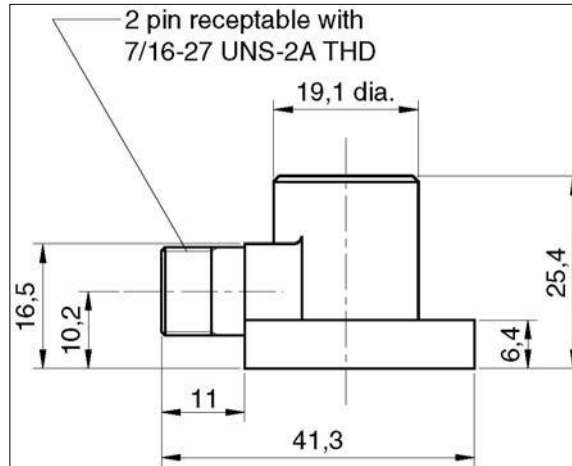




# Accelerometer type 8324 data sheet

## 1. Application

Charge type accelerometer.



## 2. Usage

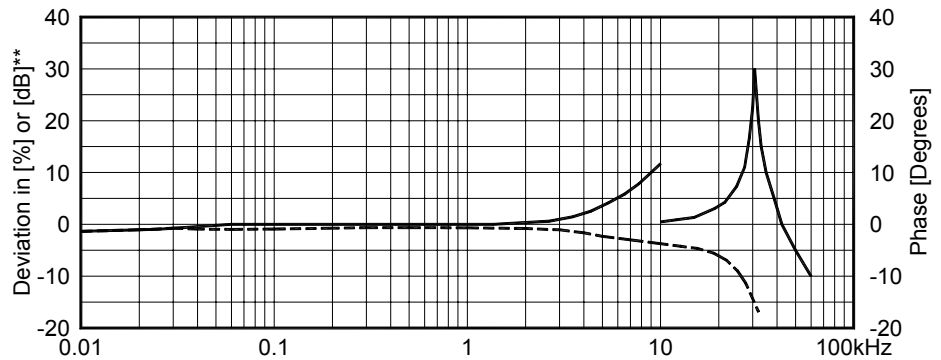
The 8324 is especially well suited for use in nuclear power plants and in areas with high temperatures. The accelerometer utilises a compression type element to provide excellent temperature stability and a wide operational bandwidth.

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

## 3. Technical Data

**Dynamic:**

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



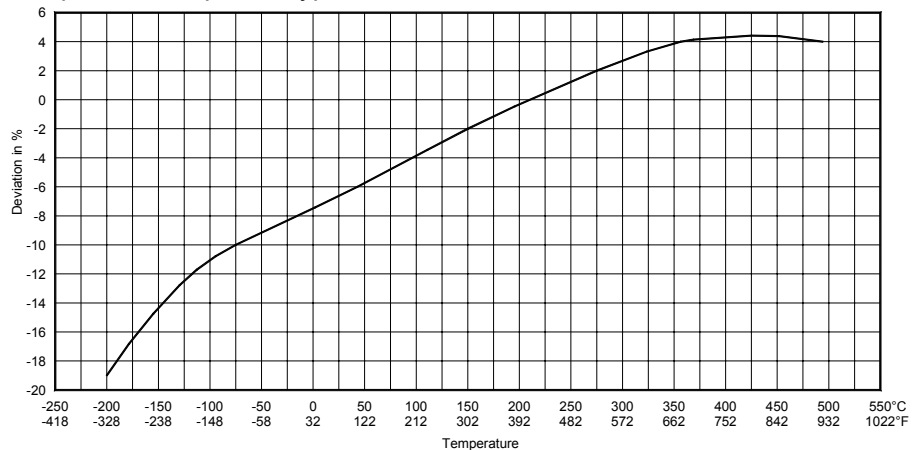
\*\* Deviation from Reference Sensitivity  
 in % for f < 10kHz  
 in dB for f > 10kHz

— Amplitude  
 - - - Phase

Typical frequency response

Transverse response:

Resonance frequency, typical: ..... 9.4 kHz  
 Maximum sensitivity: ..... <3%  
 Amplitude linearity: ..... >1% increase per 5,000 ms<sup>-2</sup>  
 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

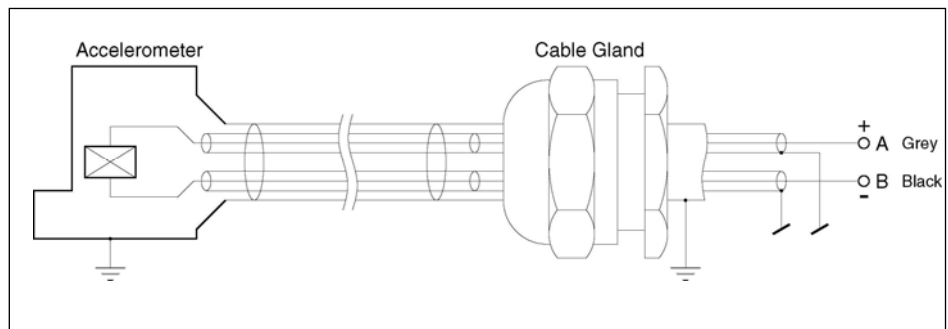
Base strain sensitivity, typical in base plain at 250µε: ..... 0.02 ms<sup>-2</sup>/µε

Temperature transient sensitivity, typical:

with 1 Hz high pass filter: ..... 10 ms<sup>-2</sup>/°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<sup>-2</sup>  
 Sinusoidal vibration limit: ..... 10,000 ms<sup>-2</sup>

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

Electromagnetic sensitivity, 50 Hz, 38 mT: typical: ..... 20 ms<sup>-2</sup>/T

Radiation hardening

Integrated gamma dose: ..... Up to 100 x 10<sup>6</sup> rad

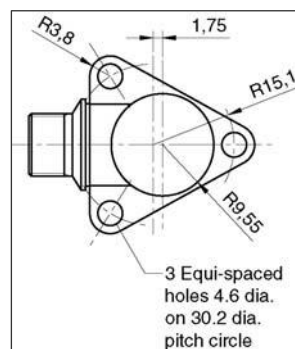
Integrated neutron flux: ..... Up to 3 x 10<sup>18</sup> Neutron/cm<sup>2</sup>

**Physical:**

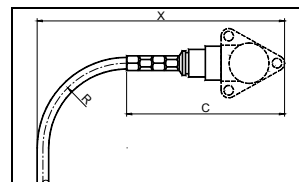
Enclosure protection with cable integrated: ..... IP 67  
Accelerometer hermetically sealed.

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:



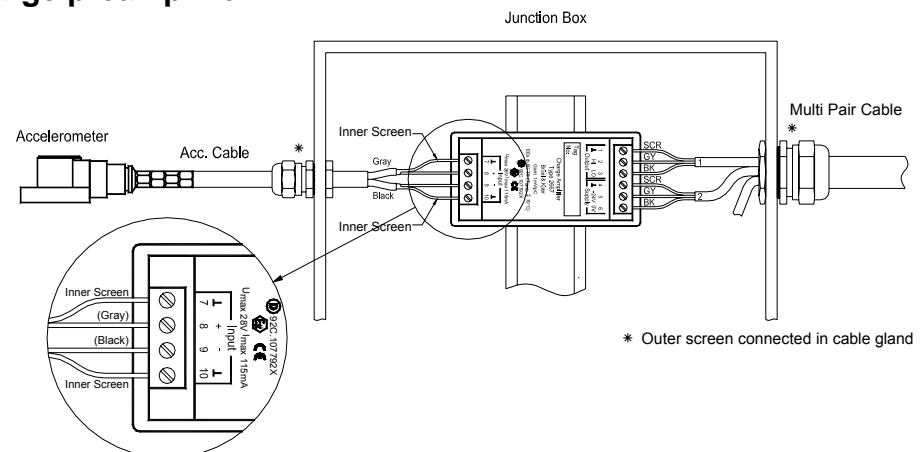
**Mounting space:**



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:**



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