

DIGITAL CAPACITIVE ACCELEROMETER CAN INTERFACE

DynaLabs

DYN-300000-CN

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



These accelerometers are known for their reliability, long-term stability, and precision. MEMS technology enables the precise measurement of both static (DC) and continuous accelerations, allowing for the calculation of the velocity and displacement of moving objects. The sensor is designed with three digital interfaces (CAN, USB, RS232) and can detect dynamic (AC) accelerations with amplitudes ranging from ± 2 g to ± 40 g. It has a speed of up to 4000 SPS and a resolution close to $4 \mu\text{g}$ in three axes. Users can choose the appropriate sensor based on their needs. The power supply voltage is flexible, ranging from 5 to 16 VDC. Triaxial accelerometers allow for quick and easy mounting.



Features

- Triaxial
- Resolution: 20-bit
- Sample Rate: 1 to 4000 SPS (Customize)
- Measurement Range: ± 2 to ± 40 g (Customize)
- Frequency Range ($\pm 5\%$): DC to 535 Hz
- Frequency Range ($\pm 10\%$): DC to 620 Hz
- Frequency Range (3dB): DC to 950 Hz
- Aluminum Housing



Applications

- General Industrial Test & Measurement
- Condition Monitoring
- Robotics and Automation
- Tilt sensing
- Seismic imaging

Full-scale Acceleration	(g)	± 2	± 4	± 8	± 10	± 20	± 40
Sensitivity	(LSB/g)	256000	128000	64000	51200	25600	12800
Scale Factor	($\mu\text{g}/\text{LSB}$)	3,906	7,812	15,625	19,5	39	78
Sensitivity (Change/ $^{\circ}\text{C}$)	($\%/^{\circ}\text{C}$)	± 0.01	± 0.01	± 0.01	± 0.01	± 0.01	± 0.01
0 g Offset	(mg)	± 25	± 25	± 25	± 125	± 125	± 125
Noise	($\mu\text{g}/\sqrt{\text{Hz}}$)	25	25	25	75	85	90
Non-Linearity	(%)	0,1	0,8	1,6	0,1	0,5	1,3
Resolution (1 LSB)	(μg)	4	8	16	20	40	80



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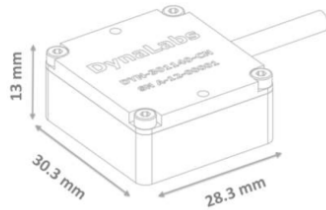
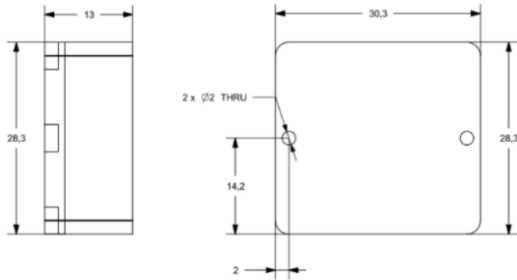
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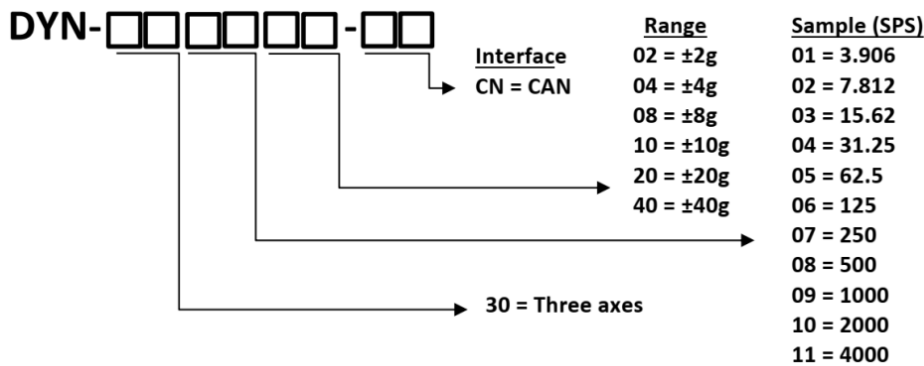


OPTIONS:

- Customize Range
- Customize Frequency
- Customize Connector
- Customize Cable Length (5m standard cable)
- Customize Aluminum or Steel

Sample per second (SPS)	Low-Pass Filter (Hz)
3,90625	0,97
7,8125	1,9
15,625	3,9
31,25	7,81
62,5	15,62
125	31,25
250	62,30
500	125
1000	250
2000	500
4000	1000

Marking:



Example: DYN-301140-CN: Triaxial, 4000 SPS, ±40 g, Capacitive Accelerometer with CAN Interface.

Operating Voltage	Operating Power/Current	Operating Temperature	Shock Limit
5V - 16 V	1W/62.5 mA	-40 °C to + 85 °C	5000 g

Protection Level	Connector at Sensor (open ended)	Mounting	Housing Material	Weight (without cable)
IP 68	Pin 1 NC Shielding Pin 2 Red 5-16V Pin 3 Black GND Pin 4 Yellow CAN-High Pin 5 Green CAN-LOW	Adhesive or screw holes	Anodized Aluminum	80 g



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