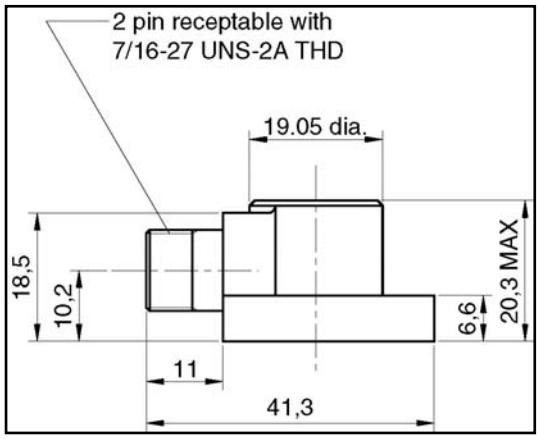
Brüel & Kjær Vibro

Accelerometer type 8315 data sheet

1. Application



Charge type accelerometer.

2. Usage

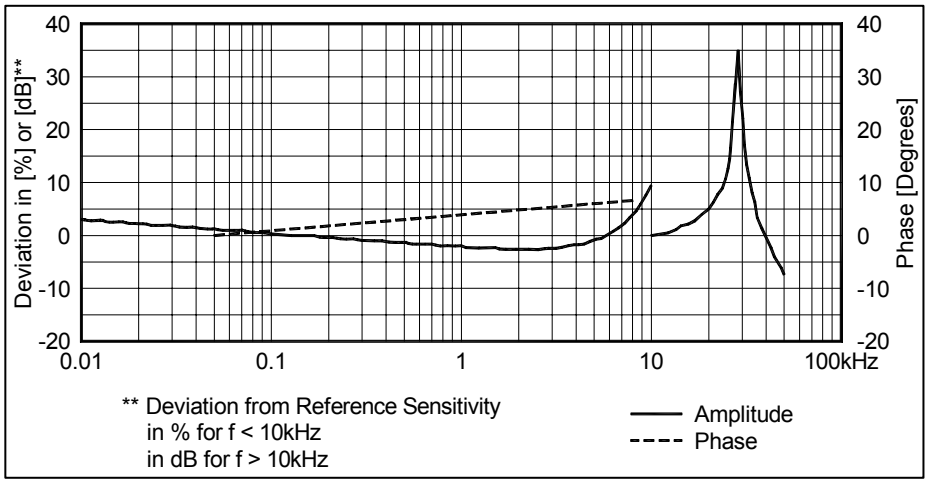
The 8315 Accelerometer is designed for permanent vibration monitoring installations in a wide variety of applications. It is intended as a general-purpose monitoring transducer. It may be used in areas where there is radiation.

The accelerometer utilises a "shear" construction that significantly reduces transient temperature and base strain outputs, while maintaining a high resonance when mounted and a high operating temperature.

3. Technical Data

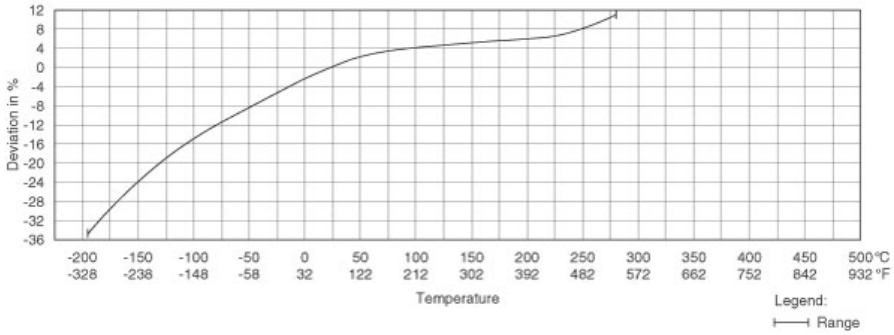
Dynamic:

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



Transverse response:
Resonance frequency, typical: ..... 9.4 kHz

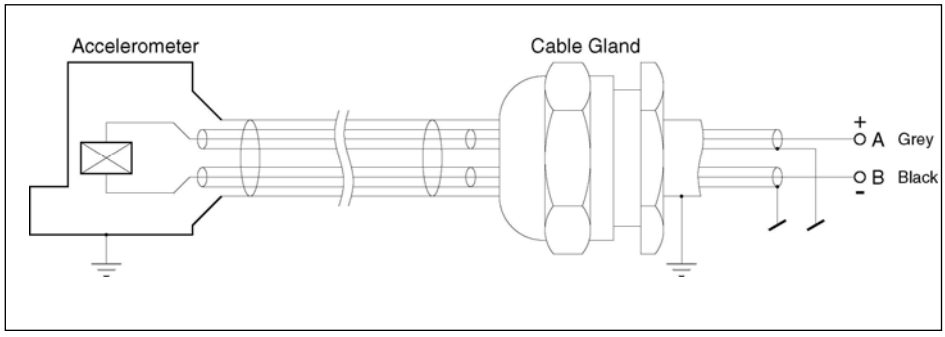
Maximum sensitivity:..... <4%
Amplitude linearity:.....>1% increase per 2,000 ms^{-2}
Temperature response, typical:.....±10% from -53°C to +125°C



Typical temperature response

Electrical:

Resistance, typical
Between signal pins (+25°C): .....>10 GΩ
Between signal pins (max temp.):.....>50 MΩ
Each signal pin to case (+25°C): .....>10 GΩ
Each signal pin to case (max temp.): .....>50 MΩ
Capacitance, typical
Between signal pins, excl cable: ..... 12,2 nF
Either signal lead to case:..... <30 pF
Unbalance between pins:..... <2 pF
Base strain sensitivity, typical in base plain at 250με: ..... 0.008 $ms^{-2}/με$
Temperature transient sensitivity, typical:
with 3 Hz high pass filter:..... 0.05 $ms^{-2}/°C$
Isolation (500 VDC at -50°C to 125°C): .....>100 MΩ
Grounding: .....Signal wires isolated from case



Electrical layout

Environmental:

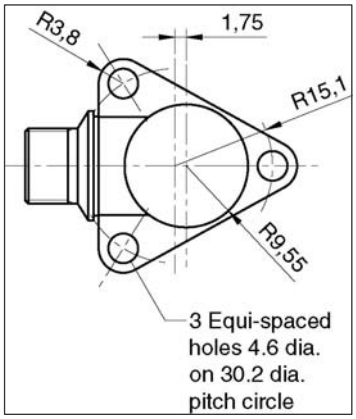
Maximum acceleration limits (peak)
Shock limit:..... 10,000 ms^{-2}
Sinusoidal vibration limit: ..... 5,000 ms^{-2}
Temperature range :..... -53°C to +260°C
Electromagnetic sensitivity, 50 Hz, 38 mT: typical:..... 25 ms^{-2}/T
Enclosure protection with cable integrated: ..... IP 67
Accelerometer hermetically sealed.

Physical:

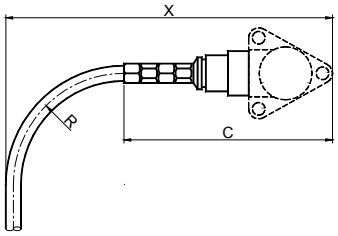
Weight (cable not included):.....62 g

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:



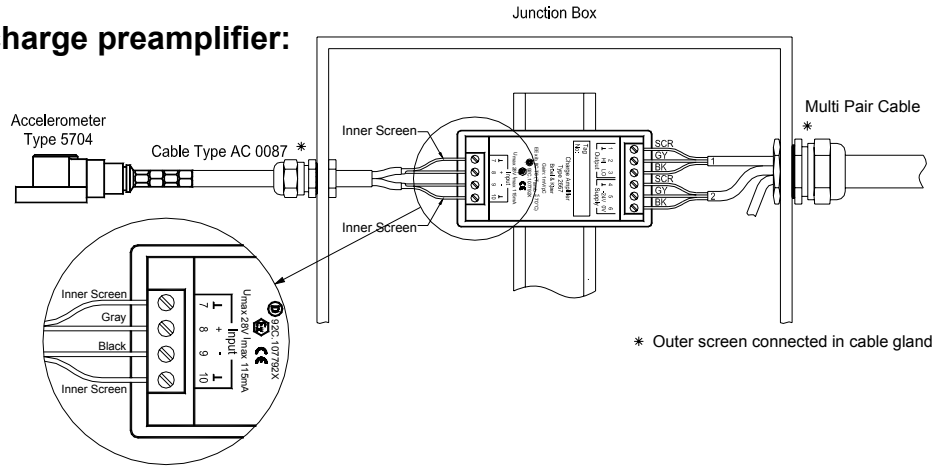
Mounting space:



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 8315 with connected cable.

Connection to charge preamplifier:



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