XP SERIES

XP SERIES

# PRESSURE TRANSDUCERS FOR AIRCRAFT

Flight Control | Braking | Thrust Reverse | Landing Gear


- RTCA DO-160 Qualified
- Optional “Switch” Output
- 50 to 6000 PSI Range
- Integrated Temperature Sensor Options
- Differential Pressure Options
- Absolute Pressure Options

UE PRECISION SENSORS

XP SERIES

# TRANSDUCERS FOR CRITICAL AIRCRAFT APPLICATIONS

For more than 50 years, leading aerospace companies have relied on Precision Sensors products to monitor and control aircraft systems, including:

- Cabin Air Pressure
- Engine Oil Pressure
- Heating and Cooling
- Fuel Level and Fuel Flow
- Thrust Reverse
- Antilock Braking
- Engine Bleed Air
- De-icing
- Air Filtration
- Air Speed
- Altitude

# XP SERIES TRANSDUCERS

Precision Sensors XP Series Transducers are designed for demanding aerospace applications that include the monitoring or control of flight surfaces, braking, thrust reversers and landing gear actuators. With no internal seals to degrade or cause leakage, the flameproof stainless steel welded design eliminates installation effects. Polysilicon sensor technology results in the highest level of dielectric strength for improved electronic isolation.

# OPTIONAL FEATURES

**Switched Output:**
Customer specified and factory set Form C switch contacts

**Temperature Sensor:**
Combined pressure and temperature sensing utilizing RTD (Resistance Temperature Device)

**Differential Pressure:**
Consult factory for configuration options

# FEATURES

- RTCA DO –160 Qualified
- 5 Million Cycle Life
- High Level Amplified Output
- Stainless Steel Construction
- Compatible with all Hydraulic Fluids
- Ranges from 50 to 6000 PSIG
- No Internal Seals
- Secondary Containment
- 3 Year Warranty

*XPT-Type Transducer shown for Pressure and Temperature*

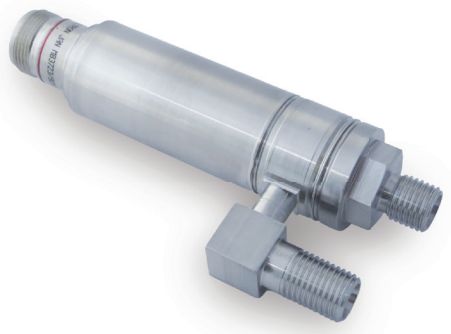
# MECHANICAL SPECIFICATIONS

| | |
|---|---|
| **Sensor Material:** | 17-4 PH SS |
| **Housing:** | 300 Series SS |
| **Weight:** | 0.30 LBS. MAX. |
| **Pressure Connections:** | AS4395 Types* |
| **Electrical Termination:** | D38999 Types* |

* Can be customized to individual application

# QUALITY SYSTEM

Certification of Approval to
ISO 9001:2015 and AS9100 Revision D



*XPD-Type Transducer shown for Differential Pressure*

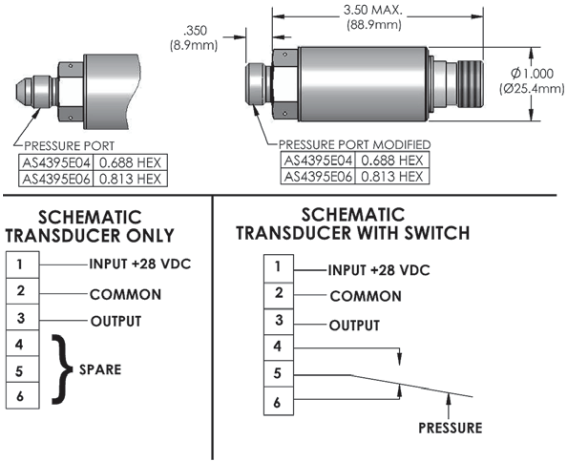
# PERFORMANCE SPECIFICATIONS:*

| TECHNICAL SPECIFICATIONS | | | |
|---|---|---|---|
| Pressure Range | 0-2500 Through 0-5000 PSIG | Input Voltage | 15 to 45 VDC<br>Reverse Polarity Protected |
| Output Voltage | 0.5 to 5.5 VDC Full Scale,<br>Others Available | Supply Current | Less than 15 mA |
| Accuracy | ±1% Total Error Band**<br>-20 to 85°C, ±1.5% -40 to 120°C | Output Current | 4mA Max. |
| Repeatability | Less than ±0.05% Span | Dielectric Resistance | 1250 VDC, < 1mA Leakage |
| Stability | Less than ±0.25% Span per year | Insulation Resistance | Greater than 100 MΩ at 500 VDC |
| Proof Pressure | 150% FS Up to 7,500 PSIG | Optional Factory Set Switch | Form C Contacts<br>Rated 400mA, 40VDC |
| Burst Pressure | 200% FS Up to 10,000 PSIG | Operating Altitude Range | -2,000 FT to +70,000 FT |
| Operating Temperature Range | -55 to 85°C (-67 to 185°F) | Storage Temperature Range | -55 to 125°C (-67 to 257°F) |
| **RTCA DO-160 COMPLIANCE** | | | |
| Section 4: Temp and Altitude | D2 | Section 15: Magnetic Effect | Z |
| Section 5: Temperature Variation<br>Section 6: Humidity | A<br>C | Section 16: Power Input<br>Section 17: Voltage Spike | Z<br>A |
| Section 7: Operational Shocks and Crash Safety | B | Section 18: Audio Frequency Conducted Susceptibility – Power Inputs | Z |
| Section 8: Vibration | CAT R, Curves E, E1 | Section 19: Induced Signal Susceptibility | ZC |
| Section 9: Explosion Proof | ENV II | Section 20: Radio Frequency Susceptibility | T |
| Section 10: Waterproofness | S | Section 21: Emission of Radio Frequency Energy | M |
| Section 11: Fluids Susceptibility | F | Section 22: RLightning Induced Transient Susceptibility | B4K44 |
| Section 12: Sand And Dust | D | Section 23: Lightning Direct Effects | Consult Factory |
| Section 13: Fungus Resistance | F | Section 24: Icing | A |
| Section 14: Salt Spray | S | Section 25: ESD | A |
| Cycle Life | 5 Million Pressure Cycles | Section 26: Fire, Flammability | A |
| MTBF | 200,000 hrs | Response Time | Less than 1 msec |
| Orientation Effect | Less than ±0.01% FS | Warm Up Time | Less than 1 minute |

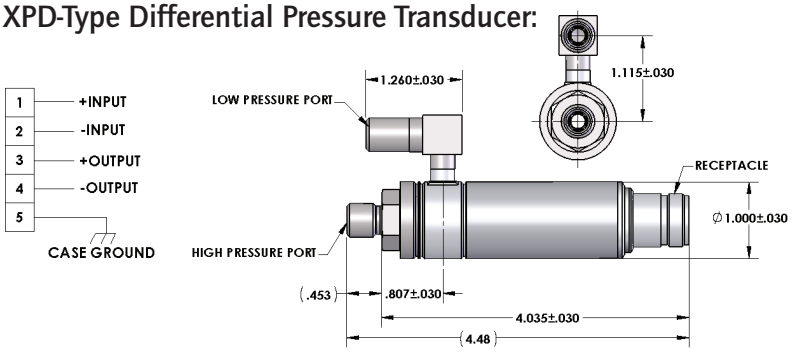
* Specifications subject to change. Please consult factory for current specifications or custom part configurations.

** Total Error Band includes temperature effects, zero and span errors, non-linearity, hysteresis, and non-repeatability calculated using terminal point method.

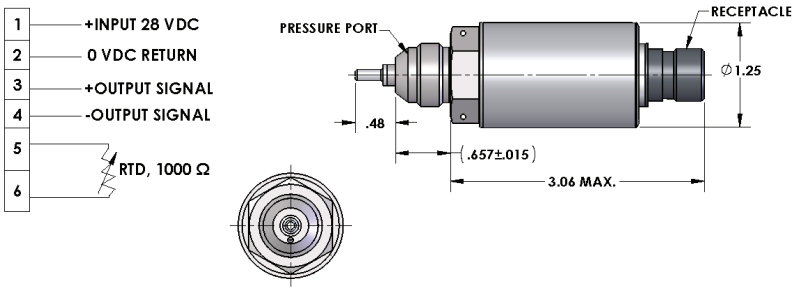
# Dimensional Details




## XPD-Type Differential Pressure Transducer:




## XPT-Type Transducer Pressure / Temperature:




| How To Order | | |
|---|---|---|
| Model | XP = Pressure, XPT = Pressure and Temperature, XPD = Differential Pressure | XPT |
| Pressure Range (psi) | 50, 100, 250, 500, 1000, 2000, 2500, 3000, 6000 | 500 |
| Pressure Connection(s)* | 4 = AS4395E4, 6 = AS4395E6, O=Other (please specify) | 4 |
| Electrical Connection* | S = D38999/25YA35PN, L = Wire Leads, O = Other (please sepcify) | S |
| Lead length | Specify Wire Length | - |
| Output Voltage* | 5 = 0.5 to 5.0 VDC, 5.5 = 0 to 5.5 VDC O = Other (please specify) | 5.5 |
| Options | T1 = 100 ohms at 0°C, T2 = 1000 ohms at 0°C, T3 = 500 ohms @ 0°C | T1 |
| Setting for Switch Output Option | I = on increasing pressure, D = on decreasing pressure, state pressure setting | D150 |

The specified example denotes a duel function pressure and temperature transducer with 500 psi pressure range. The unit is configured with AS4395E4 fitting type and 100 ohm resistance at 0°C for RTD (Temperature Resistance Device). Voltage output is 0.5-5.5 VDC with an optional switch setting of 150 psi on decreasing pressure.

# OR... E-MAIL US AT


**Sales Department:** sales@precisionsensors.com
**Technical Department:** askanengineer@precisionsensors.com

UNITED ELECTRIC CONTROLS
**Precision Sensors Division**
340 Woodmont Road
Milford, CT 06460 USA
Telephone: 203.877.2795 Fax: 203.877.8752
Email: sales@precisionsensors.com
**www.precisionsensors.com**