APPLIED MEASUREMENTS LTD.
Transducer Specialists...

Industrial Pressure Sensor | Pa600

UK-Made - Accurate, Easily Customised & Fast Delivery

AT A GLANCE

- Ranges: 0-500mbar up to 0-700bar
- Outputs: 4-20mA, 0-5Vdc, 0-10Vdc, 0.5-4.5Vdc ratiometric, mV/V
- IP65 (IP67 optional)
- Accuracy: <±0.25%/FS (<±0.1% optional)
- Stainless Steel Construction

- **UK Manufactured**
- **General Purpose and Industrial Pressure Measurement**
- **IP65 Splash-Proof Protected as Standard**
- **Only 2 Week Delivery!**
- **High Volume Production Available**
- **Customised & OEM Versions**
- **Simple Setup with Custom Process Connections**

DESCRIPTION

Applied Measurements Pa600 industrial pressure sensor comes with fast delivery times of 2 weeks and is specifically designed for the measurement of gas and liquid pressure measurement in general and industrial pressure applications. We can easily accommodate any requirement from a one-off to bulk orders for many thousands of sensors, all within our in-house, UK production facility.

The Pa600 sensor housing is constructed from 303 stainless steel and utilises a ceramic sensing diaphragm (96% aluminium oxide Al2O3), a Viton O-ring and a G¼ inch male process connection as standard making it suitable for a multitude of common sensing applications. Alternate casing and construction materials, O-rings and process connections can all be offered, including G¼" female and ¼" NPT male connectors.

Should you require a pressure sensor tailored to your specific pressure measurement application, we can design and manufacture fully-customised sensors for you – please contact our friendly sales team (https://appmeas.co.uk/contact-us/) to discuss your requirement in detail.

A wide variety of outputs can be offered from Applied Measurements Pa600 industrial pressure sensor including 4-20mA, 0-5Vdc, 0-10Vdc, 10mV/V and 20mV/V. Along with, a ratiometric 0.5-4.5Vdc signal (10% to 90% of supply voltage) that requires a 5Vdc (2.7 – 5.5Vdc acceptable) to suit most dataloggers.

Applied Measurements has a range of precise instrumentation that can be used with the industrial pressure sensor to give you a complete calibrated pressure measurement system.

TECHNICAL SPECIFICATIONS

Nominal Pressure Range	Bar (gauge, sealed gauge or absolute)	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	-0.5...0 *	-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	750	750
Burst Pressure	Bar	2	4	5	12	25	50	120	250	500	650	950	950
*<±0.1% / FS (BFSL) accuracy not possible in this range													

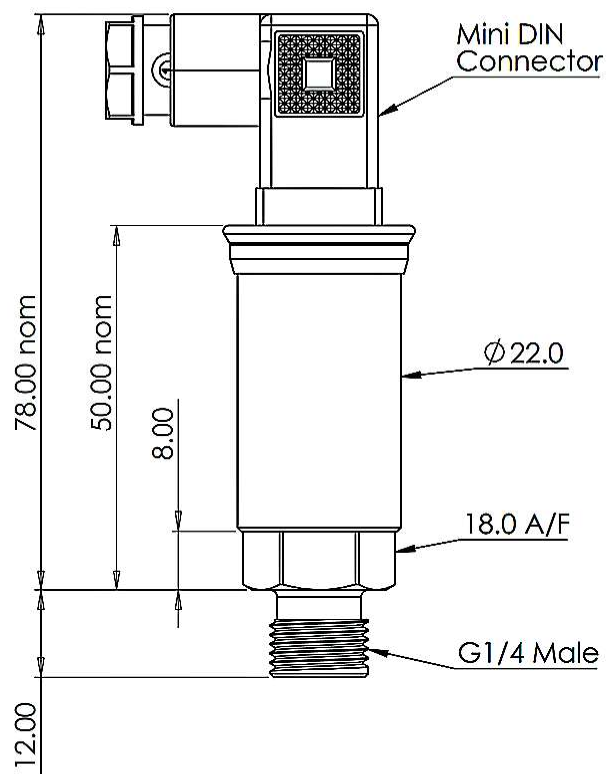| Output Signal & Supply Voltage	Wiring System	Output	Supply Voltage	Input Current	Input Resistance	Output Resistance
Pa642	2 – wire	4 – 20 mA	9 – 32 Vdc	n/a	-	-
Pa605	3 - wire	0 – 5V dc	9 – 32 Vdc	<10 mA	-	1000Ω ±10%
Pa6010	3 - wire	0 – 10V dc	13 – 32 Vdc	<10 mA	-	1000Ω ±10%
Pa645	3 - wire	0.5 to 4.5V dc	5 Vdc (2.7 - 5.5Vdc)	<3 mA	-	500Ω ±10%
Pa602	4 - wire	Passive mV/V (un-rationalised)	2 – 30 Vdc	<1 mA @ 10V	11kΩ ±30%	11kΩ ±30%
Pa607	4 – wire	2mV/V (rationalised)	2 – 30 Vdc	<1 mA @ 10V	11kΩ ±30%	11kΩ ±30%
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)	±%/Rated Output (BFSL)	<±0.25 <±0.1 optional
Setting Errors (Zero Balance + Full Scale Output)	2-wire, 3-wire 4-wire rationalised 4-wire un-rationalised	Zero <±1% / FS, Span <±0.5% / FS Zero <0.2mV/V, Span ±1% / FS Zero <1mV/V, Span ±30%
Permissible Load	2-wire 3-wire 4-wire	Rmax = [(VS - VS min) / 0.02] Ω Rmin = 10 kΩ Rmin = 11kΩ
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 / kΩ
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	˚C	-40 to +135
Ambient Temperature	˚C	-20 to +85
Storage Temperature	˚C	-20 to +85
Compensated Temperature Range	˚C	+20 to +80
Thermal Zero Shift (TZS)	% / FS / ˚C	<±0.04 (standard) <±0.02 (option) <±0.01 (option)
Thermal Span Shift (TSS)	% output / ˚C	<±0.015 typical
Electrical Protection		
Reverse Polarity Protection		No damage but also no function
Electromagnetic Compatibility		CE Compliant

Performance		
Insulation Resistance	Megohms Ω at 50V dc	>500
Mechanical Stability		
Shock		100 g / 11 ms
Vibration		10 g RMS (20 ... 2000 Hz)
Materials		
Housing & process connection		303 Stainless Steel 316L Stainless Steel (optional)
'O' ring seals		Viton NBR/Nitrile (optional) EPDM (optional) Chemraz (optional)
Diaphragm		Ceramic Al2O3 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 106
Environmental Protection	Mini Plug + Socket M12 x 1 Connector Cable Gland	IP65 Gauge Reference ≤ 50bar : IP65 / Absolute, Sealed Gauge or >50bar Range : IP67 IP65

Product Dimensions

Mini DIN Plug & Socket Connector Outline (P)

Mini DIN
Connector

78.00 nom

50.00 nom

8.00

∅22.0

18.0 A/F

G1/4 Male

12.00

(suitable for cable diameter 4.5mm to 6mm)

IP65 Cable Gland Outline (C)

Cable, nominal 4.40 ∅
(to Customer Length)

IP65 Gland
Nickel Plate Gland

∅22.0

65.0 nom

45.00 nom

8.00

18.0 A/F

G1/4 Male

12.00
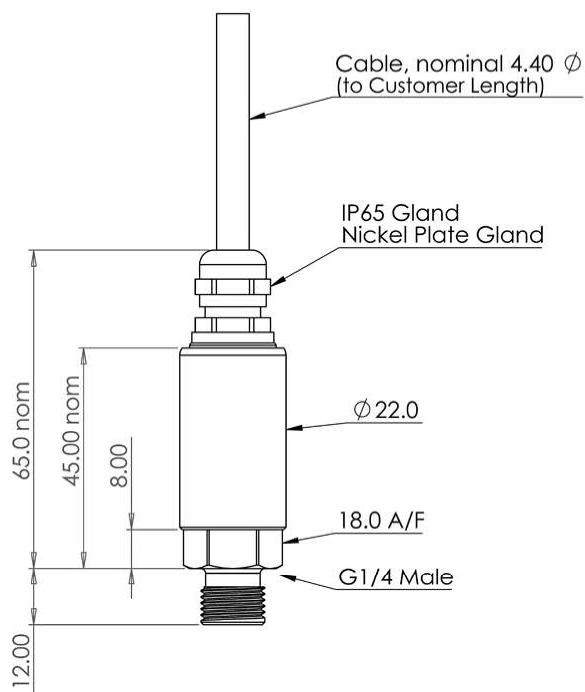
M12x1 4-pin Connector Outline (M)

M12 Connector

Ø 22.0

56.0 nom
45.00 nom
8.00

18.0 A/F

G1/4 Male

12.00
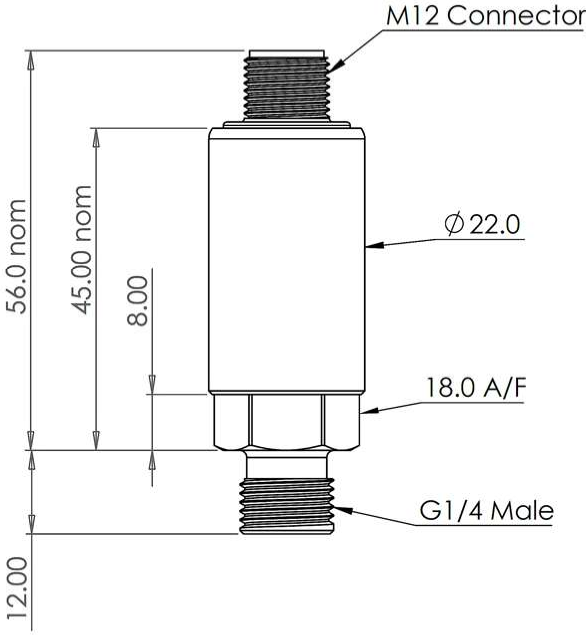
6-pin Bayonet-Lock Mil-Spec Connector Outline (BL)

6 pin MIL-C-26482 Connector

Ø 34.0

Ø 24.0

74.00 nom
61.00 nom
8.00

20.0 A/F

G1/4 Male

12.00
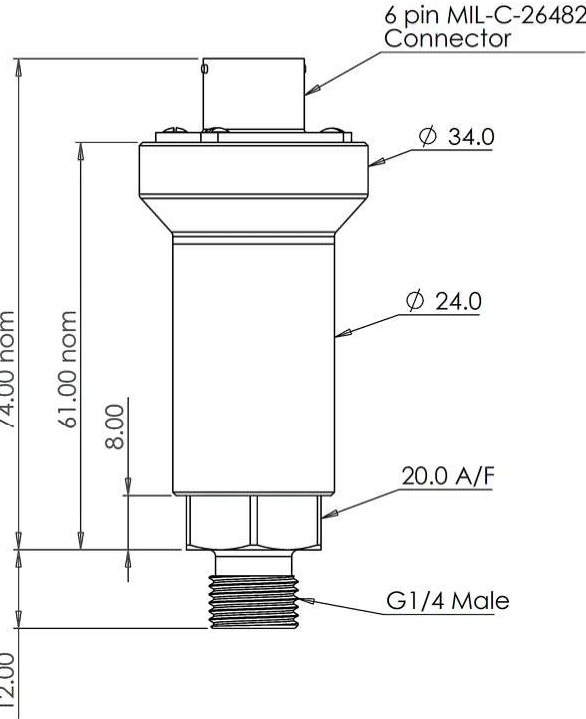
Wiring Details

		Small Plug & Socket (suitable for cable diameter 4.5mm to 6mm)	IP65 Cable	M12 x 1, 4-pin Connector	6-pin Bayonet Connector
2-wire	+ve Supply	Pin 1	Red	Pin 1	Pin A
	-ve Supply	Pin 2	Blue	Pin 2	Pin B

		Small Plug & Socket (suitable for cable diameter 4.5mm to 6mm)	IP65 Cable	M12 x 1, 4-pin Connector	6-pin Bayonet Connector
	Ground	Earth Pin	Yellow	Pin 4	Pin D
3-wire	+ve Supply	Pin 1	Red	Pin 1	Pin A
	-ve Supply	Pin 2	Blue	Pin 2	Pin B
	+ve Output	Pin 3	Green	Pin 3	Pin C
	Ground	Earth Pin	Yellow	Pin 4	Pin D
4-wire	+ve Supply	Pin 1	Red	Pin 1	Pin A
	-ve Supply	Pin 2	Blue	Pin 2	Pin B
	+ve Output	Pin 3	Green	Pin 3	Pin C
	-ve Output	Earth Pin	Yellow	Pin 4	Pin D

ORDERING CODES & OPTIONS

Pa642P-10barg-A4AV-00-000 (example code)	Pa6	42	P	-	10barg	-	A	4	A	V	-	00	-	000
Product Family														
Pa6 Series Pressure Sensor	Pa6													
Electrical Output														
mV/V un-rationalised		02												
2mV/V		07												
10mV/V		10												
20mV/V		20												
4-20mA (2-wire)		42												
0.5-4.5Vdc ratiometric (5V excitation)		45												
0-5Vdc		05												
0-10Vdc		010												
Electrical Connection / ATEX Certification														
Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)			P											
IP65 Cable Gland + Screened, Un-Vented PVC Cable			C											
M12x1 4-pin Connector			M											
M12x1 4-pin Connector + Mating Half			MM											
6-pin Bayonet-Lock Mil-Spec Connector			BL											
6-pin Bayonet-Lock Mil-Spec Connector + Mating Half			BLM											
Pressure Range														
0 to 10bar gauge				-	10barg	-								
-1 to +1bar gauge				-	M1P1barg	-								
0 to 5bar absolute				-	5bara	-								
0 to 2400psi gauge				-	2400psig	-								
Accuracy (Non-Linearity & Hysteresis)														
<±0.25%/FS (standard)							A							
<±0.1%/FS							B							

	Pa6	42	P	-	10barg	-	A	4	A	V	-	00	-	000
Pa642P-10barg-A4AV-00-000 (example code)														
Zero Temperature Compensation (TZS)														
<±0.04%/FS/°C								4						
<±0.02%/FS/°C								2						
<±0.01%/FS/°C								1						
Process Connection														
G¼" Male DIN 3852 in 303 St/Steel									A					
G¼" Male DIN 3852 in 316L St/Steel									B					
¼" NPT Male in 303 St/Steel									C					
7/16 UNF-20 Male in 303 St/Steel									D					
G¼" Female in 303 St/Steel									E					
G¼" Male DIN 3852 in PVDF (Polyvinylidene Fluoride)									F					
G¼" Male with 60° Internal Cone in 303 St/Steel									G					
G¼" Male DIN 3852 in UNS S31803 Duplex St/Steel									I					
G¼" Male DIN 3852 with Snubber in 303 St/Steel									J					
¼" NPT Male in PVDF (Polyvinylidene Fluoride)									K					
G½" Male DIN 3852 in 303 St/Steel									R					
9/16 UNF Internal (no bleed hole) in St/Steel									S					
O-Ring Material														
Viton (FKM)										V				
Nitrile (NBR)										N				
EPDM (Ethylene Propylene Diene Monomer)										E				
Chemraz (Perfluoroelastomer)										C				
Cable Length (in metres)														
None											-	00	-	
1 metre											-	01	-	
Specials Code														
No Special Requirements														000

Popular part numbers and what they mean

Popular Pa600 part numbers	Explanation
Pa602P	Electrical output is mV/V un-rationalised and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa602C	Electrical output is mV/V un-rationalised and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa602M	Electrical output is mV/V un-rationalised and the connector is a M12x1 4-pin Connector
Pa602MM	Electrical output is mV/V un-rationalised and the connector is a M12x1 4-pin Connector + Mating Half
Pa602BL	Electrical output is mV/V un-rationalised and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa602BLM	Electrical output is mV/V un-rationalised and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half

Popular Pa600 part numbers	Explanation
Pa605P	Electrical output is 0-5Vdc and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa605C	Electrical output is 0-5Vdc and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa605M	Electrical output is 0-5Vdc and the connector is a M12x1 4-pin Connector
Pa605MM	Electrical output is 0-5Vdc and the connector is a M12x1 4-pin Connector + Mating Half
Pa605BL	Electrical output is 0-5Vdc and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa605BLM	Electrical output is 0-5Vdc and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa607P	Electrical output is 2mV/V and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa607C	Electrical output is 2mV/V and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa607M	Electrical output is 2mV/V and the connector is a M12x1 4-pin Connector
Pa607MM	Electrical output is 2mV/V and the connector is a M12x1 4-pin Connector + Mating Half
Pa607BL	Electrical output is 2mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa607BLM	Electrical output is 2mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa610P	Electrical output is 10mV/V and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa610C	Electrical output is 10mV/V and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa610M	Electrical output is 10mV/V and the connector is a M12x1 4-pin Connector
Pa610MM	Electrical output is 10mV/V and the connector is a M12x1 4-pin Connector + Mating Half
Pa610BL	Electrical output is 10mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa610BLM	Electrical output is 10mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa620P	Electrical output is 20mV/V and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa620C	Electrical output is 20mV/V and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa620M	Electrical output is 20mV/V and the connector is a M12x1 4-pin Connector
Pa620MM	Electrical output is 20mV/V and the connector is a M12x1 4-pin Connector + Mating Half
Pa620BL	Electrical output is 20mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa620BLM	Electrical output is 20mV/V and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa642P	Electrical output is 4-20mA (2-wire) and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa642C	Electrical output is 4-20mA (2-wire) and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa642M	Electrical output is 4-20mA (2-wire) and the connector is a M12x1 4-pin Connector
Pa642MM	Electrical output is 4-20mA (2-wire) and the connector is a M12x1 4-pin Connector + Mating Half
Pa642BL	Electrical output is 4-20mA (2-wire) and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa642BLM	Electrical output is 4-20mA (2-wire) and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa645P	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa645C	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa645M	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a M12x1 4-pin Connector
Pa645MM	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a M12x1 4-pin Connector + Mating Half
Pa645BL	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa645BLM	Electrical output is 0.5-4.5Vdc ratiometric (5V excitation) and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half
Pa6010P	Electrical output is 0-10Vdc and the connector is a Mini DIN Plug & Socket (suitable for cable diameter 4.5mm to 6mm)
Pa6010C	Electrical output is 0-10Vdc and the connector is a IP65 Cable Gland + Screened, Un-Vented PVC Cable
Pa6010M	Electrical output is 0-10Vdc and the connector is a M12x1 4-pin Connector

Popular Pa600 part numbers	Explanation
Pa6010MM	Electrical output is 0-10Vdc and the connector is a M12x1 4-pin Connector + Mating Half
Pa6010BL	Electrical output is 0-10Vdc and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector
Pa6010BLM	Electrical output is 0-10Vdc and the connector is a 6-pin Bayonet-Lock Mil-Spec Connector + Mating Half