

XPSA

PRESSURE TRANSMITTERS FOR APPLICATIONS IN HAZARDOUS AREAS



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

	CURRENT
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)	Fluid compatible with INOX 17-4PH Stainless Steel
Pressure media	Stainless Steel INOX AISI 304 and Nylon 66GF35V0
Body materials	10...30Vdc
Power supply	< 0.0015% FSO/V
Supply sensitivity	> 1000 M Ω @ 50Volt
Insulation resistance	4mA
Zero output signal	20mA
Full scale output signal	see diagram
Max allowed load	< 0.1% FSO/year
Long term stability	-40...+80°C (-40...+176°F)
Operating temperature range (process/ambient)	-10...+70°C (+14...+158°F)
Compensated temperature range	-40...+125°C (-40...+257°F)
Storage temperature range	$\pm 0.01\%$ FSO/°C typical ($\pm 0.015\%$ FSO/°C max.)
Temperature effects over compensated range (zero-span)	< 1 msec.
Response time (10...90%FSO)	< 500 msec.
Start-up time	Negligible
Mounting position effects	Up to 100%RH non condensing
Humidity	110 gr. nominal
Weight	100 g / 1 msec. according to IEC 68-2-6
Mechanical shock	20 g max @ 15-2000Hz according to IEC68-2-6
Vibrations	IP65/IP66/IP67
Ingress protection	YES
Output short circuit and reverse polarity protection	> 2kV burst test, to EN61000-4-4
Voltage spike protection	EMC Emissions EN61000-6-3
CE Conformity (89/336 Directive)	EMC Immunity EN61000-6-2 (10V/m)

FSO = Full Scale Output

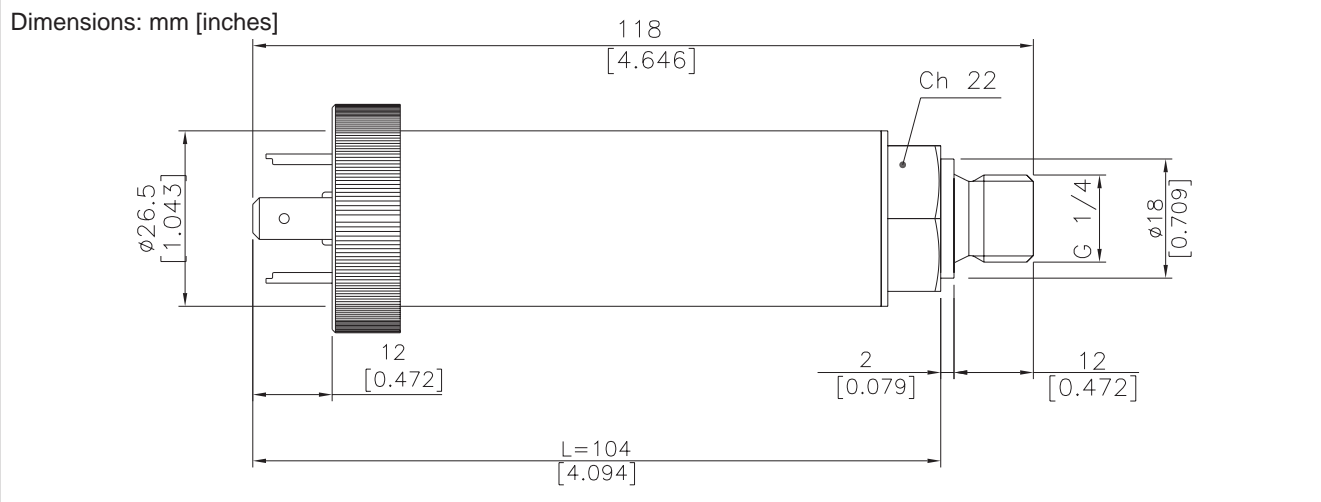
1 Includes combined effects of Non-Linearity BFSL (Best Fit Straight Line), Hysteresis and Repeatability.

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

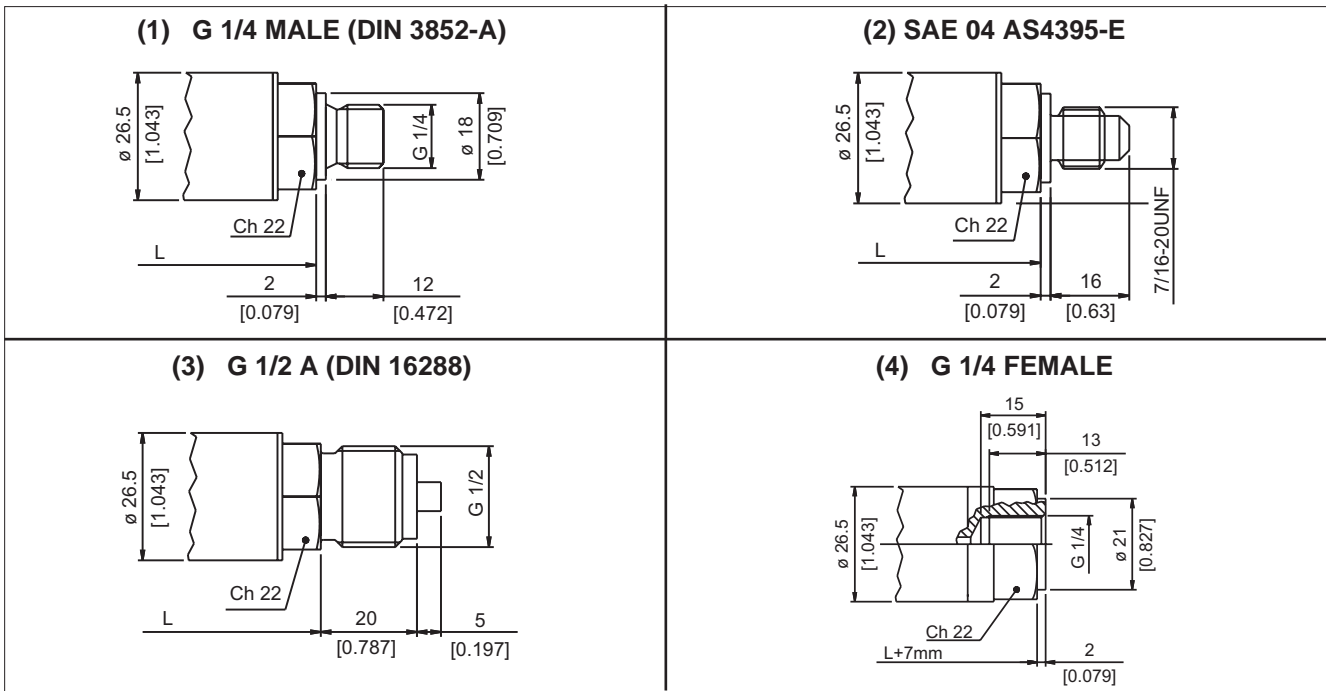
3 tested for more than 100 strokes with single duration < 2msec.

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

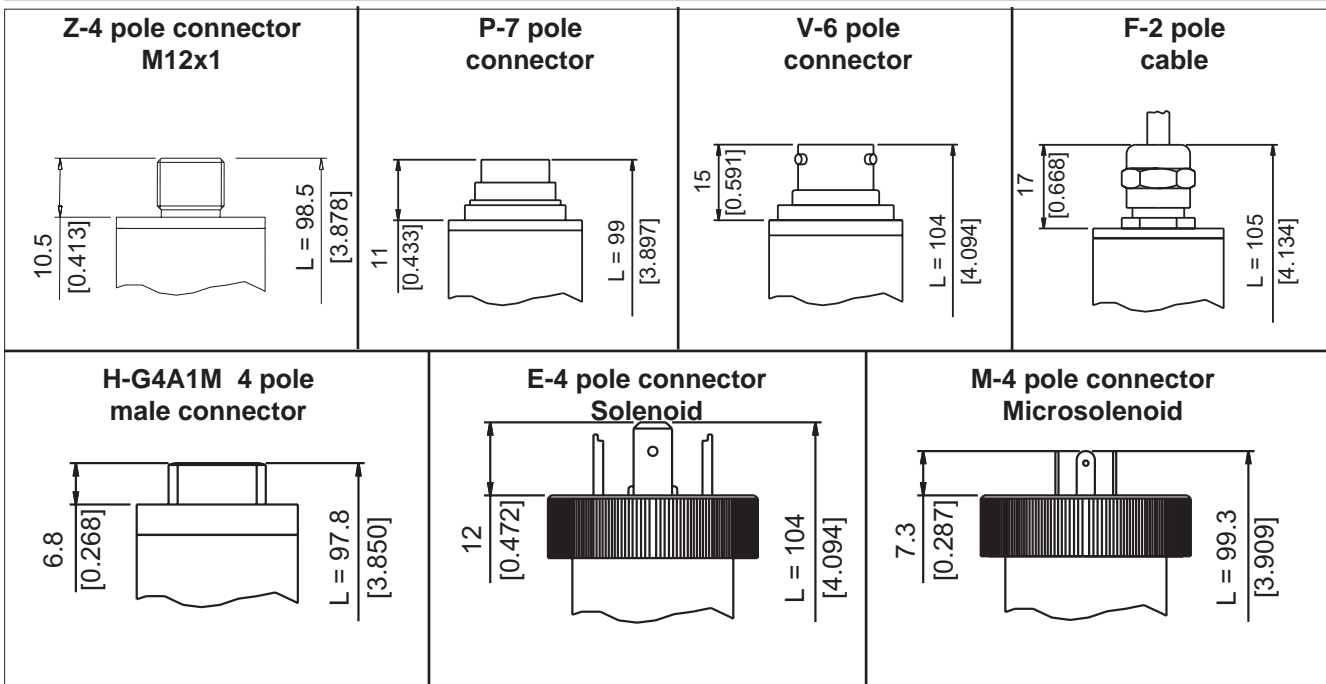
INSTALLATION DRAWINGS



PRESSURE CONNECTION



ELECTRICAL CONNECTION



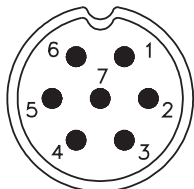
INTRINSIC SAFETY CHARACTERISTICS

		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	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.

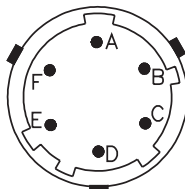
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



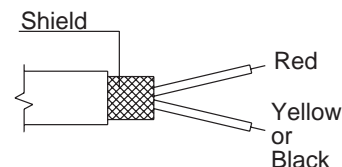
Male connector 09-127-09-07
Protection IP67

V - 6-pole connector



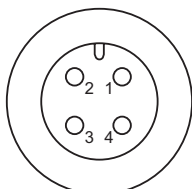
Male connector VPT02A10-6PT2
Protection IP66

F - 2 pole cable



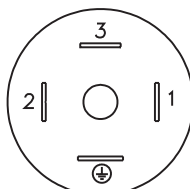
Shielded cable 2x0.25 - 2m.
Protection IP65

Z - 4 pole male connector M12 x 1



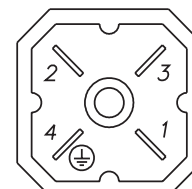
4 pole series 713 male connector
Protection IP67

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



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

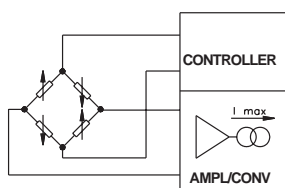
H - 4-pole connector



Male connector G4A1M
Protection IP65

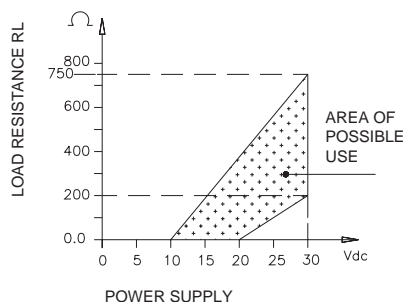
ELECTRICAL CONNECTION - Connection diagrams

CURRENT AMPLIFIED OUTPUT - mod. E



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

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.

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).

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 are calibrated against precision pressure calibration equipment which is traceable to International Standards.

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

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