## **GEFRAN**

## XSA

## PRESSURE TRANSMITTERS FOR APPLICATIONS IN HAZARDOUS AREAS



#### 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.

#### Main Features

- Ranges: from 0...0.25bar to 0...60bar (0...5 to 0...1000psi)
- Accuracy: ± 0.15% FSO typical
- Current output signal
- Protection: IP65/IP67
- Wetted parts: AISI304, AISI316, NBR
- Ambient / process temperature T4 (-40°...+80°C)

Series XSA transmitters are based on silicon piezoresistive sensing element in wheatstone bridge configuration.

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.



EC-Type Examination Certificate number: CESI 04 ATEX 075 Type of protection: II 1G Ex ia IIC T6/T5/T4

## **TECHNICAL DATA**

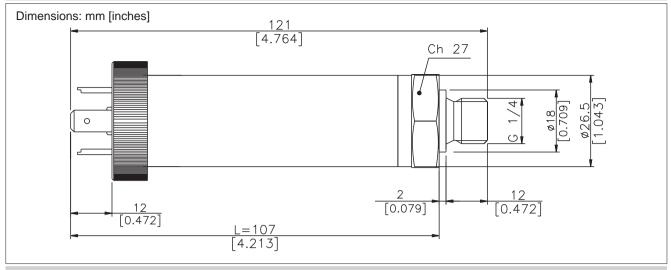
Output signal	CURRENT
Accuracy (1)	± 0.15% FSO typical; ± 0.2% FSO max
Resolution	Infinite
Overpressure (without degrading performance) (2)	See table
Pressure containment (Burst test) (3)	See table
Pressure media	Fluid compatible with AISI 316 Stainless steel, AISI 304, NBR
Body materials	AISI 304 Stainless steel and Nylon 66GF35V0
Power supply	1030Vdc
Supply sensitivity	< 0.0015% FSO/V
Insulation resistance	> 1000 MΩ @ 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/ambient)	-40+80°C (-40+176°F)
Compensated temperature range	-10+70°C (+14+158°F)
Storage temperature range	-40+90°C (-40+194°F)
Temperature effects over compensated range (zero-span)	± 0.02% FSO/°C typical range >1 bar ± 0.04% FSO/°C typical range ≤1 bar
Response time (1090%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 a 15-2000Hz according to IEC68-2-6
Ingress protection	IP65/IP66/IP67
Output short circuit and reverse polarity protection	YES

FSO = Full Scale Output

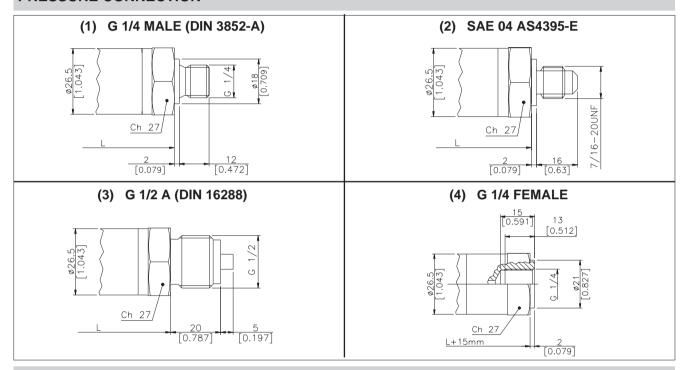
- 1 Includes combined effects of Non-Linearity BFSL (Best Fit Straight Line), Hysteresis and Repeatability.
- 2 tested for more than 1000 strokes with single duration < 2msec.
- 3 tested for more than 100 strokes with single duration < 2msec.

MEASUREMENT RANGE (Bar)	0,25	0,5	1	2	2,5	4	5	6	7	10	16	20	25	30	40	50	60
Overpressure	2	4	5	10	12,5	20	20	35	35	40	80	80	90	90	90	90	90
Burst test	2,5	5	10	20	25	40	50	50	70	100	120	120	120	120	120	120	120

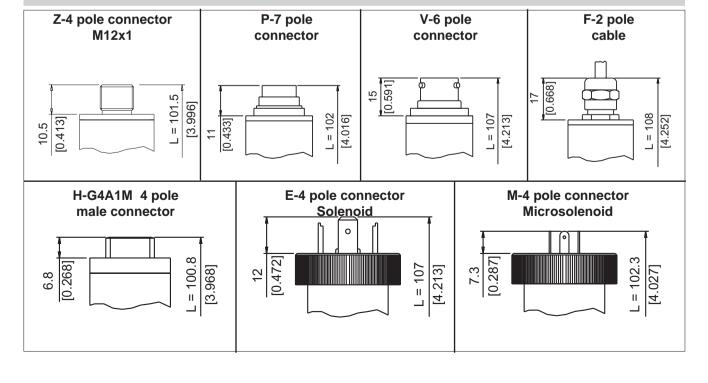
### **INSTALLATION DRAWINGS**



## PRESSURE CONNECTION



## **ELECTRICAL CONNECTION**



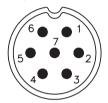
## INTRINSIC SAFETY CHARACTERISTICS

		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	li	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

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

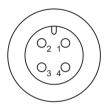
#### **ELECTRICAL CONNECTION - Connectors**

#### P - 7-pole connector



Male connector 09-127-09-07 Protection IP67

# Z - 4 pole male connector M12 x 1



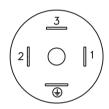
4 pole series 713 male connector Protection IP67

## V - 6-pole connector



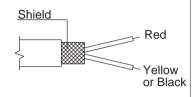
Male connector VPT02A10-6PT2 Protection IP66

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



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

## F - 2 pole cable



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

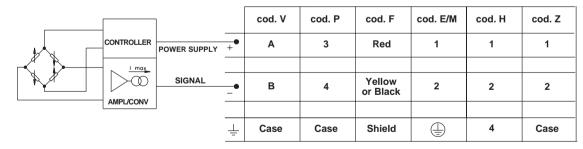
#### H - 4-pole connector



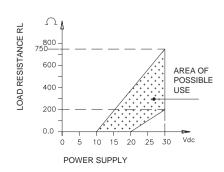
Male connector G4A1M Protection IP65

## **ELECTRICAL CONNECTION - Connection diagrams**

#### CURRENT AMPLIFIED OUTPUT - mod. E



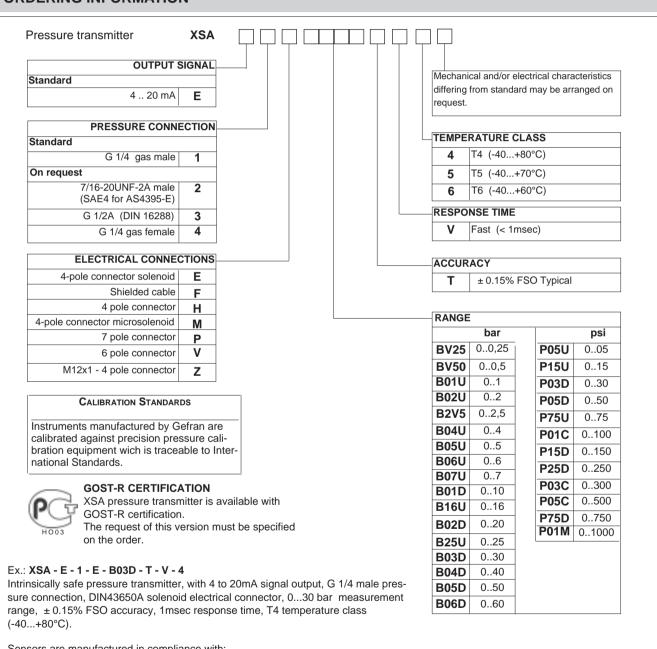
LOAD DIAGRAM (Current output)



#### **ACCESSORIES ON REQUEST**

Connectors			
Connection E		Connection P	
3 poles Connector + ground DIN43650A ISO4400	CON 006	7 pole female cable connector	CON 321
Prot. IP65		Prot. IP67	
Connection M		Connection P	
3 poles Connector + ground DIN43650C ISO4400	CON 008	7 pole female cable connector	CON 320
Prot. IP65		Prot. IP40	
Connection Z		Connection P	
4 pole female cable connector M12x1	CON 293	7 pole female cable connector, 90°	CON 322
Prot. IP67		Prot. IP40	
Connection Z		Connection V	
4 pole female cable connector, 90° M12x1	CON 050	6 pole female cable connector	CON 300
Prot. IP67		Prot. IP66	

#### ORDERING INFORMATION



Sensors are manufactured in compliance with:

- EMC 2004/108/CE compatibility directive
- RoHS 2002/95/CE directive
- ATEX 94/9/CE

Electrical installation requirements and Conformity certificate are available on our web site: www.gefran.com

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



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