



QZA- HMVE Accelerometer (Hull Vibration Monitoring Equipment)



- ROBUST INDUSTRIAL DESIGN
- TWO WIRE, CURRENT DRIVEN
- 50 μ A/g OUTPUT
- INTERNAL CHARGE AMPLIFIER
- HERMITICALLY SEALED
- RADIATION RESISTANT OPTION
- FREQUENCY RANGE 2.5Hz to 9KHz
- MOD APPROVED

The QZA accelerometer has been designed to meet the rigorous specification and quality requirements for military and naval applications.

It is also ideal for industrial applications requiring a robust yet reasonably small and lightweight transducer with integral electronics.

The accelerometer works on a two wire current loop system, permitting very long interconnecting cables to be used.

The piezo electric sensor, together with the charge amplifier, is contained within a robust, fully sealed stainless steel case having a solid square base with four mounting holes on 30.0 mm centres.

The QZA is also suitable for nuclear environments requiring resistance to radiation.

QZA ACCELEROMETER

SPECIFICATION

Operating voltage	11 to 28 volts D.C.
Operating current.....	3.8mA (5.0mA max)
Output signal	50 uA/g
Dynamic range	Up to 40g
Frequency range	2.5Hz to 9KHz (3dB points)
Mounted resonant frequency.....	15KHz
Transverse sensitivity	Less than 2.5%
Amplitude linearity	+/- 1% or better
Temperature sensitivity	Less than 5% up to 120°C 1% per 25°C over range -30°C to +90°C
Residual electrical noise	Less than 0.1mg (10Hz to 9KHz)
Signal transmission	Two wire system

Environmental

Acceleration limit :	Vibration	200g pk at 120Hz for 10 mins
	Shock	500g half sine without connector
Temperature :	Operational	-27°C to +90°C (Intrinsic version -27°C to +75°C)
	Survival	-55°C to +120°C
Humidity	Total water resistance to a depth of 15 metres (Conduit outlet version)	
Pressure	+5 bar	
Magnetic sensitivity.....	no measurable output at 0.5mT at 50Hz	
Radiation effects	10 ⁸ Rads Gamma, 7.5 x 10 ¹² n/cm/sec – Neutron flux	
Hazardous area	Baseefa certified: EEx ia IIB T5 (Tamb = 75°C)	

ORDERING INFORMATION

QZA -

A
4

B

C

D

E

F

A Electrical Configuration

4

 - 2 wire current loop device

B Connection Method

6	A	Integral Economy PVC Cable (80°C) Unarmoured	0
6	B	Integral Economy PVC Cable (80°C) Armoured	0
6	C	Integral Cable (140°C) Unarmoured	0
6	D	Integral Cable (140°C) Armoured	
7	A	Integral Economy Arm'ed Cable/Waterproof Gland	
7	B	Integral Economy Unarm'ed Cable/Waterproof Gland	
8	E	Integral Connector, 3 pin, circular, threaded	
8	F	Integral Connector, BNC	
9	C	Integral Cable Unarm'ed/Braided Flexible Conduit	

C₁ Cable length (Specify in whole metres)

<table><tr><td>0</td><td>2</td></tr></table>	0	2	e.g. = 2m Total length, from TxD to free end
0	2		
<table><tr><td>0</td><td>0</td></tr></table>	0	0	for no cable, i.e. connector versions of instrument
0	0		

C₂ Conduit Length Over Cable

For connection method 9 only, excess cable in 0.5m increments

<table><tr><td>0</td><td>2</td><td>A</td></tr></table>	0	2	A	e.g.2m conduit, 0.5m excess cable from free end (Std)
0	2	A		
<table><tr><td>0</td><td>2</td><td>B</td></tr></table>	0	2	B	e.g.2m conduit, 0.3m excess cable from free end
0	2	B		
<table><tr><td>0</td><td>2</td><td>C</td></tr></table>	0	2	C	e.g.2m conduit, 1.0m excess cable from free end
0	2	C		
<table><tr><td>0</td><td>2</td><td>D</td></tr></table>	0	2	D	e.g.2m conduit, 1.5m excess cable from free end
0	2	D		
<table><tr><td>0</td><td>2</td><td>E</td></tr></table>	0	2	E	e.g.2m conduit, 2.0m excess cable from free end
0	2	E		

D Cable/Conduit End Fitting

0	- No cable/conduit end fitting.
1	¼" BSP female
2	M16 male
3	M20 male

E Output & Frequency band (3dB point)

1	50μA/g ± 5%
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F Hazardous Area Approval

0	- Non Intrinsic
1	- Intrinsically Safe (contact Sensorics)

NATO STOCK NUMBERS (NSN):

HVME Accelerometer with integral connector (NSN 6680-99-737-9131) Sonsonics Model No. QZA Drawing No. IS.1259-N

HVME Accelerometer with integral flexible conduit, 18m long (NSN 6680-99-660-2855) Sonsonics Model No. QZA Drawing No. IS.2025/1-N

HVME Accelerometer with integral flexible conduit, 20m long (NSN 6680-99-317-0928) Sonsonics Model No. QZA Drawing No. IS.2025/2-N.

HVME Accelerometer with integral flexible conduit, 23m long (NSN 6680-99-701-3342) Sonsonics Model No. QZA Drawing No. IS.2025/3-N

HVME Accelerometer with integral flexible conduit, 25m long (NSN 6680-99-282-6576) Sonsonics Model No. QZA Drawing No. IS.2025/4-N.

HVME Accelerometer with integral flexible conduit, 26m long (NSN 6680-99-803-5758) Sonsonics Model No. QZA Drawing No. IS.2025/5-N

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