

Piezoresistive Pressure Transmitter

Model A20 For General Industrial Applications



Stainless Steel Piezoresistive Pressure Sensor



Product Overview

A20 is made from high-quality silicon piezoresistive sensor. The piezoresistive sensor is packaged in stainless steel housing. The A20 is precision engineered to fit most industrial pressure measurement. The compact and rugged design makes these pressure transmitter suitable for applications including process control systems, hydraulic systems and valves, refrigeration and HVAC controls, level measurement and test equipment.

A wide range of process connection and electrical connection options are available to meet almost requirement.

Applications

- Process control systems
- Refrigeration and HVAC controls
- Hydraulic systems and valve
- Machine building
- Pumps and compressors

Features

- Measuring ranges from 100mbar to 600bar
- Absolute, gauge and sealed gauge
- Accuracy: $\pm 0.5\%$ FSO
- Calibrated and temperature compensated
- Stainless steel construction
- Piezoresistive pressure sensor design
- Variety of Pressure & Electrical connections
- Output 4...20mA, 0...10V, 0...5V and others

Standard Pressure Ranges

Nominal pressure	gauge	sealed gauge	absolute
-1...0bar	•		
-0.35...0bar	•		
-0.2...0bar	•		
0...0.1bar	•		
0...0.2bar	•		
0...0.35bar	•		•
0...0.7bar	•		•
0...1bar	•		•
0...1.6bar	•		
0...2.5bar	•		•
0...4bar	•		•
0...6bar	•		•
0...10bar	•	•	•
0...16bar	•	•	•
0...25bar	•	•	
0...60bar		•	
0...100bar		•	
0...250bar		•	
0...400bar		•	
0...600bar		•	

Other pressure ranges available. Please consult the factory.

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Performance Specifications

Parameter	Value	Units	Notes
General			
Pressure Range	-1-0, ..., 0-0.1, ..., 600	bar	1bar=14.5psi
Overpressure	1.5xFS	bar	
Environmental			
Operating Temperature Range	-20 to +80	°C	-4°F to 176°F
Compensated Temperature Range	0 to +50	°C	32°F to 122°F
Storage Temperature Range	-40 to +120	°C	-40°F to 248°F
Vibration	10	g	20 to 2000Hz
Shock	100	g	10ms
Cycles	10x10 ⁶	cycles	
Electrical @25°C(77°F)			
Output Signal	4...20mA 0...5Vdc 1...5Vdc 0...10Vdc 0.5...4.5Vdc(ratiometric)		
Power Supply(Vs)	12...28Vdc 12...28Vdc 12...28Vdc 15...28Vdc 5Vdc		
Load Resistance	<(Vs-12)/0.02A (For current output), >10kΩ (For voltage output)		
Insulation Resistance	100MΩ@50Vdc		
Physical Specifications			
Media Compatibility	All media compatible with 316L stainless steel		
Housing	304 stainless steel		
Diaphragm	316L stainless steel		
Seal Ring	Viton or NBR		
Oil Filling	Silicone oil		
Protection	IP65(Standard), IP66(only for cable outlet)		
Net Weight	Approx. 175g		

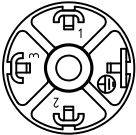
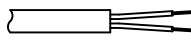

Parameter	Minimum	Typical	Maximum	Units	Notes
Performance					
Accuracy		0.25	0.5	%FSO	1,2
Temp Coeff - Zero		±0.75	±1.5	%FSO	3
Temp Coeff - Span		±0.75	±1.5	%FSO	3
Long-Term Stability		±0.2	±0.3	%FSO/year	1

Notes

1. All values measured at 25°C(77°F)
2. Including non-linearity, hysteresis and repeatability.
3. 0°C to 50°C(32°F to 122°F) with reference to 25°C(77°F).

The listed specifications and dimensions are subject to change without prior notice.

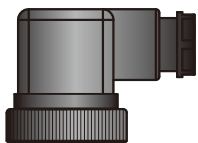
Connection Diagrams

Connector DIN43650	Cable outlet																										
 <table border="1"> <thead> <tr> <th>2-wire(current)</th> <th>3-wire(voltage)</th> </tr> </thead> <tbody> <tr> <td>Supply+ 1</td> <td>1</td> </tr> <tr> <td>Signal+ 2</td> <td>3</td> </tr> <tr> <td>Gnd -</td> <td>2</td> </tr> </tbody> </table>	2-wire(current)	3-wire(voltage)	Supply+ 1	1	Signal+ 2	3	Gnd -	2	 <table border="1"> <thead> <tr> <th>2-wire(current)</th> <th>3-wire(voltage)</th> <th>5-wire(voltage)</th> </tr> </thead> <tbody> <tr> <td>Supply+red</td> <td>red</td> <td>red</td> </tr> <tr> <td>Supply- -</td> <td>-</td> <td>black</td> </tr> <tr> <td>Signal+ black</td> <td>yellow</td> <td>green</td> </tr> <tr> <td>Signal- -</td> <td>-</td> <td>white</td> </tr> <tr> <td>Gnd -</td> <td>black</td> <td>bare(Shield wire)</td> </tr> </tbody> </table>	2-wire(current)	3-wire(voltage)	5-wire(voltage)	Supply+red	red	red	Supply- -	-	black	Signal+ black	yellow	green	Signal- -	-	white	Gnd -	black	bare(Shield wire)
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Dimensions (in mm)

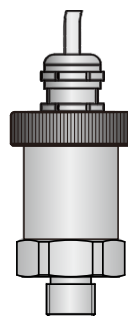
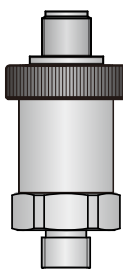
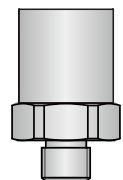
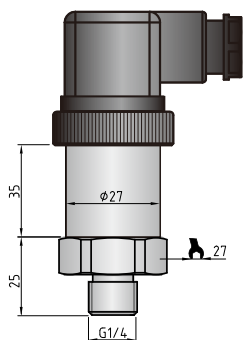
Connector DIN43650



M12x1 connector, 4-pin



Cable outlet



Ordering Information

A20-□□-□□-□□-□□-□□-□□-□□

Measuring Range:

- | | |
|--------------------|-----------------------|
| N1 - -1...0 bar | 09 - 0...10 bar |
| N2 - -0.35...0 bar | 10 - 0...16 bar |
| N3 - -0.2...0 bar | 11 - 0...25 bar |
| 01 - 0...0.1 bar | 12 - 0...40 bar |
| 02 - 0...0.35 bar | 13 - 0...50 bar |
| 03 - 0...0.7 bar | 14 - 0...60 bar |
| 04 - 0...1 bar | 15 - 0...100 bar |
| 05 - 0...1.6 bar | 16 - 0...250 bar |
| 06 - 0...2.5 bar | 17 - 0...400 bar |
| 07 - 0...4 bar | 18 - 0...600 bar |
| 08 - 0...6 bar | xx - Customized range |

Pressure Type:

- G - Gauge
- A - Absolute
- S - Sealed Gauge

Option:

- 0 - No
- 1 - LED Digital Indicator(DP-4)
- 2 - LCD Digital Indicator(DP-3)
- 3 - LED Digital Indicator(DP-5)

Process connection:

- | | |
|---------------------------|------------------------|
| M20 - M20x1.5 male thread | P1 - PT1/2 male thread |
| G2 - G1/2 male thread | P2 - PT1/4 male thread |
| G4 - G1/4 male thread | R1 - R1/4 male thread |
| N2 - 1/2NPT male thread | R2 - R1/2 male thread |
| N4 - 1/4NPT male thread | Nx - Customized |

Electrical Connection:

- D - Connector DIN43650
- H - Cable outlet with PVC-cable,length=2m
- M - M12x1 connector, 4-pin

Accuracy:

- E1 - 0.5%F.S

Output signal:

- 42 - 4~20mA-2wire
- 05 - 0~5Vdc-3wire
- 15 - 1~5Vdc-3wire
- 25 - 1~5Vdc-5wire
- 10 - 0~10Vdc-3wire
- 45 - 0.5~4.5Vdc-3wire (ratiometric)

Correct specification examples: A20-04-G-42-E1-D-G2-0

Option:

Option1 LED Digital Indicator(DP-4) Option2 LCD Digital Indicator(DP-3) Option3 LED Digital Indicator(DP-5)

