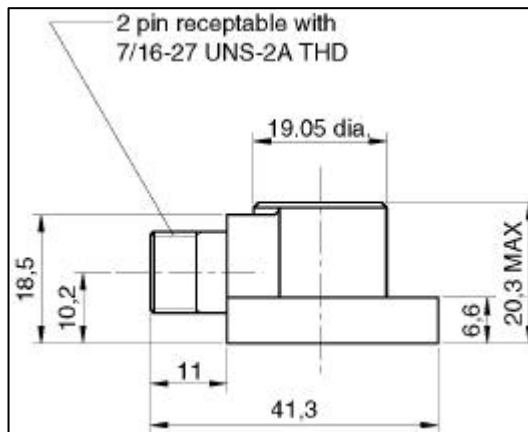




# Accelerometer type 5704 data sheet

## 1. Application



Charge type accelerometer.

## 2. Usage

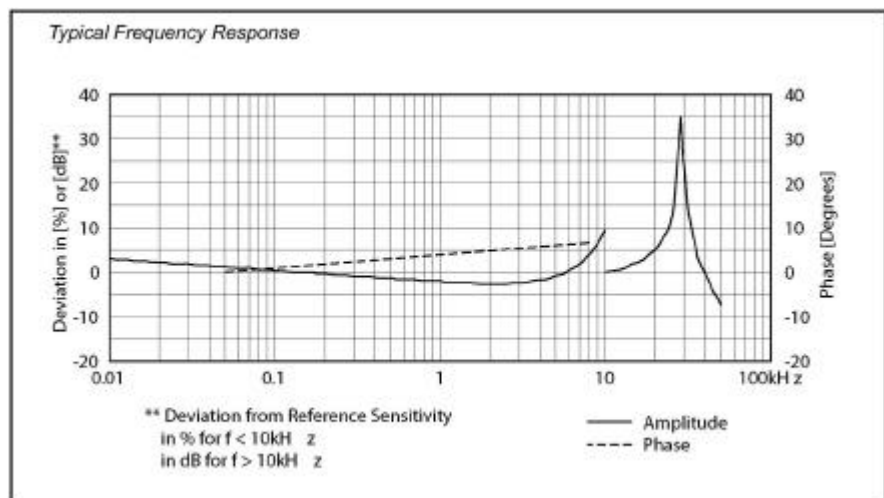
Type 5704 is for monitoring plant machinery in harsh environments, for industrial machine installations and for gas turbine applications requiring long mean time between failures.

Intrinsically safe compliance with ATEX II 1G EEx ia IIC T4/T6.

## 3. Technical Data

### Dynamic:

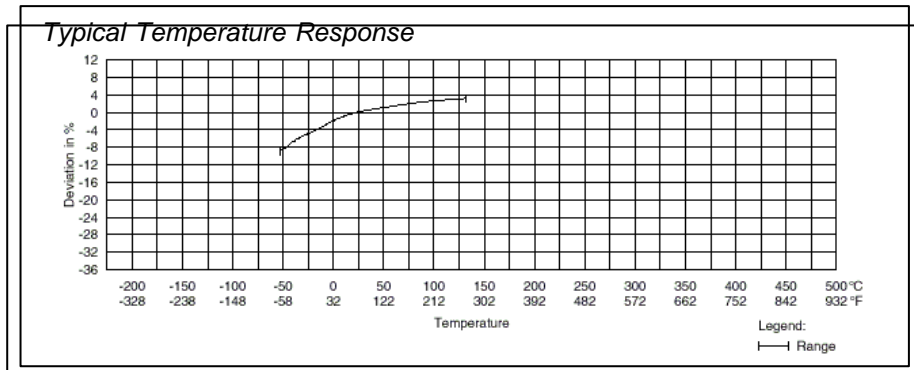
Sensitivity (Axial): ..... 10 pC/ms<sup>-2</sup>, ±5%  
 Measuring range (peak): ..... ±20,000 ms<sup>-2</sup>  
 Resonant frequency, typical: ..... 28 kHz  
 Frequency response: ..... ±10%: 1 Hz to 10 kHz



Transverse response:

Resonance frequency, typical: ..... 9.4 kHz  
 Maximum sensitivity: ..... <4%  
 Amplitude linearity: ..... >1% increase per 2,000 ms<sup>-2</sup>

Temperature response, typical: .....  $\pm 10\%$  from  $-53^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$



**Electrical:**

Resistance, typical

- Between signal pins ( $+25^{\circ}\text{C}$ ): .....  $>10\text{ GOhm}$
- Between signal pins (max temp.): .....  $>50\text{ MOhm}$
- Each signal pin to case ( $+25^{\circ}\text{C}$ ): .....  $>10\text{ GOhm}$
- Each signal pin to case (max temp.): .....  $>50\text{ MOhm}$

Capacitance, typical

- Between signal pins, excl cable: .....  $12.2\text{ nF}$
- Either signal lead to case: .....  $<30\text{ pF}$
- Unbalance between pins: .....  $<2\text{ pF}$

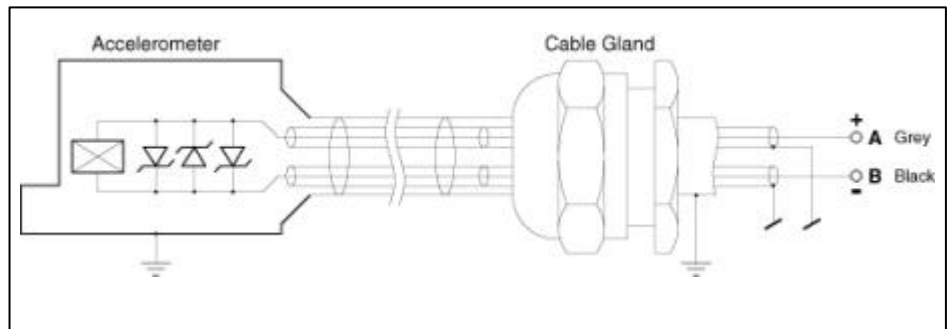
Base strain sensitivity, typical in base plain at  $250\mu\text{e}$ : .....  $0.008\text{ ms}^{-2}/\mu\text{e}$

Temperature transient sensitivity, typical:

with 3 Hz high pass filter: .....  $0.05\text{ ms}^{-2}/^{\circ}\text{C}$

Isolation (500 VDC at  $-50^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ ): .....  $>100\text{ MOhm}$

Grounding: ..... Signal wires isolated from case



*Electrical layout*

**Environmental:**

Maximum acceleration limits (peak)

- Shock limit: .....  $10,000\text{ ms}^{-2}$
- Sinusoidal vibration limit: .....  $5,000\text{ ms}^{-2}$

Temperature range (accelerometer only): .....  $-53^{\circ}\text{C}$  to  $+130^{\circ}\text{C}$

Electromagnetic sensitivity, 50 Hz, 38 mT: typical: .....  $25\text{ ms}^{-2}$

Enclosure protection with cable integrated: ..... IP 67

Accelerometer hermetically sealed.

**Physical:**

Weight (cable not included): ..... 91 g

Case material: ..... Stainless steel, 316L

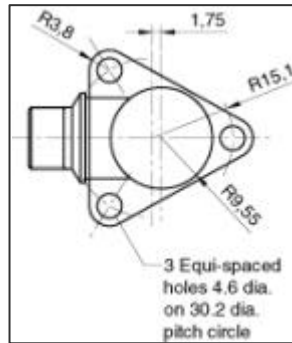
Polarity: ..... Positive on left pin or gray signal wire

Acceleration directed from base into body

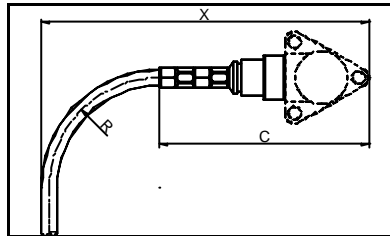
Piezoelectric element construction: ..... Shear, Piezite P-8®

Footprint: ..... ARINC  
 Mounting: ..... 3 x M4  
 Torque: ..... 2.9 Nm

ARINC Footprint:



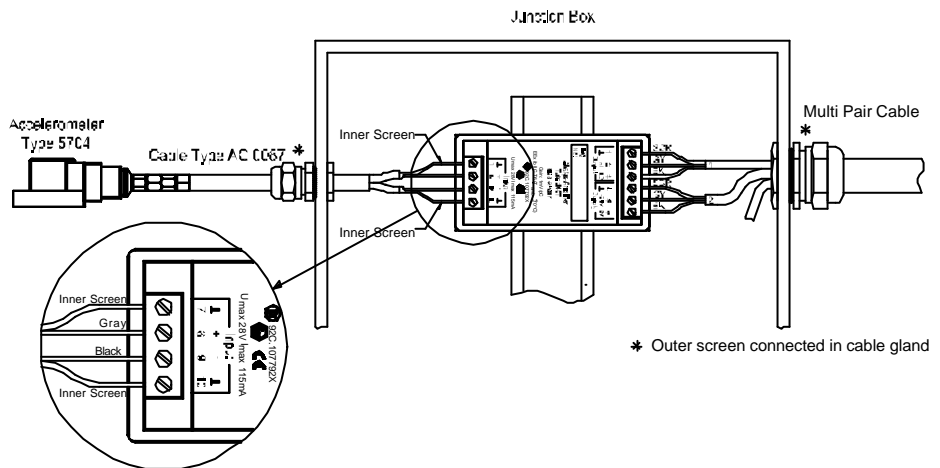
Mounting space:



Minimum bending radius ( R ): 39 mm  
 Accelerometer height w. integrated cable(C): 70 mm  
 The mounting space can be calculated as  $X_{min} = C + R$

The figure shows the dimension for the Type 5704-W1 with integral connected cable.

Connection to charge preamplifier:



Further information can be found in the Accelerometer Catalogue, BPD0040.

Brüel & Kjær Vibro A/S reserves the right to change specifications without notice