



SERIES 3711F, 3713F, 3741F & 3743F

MEMS DC RESPONSE ACCELEROMETERS

- Six measurement ranges from ± 2 to ± 200 g
- Improved frequency response
- Reduced spectral noise
- Improved broadband resolution
- Single-ended or differential output signal
- Lightweight titanium or aluminum housings

TYPICAL APPLICATIONS

- Aerospace Vibration Testing Flutter/Buffeting & Landing Gear
- Simulated Environmental Testing with Shakers & Centrifuges
- Suspension, Shock Absorption, and Damping
- Driveability, Ride & Handling
- Brake & Steering Development
- Road Load Data Acquisition (RLDA)



Series 3713F



Series 3743F



Series 3711F



Series 3741F

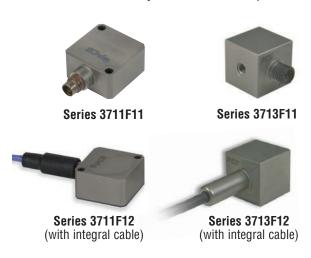
LOW FREQUENCY MEASUREMENTS WITH GAS-DAMPED, SILICON MEMS TECHNOLOGY

PCB® Series 3711 (single axis), 3713 (triaxial), and 3741 (single axis, differential output), 3743 (triaxial, differential output) MEMS DC response accelerometers are designed to measure low-frequency vibration and motion and are offered in full-scale ranges from \pm 2 to \pm 200 g to accommodate a variety of testing requirements. The units feature gas-damped, silicon MEMS sensing elements for uniform, repeatable performance and offer high frequency overload protection.

Electrically, the units offer a single-ended or differential output signal with power, signal, and ground leads for each channel. Supply voltage regulation permits operation from +5 up to +28 VDC and the low-noise, low-impedance output signal may be transmitted over long cable lengths without degradation.

As with all PCB instrumentation, these sensors are complemented with toll-free applications assistance, 24-hour customer service, and are backed by a no-risk policy that guarantees total customer satisfaction.

Rugged and Durable Series 3711 & 3713 MEMS DC Response sensors are hermetically sealed in a robust titanium housing allowing for a very stable and accurate measurement in the most severe operating environments. In addition, this series is inherently insensitive to base strain and transverse acceleration effects. Supply voltage regulation permits operation from +5 to +28 VDC and the single-ended, low-noise, low-impedance output signal may be transmitted over long cable lengths without degradation. The series is available in single axis and triaxial versions with a 10 ft (3 m) integral cable or a multi-pin, threaded, electrical connector for easy installation and setup.



Precision Series 3741 and 3743 MEMS DC Response sensors offer a differential output signal for common-mode noise rejection and incorporate many advanced features. This includes supply voltage regulation and a temperature compensation circuit for stable performance over the entire operational temperature range. The 3741 features a low profile and lightweight hard-anodized aluminum housing with an integral, 4-conductor 10 ft (3 m) shielded cable. An optional mounting adaptor, 080A208, facilitates biaxial or triaxial configurations. The 3743 features a rugged, hermetic Titanium package with an integral 9-pin connector and stable performance in extreme measurement environments.



| SINGLE ENDED OUTPUT – MEMS DC RESPONSE | | | | | | |
|--|----------------|--|---------------------------------|--|--|--|
| Sensitivity | Concitivity | | rement e (pk) Frequency (± 5 | | %) Broadband Resolution (rms) | |
| 6.75 mV/g | 6.75 mV/g ± 2 | | 00 g 0 to 1500 Hz | | 6.0 mg | |
| 13.5 mV/g | 13.5 mV/g ± 10 | | 0 to 1500 Hz | | 3.0 mg | |
| 27.0 mV/g ± 5 | | 0 g | 0 to 1500 Hz | | 1.5 mg | |
| 45.0 mV/g | ± 3 | 0 g | 0 to 1500 Hz | | 0.9 mg | |
| 135 mV/g | ± 1 | 0 g 0 to 1000 Hz | | ! | 0.3 mg | |
| 675 mV/g | ± 2 | 2 g | 0 to 250 Hz | | 0.06 mg | |
| Model Number | | 3711 Single Axis | | 3713 Triaxial | | |
| Overload Limit (Sh | ock) | ± 5000 g pk | | ± 3000 g pk | | |
| Temperature Range | | -65 to +250 °F (-54 to +121 °C) | | -65 to +250 °F (-54 to +121 °C) | | |
| Excitation Voltage | | 5 to 32 VDC | | 5 to 28 VDC | | |
| Housing Material | | Titanium | | Titanium | | |
| Sealing | | Hermetic | | Hermetic | | |
| Size (H x L x W) | | 0.45 x 0.85 x 0.85 in (11.4 x 21.6 x 21.6 mm) | | 0.80 in cube (20.3 mm cube) | | |
| Weight: Connector Integral cal | | 0.58 oz (16.3 gm) 2.29 oz (65.0 gm) | | 0.58 oz (17.3 gm) 4.2 oz (119.0 gm) | | |
| Electrical Connector | | 1/4-28 4-Pin or 10 ft (3 m) integral cable | | 9 | 9-Pin or 10 ft (3 m) integral cable | |
| Supplied Accessories | | | | | | |
| Easy Mount Clip | | 080A152 | | _ | | |
| Adhesive Base | | | | 080A12 | | |
| Mounting Screw / S | Stud | 081A113 / M081A113 | | 0 | 081B05 / M081B05 | |
| Additional Accessories | | | | | | |
| Triaxial Mounting B | lock | 080A153 | | | _ | |
| Mounting Cable Con | nector | AY | | | EN | |
| Recommended Cab | le | | 010 | | 037 | |

| DIFFERENTIAL OUTPUT – MEMS DC RESPONSE | | | | | | | |
|--|------------------------|--|------------------|---|-------------------------------|--|--|
| Sensitivity | | rsurement nge (pk) Frequency (± ! | | 5%) | Broadband Resolution (rms) | | |
| 13.5 mV/g | ź | 200 g 0 to 1500 | | z 6.0 mg | | | |
| 27 mV/g | = | ± 100 g | 0 to 1500 Hz | | 3.0 mg | | |
| 54 mV/g | | ± 50 g | 0 to 1500 Hz | | 1.5 mg | | |
| 90 mV/g | | ± 30 g | 0 to 1500 Hz | | 0.9 mg | | |
| 270 mV/g | | ± 10 g 0 to 1000 F | | z 0.3 mg | | | |
| 1350 mV/g | | ± 2 g | 0 to 250 H | Z | 0.06 mg | | |
| Model Number | Nodel Number | | 3741 Single Axis | | 3743 Triaxial | | |
| Overload Limit (Sho | Overload Limit (Shock) | | ± 5000 g pk | | ± 5000 g pk | | |
| Temperature Range | | -65 to +250 °F (-54 to +121 °C) | | -65 to +250 °F (-54 to +121 °C) | | | |
| Excitation Voltage | | 5 to 32 VDC | | 5 to 28 VDC | | | |
| Housing Material | | Anodized Aluminum | | Titanium | | | |
| Sealing | | Ероху | | Hermetic | | | |
| Size (H x L x W) | | 0.30 x 1.00 x 0.85 in (7.62 x 25.4 x 21.6 mm) | | 0.8 x 0.8 x 0.8 in (20.3 x 20.3 x 20.3 mm) | | | |
| Weight without cable | | 0.35 oz (9.9 gm) | | 0.6 oz (17.3 gm) | | | |
| Electrical Connector | | 10 ft (3 m) integral cable to pigtails | | 9-Pin | | | |
| Supplied Accessories | | | | | | | |
| Mounting Screws/Studs | | (2) 081A103 / (2) M081A103 | | (1) 080A12 / (1) 081B05 / (1) M081B05 | | | |
| Additional Accesso | | | | | | | |
| Triaxial Mounting Block | | 080A208 | | _ | | | |
| Mounting Cable Connector | | _ | | EN | | | |
| Recommended Cab | Recommended Cable | | _ | | 037G | | |



| MODEL | NUME | BERING | SYSTE | M | | | | | |
|----------|--|---|--|---|--|--|--|--|--|
| 1) Serie | ies | | | | | | | | |
| 3711F | Single | e axis, MEMS DC response accelerometer | | | | | | | |
| 3713F | Triaxia | Triaxial, MEMS DC response accelerometer | | | | | | | |
| 3741F | Single | Single axis, MEMS DC response accelerometer, differential | | | | | | | |
| 3743F | Triaxial, MEMS DC response accelerometer, differential | | | | | | | | |
| | 2) Cable | | | | | | | | |
| | 11 | Multi-pi | in, threaded, electrical connector (3711, 3713 & 3743 only) | | | | | | |
| | 12 | | d, 10 ft (3.0 m) integral cable and pigtail termination | | | | | | |
| | | 3) Mea | | | • | | | | |
| | | 2G | ± 2 g m | ± 2 g measurement range | | | | | |
| | | 10G | ± 10 g measurement range | | | | | | |
| | | 30G | ± 30 g measurement range | | | | | | |
| | | 50G | - | ± 50 g measurement range | | | | | |
| | | 100G | ± 100 g measurement range | | | | | | |
| | | 200G | - | ± 200 g measurement range | | | | | |
| | | | | 4) Integral Cable Length (add only if selecting other than standard 10 ft (3 m) length) | | | | | |
| | | | /XXX Specify XXX as desired cable length in feet (specify MXXX for desired cable length in meters) | | | | | | |
| | | | | | ble Termination | | | | |
| | | | | AY | 4-pin plug (Series 3711 & 3741 only) | | | | |
| | | | | DZ | Pigtail, stripped and tinned ends (Series 3711 & 3713 only) | | | | |
| | | | | JJ | Pigtail, stripped and tinned ends (Series 3741 only) | | | | |
| | | | | LN | 8-pin mini DIN for mating to Models 482C27 or 483C28 signal conditioners (Series 3741 only) | | | | |
| | | | | LT | 8-pin mini DIN for mating to Models 482C27 or 483C28 signal conditioners (Series 3711 only) | | | | |
| | | | | SL | BNC plugs for X/Y/Z axis and pigtails leads for Power+, Power-, Sensor Case Ground (Series 3713 only) | | | | |
| Exampl | 1 | | | | | | | | |
| 3713F | 12 | 10G | /005 | DZ | Triaxial MEMS DC response accelerometer, ± 10 g measurement range, 5 ft (1.5 m) integral cable pigtail | | | | |

RECOMMENDED ACCESSORIES & SIGNAL CONDITIONERS FOR SERIES 3711, 3713, 3741 AND 3743 MEMS DC RESPONSE ACCELEROMETERS



Model 010D10 | 034D10 Cable 10 ft (3 m) 4-Socket Plug to 4-Socket Plug



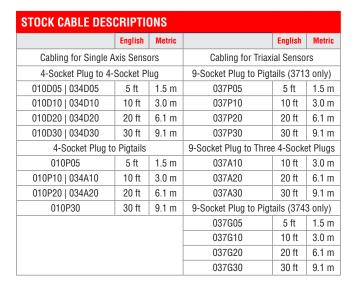
Model 037P10 | 037G10 Cable 10 ft (3m) 9-Socket Plug to Pigtails



Model 080A153 Triaxial Mounting Block, 3711



Model 080A152 Easy Mount Clip, 3711





Endevco Model 4418 Single channel x1, x10, x100 gain battery powered



Model 478B05 3-channel unity gain 36 VDC powered optional external battery pack



Model 080A208 Triaxial Mounting Block, 3741



Model 482C27 4-channel incremental gain differential, bridge, and ICP® sensor types



Model 483C28 8-channel line-powered bridge, differential, and ICP® sensor types



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