L'Essor Français Electronique

PGP221

High Performance Pressure Sensor



Features

- Available with Built in Electronic
- Large choice of connectors & threads
- High Performance
- Extreme accuracy : up to 0,05% FS

Applications

- Aerospace
- Energy / Nuclear
- Railway
- Navy and shipbuilding applications

The PGP220 series is designed for high accuracy pressure measurements, from -1 up to 600bar and above on request. The sensing element is an advanced piezo-resistive pressure module which together with the latest compensation techniques, provides high performance measurements. It is available with low (millivolt) or high level (Vdc, mA) outputs. In the case of transducers, the built-in electronic ensures a correction of the pressure element while delivering an analogue output. Specified at 1kHz @-3dB (higher on request), signal's bandwidth is not affected by these corrections. Wetted parts being all stainless steel, the sensor is compatible with most media used in Industry, even corrosive ones. High accuracy pressure measurements on test benches is one of the main application for the PGP220 series.

Technical specifications

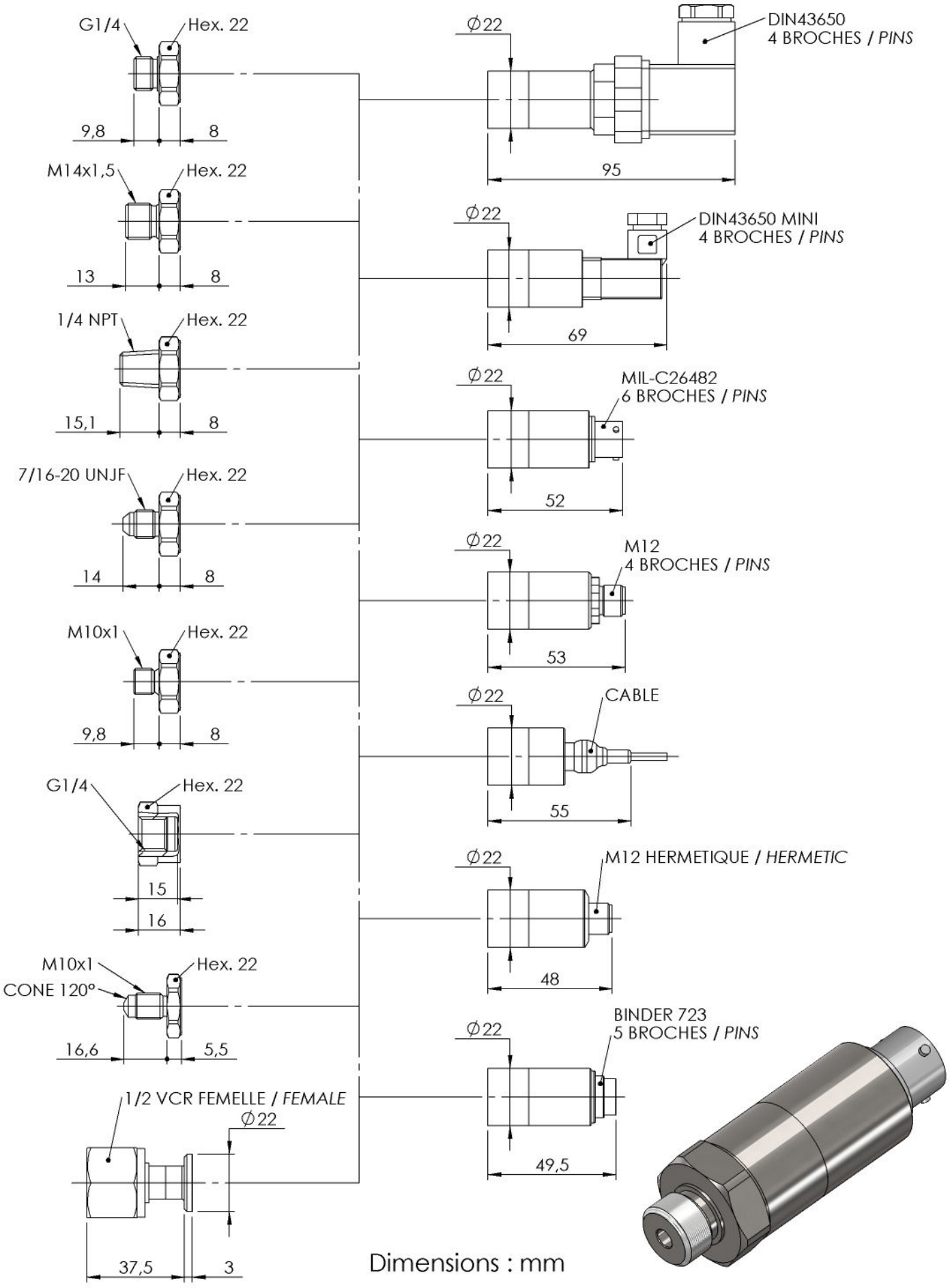
Pressure ranges (FS)	±1bar ; -1/+2bar ; -1/+3bar ; -1/+5bar ; 3bar ; 5bar ; 10bar ; 20bar ; 40bar ; 100bar ; 250bar ; 400bar ; 600bar ; ±14.5PSI ; -14.5/+30PSI ; -14.5/+40PSI ; -14.5/+70PSI ; 8000PSI ; 40PSI ; 70PSI ; 150PSI ; 300PSI ; 500PSI ; 1500PSI ; 3000PSI ; 5000PSI
Type	Absolute ; Gage
Type (for ranges > 40 bar)	Sealed Gage
Safe overload	150% FS
Burst pressure	300% FS
Output impedance	> 3000 Ohms typ.
Input impedance	> 3500 Ohms typ.
Power supply	5 to 15Vdc
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Output at -100%FS (only for ± range)	Proportional to +100%FS
Output at 0%FS	0mV/V

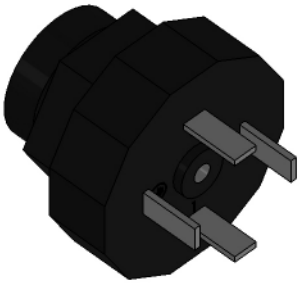
Technical Specifications

Output at 100%FS	1.5mV/V nom.
Zero and sensitivity settings tolerances	±3% FS
Non linearity and hysteresis combined	±0.25% FS
Non repeatability	±0.02% FS typ.
Compensated temperature range	0 to +60°C Option : -25 to +85°C ; -25 to +125°C (Except M12, 723 Receptacles and PVC Cable)
Operating temperature range	-25 to +125°C (-25 to +90°C with M12, 723 Receptacles and PVC Cable)
Combined thermal zero & sensitivity shifts	±0.01% FS/°C
Constant acceleration in linear vibrations	± 0.02% FS/g (frequency 20-2000Hz, 50g max.)
Mechanical shock	100g ½ sinus 1ms
Electrical protection	Protected against polarity inversion
EMC protection	Compliant to EN61000
Electrical connection	DIN 43650 Receptacle - 4 pins Option : Miniature DIN 43650 mPm Receptacle - 4 pins ; Receptacle M12 - 4 pins ; Hermetic MIL-C-26482 - 6 pins Receptacle ; AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires ; AWG24 double Shield PVC Cable, 4 wires ; Hermetic M12 4 pins Receptacle ; Binder 723 Receptacle, 5 pins
Mechanical connection	1/4 Gaz A male ; 1/4 NPT male ; M10x1-4h male with 80° internal cone ; M14x1.5-4h male Option : 1/2 Gaz A male (Gauge) ; 1/4 Gaz female ; 7/16-20 UNJF-3A male - MS33656-4 ; M10x1-4h male 120° cone
Material(s) of wetted parts	Stainless Steel 316L ; Stainless Steel 17-4PH ; Stainless steel 15-5PH
Weight	< 120g without cable
Enclosure protection	IP65 for absolute & sealed gage version

Codification

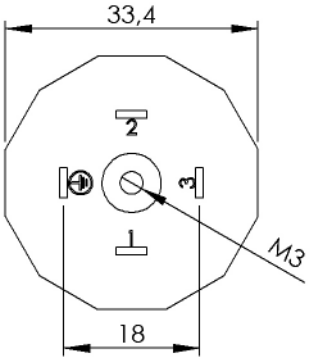
High Performance Pressure Sensor	PGP22	1	S	20bar	A	01	01	A	1	2	
Output Signal											
mV/V		1									
Material											
Stainless Steels			S								
Range											
Example				20bar							
Type											
Absolute					A						
Gage					G						
Sealed Gage					SG						
Mechanical connection											
M14x1.5-4h male						01					
1/2 Gaz A male (Gauge)						06					
1/4 Gaz A male						07					
1/4 Gaz female						08					
7/16-20 UNJF-3A male - MS33656-4						10					
1/4 NPT male						13					
M10x1-4h male with 80° internal cone						19					
M10x1-4h male 120° cone						21					
Electrical connection											
DIN 43650 Receptacle - 4 pins							01				
Miniature DIN 43650 mPm Receptacle - 4 pins							02				
Hermetic MIL-C-26482 - 6 pins Receptacle							03				
Receptacle M12 - 4 pins							07				
AWG26, Viton Jacketed Shielded Cable Ø3mm, 4 wires							08/1m				
AWG24 double Shield PVC Cable, 4 wires							10/1m				
Hermetic M12 4 pins Receptacle							15				
Binder 723 Receptacle, 5 pins							23				
Compensated temperature range											
0 to +60°C								A			
-25 to +85°C								B			
-25 to +125°C (Except M12, 723 Receptacles and PVC Cable)								C			
Non linearity and hysteresis combined											
±0.25% FS									1		
Combined thermal zero & sensitivity shifts											
±0.01% FS/°C										2	


G1/4
Hex. 22
9,8
8
M14x1,5
Hex. 22
13
8
1/4 NPT
Hex. 22
15,1
8
7/16-20 UNJF
Hex. 22
14
8
M10x1
Hex. 22
9,8
8
G1/4
Hex. 22
15
16
M10x1
CONE 120°
Hex. 22
16,6
5,5
1/2 VCR FEMELLE / FEMALE
Ø22
37,5
3
Ø22
DIN43650
4 BROCHES / PINS
95
Ø22
DIN43650 MINI
4 BROCHES / PINS
69
Ø22
MIL-C26482
6 BROCHES / PINS
52
Ø22
M12
4 BROCHES / PINS
53
Ø22
CABLE
55
Ø22
M12 HERMETIQUE / HERMETIC
48
Ø22
BINDER 723
5 BROCHES / PINS
49,5
Dimensions : mm



DIN 43650 - 4 PINS

mV/V OUTPUT	PIN
+ EXCITATION	PIN 1
+ SIGNAL	PIN 2
- SIGNAL	PIN 3
- EXCITATION	PIN T

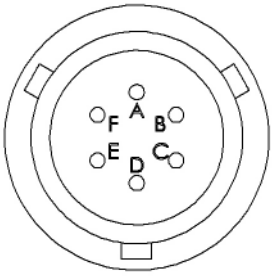


Dimensions : mm



MIL-C26482 - 6 PINS

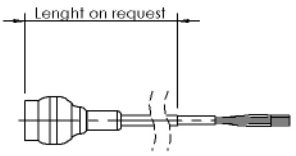
mV/V OUTPUT	PIN
+ EXCITATION	PIN A
+ SIGNAL	PIN B
- SIGNAL	PIN C
- EXCITATION	PIN D
SENSOR HOUSING	PINS E &F





#26 AWG, 4 CONDUCTOR SHIELDED VITON CABLE

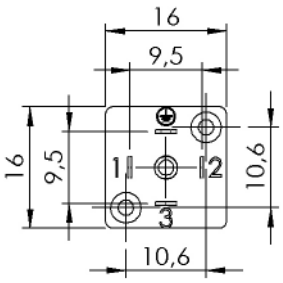
mV/V OUTPUT	CONDUCTOR
+ EXCITATION	RED
+ SIGNAL	GREEN / YELLOW
- SIGNAL	WHITE
- EXCITATION	BLUE / BLACK
SENSOR HOUSING	SHIELD



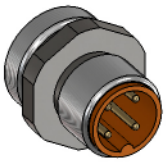


DIN MINIATURE 43650 - 4 PINS

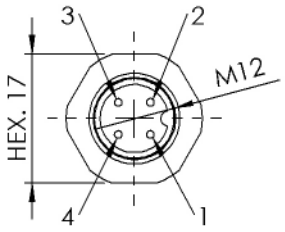
mV/V OUTPUT	PIN
+ EXCITATION	PIN 1
+ SIGNAL	PIN 2
- SIGNAL	PIN 3
- EXCITATION	PIN T



Dimensions : mm



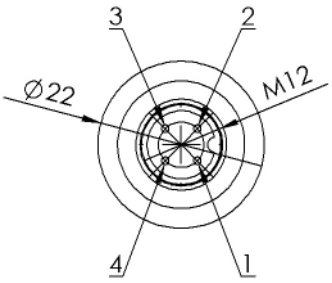
M12 - 4 PINS	
mV/V OUTPUT	**PIN**
+ EXCITATION	PIN 1
+ SIGNAL	PIN 4
- SIGNAL	PIN 2
- EXCITATION	PIN 3
SENSOR HOUSING	CONNECTOR HOUSING



Dimensions : mm



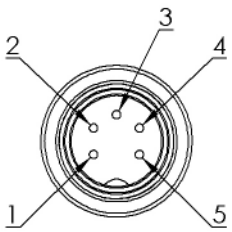
HERMETIC M12 - 4 PINS	
mV/V OUTPUT	**PIN**
+ EXCITATION	PIN 1
+ SIGNAL	PIN 4
- SIGNAL	PIN 2
- EXCITATION	PIN 3
SENSOR HOUSING	CONNECTOR HOUSING



Dimensions : mm

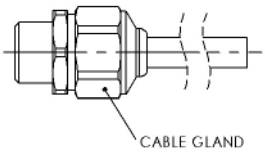


BINDER 723 - 5 PINS	
mV/V OUTPUT	**PIN**
+ EXCITATION	PIN 3
+ SIGNAL	PIN 2
- SIGNAL	PIN 4
- EXCITATION	PIN 1
NC	PIN 5
SENSOR HOUSING	CONNECTOR HOUSING





#24 AWG, 4 CONDUCTOR, DOUBLE SHIELD PVC CABLE	
mV/V OUTPUT	**CONDUCTOR**
+ EXCITATION	RED
+ SIGNAL	GREEN
- SIGNAL	WHITE
- EXCITATION	BLACK
SENSOR HOUSING	SHIELD



Agent :

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