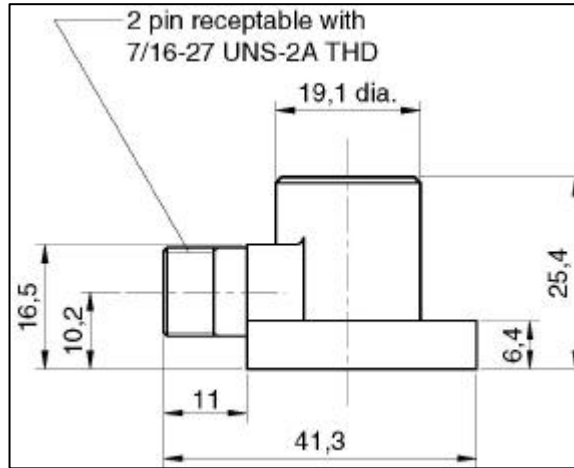


Accelerometer type 8324 data sheet

1. Application

Charge type accelerometer.



2. Usage

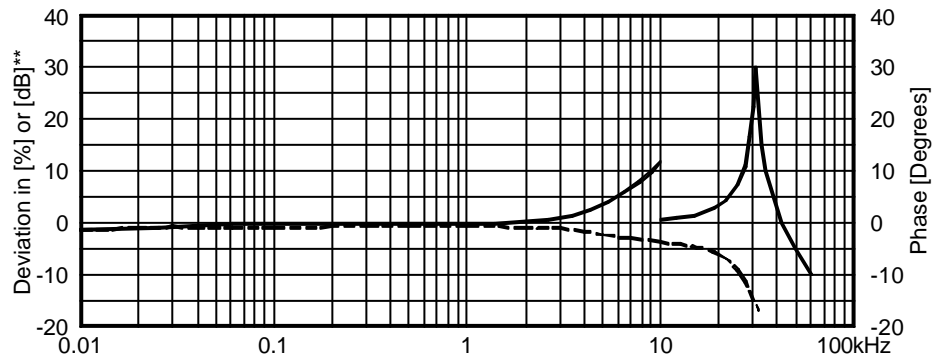
The 8324 is especially well suited for use in nuclear power plants and in areas with high temperatures. The accelerometer utilises a compression type element to provide excellent temperature stability and a wide operational bandwidth.

Type 8324 is well suited for use with permanently installed machine condition monitoring systems.

3. Technical Data

Dynamic:

Sensitivity (Axial): 1.0 pC/ms⁻², ±5%
 Measuring range (peak): ±20,000 ms⁻²
 Resonant frequency, typical: 30 kHz
 Frequency response: ±10%: 1 Hz to 10 kHz



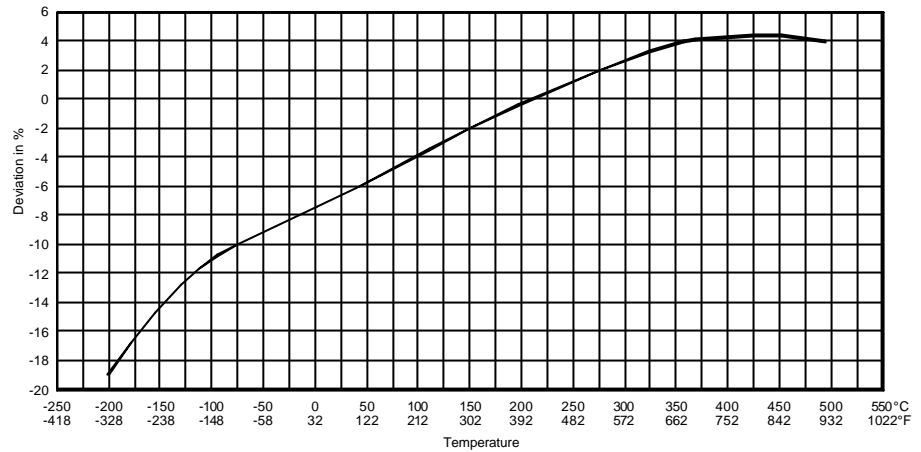
** Deviation from Reference Sensitivity
 in % for f < 10kHz
 in dB for f > 10kHz

— Amplitude
 - - - Phase

Typical frequency response

Transverse response:

Resonance frequency, typical:..... 9.4 kHz
 Maximum sensitivity:.....<3%
 Amplitude linearity: >1% increase per 5,000 ms⁻²
 Temperature response, typical: ±10% from -60°C to +482°C



Typical temperature response

Electrical:

Resistance, typical

Between signal pins (+25°C): >1 GOhm
 Between signal pins (max temp.): >100 MOhm
 Each signal pin to case (+25°C): >1 GOhm
 Each signal pin to case (max temp.): >10 MOhm

Capacitance, typical

Between signal pins, excl cable: 725 pF
 Either signal lead to case: <30 pF

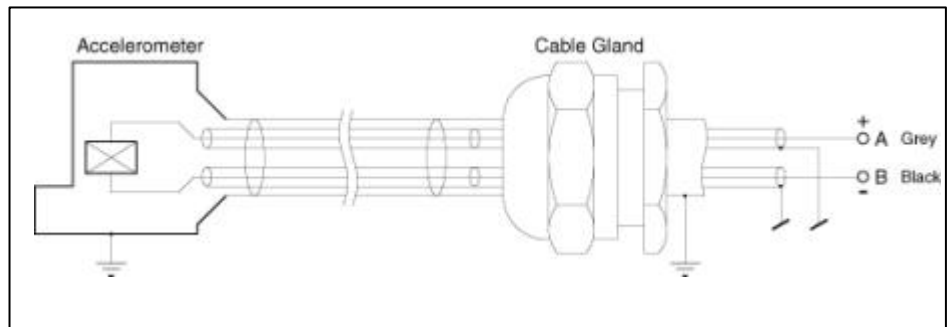
Base strain sensitivity, typical in base plain at 250µε: 0.02 ms⁻²/µε

Temperature transient sensitivity, typical:

with 1 Hz high pass filter: 10 ms⁻²/°C

Isolation (500 VDC at -50°C to 125°C): >100 MOhm

Grounding:Signal wires isolated from case



Electrical layout

Environmental:

Maximum acceleration limits (peak)

Shock limit:..... 20,000 ms⁻²
 Sinusoidal vibration limit: 10,000 ms⁻²

Temperature range (accelerometer only): - 196°C to +480°C

Electromagnetic sensitivity, 50 Hz, 38 mT: typical:..... 20 ms⁻²/T

Radiation hardening

Integrated gamma dose: Up to 100 x 10⁶ rad

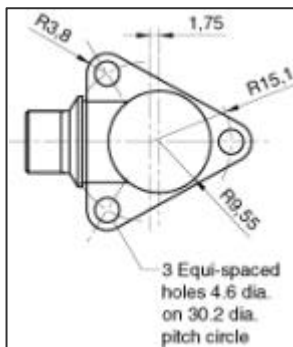
Integrated neutron flux:Up to 3 x 10¹⁸ Neutron/cm²

Enclosure protection with cable integrated:..... IP 67
 Accelerometer hermetically sealed.

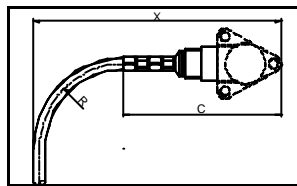
Physical:

Weight (cable not included): 66 g
 Case material: Inconel
 Polarity: Positive on left pin or gray signal wire
 Acceleration directed from base into body
 Design configuration: Compression element
 Footprint: ARINC
 Mounting: 3 x M4
 Torque: 1.6 Nm

ARINC Footprint:



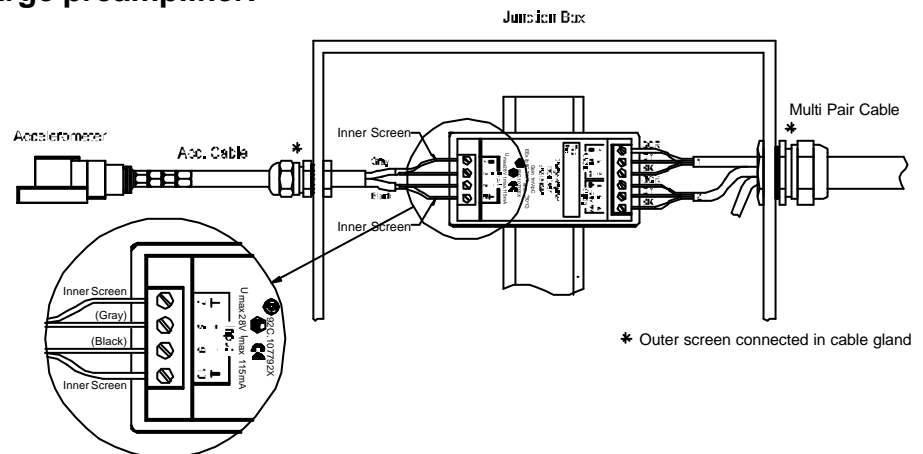
Mounting space:



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 8324 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