

PA-I/U

Pressure transducer for industrial application



Main features

- | Measuring ranges -1...0 bar; 0...1 bar and to 0...1000 bar
- | All standard signals for industry, hydraulics and pneumatics
- | Temperature range of media -40°C to 125°C
- | Shock and vibration resistance > 1000 g shock, > 20 g vibration
- | No internal transmission media (fully welded, "dry" measuring cell)
- | Protection class IP67 (special version up to IP69K)
- | Compact and rugged model in stainless steel
- | High flexibility for options thanks to modular design
- | Plug systems acc. to DIN EN 175301-803 E (HI1) and M12x1 (H4)
- | Short delivery times

Applications

- | generally to be used in industrial applications
- | Hydraulics
- | Pneumatics
- | Engineering
- | Industrial Equipment and Automation technology

Description

Thanks to its stainless steel membrane and to its semiconductor thin-film technology, the transducer has excellent properties that suggest it's advantageous use in most industrial applications. It's robust design guarantees high reliability even in very rugged conditions. It's modular design permits cost-effective production, also in small batches, and offers a multitude of signal, thread and connecting option that can be supplied within very short time.

Specifications

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	10	10	20	20	40
Burst pressure	p [bar]	9	9	9	15	15	30	30	60
Measuring range*	p [bar]	20	25	40	60	100	160	200	
Overload pressure	p [bar]	40	100	100	200	200	400	400	
Burst pressure	p [bar]	60	150	150	300	300	600	600	
Measuring range*	p [bar]	250	400	600	1000				
Overload pressure	p [bar]	750	750	840	1200	(vacuum, relative pressure, +-,			
Burst pressure	p [bar]	1000	1000	1050	1500	absolute pressure are available)			

ELECTRICAL PARAMETER

		signal		$U_s [V_{DC}]$	$R_L [k\Omega]$	$R_A [\Omega]$
Output signal* and	R_A in Ohm	4...20 mA (2-wire)		9...32		acc. to $R_A = (U_s - 1.0V) / 0.02 A$
maximum acceptable burden R_A		0...10 V_{DC} (3-wire)		12...32	> 5,0	

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

ACCEPTABLE TEMPERATURE RANGES

Measuring medium	T [°C]	-40...125	
Ambience	T [°C]	-40...105	(option -55)
Storage	T [°C]	-40...125	
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 - 40°C	2,00%	
	% of the range 105°C	2,00%	

MECHANICAL PARAMETER

Parts in contact with the measuring medium*		stainless steel	
Housing*		stainless steel	
Shock resistance	g	1000	acc. to IEC 68-2-32
Vibration resistance	g	20	acc. to IEC 68-2-6 und 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.	

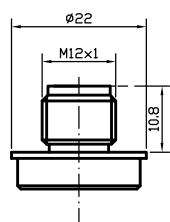
* others upon request

Connectors

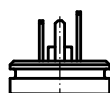
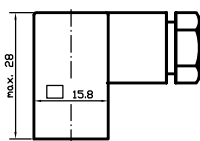
Pressure Connection

(HI1 Conn.)

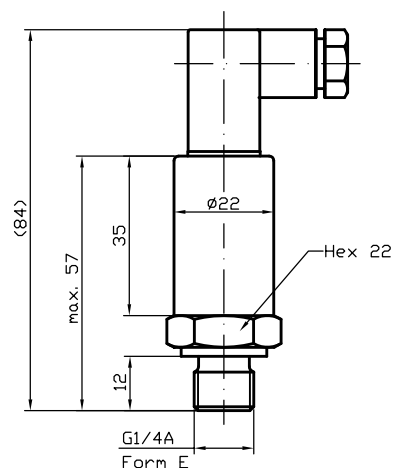
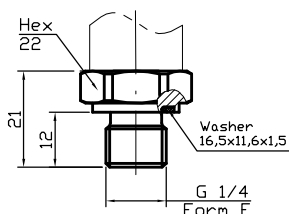
HS / H4
male socket
M12x1



HI1
DIN EN 175301-803

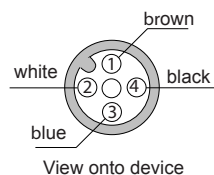


G 1/4 A; DIN 3852; Form E



Electrical Connections

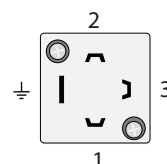
HS / H4
male
socket
M12x1



I: 4...20mA	HS PIN	H4 PIN
Supply +	1	1
Signal -	3	2
Not connected	-	-
Not connected	-	-

U: 0-10V	HS PIN	H4 PIN
Supply +	1	1
Signal	4	2
Supply -	3	3
Not connected	-	-

HI1
DIN EN
175301-803



I: 4...20mA	U: 0...10V	PIN
Supply +	Supply +	1
Signal -	Supply -	2
Not connected	Signal	3

Order key:

PA - - - B - 1 -

Output:
I: 4-20mA (2-wire)
U: 0-10V

Pressure range:

00-1+0: -1...0bar
001: 0...1bar
2,5: 0...2,5bar
006: 0...6bar
010: 0...10bar
016: 0...16bar
025: 0...25bar
040: 0...40bar
060: 0...60bar
100: 0...100bar
160: 0...160bar
250: 0...250bar
400: 0...400bar
600: 0...600bar

Connector:

HS: M12x1 3-PIN male socket, standard
H4: M12x1 4-PIN male socket, on request
HI1: DIN EN 175301-803

Relative pressure (gauge)

Others on request