Sensor selection checklist

For assistance in selecting a vibration sensor, specific application and measurement requirements should be provided to the application engineer. Completing the checklist below will help ensure that the proper sensor is chosen.

I) Describe the vibration measurement application (check all that apply):

☐ Pulp and paper　　　　☐ Automotive
☐ Petrochemical　　　　☐ Laboratory research
☐ Power plant　　　　☐ Microelectronics
☐ Oil exploration　　　　☐ Civil engineering
☐ Mining　　　　☐ Military
☐ Other _____

II) Dynamic measurement requirements of the application

What is the approximate vibration amplitude level to be measured?
_____ g peak, _____ in/sec peak, _____ mil peak

What is the maximum vibration amplitude level expected to be present?
_____ g peak, _____ in/sec peak, _____ mil peak

What is the minimum vibration amplitude level of interest?
_____ g peak, _____ in/sec peak, _____ mil peak

What is the minimum frequency of interest?　　　　What is the maximum frequency of interest?
_____ Hz, _____ RPM　　　　_____ Hz, _____ RPM

III) Mechanical and chemical environment of the application

What is the continuous temperature range? (min. to max.)
_____ to _____ ºC, _____ to _____ ºF

What is the intermittent temperature range? (min. to max.)
_____ to _____ ºC, _____ to _____ ºF

What is the expected humidity level? _____ % relative

What fluids contact the accelerometer? _____

If submerged, what fluid pressure will be present? _____ psi

What high amplitude mechanical signals are present? _____

What is the highest shock level expected to be present? _____ g peak

What chemicals or gases contact the accelerometer or cable? (Check all that apply.)

☐ Water (e.g. salt water, heavy water, steam) Describe: _____
☐ Halogens (e.g. chlorine, fluorine, halogenated compounds) Describe: _____
☐ Gases (e.g. ozone, chemical fumes) Describe: _____
☐ Acids (e.g. hydrochloric, sulfuric, nitric) Describe: _____
☐ Bases (e.g. ammonia, caustic soda) Describe: _____
☐ Solvents (e.g. MEK, freon, alcohol) Describe: _____
☐ Fuels (e.g. gasoline, kerosene) Describe: _____
☐ Oil (e.g. lubricating, crude) Describe: _____
☐ Other chemicals: _____

IV) Electrical requirements and electrical environment of the sensor

Is Intrinsically Safe operation required? (i.e. explosive environments) _____ No   _____ Yes

What power supply will be used? (18 - 30 Volt, 2 - 10 mA is usually recommended):
    Manufacturer   _____
    Model #   _____
    Voltage source   _____
    Constant current source _____ mA

Is the machine grounded? _____ No   _____ Yes

Is the sensor located near areas with electrostatic discharges? _____ No _____ Yes

V) Physical parameters and features of the sensor

Sensor output: __ Acceleration   __ Velocity   __ Displacement

Physical design: __ Single axis   __ Triaxial   __ Ring shear mode   __ Handprobe

Special features: __ Temperature output __ Calibration circuit   __ Other:_____

Housing material: __ 316 stainless steel   __ Titanium   __ Other_____

Desired characteristics:
Axial sensitivity: _____ mV/g
Frequency range: _____ Hz
Resonance frequency: _____ kHz
Internal filtering requirements: _____
Maximum weight: _____ grams
Size limitations:
    H: _____
    L: _____
    W: _____

VI) Cabling requirements

What cable lengths will be driven?   _____ft

Cable capacitance: _____ pF/ft

Will the cable be near electromagnetic interference sources? (e.g. AC power lines, radio equipment, motors, generators)
    _____ No
    _____ Yes, describe: _____

Electrical connection: __ Connector   __ Splash-proof   __ Integral cable

Electrical connection location: __ Axial/top exit   __ Radial/side exit

Cable type: __ Coaxial   __ Two-conductor   __ Dual shielded
             __ Other: _____

Reinforced cable:
Cable pull strength _____ lbs
Cable shielding _____ %
Other: _____

Other cable requirements: _____

_____

VII) Mounting requirements

Mounting type: __ Detachable stud   __ Integral stud   __ Captive bolt
                     __ Adhesive   __ Magnetic base

Thread size: __ 10-32 UNF   __ 1/4-28 UNF
                     __ Other: _____

VIII) Other specific requests or requirements

_____
_____
_____
_____

For technical support or more information, please contact us.

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