

Pressure Transmitter with Flush Diaphragm

S M F

Main features

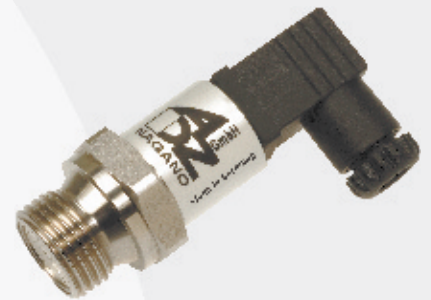
- Measuring ranges 0...0.6 bar to 0...200 bar
- All standard signals for industry, hydraulics and pneumatics
- Media temperature range -40°C to 100°C
- Shock and vibration-resistant > 1000 g shock, > 20 g vibration
- Compact and robust stainless steel design
- Degree of protection from IP65 (special version up to IP69K)
- Precision class 0.5 %

Applications

- Plant engineering and automation
- General industrial applications
- Food industry
- Dosage pumps
- Sanitary engineering
- Mechanical engineering
- Pneumatics
- Chemistry

Description

The flush pressure transmitter has an oil-filled silicone sensor, which is laser-welded in stainless steel design. This robust and compact design is suited for relative, absolute or excess pressure measuring. It distinguishes itself by its high reliability, its media temperature range up to +100° C as well as its versatility.



GUEMISA (Electrónica Guerra y Miró Guemisa S.L.)
Sta. Virgilia, 29 - local - 28033 Madrid (Spain)
Tlfo.: (034) 91 764 21 00 Fax.: (034) 91 764 21 32
Email.: ventas@guemisa.com Web.: www.guemisa.com

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Sensortechnik

Specifications

Pressure range

Measuring range*, relative pressure	p [bar]	0,6	1,0	1,6	2,0	2,5	4,0	6,0	10,0	20,0
Overload pressure	p [bar]	3,0	3,0	4,0	4,0	7,0	7,0	15,0	15,0	30,0
Measuring range*, absolute pressure	p _{abs} [bar]	1,0	2,0	2,5	6,0	10,0	20,0	40,0		
Overload pressure	p _{abs} [bar]	3	4	7	15	15	30	100		
Measuring range*, absolute pressure	p _{abs} [bar]	60	100	160	200					
Overload pressure	p _{abs} [bar]	200	200	300	300					

Electrical parameter

		signal	U _s [V _{DC}]	R _i [kΩ]	RA [Ω]
Output signal * and	R _A in Ohm	4...20 mA (2-wire, 3-wire)	9...32		acc. to R _A = < (U _s - 10V) / 0,02 A
maximum acceptable burden R _A		0...10 V _{DC} (3-wire)	12...32	> 5,0	
		1...5 V _{DC}	8...32	> 1,0	
		0,5...4,5 V _{DC} ratiometric	5 ±10%	> 4,7	
Response time * (10-90%)	t [ms]	< 1			
Withstand voltage	U [V _{DC}]	350	option 710		

Accuracy

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

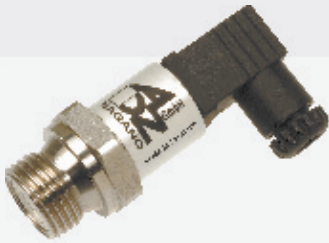
Acceptable temperature ranges

Measuring medium	T [°C]	-30...100
Ambience	T [°C]	-30...100
Storage	T [°C]	-40...100
Compensated range*	T [°C]	-20...85
Temperature coefficient within the compensated range		
Mean TC offset	% of the range	≤ 0,15 / 10K
Mean TC range	% of the range	≤ 0,15 / 10K
Total error	% of the range	-30°C 2,00%
	% of the range	100°C 2,00%

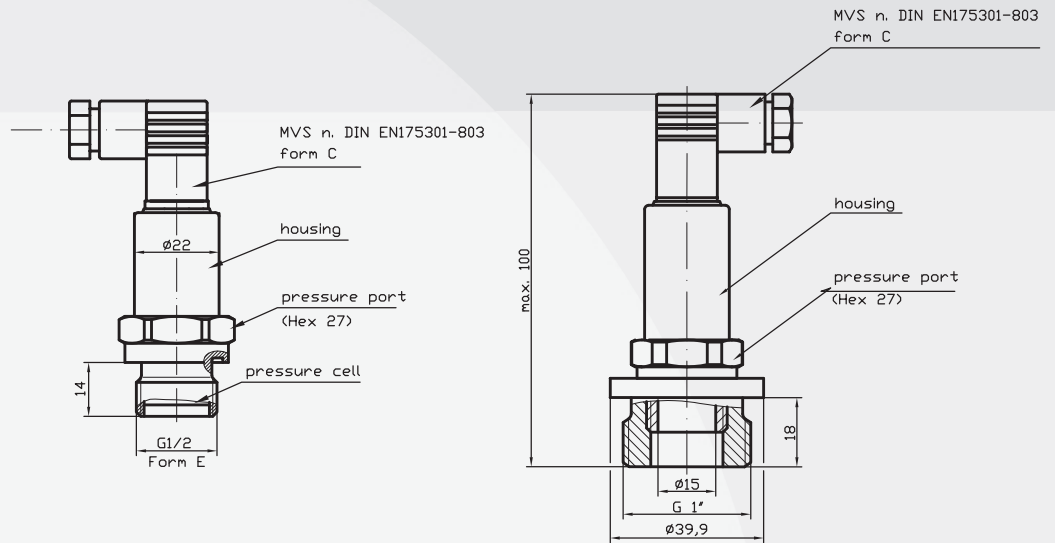
Mechanical parameter

Parts in contact with the measuring medium*stainless steel 316L	
Housing*	stainless steel
Shock resistance	g 1000 acc. to IEC 68-2-32
Vibration resistance	g 20 acc. to IEC 68-2-6 and IEC 68-2-36
Mass	m [g] 80-120 depending on design
CE - conformity	EC Directive 89/336/EWG
IP system of protection	The IP system of protection as specified in the data sheets generally applies, with their mating plug connected. Relative pressure transmitters usually require a ventilated mating plug and/or cable to allow for pressure compensation. From a pressure range of 60bar, a ventilated mating plug and/or cable is not necessarily required.

Configurations -examples- SMF with MVS/C

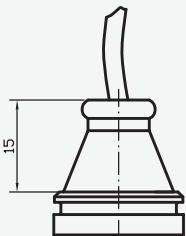


G1/2" - MVS/C

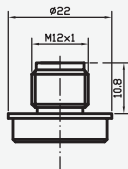


Connectors*

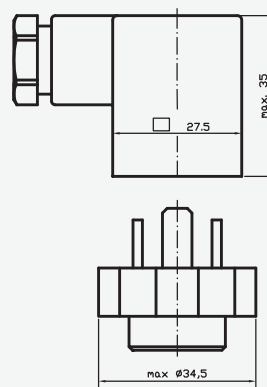
cable output



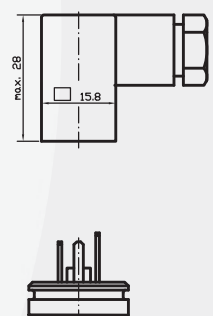
male socket
M12x1 (S 763)



MVS/A
DIN EN 175301-803

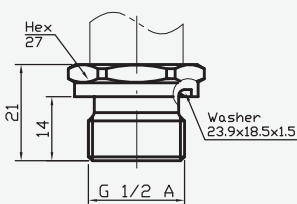


MVS/C
DIN EN 175301-803

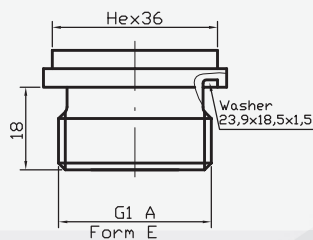


Pressure Connections*

G 1/2 A; DIN 3852; Form E



G 1 A; DIN 3852; Form E



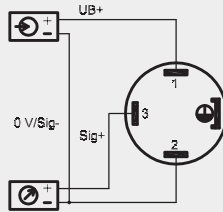
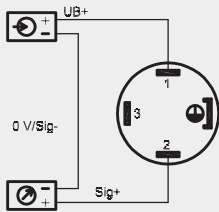
* custom-made adjustments acc. to pressure connections and connecting options are possible

SMF

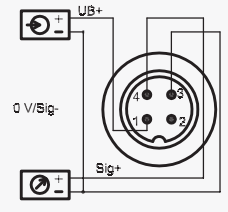
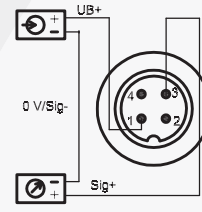
Pressure Transmitter
with Flush Diaphragm

Electrical Connections* (left: 2-wire, right: 3-wire)

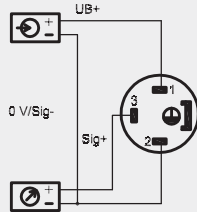
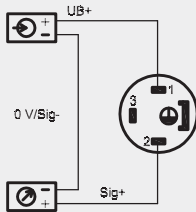
MVS/A
DIN EN
175301-803



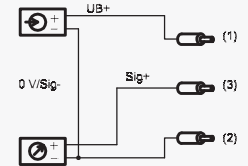
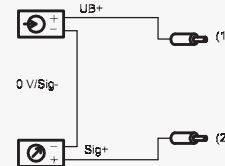
male
socket
M12x1
(S 763)



MVS/C
DIN EN
175301-803



cable
output



Legend

power supply
 consumer

red
 black
 white

* custom-made adjustments acc. to pressure connections and connecting options are possible

Product line

DS4	Electronic Pressure Switch	SMC	Pressure Transmitter with CANopen Interface
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	Level Sensor	SMH	High Pressure Transmitter
PSX2	Intrinsically Safe Level Sensor	SML	Pressure Transmitter for Industrial Application
SHP	High Precision Pressure Transmitter	SMO	Pressure Transmitter in Mobile Hydraulics
SIS	Low Pressure Transmitter in Short and Compact Design	SMS	OEM Pressure Transmitter for Hydraulics and Pneumatics
SIL	Low Pressure Transmitter for Industrial Application	SMX	Intrinsically Safe Pressure Transmitter for Industrial Application
SKE	High Temperature Pressure Transmitter with Detached Electronics	TPS	Multi-Function Transmitter for Pressure and Temperature
SKL	High Temperature Pressure Transmitter with Cooling Fins		