



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.

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

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

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	$> 1000 \text{ M}\Omega @ 50\text{Volt}$
	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)	-20...+70°C (-4...+158°F)
	Compensated temperature range	-10...+70°C (+14...+158°F)
	Storage temperature range	-30...+90°C (-22...+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 @ 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 BFSL method (Best Fit Straight Line): includes combined effects of Non-Linearity, Hysteresis and Repeatability

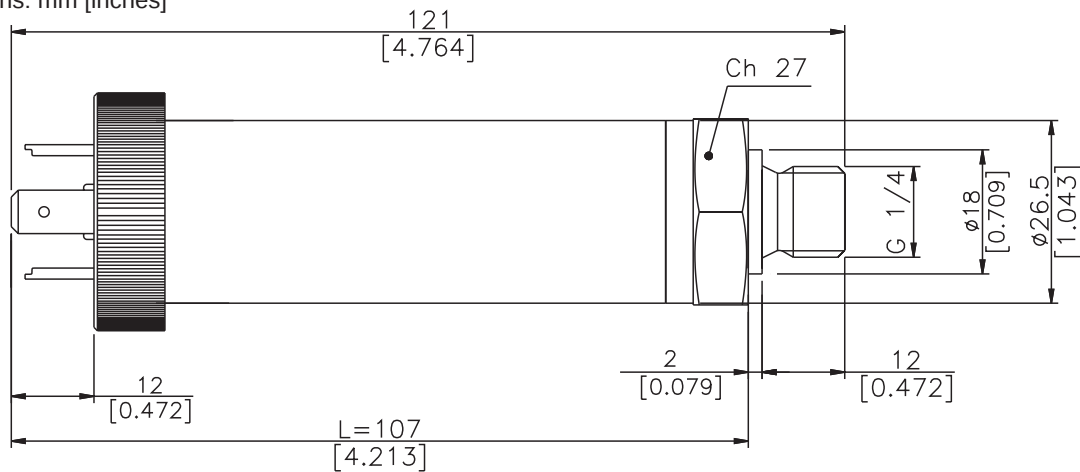
2 tested for more than 1000 strokes with single duration $< 2\text{msec.}$

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

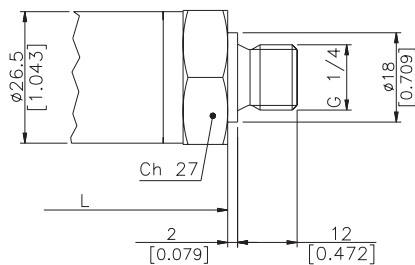
INSTALLATION DRAWINGS

Dimensions: mm [inches]

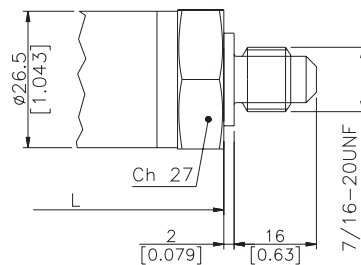


PRESSURE CONNECTION

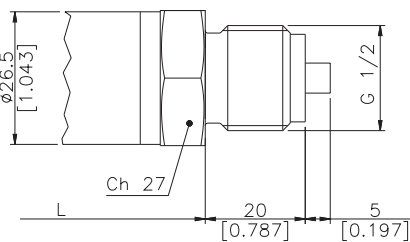
(1) G 1/4 MALE (DIN 3852-A)



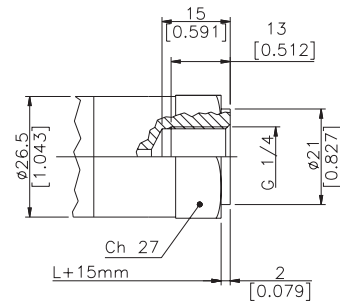
(2) SAE 04 AS4395-E



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

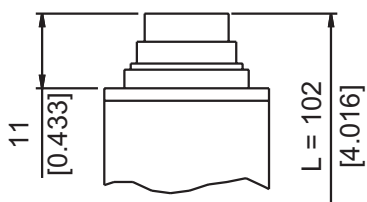


(4) G 1/4 FEMALE

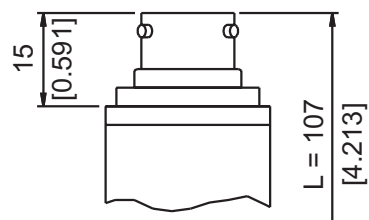


ELECTRICAL CONNECTION

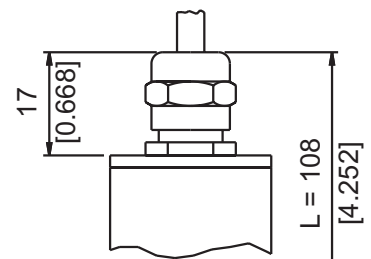
P - 7 pole connector



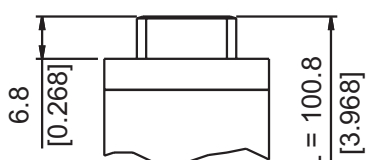
V - 6 pole connector



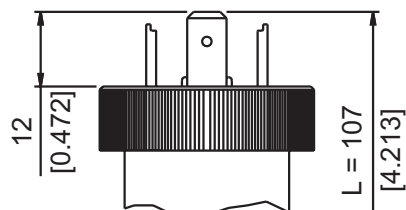
F - 2 pole cable



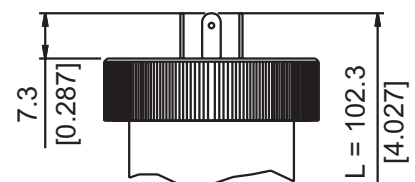
H - G4A1M
4 pole male connector



E - 4 pole connector
solenoid



M - 4 pole connector
microsolenoid



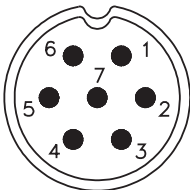
INTRINSIC SAFETY CHARACTERISTICS

		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.

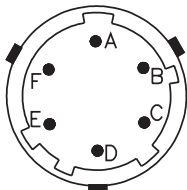
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



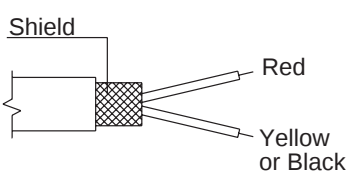
Male connector 09-127-09-07
Protection IP67

V - 6-pole connector



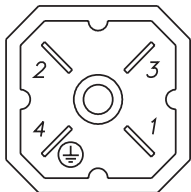
Male connector VPT02A10-6PT2
Protection IP66

F - 2 pole cable



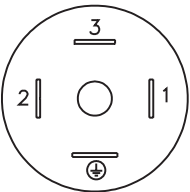
Shielded cable 2x0.25 - 2m.
Protection IP65

H - 4-pole connector



Male connector G4A1M
Protection IP65

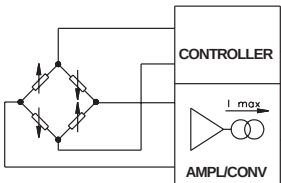
E - 4 pole solenoid connector
M - 4 pole microsolenoid connector



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

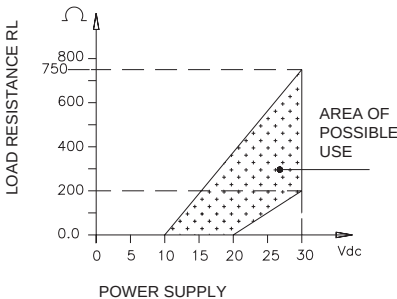
ELECTRICAL CONNECTION - Connection diagrams

CURRENT AMPLIFIED OUTPUT - mod. E



	cod. V	cod. P	cod. F	cod. E/M	cod. H
POWER SUPPLY +	A	3	Red	1	1
SIGNAL -	B	4	Yellow or Black	2	2
⏏	Case	Case	Shield	⏏	4

LOAD DIAGRAM
(Current output)



ACCESSORIES ON REQUEST

Connectors

Connection E

3 poles Connector + ground DIN43650A ISO4400 **CON 006**
Prot. IP65

Connection H

3 poles Connector + ground G4W1F Prot. IP65 **CON 297**

Connection M

3 poles Connector + ground DIN43650C ISO4400 **CON 008**
Prot. IP65

Connection P

7 poles female cable connector Prot. IP67 **CON 321**

Connection V

6 poles 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 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

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

TEMPERATURE CLASS

5	T5 (-20...+70°C)
6	T6 (-20...+60°C)

RESPONSE TIME

V	Fast (< 1msec)
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ACCURACY

T	± 0.15% FSO Typical
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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		

CALIBRATION STANDARDS

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

Es.: **XSA - 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...30 bar measurement range, ± 0.15% 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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