



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: $\pm 0.15\%$ 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)		$\pm 0.15\%$ FSO typical; $\pm 0.2\%$ 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		10...30Vdc
Supply sensitivity		$< 0.0015\%$ FSO/V
Insulation resistance		$> 1000 \text{ M}\Omega$ @ 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/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)		$\pm 0.02\%$ FSO/°C typical range $> 1 \text{ bar}$ $\pm 0.04\%$ FSO/°C typical range $\leq 1 \text{ bar}$
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 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.

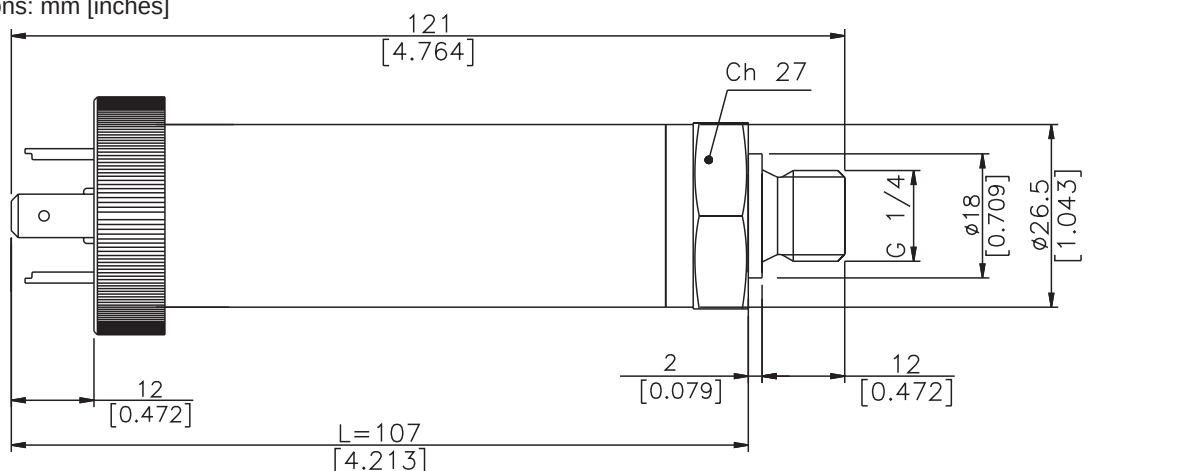
2 tested for more than 1000 strokes with single duration $< 2 \text{ msec.}$

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

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

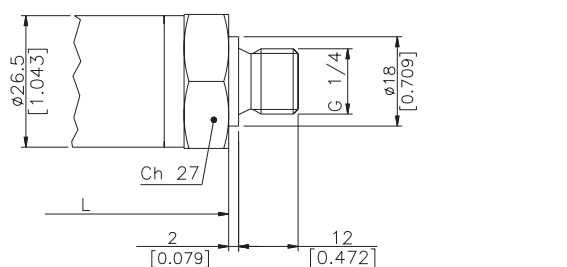
INSTALLATION DRAWINGS

Dimensions: mm [inches]

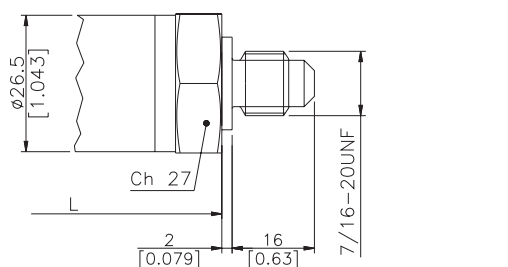


PRESSURE CONNECTION

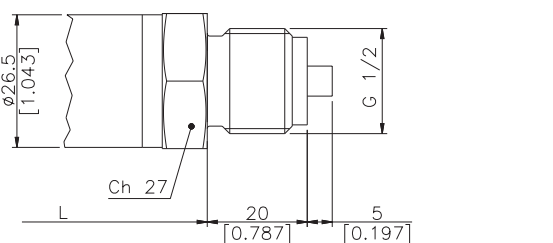
(1) G 1/4 MALE (DIN 3852-A)



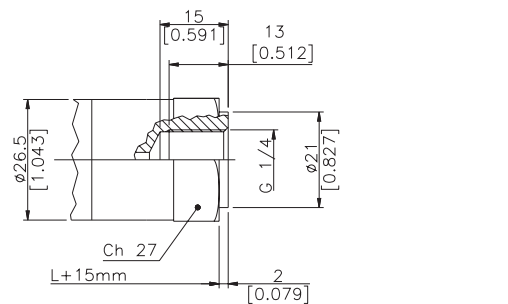
(2) SAE 04 AS4395-E



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

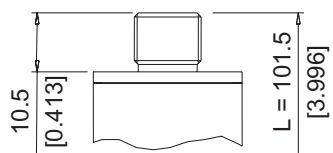


(4) G 1/4 FEMALE

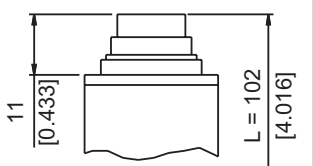


ELECTRICAL CONNECTION

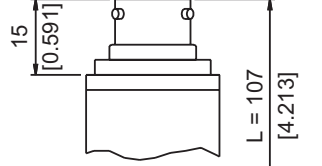
**Z-4 pole connector
M12x1**



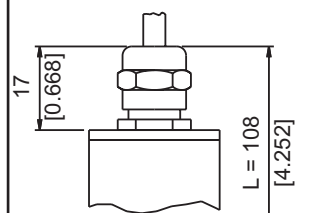
P-7 pole connector



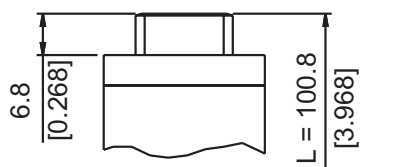
**V-6 pole
connector**



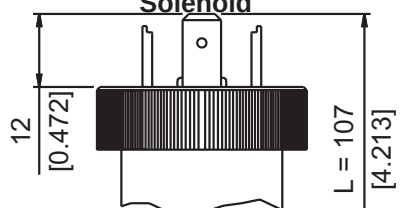
**F-2 pole
cable**



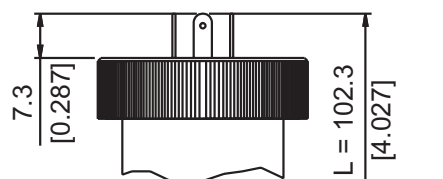
**H-G4A1M 4 pole
male connector**



E-4 pole connector Solenoid



**M-4 pole connector
Microsolenoid**



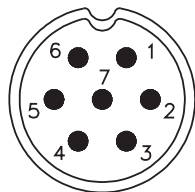
INTRINSIC SAFETY CHARACTERISTICS

		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.

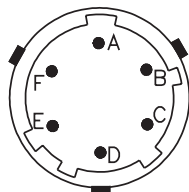
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



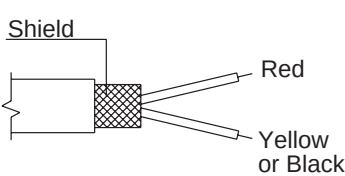
Male connector 09-127-09-07
Protection IP67

V - 6-pole connector



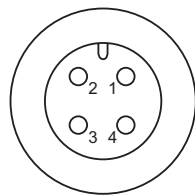
Male connector VPT02A10-6PT2
Protection IP66

F - 2 pole cable



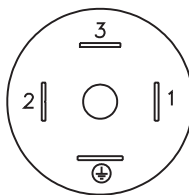
Shielded cable 2x0.25 - 2m.
Protection IP65

Z - 4 pole male connector M12 x 1



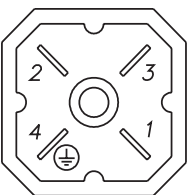
4 pole series 713 male connector
Protection IP67

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



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

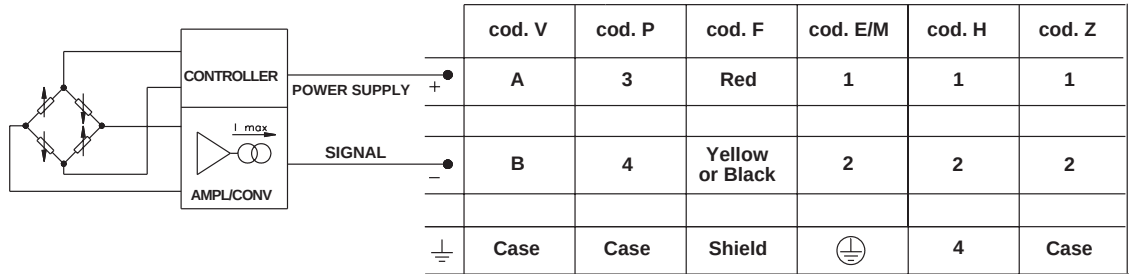
H - 4-pole connector



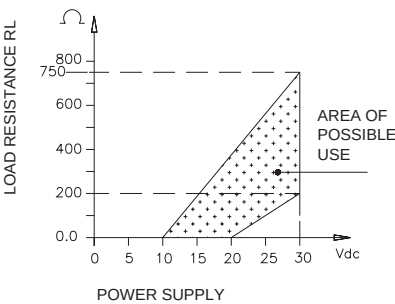
Male connector G4A1M
Protection IP65

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

CON 006

Connection M

3 poles Connector + ground DIN43650C ISO4400
Prot. IP65

CON 008

Connection Z

4 pole female cable connector M12x1
Prot. IP67

CON 293

Connection Z

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

CON 050

Connection P

7 pole female cable connector
Prot. IP67

CON 321

Connection P

7 pole female cable connector
Prot. IP40

CON 320

Connection P

7 pole female cable connector, 90°
Prot. IP40

CON 322

Connection V

6 pole female cable connector
Prot. IP66

CON 300

ORDERING INFORMATION

Pressure transmitter

XSA

OUTPUT SIGNAL	
Standard	
4 .. 20 mA	E

PRESSURE CONNECTION	
Standard	
G 1/4 gas male	1
On request	
7/16-20UNF-2A male (SAE4 for 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

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



GOST-R CERTIFICATION

XSA pressure transmitter is available with GOST-R certification.
The request of this version must be specified on the order.

Ex.: XSA - E - 1 - E - B03D - T - V - 4

Intrinsically safe pressure transmitter, with 4 to 20mA signal output, G 1/4 male pressure connection, DIN43650A solenoid electrical connector, 0...30 bar measurement range, ± 0.15% FSO accuracy, 1msec response time, T4 temperature class (-40...+80°C).

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

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)

ACCURACY	
T	± 0.15% FSO Typical

RANGE			
	bar		psi
BV25	0..0,25	P05U	0..05
BV50	0..0,5	P15U	0..15
B01U	0..1	P03D	0..30
B02U	0..2	P05D	0..50
B2V5	0..2,5	P75U	0..75
B04U	0..4	P01C	0..100
B05U	0..5	P15D	0..150
B06U	0..6	P25D	0..250
B07U	0..7	P03C	0..300
B01D	0..10	P05C	0..500
B16U	0..16	P75D	0..750
B02D	0..20	P01M	0..1000
B25U	0..25		
B03D	0..30		
B04D	0..40		
B05D	0..50		
B06D	0..60		

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

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