but a silicon chip. The SIL can be applied everywhere where non-aggressive gases or oils are used.

All customary and customized pressure hook-up configurations are possible. Also, the entire range of electrical adapters, which have been known since the SML series, can be integrated.

Moreover, its modular design allows for cost-effective manufacture, also in medium quantities, and supply within short time.



Specifications

PRESSURE RANGE								
Measuring range*	p [mbar]	10	16	20	25	40	60	100
Overload pressure	p [mbar]	50	80	100	125	200	300	500
Burst pressure	p [mbar]	150	240	300	375	600	900	1500
Measuring range*	p [mbar]	160	200	250	400	600	1000	
Overload pressure	p [mbar]	800	1000	1250	1200	1800	3000	
Burst pressure	p [mbar]	2000	2000	2000	2000	3000	5000	
Measuring range*	p [bar]	1,6	2,0	2,5	4,0	6,0	10,0	
Overload pressure	p [bar]	6	6	6	10	20	20	
Burst pressure	p [bar]	9	9	9	15	30	30	
Measuring range*	p [bar]	16	20	25	40			
Overload pressure	p [bar]	40	40	100	100	(vacuum, relative pressure, + -, or absolute pressure are available)		
Burst pressure	p [bar]	60	60	150	150			
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	$5 \pm 10 \%$
Load resistor	R_L in Ohm	$R_L = (U_s - 10V) / 0,02A$		max. 200Ω**		$\geq 4.7k\Omega$	$\geq 4.7k\Omega$	$\geq 4.7k\Omega$
Response time	t [ms]	≤ 2		≤ 1		≤ 1	≤ 1	≤ 1
Maximum supply current	I [mA]	23		40		10	10	7,5
Isolation voltage*	U [V _{DC}]	50		** > AppNote (see www.adz.de)				
ACCURACY								
Accuracy @ RT	% of the range	$\leq 1,00^{***}$	Option $\leq 0,5$		*** incl. nonlinearity, hysteresis, repeatability, zero-offset- and final-offset (acc. to IEC 61298-2)			
	BFSL	$\leq 0,25$						
Non-linearity	% of the range	$\leq 0,15$						
Stability/year	% of the range	$\leq 0,10$						
ACCEPTABLE TEMPERATURE RANGES								
Measuring medium	T [°C]	-40...85						
Ambience	T [°C]	-40...85						
Storage	T [°C]	-40...85						
Compensated range****	T [°C]	-10...70		**** 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	$\leq 0,15 / 10K$						
Mean TC range	% of the range	$\leq 0,15 / 10K$						
Total error	% of the range	-40°C		3,00%				
	% of the range	85°C		3,00%				
MECHANICAL PARAMETER								
Wetted components*		silicon, NBR O-ring, aluminium, plastic (e.g. PA66)						
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	25	acc. to DIN EN 60068-2-27 - shock					
Approvals		CE Declarations of conformity 2014/30/EU, 2014/68/EU, Railway application DIN EN 50155						
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-

SML (MVS/C Conn.)



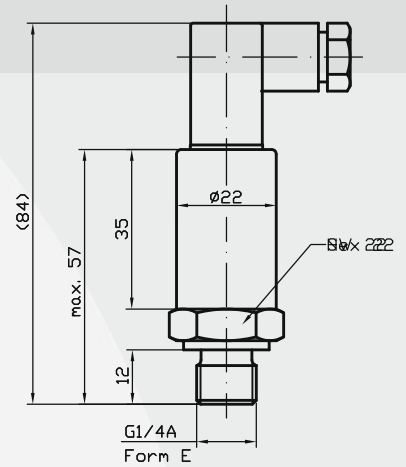
MVS/A



MVS/C



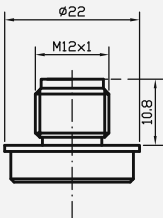
M12x1
(S763)



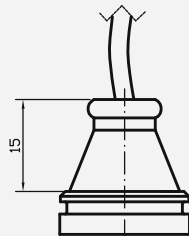
(deviations are possible)

Electrical connections* -examples-

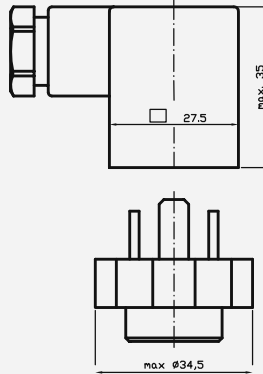
male socket
M12x1 (S763)
(IP67)



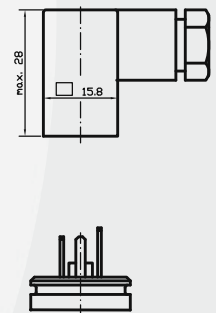
cable output
(IP67/IP69K)



MVS/A
DIN EN 175301-803
(IP65)

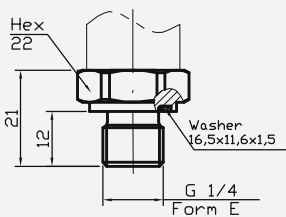


MVS/C
DIN EN 175301-803
(IP65)

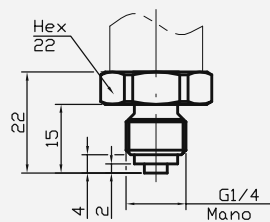


Pressure Connections* -examples-

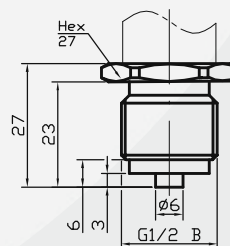
G 1/4 A; Form E



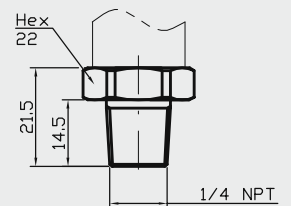
G 1/4 B



G 1/2 B

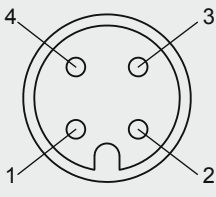
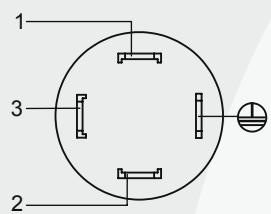
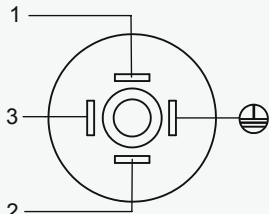


1/4 NPT



* customer specific configurations available

Electrical Configuration*

Plug M12x1	Cable port	DIN EN 175301-803-A	DIN EN 175301-803-C
			
2-wire 1: UB+ 2: nc 3: out 4: nc	2-wire red: UB+ black: out white: nc	2-wire 1: UB+ 2: out 3: nc ⊕: nc	2-wire 1: UB+ 2: out 3: nc ⊕: nc
3-wire 1: UB+ 2: nc 3: UB- 4: out	3-wire red: UB+ black: UB- white: out	3-wire 1: UB+ 2: UB- 3: out ⊕: nc	3-wire 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	SME	Pressure Transmitter in Miniature Design
DPSX9I	Intrinsically Safe Electronic Pressure Switch for Current	SMF	Pressure Transmitter with Flush Diaphragm
DPSX9U	Intrinsically Safe Electronic Pressure Switch for Voltage	SMH	High Pressure Transmitter
PS1/17	Level Sensor	SML	Pressure Transmitter for Industrial Application
PSX2	Intrinsically Safe Level Sensor	SMO	Pressure Transmitter in Mobile Hydraulics
SHP	High Precision Pressure Transmitter	SMS	OEM Pressure Transmitter for Hydraulics and Pneumatics
SIS	Low Pressure Transmitter in Short and Compact Design	SMX	Intrinsically Safe Pressure Transmitter for Industrial Application
SIL	Low Pressure Transmitter for Industrial Application	SMX2	Intrinsically Safe Pressure Transmitter for Industrial Application
SKE	High Temperature Pressure Transmitter with Detached Electronics	TPSE	Multi-Function Transmitter for Pressure and Temperature – external sensor
SKL	High Temperature Pressure Transmitter with Cooling Fins	TPSI	Multi-Function Transmitter for Pressure and Temperature – internal sensor
SMC	Pressure Transmitter with CANopen Interface and J1939		

