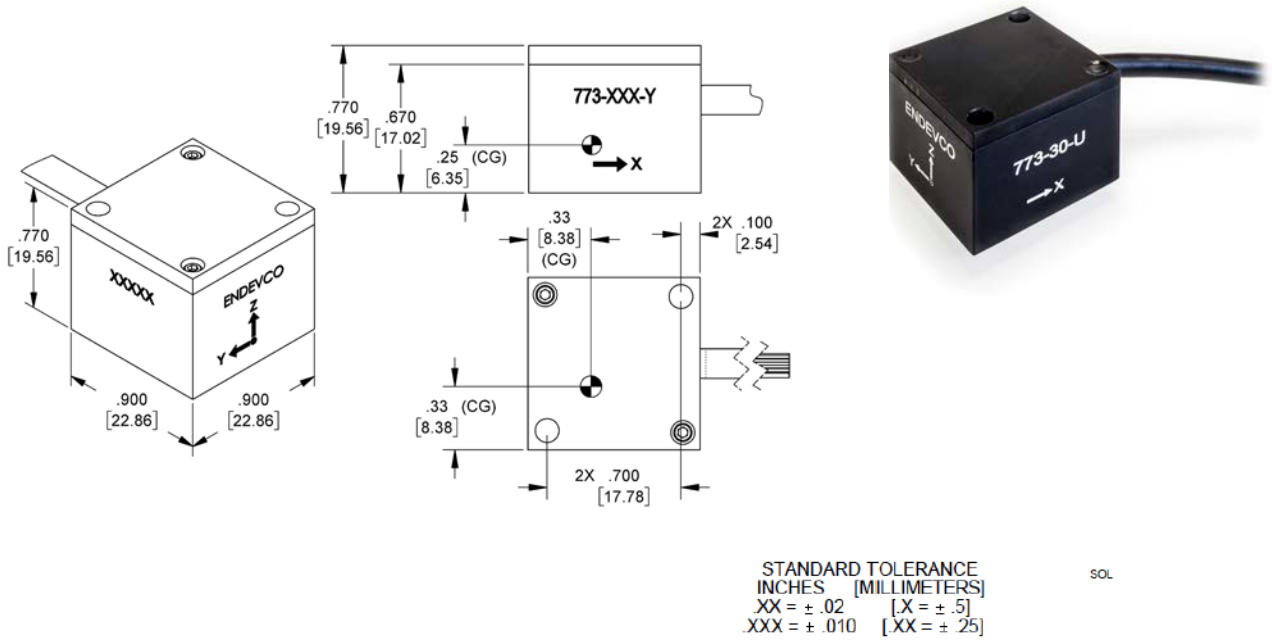
ENDEVCO
AN AMPHENOL COMPANY

Triaxial low g DC accelerometer

Model 773



Key features

- 5, 10, 30, 50, 100 and 200 g ranges
- Each axis has separate power and ground
- Frequency response from DC up to 2,000 Hz
- Rugged housing and cable
- Operating temperature from 40° C to 100°C

Description

The ENDEVCO® Model 773 is a triaxial low g DC accelerometer that utilizes unique variable capacitance microsensors. This accelerometer is designed for measurement of relatively low level accelerations in automotive ride quality, motorsports and high speed rail applications where measurement of whole body motion immediately after the accelerometer is subjected to a shock motion and in the presence of severe vibrational inputs is required.

The 773 accelerometer is available with a choice of two power options. One option (U) allows for operation from 7V to 36V. The second option (R) allows for operation at a regulated excitation voltage of 5V. The accelerometer provides single-ended output with a 2.5V output bias voltage.

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The following performance specifications are typical values, referenced at +75˚F (+24˚C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Specifications

Dynamic characteristics	Units	-5	-10	-30	-50	-100	-200
Range	g	±5	±10	±30	±50	±100	±200
Sensitivity	mV/g	400	200	66	40	20	10
		±20	±10	±4	±2	±1.0	±1.0
Frequency response (±5%, ref 100 Hz) typical	Hz	0-200	0-750	0-750	0-750	0-1000	0-1000
Frequency response (±1dB, ref 100 Hz) max	Hz	0-300	0-1500	0-2000	0-2000	0-2000	0-2000
Frequency response (±3dB, ref 100 Hz) typical	Hz	0-550	0-2500	0-2800	0-2800	0-5000	0-5000
Zero measurand output		2500	2500	2500	2500	2500	2500
		±50	±50	±50	±50	±50	±50
Transverse sensitivity	%	3.0	3.0	3.0	3.0	3.0	3.0
Thermal zero shift (max)	%FSO [1]	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0
-40°C to +100°C (-40°F to 212°F)							
Thermal sens shift (max)	%	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0
-40°C to +100°C (-40°Fto +212°F)							
Combined non-linearity							
(BFSL) and hysteresis	%FSO	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Natural frequency, typ	Hz	1700	2700	5500	5500	9800	9800
Threshold (resolution) [2]	equiv. g's.	.0005	.001	.003	.005	.01	.02

Electrical characteristics	
Excitation voltage	
For option "R" supply voltage	5 Vdc (Regulated 5V supply required; Maximum 7V without damage)
For option "U" supply voltage	7 to 36 Vdc (Maximum 45V without damage)
Current drain	8mA max each axis, 24 mA max total
Output impedance	100 ohms max
Load	10K ohms resistance minimum
	50 pF capacitance maximum
Residual noise	50 µVrms typ, 100 uVrms max; 0.5 to 100 Hz
	500 µVrms typ, 1.0 mVrms max; 0.5Hz to 10 kHz
Input voltage protection	Reverse polarity protected (for "U" option only)
Insulation resistance	100 Meg Ohms minimum at 50 Vdc
Case to leads shorted together	
Shield to leads shorted together	

Physical characteristics	
Weight (typical)	24 grams (without cable) plus cable at 20 grams/meter
Case material	Anodized aluminum alloy.
Cable type	Integral 10 conductor, # 28 AWG PVC insulated leads, Shielded with black PVC jacket.
Mounting/torque	Mounting 2x #4 or M3 Screws / 6 lb-in (0.7 N-m)

Environmental characteristics	
Shock Limit	10000g (0.15 mS haversine pulse)
Temperature	
Operating Range	-40°F to +212°F (-40°C to +100°C)
Storage Range	-40°F to +212°F (-40°C to +100°C)
Humidity	IP67

Calibration data	
Sensitivity	Measured at 1g and 100Hz for the -5; Measured at 10g and 100Hz for all other ranges
Frequency response	Measured at 1g, 20 to 1000Hz for the -5; Measured at 10g, 20 to 10,000Hz for all other ranges
Zero measurand output	Measured at room temperature

Accessories		
Product	**Description**	**773**
EH864	4-40 Socket Head Cap Screw, 1" length, 2x	Included
EHW289	Washer, 2x	Included

Ordering information

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-ENDEVCO for recommended intervals, pricing and turn-around time for these services as well as for quotations on our standard products.

Notes

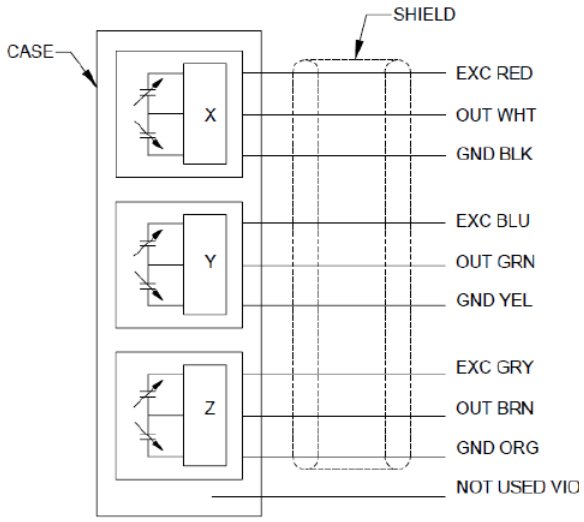
1. Full scale output (FSO) is nominally 4 volts

2. Threshold = [2x Max residual noise, .5 to 100Hz] / sensitivity

3. Model number definition:

773 - XXX - Y - ZZZ

- ZZZ — Cable length in inches (i.e. 773-XXX-Y-120 is 120 inches cable)
- Y — Supply voltage options
  "U" = 7 V to 36 V
  "R" = 5V (Regulated 5V supply required)
- XXX — Indicates full-scale g range
  5, 10, 30, 50, 100, 200
- 773 — Basic Model Number



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