



APPLIED MEASUREMENTS LTD.

Transducer Specialists...

+44 (0) 118 981 7339

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<https://appmeas.co.uk>

Pa600 Industrial Pressure Sensor

Key Features:

- Ranges 0-500mbar up to 0-700bar
- Outputs: 4-20mA, 0-5Vdc, 0-10Vdc, 0.5-4.5Vdc, mV/V
- Sealed to IP65 (IP67 optional)
- Accuracy: $\leq \pm 0.25\%/FS$ (0.1% option)
- Gauge, Sealed Gauge or Absolute Reference Versions
- Excellent Chemical and Abrasion Resistance
- Rugged Construction
- Low Power Consumption
- UKAS Traceable Calibration Certificate Included (UKAS Laboratory Certificate Optional)
- 3 Year Warranty



The Pa600 series of industrial pressure sensors are designed for measurement of gas and liquid pressure across a wide range of general purpose and industrial applications. Constructed from stainless steel, they are designed to be extremely rugged yet compact.

As standard the Pa600 comes with: Viton O-ring, 303 stainless steel case, ceramic diaphragm (96% aluminium oxide Al_2O_3) and a G $\frac{1}{4}$ inch male process connection. Alternate case, O-ring material and process connections are available including G $\frac{1}{4}$ inch female and $\frac{1}{4}$ inch NPT male.

The Pa600 series provides a wide choice of electrical outputs from its ASIC-based amplifier circuit, these include 4-20mA, 0-5Vdc, 0-10Vdc, 10mV/V and 20mV/V, as well as a ratiometric 0.5-4.5Vdc (10% to 90% of supply voltage) signal that requires a 5Vdc (2.7 - 5.5Vdc acceptable) to suit most dataloggers. The Pa600 series can also be supplied with any of our wide range of instrumentation to give you a complete calibrated system.

In addition, we can offer complete customisation to suit your application, please [contact our technical sales team](#). Why not have a look at our [full range of pressure sensors](#)?

Options:

- Interim Pressure Ranges
- Manufacturing Materials
- Special Output Scaling
- Cable Gland, 6-Pin Bayonet Connector or M12x1 Connector Electrical Connections
- Improved Accuracy (NL&H) : $\leq \pm 0.10\%/FS$ (BFSL)
- Improved Thermal Zero Stability: $\leq \pm 0.02\%$ or $\leq \pm 0.01\%/Span/^{\circ}C$
- Supplied with Instrumentation and Calibrated as a Complete System with Traceable Certificate
- 316L Stainless Steel Case (Other Materials on Request)
- Cleaning for Oxygen Service

Applications:

- Hydraulics
- Research & Development
- Food Processing
- Plant and Machine Engineering
- Energy Industry
- Environmental Engineering (Water/Sewage/ Recycling)
- Medical Technology
- Meteorology
- OEM Installations
- Data Loggers
- Lab Research
- Aerospace Testing



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Specification:

Input Pressure Range													
Nominal Pressure Range	Bar (gauge, absolute or sealed gauge)	0-0.5	0-1	0-2	0-5	0-10	0-20	0-50	0-100	0-250	0-400	0-600	0-700
Compound Ranges	Bar	-	-1...0 *	-1...+2 *	-1...+5	-1...+9	-1...+19	-1...+29	-	-	-	-	-
Permissible Overpressure	Bar	1	2	4	10	20	40	100	200	400	575	800	800
Burst Pressure	Bar	2	4	5	12	25	50	120	250	500	650	950	950
* $\leq \pm 0.1\%$ / FS (BFSL) accuracy not possible in this range													
Output Signal & Supply Voltage	Wiring System	Output				Supply Voltage		Input Current		Input Resistance		Output Resistance	
Pa642	2 – wire	4 – 20 mA				9 – 32 Vdc		n/a		<500		<500	
Pa605	3 - wire	0 – 5V dc				9 – 32 Vdc		<10 mA		<500		<500	
Pa6010	3 - wire	0 – 10V dc				13 – 32 Vdc		<10 mA		<500		<500	
Pa645	3 - wire	0.5 to 4.5V dc				5 Vdc (2.7 - 5.5Vdc)		<3 mA		<500		<500	
Pa602	4 – wire	Passive mV/V (un-rationalised)				2 – 30 Vdc		<1 mA @ 10V		<11000		<11000	
Pa607	4 – wire	2mV/V (rationalised)				2 – 30 Vdc		<1 mA @ 10V		<11000		<11000	
Pa610	4 – wire	10mV/V (amplified)				3 – 12 Vdc		<3 mA typ.		<11000		<2000 nom.	
Pa620	4 - wire	20mV/V (amplified)				3 – 12 Vdc		<3 mA typ.		<11000		<2000 nom.	
Performance													
Accuracy (non-linearity, hysteresis, repeatability)		% Full Scale Output				$\leq \pm 0.25$ (BFSL) $\leq \pm 0.1$ (BFSL) optional							
Setting Errors (Zero Balance & Full Scale Output)		2-wire, 3-wire 4-wire rationalised 4-wire un-rationalised				Zero $\leq \pm 1\%$ / FS, Span $\leq \pm 0.5\%$ / FS Zero $< 0.2\text{mV/V}$, Span $\pm 1\%$ / FS Zero $<0.1\text{mV/V}$, Span $\pm 30\%$							
Permissible Load		2-wire 3-wire 4-wire				$R_{\text{max}} = [(V_S - V_S \text{ min}) / 0.02] \Omega$ $R_{\text{min}} = 10 \text{ k } \Omega$ $R_{\text{min}} = 11 \text{ k } \Omega$							
Influence Effects		Supply Effects Load Effect				mV/V & 0.5 to 4.5V – Ratiometric, Other Voltage Outputs - $< 0.005 \%$ FS / 1V 4-20mA = $< 0.05 \%$ FSO / $\text{k}\Omega$							
Response Time (10% - 90%)		ms				≤ 1 (mV/V versions) ≤ 10 (amplified versions)							
Warm-Up Time (amplified versions only)		ms				2 typ.							
Permissible Temperatures & Thermal Effects													
Media Temperature		$^{\circ}\text{C}$				-40 to +135							
Ambient Temperature		$^{\circ}\text{C}$				-20 to +85							
Storage Temperature		$^{\circ}\text{C}$				-20 to +85							
Compensated Temperature Range		$^{\circ}\text{C}$				+20 to +80							
Thermal Zero Shift (TZS)		% / FS / $^{\circ}\text{C}$				$\leq \pm 0.04$ (standard) $\leq \pm 0.02$ (option) $\leq \pm 0.01$ (option)							
Thermal Span Shift (TSS)		% output / $^{\circ}\text{C}$				< -0.015							
Electrical Protection													
Reverse Polarity Protection						No damage but also no function							
Electromagnetic Compatibility						CE Compliant							
Insulation Resistance		Megohms Ω at 50V dc				> 500							
Mechanical Stability													
Shock						100 g / 11 ms							
Vibration						10 g RMS (20 ... 2000 Hz)							



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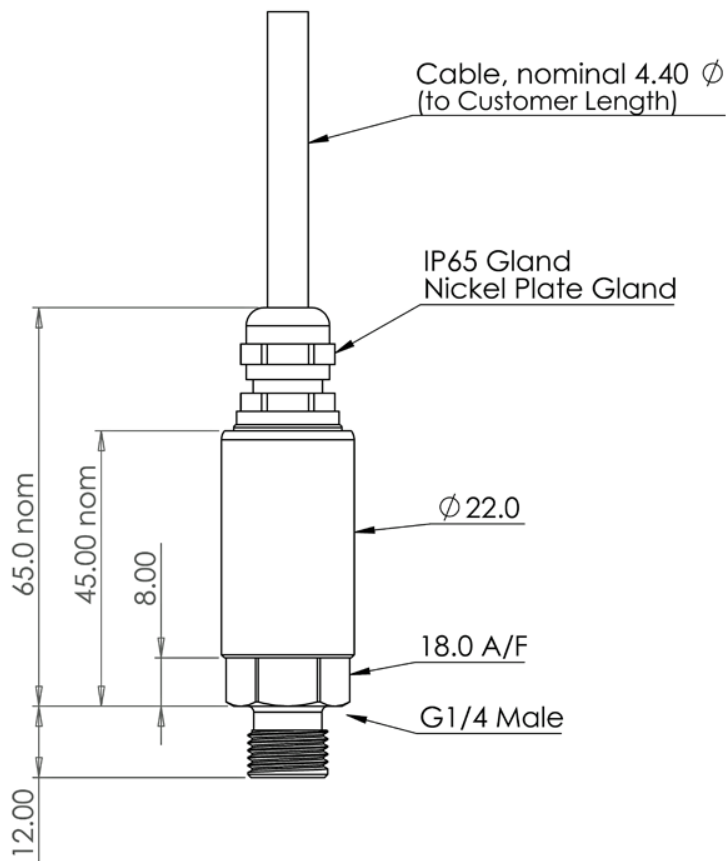
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Specification:

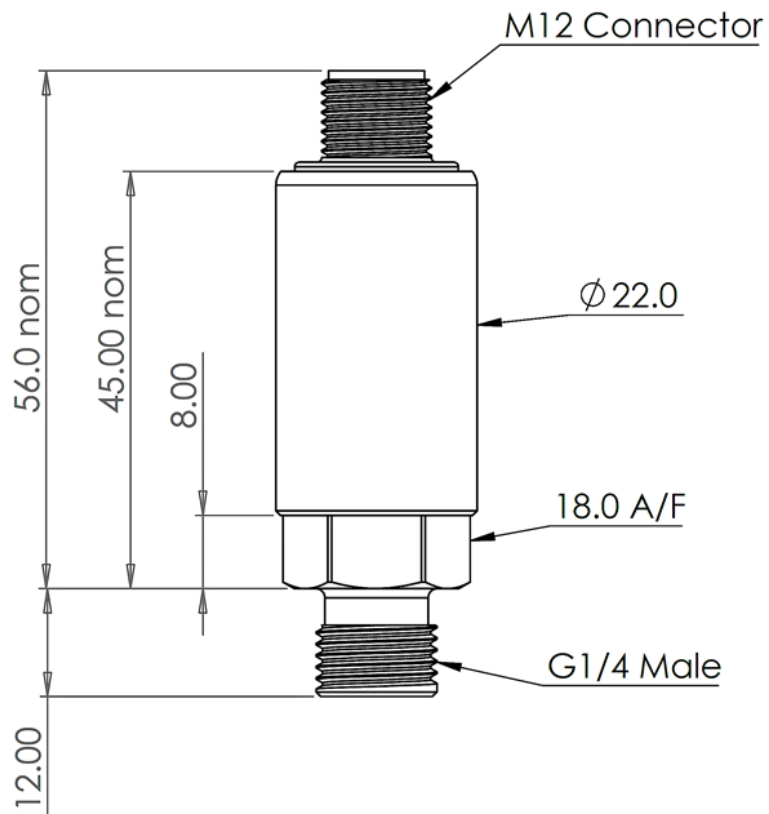
Materials		
Housing & process connection		303 Stainless Steel 316L Stainless Steel (optional)
'O' ring seals		Viton NBR/Nitrile (optional) EPDM (optional) Chemraz (optional)
Diaphragm		Ceramic Al ₂ O ₃ 96 %
Media wetted parts		Housing and process connection, 'O' ring seal, diaphragm
Misc		
Weight	grams	100 nominal
Installation position		Any
Operational life	pressure cycles	> 100 x 10 ⁶
Environmental Protection	Mini Plug + Socket M12 x 1 Connector Cable Gland	IP65 Gauge Reference ≤ 50bar : IP65 / Absolute, Sealed Gauge or >50bar Range : IP67 IP65

Dimensions (mm):

Pa600 with IP65 Cable Gland



Pa600 with M12 Connector





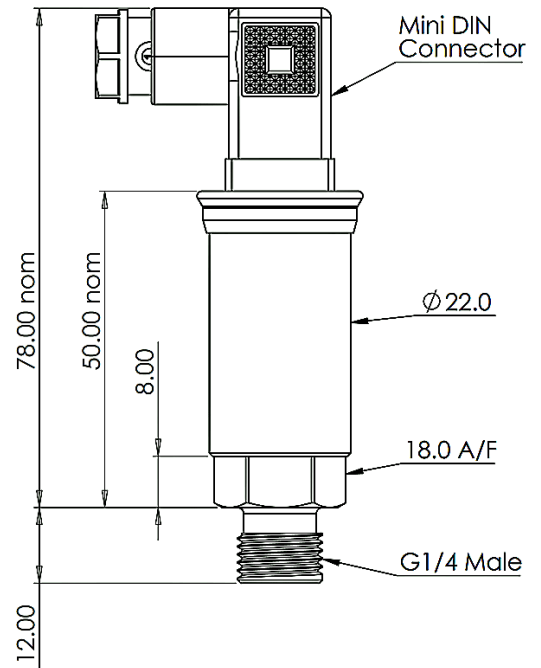
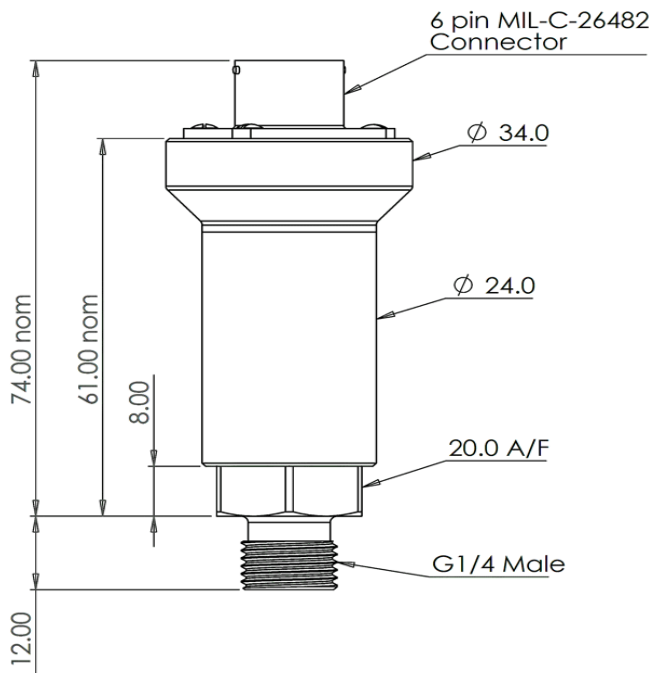
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Wiring Designation:

		Small Plug & Socket	IP65 Cable	M12x1, 4-pin Connector	6-pin Bayonet Connector
2 - wire	+ve Supply -ve Supply Ground	Pin 1 Pin 2 Earth Pin	Red Blue Green	Pin 1 Pin 2 Pin 3	Pin A Pin B Pin C
3 - wire	+ve Supply -ve Supply +ve Output Ground	Pin 1 Pin 2 Pin 3 Earth Pin	Red Blue Green Yellow	Pin 1 Pin 2 Pin 3 Pin 4	Pin A Pin B Pin C Pin D
4 - wire	+ve Supply -ve Supply +ve Output -ve Output	Pin 1 Pin 2 Pin 3 Earth Pin	Red Blue Green Yellow	Pin 1 Pin 2 Pin 3 Pin 4	Pin A Pin B Pin C Pin D

Associated Products:



[TR150 Handheld Indicator](#)



[T24 Wireless Telemetry Range](#)



[Intuitive4-P Process Input
Panel Mount Indicator](#)



[FUSION Large Digital Display](#)



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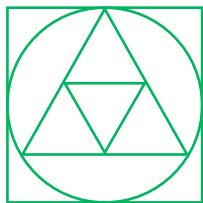
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Ordering Codes:

Pa642P-10barg-A4AV-00-000	Pa6	42	P	-	10barg	-	A	4	A	V	-	00	-	000
Product Family														
Pa6	Pa6													
Electrical Output														
02 = mV/V un-rationalised		02												
07 = 2mV/V		07												
10 = 10mV/V		10												
20 = 20mV/V		20												
42 = 4-20mA (2-wire)		42												
45 = 0.5-4.5Vdc ratiometric (5V excitation)		45												
05 = 0-5Vdc		05												
010 = 0-10Vdc		010												
Electrical Connection / ATEX Certification														
P = Mini DIN Plug & Socket			P											
C = IP65 Cable Gland + Screened, Un-Vented PVC Cable			C											
M = M12x1 4-pin Connector			M											
MM = M12x1 4-pin Connector + Mating Half			MM											
BL = 6-pin Bayonet-Lock Mil-Spec Connector			BL											
BLM = 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half			BLM											
Pressure Range														
10barg = 0 to 10bar gauge					10barg									
M1P1barg = -1 to +1bar gauge					M1P1barg									
P15P500psia = +15 to +500psi absolute					P15P500psia									
2400psig = 0 to 2400psi gauge					2400psig									
Accuracy (Non-Linearity & Hysteresis)														
A = <±0.25%/FS (standard)							A							
B = <±0.1%/FS							B							
Zero Temperature Compensation (TZS)														
4 = <±0.04%/FS/°C								4						
2 = <±0.02%/FS/°C								2						
1 = <±0.01%/FS/°C								1						
Continued on next page														



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Ordering Codes (Continued):

Pa642P-10barg-A4AV-00-000	Pa6	42	P	-	10barg	-	A	4	A	V	-	00	-	000
Process Connection														
A = G $\frac{1}{4}$ " Male DIN 3852 in 303 St/Steel									A					
B = G $\frac{1}{4}$ " Male DIN 3852 in 316L St/Steel									B					
C = $\frac{1}{4}$ " NPT Male in 303 St/Steel									C					
D = 7/16 UNF-20 Male in 3030 St/Steel									D					
E = G $\frac{1}{4}$ " Female in 303 St/Steel									E					
F = G $\frac{1}{4}$ " Male DIN 3852 in PVDF (Polyvinylidene Fluoride)									F					
G = G $\frac{1}{4}$ " Male with 60° Internal Cone in 303 St/Steel									G					
I = G $\frac{1}{4}$ " Male DIN 3852 in UNS S31803 Duplex St/Steel									I					
J = G $\frac{1}{4}$ " Male DIN 3852 with Snubber in 303 St/Steel									J					
K = $\frac{1}{4}$ " NPT Male in PVDF (Polyvinylidene Fluoride)									K					
L = M20 x 1.5 Male in 303 St/Steel									L					
M = G $\frac{1}{8}$ " Male DIN 3852 in 303 St/Steel									M					
O = $\frac{1}{2}$ " NPT Male in 303 St/Steel									O					
P = G $\frac{3}{4}$ " Male DIN 3852 with Semi-Flush Diaphragm in 303 St/Steel									P					
S = 9/16 UNF Internal (no bleed hole) in St/Steel									S					
R = G $\frac{1}{2}$ " Male DIN 3852 in 303 St/Steel									R					
O-Ring Material														
V = Viton (FKM)										V				
N = Nitrile (NBR)										N				
E = EPDM (Ethylene Propylene Diene Monomer)										E				
C = Chemraz (Perfluoroelastomer)										C				
Cable Length (in metres)														
00 = None												00		
01 = 1 metre												01		
Specials Code														
000 = No Special Requirements														000
010 = Cleaned for Oxygen Service														010