

ANALOG CAPACITIVE ACCELEROMETER

DynaLabs

DYN-C-1000-LN

Capacitive accelerometers are based on proven micro-electro-mechanical systems (MEMS) technology.



These capacitive accelerometers are reliable and long-term stable. They have DC response. The advantage of these sensors is their outstanding temperature stability and their lightweight. These sensors have reliable aluminum housing with IP68 protection class. Dynalabs 1000LN series accelerometers provide an outstanding noise performance from 9 to 680 $\mu\text{g}/\sqrt{\text{Hz}}$. These accelerometers provide a wide frequency range ($\pm 5\%$) from 700 Hz to 2,900 Hz.



Features

- Accurate DC measurement
- Voltage Output
- High shock protection
- Low noise - high resolution
- Differential output signal
- Gas damping



Application Areas

- Structural monitoring and testing
- Aerospace vibration testing
- Automotive ride quality & comfort
- Railway engineering
- GVT and flutter testing

| | | 1002LN | 1005LN | 1010LN | 1030LN | 1050LN | 1100LN | 1200LN |
|-------------------------------|------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Full-scale Acceleration | (g) | ± 2 | ± 5 | ± 10 | ± 30 | ± 50 | ± 100 | ± 200 |
| Sensitivity ($\pm 3\%$) | (mV/g) | 1,350 | 540 | 270 | 90 | 54 | 27 | 13.5 |
| Frequency Range ($\pm 5\%$) | (Hz) | 700 | 1,150 | 2,000 | 2,300 | 2,700 | 2,900 | 2,500 |
| Non-linearity (Full Scale) | (%) | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| Noise (in band) | ($\mu\text{g}/\sqrt{\text{Hz}}$) | 9 | 21 | 40 | 100 | 180 | 340 | 680 |
| Bias temperature | (mg/ $^{\circ}\text{C}$) | ± 0.2 | ± 0.5 | ± 1 | ± 3 | ± 5 | ± 10 | ± 20 |
| Shock survivability | (g) | ± 3000 g pk | ± 3000 g pk | ± 3000 g pk | ± 3000 g pk | ± 3000 g pk | ± 3000 g pk | ± 3000 g pk |



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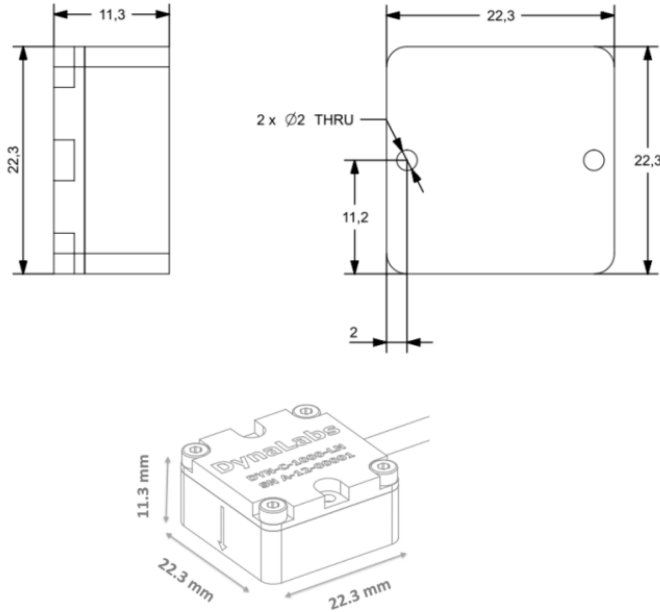
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OPTIONS:

- Custom Cable Length (5m standard cable)
- Custom Housing Material
- Custom Connector
- Base plate

Standard length of the integrated cable is 5 meters. But, based on request customized cable lengths are possible.

Standard version has no connector at the cable end. However, it is possible to assemble connector during production.

CABLE CODE/PIN CONFIGURATION:

- Red : V + Power supply voltage +6 to +40 VDC
- Black : Ground Power GND
- X: Yellow : Signal(+) Positive, analog output voltage signal for differential mode
- Blue : Signal (-) Negative, analog output voltage signal for differential mode

Cable: 4x #28 AWG Conductors PFA Insulated, Braided Shield, TPE Jacket

| Protection Level | Operating Voltage | Operating Temperature | Weight (without cable) |
|-------------------|---------------------------------|-------------------------|------------------------------|
| IP 68 | 6 V - 40 V | -40 °C to +100 °C | 15 g (aluminum) 30 g (steel) |
| Housing Material | Connector (Optional) | Mounting | Base plate (Optional) |
| Aluminum or Steel | D-Sub 9 or 15 pin, Lemo, Binder | Adhesive or screw mount | Aluminum or Steel |



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