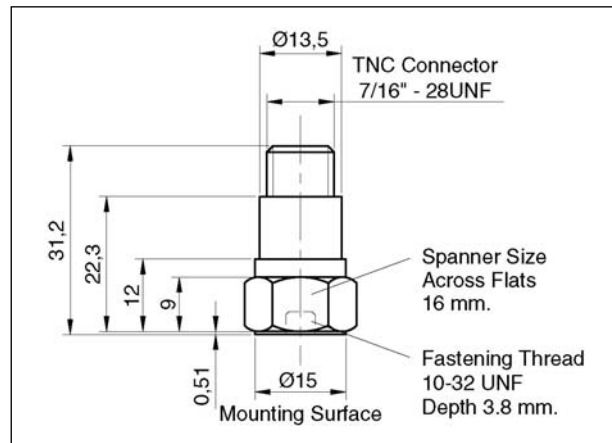


# Accelerometer type 4391 data sheet

## 1. Application

Charge type accelerometers.



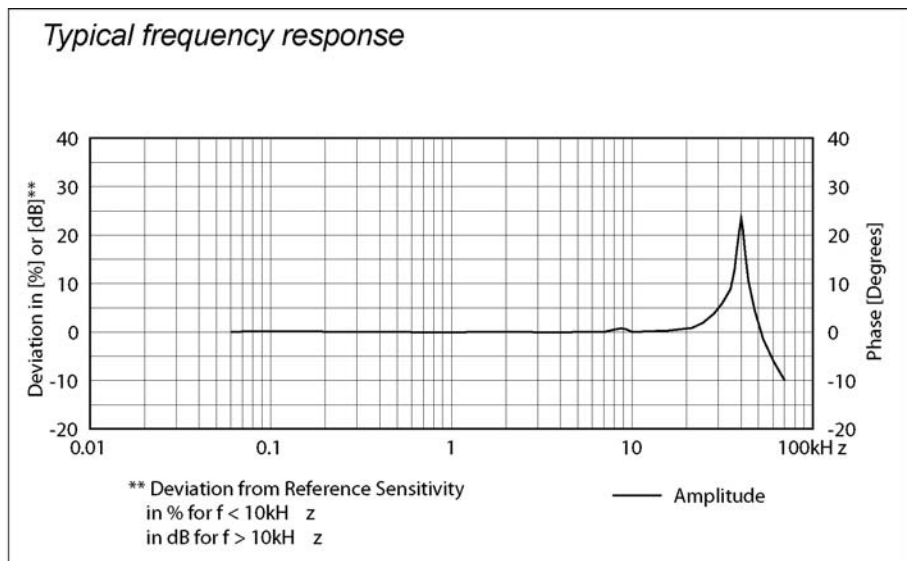
## 2. Usage

4391 is for off-line monitoring or for use in permanent vibration monitoring. The base is isolated to prevent ground loops.

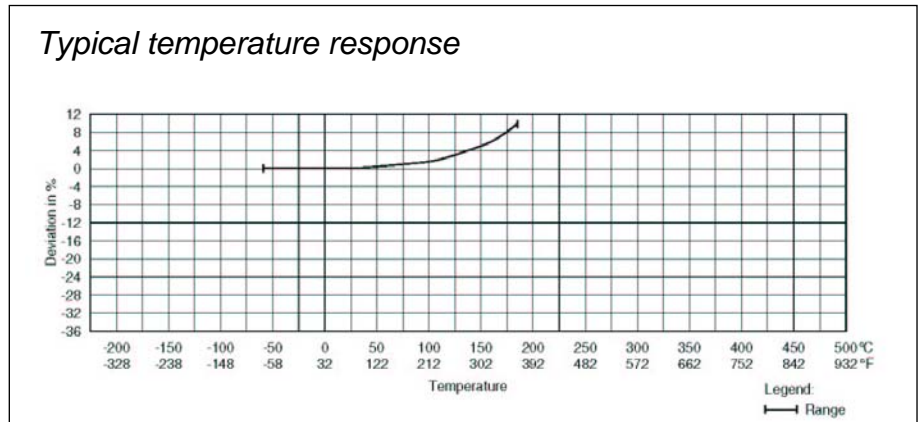
## 3. Technical Data

**Dynamic:**

Sensitivity (Axial): ..... 1.0 pC/ms<sup>-2</sup>, ±2% – Uni-Gain®  
 Measuring range (peak): ..... ±20,000 ms<sup>-2</sup>  
 Resonant frequency, typical: ..... 40 kHz  
 Frequency response: ..... ±10%: 0.1Hz to 12 kHz/0.2 Hz to 7.8 kHz



Temperature response, typical:.....±10% from -60°C to +180°C



Transverse response:  
 Resonance frequency, typical: ..... 12 kHz  
 Maximum sensitivity:..... <4%  
 Amplitude linearity: ..... 1% increase per 5,000 ms<sup>-2</sup>

**Electrical:**

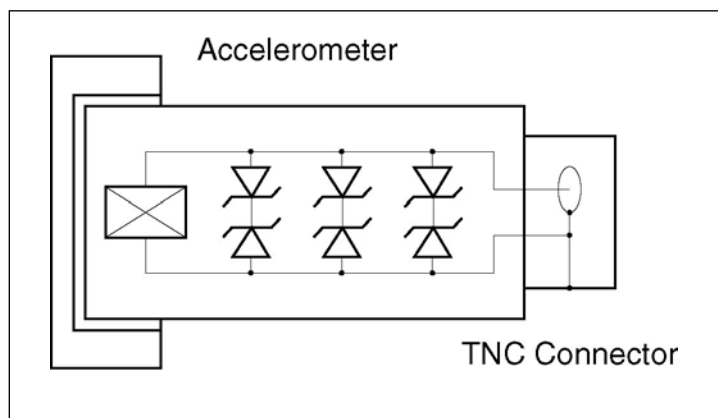
Resistance, typical  
 Between signal pins (+25°C):..... >1 GΩ  
 Between signal pins (max. temp.):..... >100 MΩ  
 Each signal pin to case (+25°C):..... >1 GΩ  
 Each signal pin to case (max. temp.):..... >10 MΩ

Capacitance, typical  
 Between signal pins excl cable: ..... 1200 pF  
 Either signal lead to case: ..... <30 pF

Base strain sensitivity, typical  
 In base plane at 250µε: ..... 0.005 ms<sup>-2</sup>/µε

Temperature transient sensitivity, typical  
 with high pass filter:..... 0.2 ms<sup>-2</sup>/°C (3Hz)

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



*Electrical layout*

**Environmental:**

Maximum acceleration limits (peak)  
 Shock limit: ..... 20,000 ms<sup>-2</sup>  
 Sinusoidal vibration limit: ..... 20,000 ms<sup>-2</sup>  
 Accelerometer's temperature range: ..... -60°C to +180°C

Electromagnetic sensitivity, typical  
 50Hz, 38 mT: ..... 40 ms<sup>-2</sup>/-0.03T

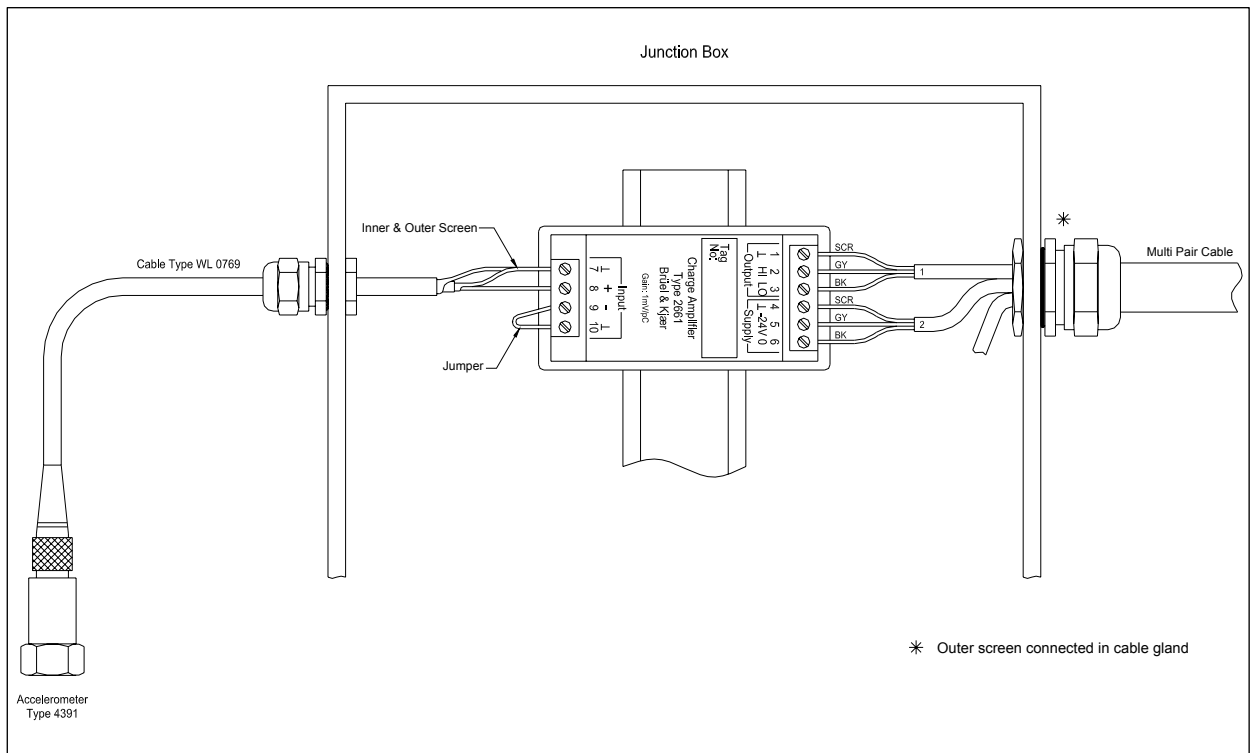
Radiation hardening  
 Integrated gamma dose: ..... Up to 100 x 10<sup>6</sup> rad  
 Integrated neutron flux: ..... Up to 3 x 10<sup>18</sup> Neutron/cm<sup>2</sup>  
 Enclosure protection with cable integrated: ... IP 60 – sealed against humidity

**Physical:**

Weight (cable not included): ..... 16 g  
 Case material: ..... Titanium ASTM Gr.2  
 Polarity: ..... Positive on left pin or grey signal wire  
 Acceleration directed from base into body  
 Design configuration: ..... Shear  
 Mounting: ..... 10-32 UNF tapped centre hole  
 Torque: ..... 1.6 Nm

**4. Connection**

Instructions for connecting Cable WL0769 and Charge Amplifier type 2661:



**B & K s.r.o.**  
 Palisády 20, 811 06 Bratislava  
 02/544 307 01  
 bk@bruel.sk, www.brueI.sk

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