

The Sensitive One

SIL

Low Pressure Transmitter for Industrial Applications

Main Features

- Measuring ranges 0...10 mbar to 0...40 bar
- All standard signals for industry, hydraulics and pneumatics
- 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
 - Railway application DIN EN 50155

Applications

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

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 sensing element installed, but a silicon chip. The SIL can be applied everywhere where non-aggressive gases or oils are used.

All standard and customized pressure connections 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 manufacturing, also in medium quantities, and can be supplied with a short lead 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	40	60	(vacuum, relative pressure, + -, or absolute pressure are available)		
Burst pressure	p [bar]	60	60	60	80			
ELECTRICAL PARAMETER		2-wire	3-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 _L in Ohm	R _L =(U _s -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	
Isolation voltage*	U [V _{DC}]	50	** > AppNote (see www.adz.de)					
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)			
	BFSL	≤ 0,25						
Non-linearity	% of the range	≤ 0,15						
Stability/year	% of the range	≤ 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	≤ 0,15 / 10K						
Mean TC range	% of the range	≤ 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, Railway application DIN EN 50155						
		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-

SML (MVS/C Conn.)

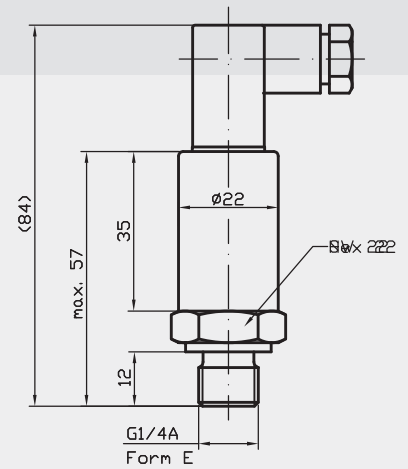


MVS/A
G1/4E

MVS/C
Pressure
port adapter

DIN 72585
Bayonet
M14

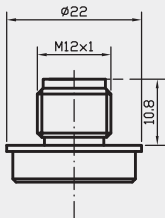
Packard
MetriPack
G1/4E



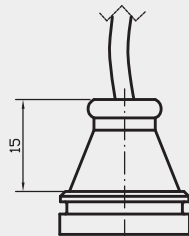
(deviations are possible)

Electrical connections* -examples-

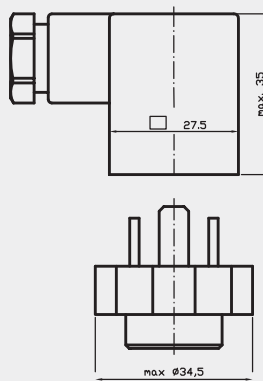
male socket
M12x1 (S763)
(IP67)



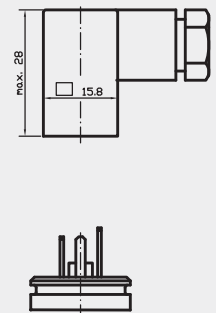
cable output
(IP67/IP69K)



MVS/A
DIN EN 175301-803
(IP65)

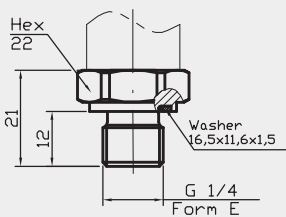


MVS/C
DIN EN 175301-803
(IP65)

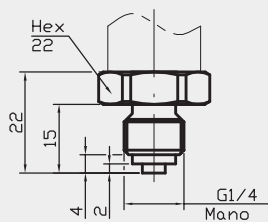


Pressure Connections* -examples-

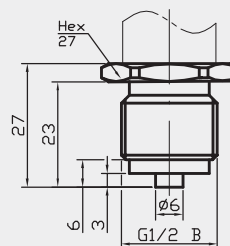
G 1/4 A; Form E



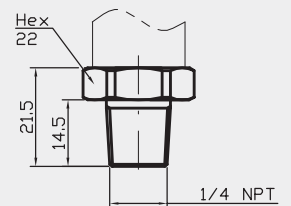
G 1/4 B



G 1/2 B

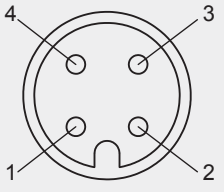
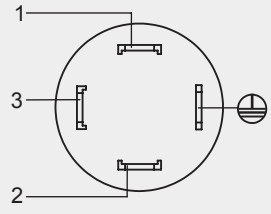
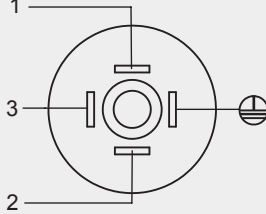


1/4 NPT



* customer specific configurations available

Electrical Configuration*

Plug M12x1	Cable	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	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		

