XPSA

PRESSURE TRANSMITTERS FOR APPLICATIONS IN HAZARDOUS AREAS

Main features

- *Ranges: from 0...50bar to 0...1000bar (from 0...750psi to 0...15000psi)*
- *Accuracy: ± 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**)	± 0.1% FSO typical; ± 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 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...+125°C (-40...+257°F)
Temperature effects over compensated range (zero-span)	± 0.01% FSO/°C typical (± 0.015% FSO/°C max.)
Response time (10...90%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 @ 15-2000Hz according to IEC68-2-6
Ingress protection	IP65/IP66/IP67
Output short circuit and reverse polarity protection	YES
Voltage spike protection	> 2kV 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 < 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

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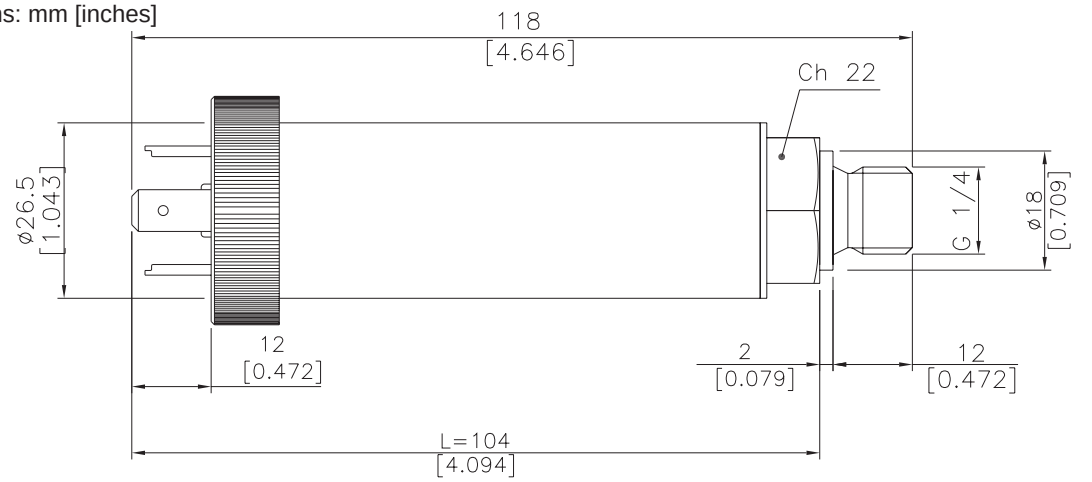
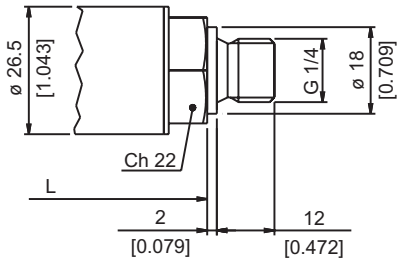
INSTALLATION DRAWINGS

Dimensions: mm [inches]

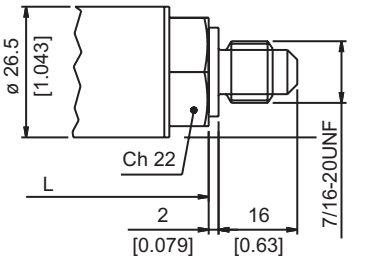


PRESSURE CONNECTION

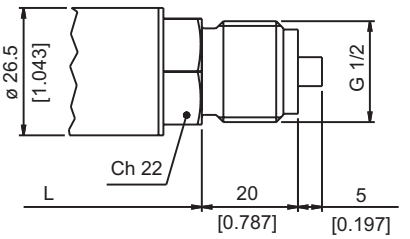
(1) G 1/4 MALE (DIN 3852-A)



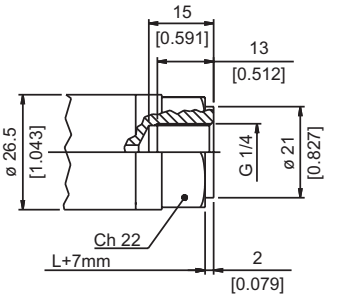
(2) SAE 04 AS4395-E



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

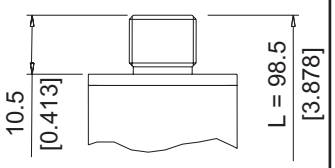


(4) G 1/4 FEMALE

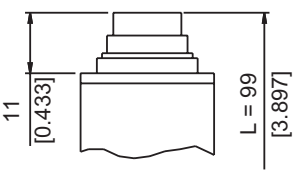


ELECTRICAL CONNECTION

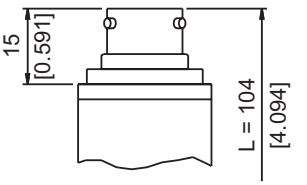
Z-4 pole connector M12x1



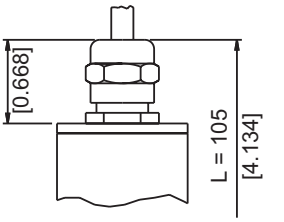
P-7 pole connector



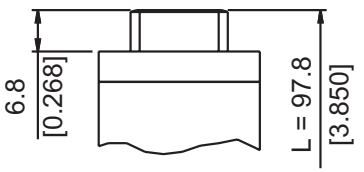
V-6 pole connector



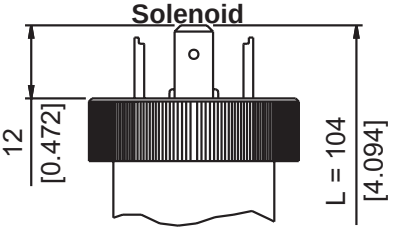
F-2 pole cable



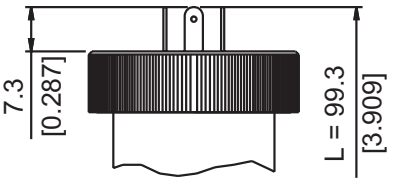
H-G4A1M 4 pole male connector



E-4 pole connector Solenoid



M-4 pole connector Microsolenoid



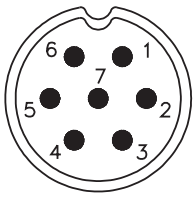
INTRINSIC SAFETY CHARACTERISTICS

		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.

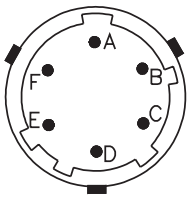
ELECTRICAL CONNECTION - Connectors

P - 7-pole connector



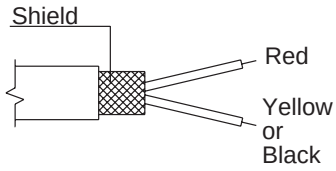
Male connector 09-127-09-07
Protection IP67

V - 6-pole connector



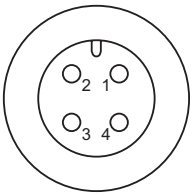
Male connector VPT02A10-6PT2
Protection IP66

F - 2 pole cable



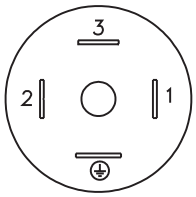
Shielded cable 2x0.25 - 2m.
Protection IP65

Z - 4 pole male connector M12 x 1



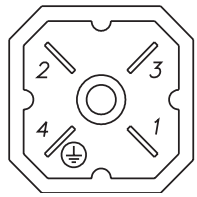
4 pole series 713 male connector
Protection IP67

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



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

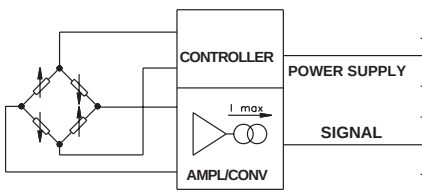
H - 4-pole connector



Male connector G4A1M
Protection IP65

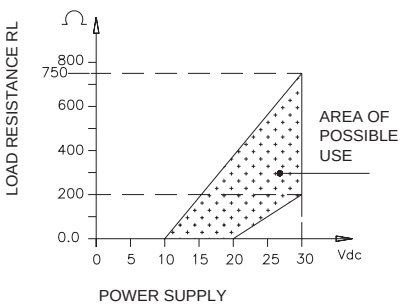
ELECTRICAL CONNECTION - Connection diagrams

CURRENT AMPLIFIED OUTPUT - mod. **E**



	cod. V	cod. P	cod. F	cod. E/M	cod. H	cod. Z
+	A	3	Red	1	1	1
–	B	4	Yellow or Black	2	2	2
⏚	Case	Case	Shield	⏚	4	Case

LOAD DIAGRAM
(Current output)



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ACCESSORIES ON REQUEST

Connectors

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

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	± 0.1% FSO Tipycal

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				

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

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CALIBRATION STANDARDS

Instruments manufactured are calibrated against precision pressure calibration equipment wich is traceable to International 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).

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

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