



#### 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
- Ambient / process temperature T4 (-40°...+80°C)

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, T4.



EC-Type Examination Certificate number: CESI 04 ATEX 075

Type of protection: II 1G Ex ia IIC T6/T5/T4

#### TECHNICAL DATA

	Output signal	CURRENT
	Accuracy (1)	$\pm 0.1\%$ FSO typical; $\pm 0.15\%$ FSO max
	Resolution	Infinite
	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	$> 1000 \text{ M}\Omega @ 50\text{Volt}$
	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/ambient)	-40...+80°C (-40...+176°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)	$< 1 \text{ msec.}$
	Start-up time	$< 500 \text{ msec.}$
	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	$> 2\text{kV}$ 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

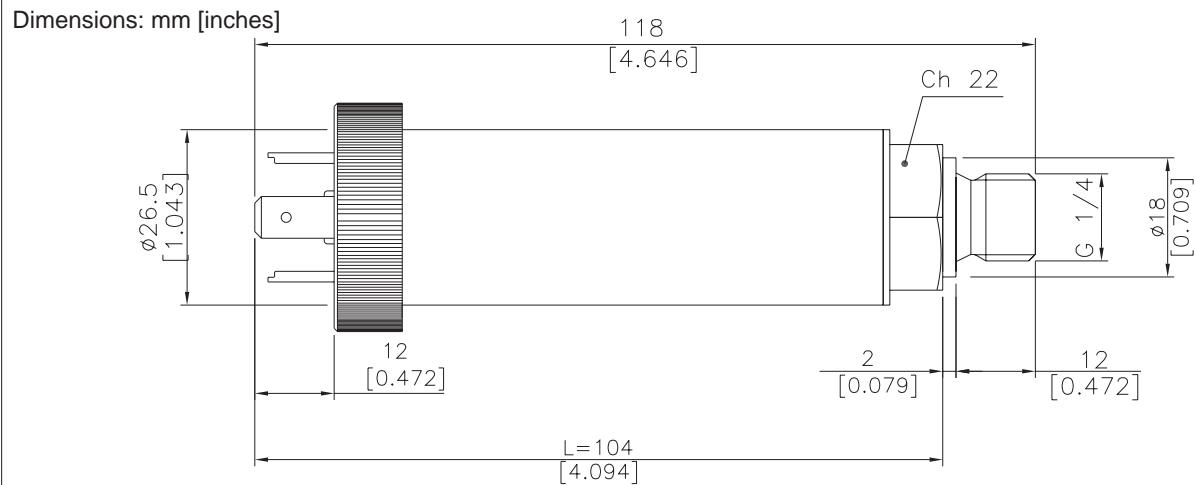
1 Includes combined effects of Non-Linearity BFSL (Best Fit Straight Line), Hysteresis and Repeatability.

2 tested for more than 1000 strokes with single duration  $< 2\text{msec.}$

3 tested for more than 100 strokes with single duration  $< 2\text{msec.}$

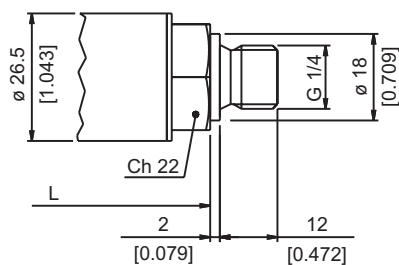
MEASUREMENT RANGE (Bar)	50	100	160	200	250	350	400	500	600	700	1000
Overpressure	150	300	480	600	750	1050	1200	1500	1800	2000	2000
Burst test	250	500	800	1000	1250	1750	2000	2500	2500	2500	2500

## INSTALLATION DRAWINGS

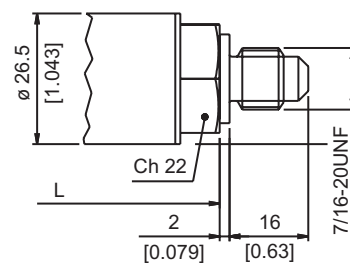


## PRESSURE CONNECTION

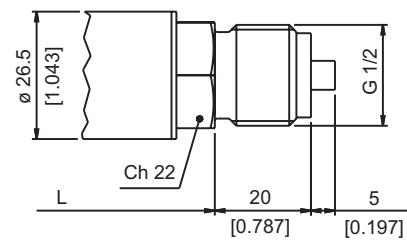
(1) G 1/4 MALE (DIN 3852-A)



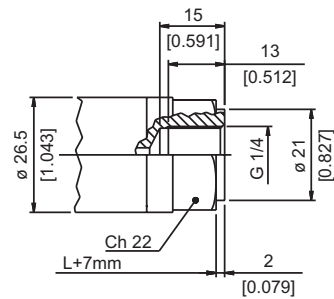
(2) SAE 04 AS4395-E



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

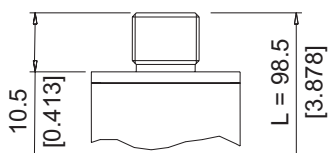


(4) G 1/4 FEMALE

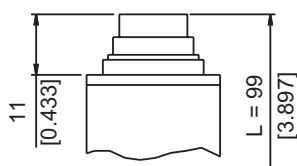


## ELECTRICAL CONNECTION

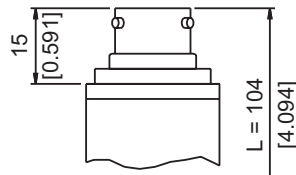
Z-4 pole connector  
M12x1



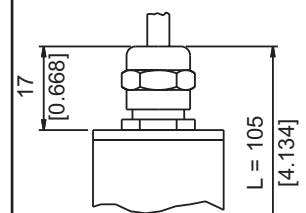
P-7 pole connector



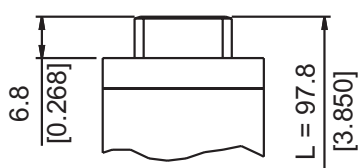
V-6 pole connector



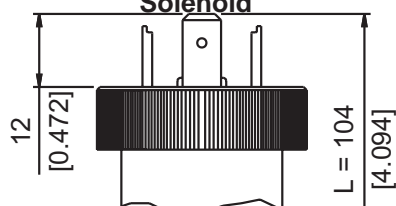
F-2 pole cable



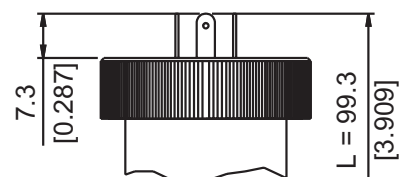
H-G4A1M 4 pole male connector



E-4 pole connector  
Solenoid



M-4 pole connector  
Microsolenoid



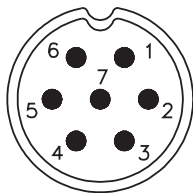
INTRINSIC SAFETY CHARACTERISTICS

		II 1G Ex ia IIC T6	II 1G Ex ia IIC T5	II 1G Ex ia IIC T4
Maximum voltage	Ui	30Vdc	30Vdc	30Vdc
Maximum current	Ii	100mA	100mA	100mA
Maximum power	Pi	0.75W	0.75W	0.75W
Maximum inductance (*)	Li	0.25 mH	0.25 mH	0.25 mH
Maximum capacity (*)	Ci	26nF	26nF	26nF
Temperature of the fluid		-40...+60°C	-40...+70°C	-40...+80°C
Ambient temperature		-40...+60°C	-40...+70°C	-40...+80°C

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

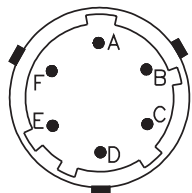
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



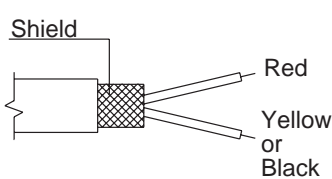
Male connector 09-127-09-07  
Protection IP67

V - 6-pole connector



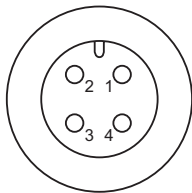
Male connector VPT02A10-6PT2  
Protection IP66

F - 2 pole cable



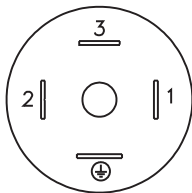
Shielded cable 2x0.25 - 2m.  
Protection IP65

Z - 4 pole male connector M12 x 1



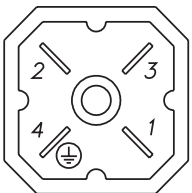
4 pole series 713 male connector  
Protection IP67

E - 4 pole solenoid connector  
M - 4 pole microsolenoid connector



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

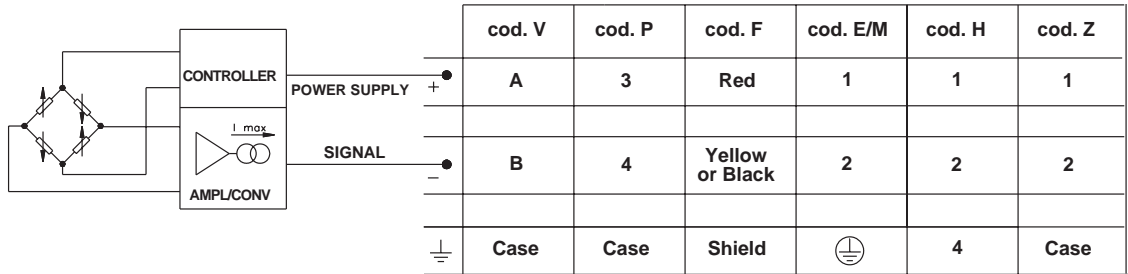
H - 4-pole connector



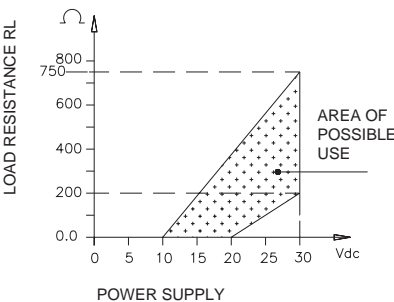
Male connector G4A1M  
Protection IP65

ELECTRICAL CONNECTION - Connection diagrams

CURRENT AMPLIFIED OUTPUT - mod. E



LOAD DIAGRAM  
(Current output)



## ACCESSORIES ON REQUEST

### Connectors

#### Connection E

3 poles Connector + ground DIN43650A ISO4400  
Prot. IP65

#### Connection M

3 poles Connector + ground DIN43650C ISO4400  
Prot. IP65

#### Connection Z

4 pole female cable connector M12x1  
Prot. IP67

#### Connection Z

4 pole female cable connector, 90° M12x1  
Prot. IP67

CON 006

#### Connection P

7 pole female cable connector  
Prot. IP67

CON 008

#### Connection P

7 pole female cable connector  
Prot. IP40

CON 293

#### Connection P

7 pole female cable connector, 90°  
Prot. IP40

CON 050

#### Connection V

6 pole female cable connector  
Prot. IP66

CON 321

CON 320

CON 322

CON 300

## ORDERING INFORMATION

Pressure transmitter

XPSA

OUTPUT SIGNAL	
Standard	
4 .. 20 mA	E

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

ELECTRICAL CONNECTIONS	
4-pole connector solenoid	E
Shielded cable	F
4 pole connector	H
4-pole connector microsolenoid	M
7 pole connector	P
6 pole connector	V
M12x1 - 4 pole connector	Z



#### GOST-R CERTIFICATION

XPSA pressure transmitter is available  
with GOST-R certification.

The request of this version must be  
specified on the order.

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

#### TEMPERATURE CLASS

4	T4 (-40...+80°C)
5	T5 (-40...+70°C)
6	T6 (-40...+60°C)

#### RESPONSE TIME

V	Fast (< 1msec)
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#### ACCURACY

T	± 0.1% FSO Typical
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#### RANGE

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

#### CALIBRATION STANDARDS

Instruments manufactured by Gefran are  
calibrated against precision pressure cali-  
bration equipment which is traceable to Inter-  
national Standards.

Ex.: XPSA - E - 1 - E - B35D - T - V - 4

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 T4 temperature class (-40...+80°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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