



#### Main features

- Ranges: from 0...50bar to 0...1000bar (from 0...750psi to 0...15000psi)
- Accuracy:  $\pm 0.1\%$  FSO typical
- Current output signal
- Protection: IP65/IP67
- Wetted parts 17-4PH

The XPSA transmitters are based on the extensimetric measurement principle. The mechanical structure makes the sensor insensitive during the tightening phase.

This transmitter is suitable for all those applications which require robustness as well as a high accuracy.

The series can be used in applications characterized by the presence of explosive atmosphere.

For this reason the probes are designed and manufactured according to the ATEX 94/9/CE Directive.

#### Main intrinsic safety characteristics

Transmitter designed and produced in compliance with Directive 94/9/CE ATEX and according to European standards for the Second group (II-surfaces), category 1, explosive atmosphere with presence of gases, fumes or mists (G) protection mode Ex ia T6, T5.



EC-Type Examination Certificate number: CESI 04 ATEX 075

Type of protection: II 1G Ex ia IIC T6/T5

#### TECHNICAL DATA

	<b>CURRENT</b>
Output signal	$\pm 0.1\%$ FSO typical; $\pm 0.15\%$ FSO max
Accuracy (1)	Infinite
Resolution	See table
Overpressure (without degrading performance) (2)	See table
Pressure containment (Burst test) (3)	See table
Pressure media	Fluid compatible with INOX 17-4PH Stainless Steel
Body materials	Stainless Steel INOX AISI 304 and Nylon 66GF35V0
Power supply	10...30Vdc
Supply sensitivity	< 0.0015% FSO/V
Insulation resistance	> 1000 M $\Omega$ @ 50Volt
Zero output signal	4mA
Full scale output signal	20mA
Max allowed load	see diagram
Long term stability	< 0.1% FSO/year
Operating temperature range (process)	-20...+70°C (-4...+158°F)
Compensated temperature range	-10...+70°C (+14...+158°F)
Storage temperature range	-40...+125°C (-40...+257°F)
Temperature effects over compensated range (zero-span)	$\pm 0.01\%$ FSO/°C typical ( $\pm 0.015\%$ FSO/°C max.)
Response time (10...90%FSO)	< 1 msec.
Start-up time	< 500 msec.
Mounting position effects	Negligible
Humidity	Up to 100%RH non condensing
Weight	110 gr. nominal
Mechanical shock	100 g / 1 msec. according to IEC 68-2-6
Vibrations	20 g max @ 15-2000Hz according to IEC68-2-6
Ingress protection	IP65/IP66/IP67
Output short circuit and reverse polarity protection	YES
Voltage spike protection	> 2kV burst test, to EN61000-4-4
CE Conformity (89/336 Directive)	EMC Emissions EN61000-6-3 EMC Immunity EN61000-6-2 (10V/m)

FSO = Full Scale Output (output signal at rated pressure)

1 BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability

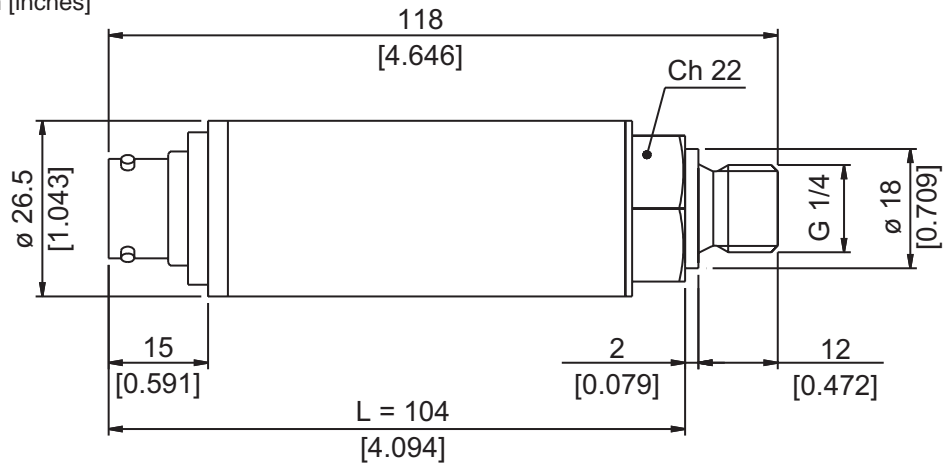
2 tested for more than 1000 strokes with single duration < 2msec.

3 tested for more than 100 strokes with single duration < 2msec.

MEASUREMENT RANGE (Bar)	50	100	160	200	250	350	400	500	600	700	1000
Overpressure	150	300	480	600	750	1050	1200	1500	1800	2000	2000
Burst test	250	500	800	1000	1250	1750	2000	2500	2500	2500	2500

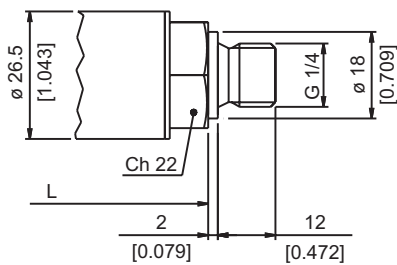
## INSTALLATION DRAWINGS

Dimensions: mm [inches]

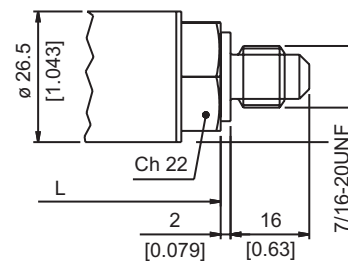


## PRESSURE CONNECTION

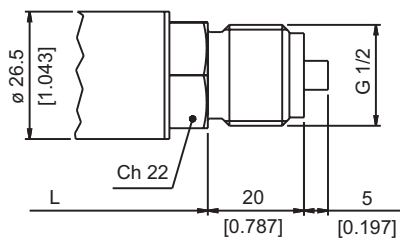
(1) G 1/4 MALE (DIN 3852-A)



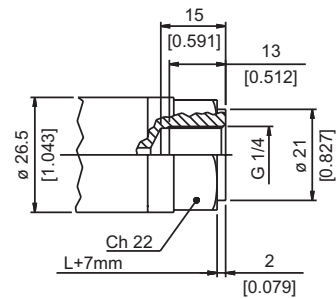
(2) SAE 04 AS4395-E



(3) G 1/2 A (DIN 16288)

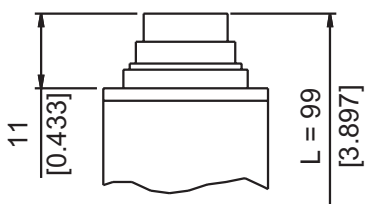


(4) G 1/4 FEMALE

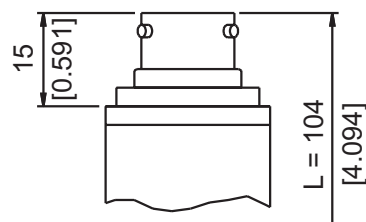


## ELECTRICAL CONNECTION

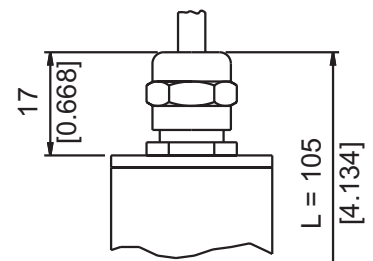
P - 7 pole connector



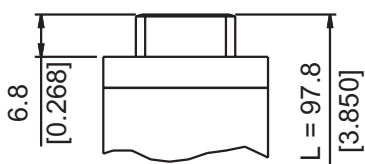
V - 6 pole connector



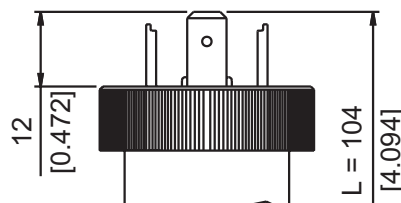
F - 2 pole cable



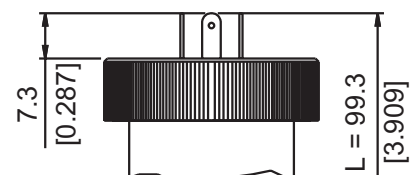
H - G4A1M  
4 pole male connector



E - 4 pole connector  
solenoid



M - 4 pole connector  
microsolenoid



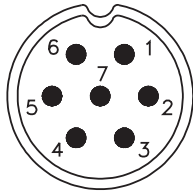
## INTRINSIC SAFETY CHARACTERISTICS

		II 1G Ex ia IIC T6	II 1G Ex ia IIC T5
Maximum voltage	Ui	30Vdc	30Vdc
Maximum current	Ii	100mA	100mA
Maximum power	Pi	0.75W	0.75W
Maximum inductance (*)	Li	0.25 mH	0.25 mH
Maximum capacity (*)	Ci	26nF	26nF
Temperature of the fluid		-20...+60°C	-20...+70°C
Ambient temperature		-20...+60°C	-20...+70°C

(\*) includes inductance levels and capacity of a cable: (typical L 1μH/m and typical C 100 pF/m) with maximum length 15mt.

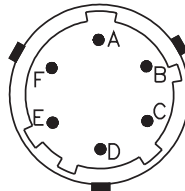
## ELECTRICAL CONNECTION - Connectors

### P - 7-pole connector



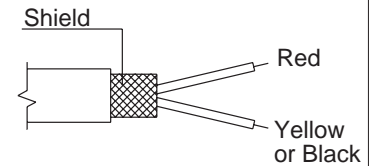
Male connector 09-127-09-07  
Protection IP67

### V - 6-pole connector



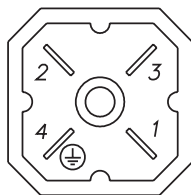
Male connector VPT02A10-6PT2  
Protection IP66

### F - 2 pole cable



Shielded cable 2x0.25 - 2m.  
Protection IP65

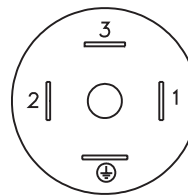
### H - 4-pole connector



Male connector G4A1M  
Protection IP65

### E - 4 pole solenoid connector

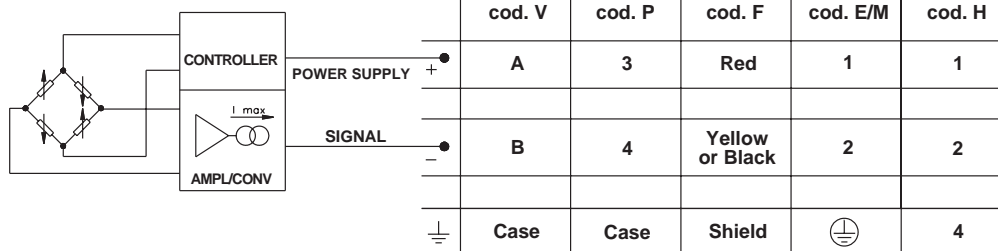
### M - 4 pole microsolenoid connector



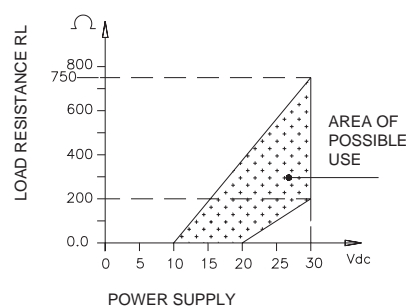
Solenoid DIN 43650A - ISO4400  
Protection IP65  
Microsolenoid DIN 43650C - ISO4400  
Protection IP65

## ELECTRICAL CONNECTION - connection diagrams

### CURRENT AMPLIFIED OUTPUT - mod. E



### LOAD DIAGRAM (Current output)



## ACCESSORIES ON REQUEST

<b>Connectors</b> <b>Connection E</b> 3 poles Connector + ground DIN43650A ISO4400 <b>CON 006</b> Prot. IP65 <b>Connection H</b> 3 poles Connector + ground G4W1F Prot. IP65 <b>CON 297</b>	<b>Connection M</b> 3 poles Connector + ground DIN43650C ISO4400 <b>CON 008</b> Prot. IP65 <b>Connection P</b> 7poles female cable connector Prot. IP67 <b>CON 321</b> <b>Connection V</b> 6poles female cable connector Prot. IP66 <b>CON 300</b>
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## ORDERING INFORMATION

Pressure transmitter **XPSA**

<b>OUTPUT SIGNAL</b>	
Standard	
4 ... 20 mA	<b>E</b>

<b>PRESSURE CONNECTION</b>	
Standard	
G 1/4 gas male	<b>1</b>
<b>On request</b>	
7/16-20UNF-2A male (SAE4 per AS4395-E)	<b>2</b>
G 1/2A (DIN 16288)	<b>3</b>
G 1/4 gas female	<b>4</b>

<b>ELECTRICAL CONNECTION</b>	
4-pole connector solenoid	<b>E</b>
Shielded cable	<b>F</b>
4 pole connector	<b>H</b>
4-pole connector microsolenoid	<b>M</b>
7 pole connector	<b>P</b>
6 pole connector	<b>V</b>

Mechanical and/or electrical characteristics differing from standard may be arranged on request.

<b>TEMPERATURE CLASS</b>	
<b>5</b>	T5 (-20...+70°C)
<b>6</b>	T6 (-20...+60°C)

<b>RESPONSE TIME</b>	
<b>V</b>	Fast (< 1msec)

<b>ACCURACY</b>	
<b>T</b>	± 0.1% FSO Typical

<b>MEASUREMENT RANGE</b>			
	<b>bar</b>		<b>psi</b>
<b>B05D</b>	0..50	<b>P75D</b>	0..750
<b>B01C</b>	0..100	<b>P15C</b>	0..1500
<b>B16D</b>	0..160	<b>P20C</b>	0..2000
<b>B02C</b>	0..200	<b>P25C</b>	0..2500
<b>B25D</b>	0..250	<b>P03M</b>	0..3000
<b>B35D</b>	0..350	<b>P05M</b>	0..5000
<b>B04C</b>	0..400	<b>P75C</b>	0..7500
<b>B05C</b>	0..500	<b>P10M</b>	0..10000
<b>B06C</b>	0..600	<b>P15M</b>	0..15000
<b>B07C</b>	0..700		
<b>B01M</b>	0..1000		

<b>CALIBRATION STANDARDS</b>	
Instruments manufactured by Gefran are calibrated against precision pressure calibration equipment which is traceable to International Standards.	

Es.: **XPSA - E - 1 - E - B35D - T - V - 5**  
 Intrinsically safe pressure transmitter, with 4 to 20mA signal output, G 1/4 male pressure connection, DIN43650A solenoid electrical connector, 0...350bar measurement range, ± 0.1% FSO accuracy, 1msec response time, T5 temperature class (-20...+70°C).

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice

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**GEFRAN**

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