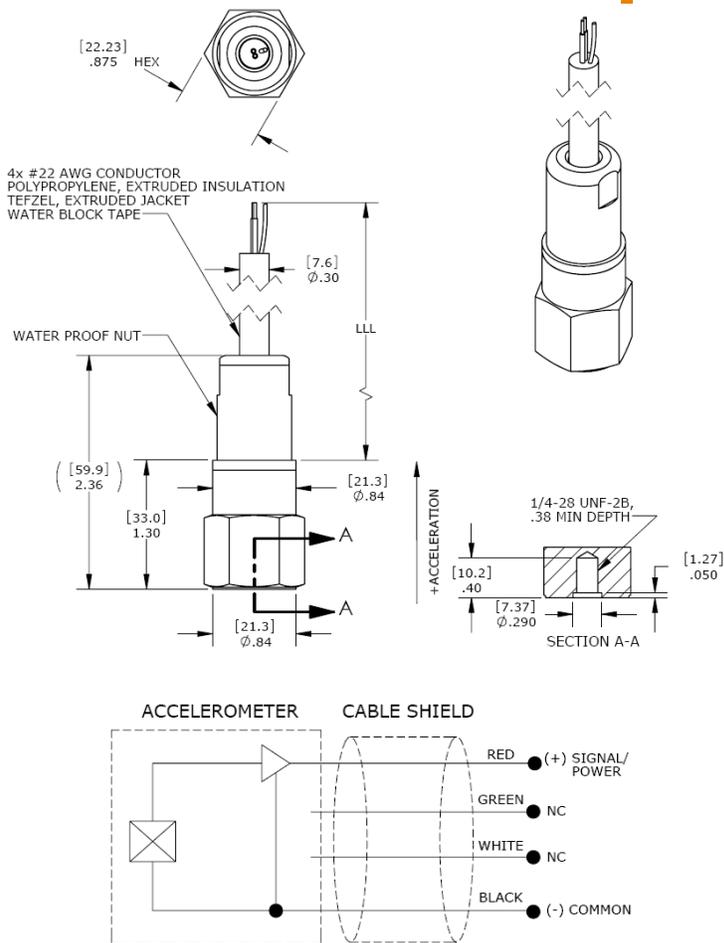




## DIMENSIONS



# MODEL 8042 SUBMERSIBLE ACCELEROMETER

## SPECIFICATIONS

- Submersible IEPE Accelerometer
- 16kHz Bandwidth
- IP68 Protection, >100meters
- Integral Cable, Tefzel & Urethane

The Model 8042-01 is a submersible IEPE accelerometer designed for harsh environments. The accelerometer is available in  $\pm 10g$ ,  $\pm 80g$  &  $\pm 500g$  dynamic ranges and feature a welded Titanium housing. The model 8042-01 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 >16kHz.

## FEATURES

- $\pm 10g$ ,  $\pm 80g$  &  $\pm 500g$  Dynamic Ranges
- Wide bandwidth up to 16kHz
- 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

# MODEL 8042 SUBMERSIBLE ACCELEROMETER

## PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 100Hz and 4mA 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.

### Parameters

#### DYNAMIC

	±10	±80	±500	Notes
Range (g)				
Sensitivity (mV/g)	500	100	10	±10%
Frequency Response (Hz)	1-4000	1-10000	1-10000	±10%
Frequency Response (Hz)	0.5-7000	0.5-16000	0.5-18000	±3dB
Natural Frequency (Hz)	28000	32000	42000	
Non-Linearity (%FSO)	±1	±1	±1	
Transverse Sensitivity (%)	<5	<5	<5	
Shock Limit (g)	5000	5000	5000	

#### ELECTRICAL

Compliance Voltage (Vdc)	18 to 30	18 to 30	18 to 30	See Note 1
Excitation Current (mA)	2 to 10	2 to 10	2 to 10	
Bias Voltage (Vdc)	8 to 12	8 to 12	8 to 12	Room Temperature
Output Impedance (Ω)	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	@100Vdc
Residual Noise (g RMS)	0.00005	0.0001	0.0003	
Warm-up Time (sec)	<1	<1	<1	
Grounding	Case Isolated, Internally Shielded			

#### ENVIRONMENTAL

Temperature Response (%)	±5
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)

<sup>1</sup> For full dynamic range a minimum compliance voltage of 24Vdc is recommended

<sup>2</sup> Contact factory for Hazardous Area Approval options

<b>Calibration supplied:</b>	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±10% Frequency Response Limit
<b>Supplied accessories:</b>	AC-A03663	¼-28 to ¼-28 mounting stud
<b>Optional accessories:</b>	316-XXX	Cable Assembly, Straight (XXX designates length in inches, 10ft standard)
	318-XXX	Cable Assembly, 90 Degrees (XXX designates length in inches, 10ft standard)
	AC-D03664	¼-28 to M5 mounting stud
	AC-D03665	¼-28 to M6 mounting stud
	AC-A04209	Magnetic Mounting Adaptor
	AC-D04210	Adhesive Mounting Adaptor

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# MODEL 8042 SUBMERSIBLE ACCELEROMETER

## ORDERING INFORMATION

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

8042-01-GGG-TZZZ

| | | Cable Length (0360 is 360 inches)  
| | Cable Jacket Option (T is Tefzel, U is Urethane)  
| Range (080 is 80g)

Example: 8042-01-080-U0360

Model 8042-01, 80g Range, Uretahne Cable, 360 inch (30ft) Cable Length

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