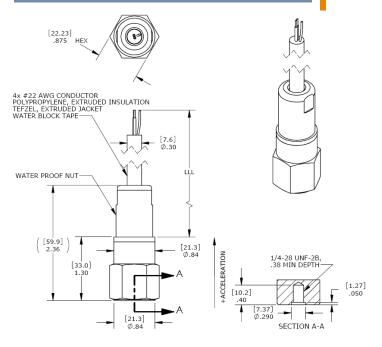
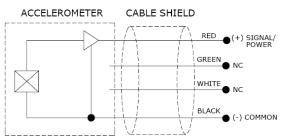




DIMENSIONS





MODEL 8042-AR/-AP SUBMERSIBLE ACCELEROMETER

SPECIFICATIONS

- Submersible Accelerometer
- 4-20mA Output Signal
- True RMS or Peak Output
- IP68 Protection, >100meters
- Integral Cable, Tefzel & Urethane

The Model 8042-AR/AP is a submersible accelerometer designed for harsh environments. The accelerometer is available in ranges from ±5g to ±100g, in either 4-20mA RMS or Peak acceleration output options, and features a welded Titanium housing. The model 8042 features an integral cable that is custom designed for submersible applications and features a unique water block feature that self-seals in the event of accidental cuts to the cable.

The accelerometer includes internal shielding and a wide usable bandwidth to 5000Hz.

FEATURES

- ±5g to ±100g Dynamic Ranges
- 3-5000Hz Bandwidth
- · Case Isolated, Internally Shielded
- Welded Titanium
- Annular Shear Mode Crystals
- Reverse Wiring Protection

APPLICATIONS

- Submersible Pumps
- Rotating Machinery Monitoring
- Underwater Vibration Monitoring
- Outdoor, Harsh Environments
- Gearbox Monitoring
- Shipboard Installations

PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 100Hz and 15Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1003 for Plug & Play AC Accelerometers.

Measurement Specialties family of Piezoelectric Accelerometers are used for vibration/shock monitoring, structural analysis, impact detection and machine monitoring.

Parameters

DYNAMIC						Notes
Range (g Peak or RMS)	±5	±10	±20	±50	±100	
Output (mA)	4 to 20	See Note 1				
Frequency Response (cpm)	180-300000	180-300000	180-300000	180-300000	180-300000	±10%
Frequency Response (Hz)	3-5000	3-5000	3-5000	3-5000	3-5000	±10%
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	5000	5000	

ELECTRICAL

Excitation Voltage (Vdc) 12 to 30 See Note 2 Loop Resistance (Ohms) 900 max Turn on Time (sec) <15

Grounding Case Isolated, Internally Shielded

ENVIRONMENTAL

Temperature Response (%)

Operating Temperature (°C) -20 to +80 for T (Tefzel) option cable -20 to +60 for U (Urethane) option cable Protection Rating IP68, 100meter minimum submersion

PHYSICAL

Sensing Element Ceramic (shear mode)

Case Material Titanium

Weight (grams) 70

Mounting Torque 24 lb-in (2.7 N-m)

CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±10% Frequency Response Limit Calibration supplied:

Supplied accessories: AC-A03663 1/4-28 to 1/4-28 mounting stud

AC-D03664 1/4-28 to M5 mounting stud Optional accessories:

AC-D03665 1/4-28 to M6 mounting stud AC-A04209 Magnetic Mounting Adaptor

AC-D04210 Adhesive Mounting Adaptor

Note 1

The signal output from the 8042 sensor can be calculated using the following formulas.

Vibration Level in G's = (Signal Output in mA - 4mA) x (Full Scale Range in G's / 16mA)

Typical outputs are illustrated in the tables below.

Signal Output		8042-AR & 8042-AP Accelerometer Ranges						
	5g	10g	20g	50g	100g			
4mA	0.00g	0.00g	0.0g	0.0g	0.0g			
8mA	1.25g	2.50g	5.0g	12.5g	25.0g			
12mA	2.50g	5.00g	10.0g	25.0g	50.0g			
16mA	3.75g	7.50g	15.0g	37.5g	75.0g			
20mA	5.00g	10.0g	20.0g	50.0g	100.0g			

Note 2

Maximum Loop Resistance = (Excitation Voltage - 12Vdc) / 20mA

ORDERING INFORMATION

PART NUMBERING Model Number+Output Type+Range+Cable Option+Cable Length

8042-XX-G	GGG	a-TZ	ZZZ	-XX
	-1	- 1	I Cable Length (0360 is 360 inches)	AR = RMS
	-1	_I	Cable Jacket Option (T is Tefzel, U is Urethane)	AP = Peak
I	-1		Range (080 is 80g)	
l			Range Type (AR is RMS Acceleration)	

Example: 8042-AR-080-U0360

Model 8042, RMS Acceleration Output, 80g Range, Urethane Cable, 360 inch (30ft) Cable Length

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