

Upon removal of the connector, approximately 3-4" of internal wire length is available:
 26 AWG, 250V TFE INSULATION
 RED: +Vcc (V)
 BLACK: GROUND (G)
 PURPLE: PRESSURE (P)
 YELLOW: TEMPERATURE (T)
 WHITE: REFERENCE (R)

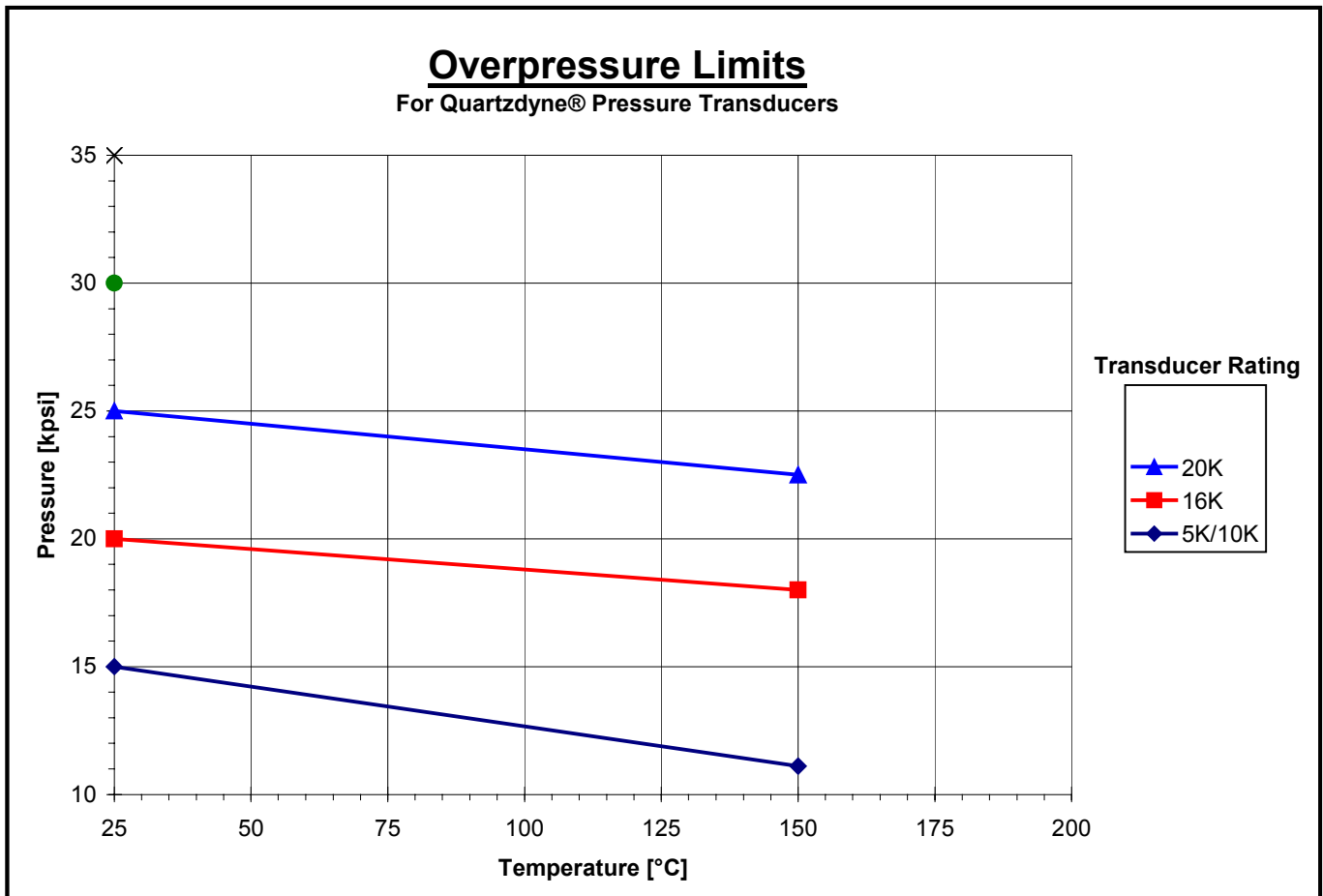
Part Number: SPB302-xx-yyy

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Mechanical Specifications for SPB302 Transducers

Proof Pressure..... 23,000 psia [1585 bar]
 Pressure Media..... Particle-free fluid compatible with Inconel 625 and Inconel 718
 Mechanical Shock.....500 g, 2ms half-sine
 VibrationSurvives random vibration per NAVMAT P-9492 3.2.1
 Weight 11.5 oz. [326 g]
 Overpressure without Sensor DamageVaries with temperature; see plot below



Series SXP Technical Notes

The SXP has been specifically designed to allow you to construct a 0.75 inch [19mm] or larger diameter tool. When designing the SXP into your tool, please consider the following items:

1. Although the pressure housing includes grooves for o-rings, we do not recommend using o-ring seals downhole. For calibration, we install a temporary housing over the QBM bellows and seal with o-rings, but the calibration procedure typically lasts less than one week. From a reliability standpoint, we recommend that you design a housing to be e-beam welded to our pressure housing.
2. A thick-walled tube covers the circuit of the SXP. This circuit enclosure is neither intended for, nor capable of, withstanding high pressures. It merely protects the circuit from the heat transfer fluid in our calibration bath.
3. The SXP comes standard with a Fischer connector. To remove the connector, electrostatic discharge (ESD) precautions must be followed. First, remove the two setscrews anchoring the connector bushing in place (see Figure 1.) If the connector bushing does not unscrew easily from the circuit carrier (chassis), it will be necessary to apply heat to soften the Loctite at the threaded interface. This can be done using a heat gun, or placing the unit in a 150°C oven for several minutes. Once the connector bushing has been unscrewed, cut the wires as close to the connector as possible, leaving approximately 4" of wire length from the hybrid circuit.

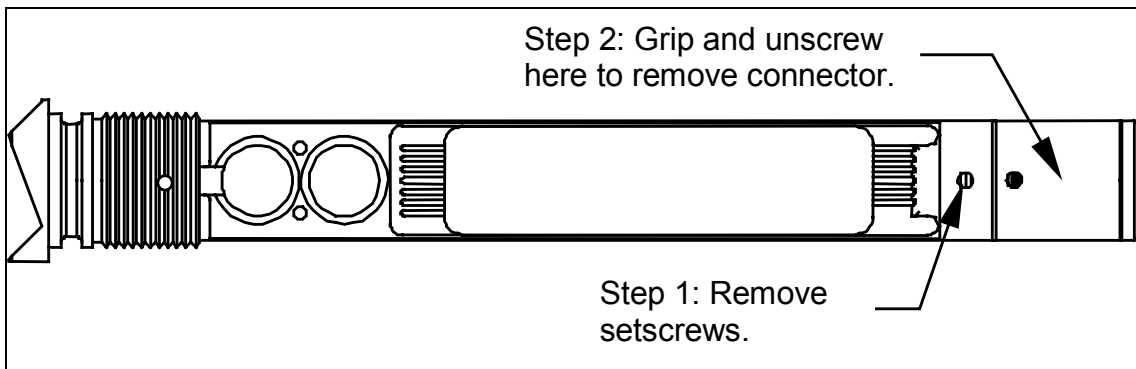


Figure 1: SXP Mounting Configuration (Individual wires and twisted wires are not shown).

4. If you plan to thread a stud into the end of the circuit carrier, allow for a 0.125 inch [3.2mm] minimum clearance hole for the output wires. The edges of this hole should be generously rounded to prevent insulation damage, and we recommend insulating the bundle in a piece of tubing (i.e., FEP Teflon heat shrink.)
5. Once you have designed the attachment of your electronics carrier to our circuit carrier, we recommend that the ID of the thick-walled tube which covers our carrier be 0.584 ± 0.015 inches. This improves the thermal response of the SXP; more importantly, this is the way the SXP was calibrated at Quartzdyne, so the calibration will still be valid. For tools which will see full-scale pressure on the electronics enclosure, we highly recommend e-beam welding your custom electronics housing to the pressure feedthru rather than relying on o-ring seals (see Note 1 above).
6. Quartzdyne offers a SXP version that comes with 18" of wire length. This version uses a PEEK header with embedded solder cups, to which wires are soldered at both sides. The PEEK header screws into the circuit carrier. Please consult factory for details.