

# PHA223



The PHA223 pressure sensor features the latest technological innovations developed by EFE.

The stainless steel sensing element is not welded to the pressure port. Its "one-piece" design makes the PHA223 sensor compatible with high pressure hydrogen, up to 700bar.

The built-in electronics deliver a high-level 0.5-4.5V signal and give the sensor very good accuracy:  $\pm 0.25\%$  from +10 to +40°C or  $\pm 1\%$  from -25 to +85°C.

Compact and robust, it is ideal for on-board use combining temperature, vibration and shock. The PHA223 has been qualified in shock, vibration, magnetism and electrostatic discharge according to RTCA DO 160.

## FEATURES

- Hydrogen and high pressure compatible
- Compact pressure sensor
- One-piece design without welding
- Ratiometric built-in electronics
- RTCA DO 160 qualified

## APPLICATIONS

X	Fuel cells
X	Hydrogen storage monitoring
X	Petrochemicals
X	Chemical Industry



## TECHNICAL SPECIFICATIONS

- Pressure Specifications

Pressure ranges (FS)	20; 40; 100; 250; 400; 700 bar
Type	Absolute ; Gage
Type (for ranges > 40 bar)	Sealed Gage
Safe overload	150% FS
Burst pressure	300% FS or 1000bar whichever is less

- Electrical Specifications

Power Supply	5Vdc filtered and stabilized
Consumption	< 10mA
Insulation	> 1000 MOhms under 50Vdc at ambient temperature
Offset	0,5Vdc
Sensitivity	4Vdc
Zero and sensitivity settings tolerances	±50mV
Signal's bandwidth	DC to 1000Hz @ -3dB

- Accuracy

Error band Including NLH and thermal drifts	±0.25%FS in the range +10 to +40°C Option : ±1%FS in the range -25 to +85°C
Non repeatability	±0.02% FS typ.



- Environmental Specifications

Compensated temperature range	+10 to +40°C Option : -25 to +85°C
Operating temperature range	-25 to +85°C
Vibrations	20-2000Hz, 50g max.
Mechanical shock	100g ½ sinus 1ms
Electrical protection	Protected against polarity inversion
EMC protection	Compliant to EN61000

- Technical Specifications

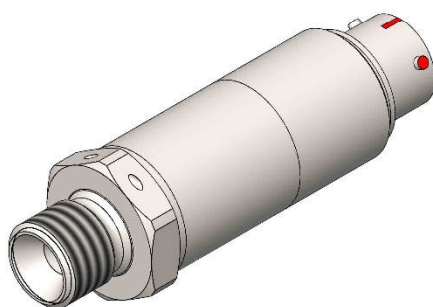
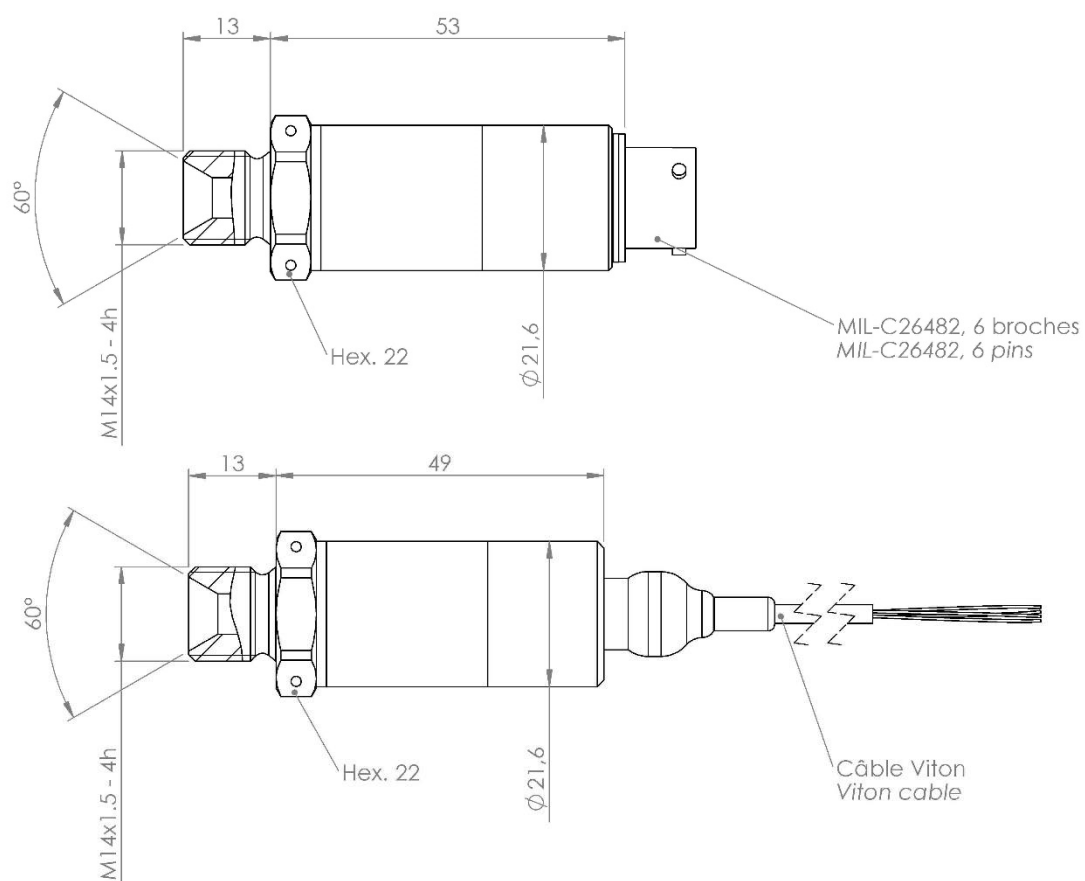
Electrical connection	MIL-C26482 connector (6 pins) Option : Viton cable Ø3mm, shielded, 4 conductors AWG26
Mechanical connection	M14x1.5 male with 60° inner cone
Material(s) of wetted parts	Stainless Steel 316L
Weight	<100g without cable
Enclosure protection	IP65 for absolute and sealed gage versions



## CODIFICATION

Presssure Transducer For Hydrogen Applications	PHA22	3	S	20bar	A	01	08/1m	A	1
Output Signal									
0.5-4.5V ratiometric with 5V power supply		3							
Material									
Stainless Steel			S						
Range									
Example : 20bar				20bar					
Type									
Absolute					A				
Gage					G				
Sealed Gage (ranges > 40bar)					SG				
Mechanical connection									
M14x1.5 male with 60° inner cone						01			
Electrical Connection									
MIL-C26482 connector (6 pins)							03		
Viton cable X meter(s)							08/Xm		
Compensated temperature range									
+10 to +40°C								A	
-25 to +85°C								B	
Error Band									
±0.25% FS from +10 to +40°C or ±1%from -25 to +85°C									1
Options									


## DIMENSIONS




Echelle 1:1  
Scale 1:1

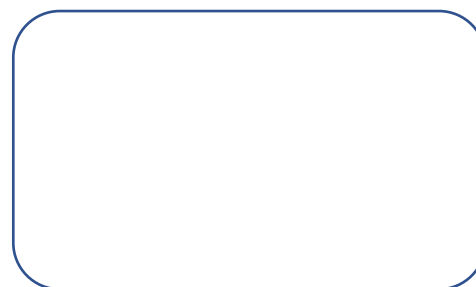
Dimensions : mm

## WIRING

	VITON CABLE - 4 CONDUCTORS	
	TENSION OUTPUT	WIRES
	+ EXCITATION	RED
	+ SIGNAL	GREEN/YELLOW
	NC	WHITE
	0 VDC	BLUE/BLACK
	SENSOR'S HOUSING	SHIELD

	MIL C26482 - 6 PINS	
	TENSION OUTPUT	PINS
	+ EXCITATION	PIN A
	+ SIGNAL	PIN B
	0 VDC	PIN C
	0 VDC	PIN D
	SENSOR'S HOUSING	PINS E & F

## AGENT



**L'ESSOR FRANÇAIS ELECTRONIQUE  
EFE**

16-18 rue Porte a Bateaux - 27540 Ivry-la-Bataille - France  
Tel: + 33 2 32 22 35 05 - Fax : + 33 2 32 36 93 08  
[www.efe-sensor.com](http://www.efe-sensor.com) • [infos@efe-sensor.com](mailto:infos@efe-sensor.com)