

PTEX1-CA



ANALYSIS LTD

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# PRESSURE TRANSMITTER





### APPLICATIONS

Marine and Industrial applications  
Exhaust gas from diesel engines  
Oil and gas , Fuel tank  
LNG and LPG  
Hydrogen , pressurized tank  
Machine building  
Oil lubrication and hydraulic oil  
Pneumatic systems  
Cooling water and refrigeration plants  
Pumps  
Balast tank

### FEATURES

Reliable and accurate pressure measurement  
Measuring ranges from -1 to 9 bar, to 0 to 600bar other on request  
Accuracy (non-linearity)  $\leq 0.5\%$  of span  
Working temperature -40 to 85C connector version  
Working temperature -40 to 70C cable version  
Supply voltage 11 to 28VDC  
Output 4 to 20mA  
Process Connection G1/4", G1/2", NPT1/2", NPT1/4, 7/16-20UNF, F250C  
On request two pressure points test certificate  
Stainless steel material AISI316, Inconel 718, Hastelloy C276 other on request  
One piece one sensor design  
Designed for harsh environments  
500VAC tested

### APROVALS AND CERTIFICATIONS

ATEX (Certificate number = Ex Veritas 21ATEX0865X)  
IECEX (Certificate number = IECEX EXV 21.0037X)  
ATEX and IECEX certified Zone 0 and Zone 20 Category 1  
IIIG Ex ia IIC T4 Ga  
IIID Ex ia IIIC T200 107°C Da  
Type approval Lloyd's Register(Cert. number=LR22230526TA)

### TEMPERATURE SPECIFICATIONS

Media temperature cable version	-40 to 80 C
Media temperature connector version	-40 to 80C
Storage temperature cable version	-40 to 70 C
Storage temperature connector version	-40 to 80 C
Max temperature cable version	70 C
Max temperature connector version	80 C

### OPERATION CONDITIONS

Shock Resistance	2-13.2Hz at 3 1mm and from 13.2-100Hz at 0.7g
Vibration Resistance	2-25Hz at 3 1mm and from 25-100Hz at 4.0g

### ELECTRICAL SPECIFICATIONS

Supply voltage	11 to 28 VDC
Output	4...20 mA (2 wires connection)

### IP PROTECTION

For all connector versions	IP66
For cable version	IP68 3bar



### MATERIALS

All wetted parts AIS316 other on request (ex. Inconel)  
 Seal for process connection FKM, FFKM or EPDM  
 PUR jacket cable (resistant to various oil)  
 F46 (FEP) outer jacket cable (resistant to acids and alkali)  
 Connector material for plastic PA+30%GF and 316 for metallic

### PRESSURE RANGES

PSI  
 Bar  
 other on request

### TESTS AND SPECIFICATIONS

Environmental	Cold: EN60068-2-1 Dry Heat: EN60068-2-2 Damp heat: EN60068-2-30 Vibration: EN60068-2-6,
Electrical installations	Control and instrumentation: EN 60092-504
Static Inclination	EN 60092-504
Dynamic Inclination	EN 60092-504
Electrostatic Discharge	EN 61000-4-2
Radiated RF Immunity	EN 61000-4-3
Fast Burst Transients	EN 61000-4-4
Conducted RF Immunity	EN 61000-4-6
Radiated Emissions	EN 55016-2-3
Power Supply Variation	EN 60092-504
Power Supply Failure	EN 60945
Insulation Resistance	EN 60945

### ELECTRICAL SPECIFICATIONS

Reverse polarity protection	Yes
Output Impedance	>10k Ohms
Max load in Ohms	$\leq (\text{supply voltage} - 11 \text{ V}) / 0.021 \text{ A} - (\text{cable length per m} \times 0.15 \text{ Ohms})$

### PARAMETERS ACCORDING TO ATEX-IECEX

Entity parameters	Values for gas atmospheres	Entity parameters for dust atmospheres
Ui	28 V	28 V
Ii	119 mA	88 mA
Pi	833 mW	616 mW
Ci	10 nF	10 nF
Li	1.2 uH	1.2 uH
C & L per unit length (cable version)	150 pF/m and 1.1 uH/m	150 pF/m and 1.1 uH/m

### ACCURACY SPECIFICATIONS

Accuracy (non-linearity)	$\leq 0.5 \%$ of span at 1.
Temperature error every 10C	$\leq 0.1 \%$ of span
Hysteresis and repeatability	$\leq 0.2 \%$ of span
Signal Noise error	$\leq 0.3 \%$ of span
Temperature error -40 to 15C and 34 to 80C	$\leq 1.5 \%$ of span
Stability (1 year)	0.2% FS, typical
Over range Protection	2X Rated Pressure
Burst Pressure	5X Rated Pressure
Pressure Cycles	> 100 million at full pressure

1.Power supply: 24VDC, Temperature: 18 to 24C, Mount position: Vertical, Humidity: 45 to 75%

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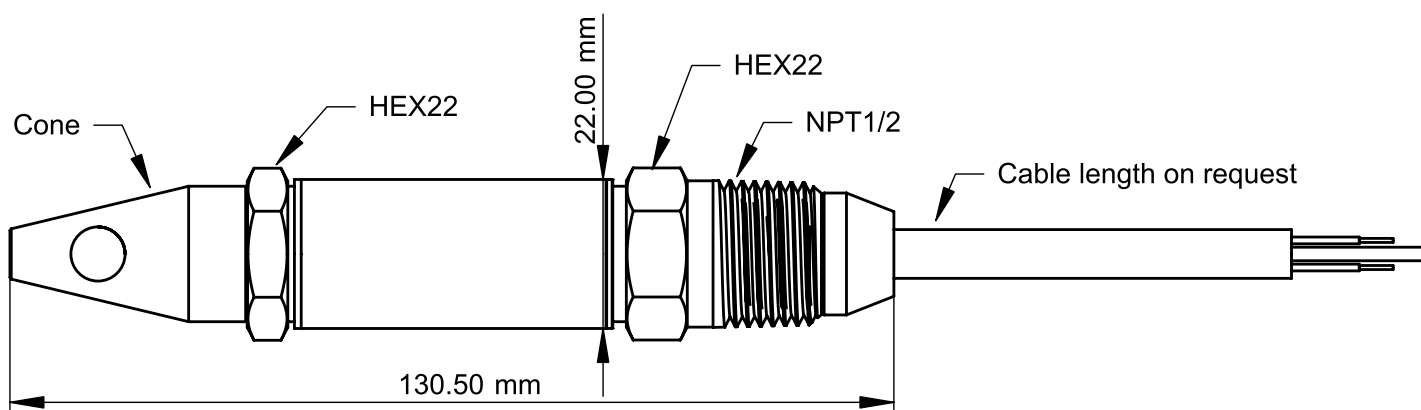
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### DIMENSIONS AND ELECTRICAL CONNECTION CABLE VERSION



#### PEX1 Cable version wiring

Red --> +    Blue --> -  
yellow/green --> Shield



## INTRINSICALLY SAFE BARRIER CONNECTION

Sensor must not exceed upper or lower limits of the barrier of the entity parameters (following conditions must be satisfied):

Checking of the voltage:  $U_o \text{ (barrier)} \leq U_i \text{ (sensor in hazardous area)}$

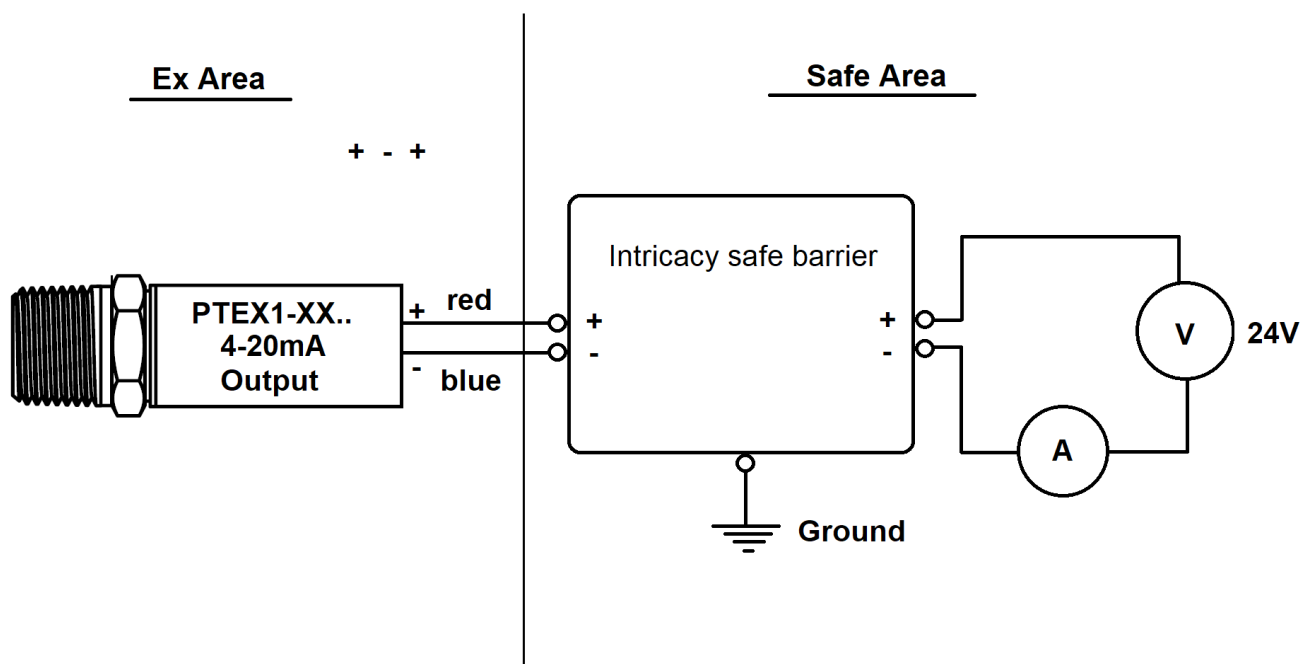
Checking of current:  $I_o \text{ (barrier)} \leq I_i \text{ (sensor in hazardous area)}$

Checking of power:  $P_o \text{ (barrier)} \leq P_i \text{ (sensor in hazardous area)}$

Checking of capacitance:  $C_c \text{ (cable)} + C_i \text{ (sensor in hazardous area)} \leq C_o \text{ (barrier)}$

Checking of inductance:  $L_c + L_i \text{ (sensor in hazardous area)} \leq L_o \text{ (barrier)}$

Entity parameters: Please see at page 3





## ORDER CODE FOR PTEX1

## ELECTRICAL CONNECTION CHOISE

Connector

CO

Cable

CA

## ELECTRICAL CONNECTION

Cable version - PUR jacket cable

P-- (m)

Cable version - F46 (FEP) outer jacket cable

F-- (m)

## OUTPUT

4...20 mA (2 wires connection)

420A

## PRESURE UNITS

Bar

B

PSI

P

Other pressure unit on request

-

## PRESURE RANGES

-1 to 0 bar

V100

0 to 1 bar

0001

0 to 5 psi

0005

Other pressure reanges on request

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## Wetted parts Material

AISI 316

6

Inconel 718

INC

Hastelloy C276

HAS

Other material on request

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## PROCESS CONNECTION

Flange connected to cable vesrion's thread

FL1

Other connection on request

XXX

## ORDERING EXAMPLE 1: PTEX1-CA-P15-420A-B-0007-6-C14

Pressure transmitter with 0-7bar range, 4-20mA output, cable 15m, wated parts material AISI316 and process connection G1/4 with cone mount-  
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