

# DIGITAL CAPACITIVE ACCELEROMETER RS232 INTERFACE

**Dyna**Labs

## DYN-300000-RS

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



These capacitive accelerometers are reliable, long-term stable, and precise. MEMS technology facilitates the precise measurement of both static (DC) and continuous accelerations, allowing for the calculation of the velocity and displacement of moving objects. Sensor is designed with three digital interfaces (RS232, USB, CAN) and can detect dynamic (AC) accelerations with amplitudes ranging from  $\pm 2g$  to  $\pm 40g$ . It has a speed of up to 4000 samples per second and a resolution close to  $4 \mu g$  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. The triaxial accelerometers allow quick and easy mounting.



### Features

- Resolution:  $4 \mu g$
- Sample Rate : 15, 62, 125 SPS
- Measurement Range:  $\pm 2g$ ,  $\pm 4g$ ,  $\pm 8g$  for 8g
- Measurement Range:  $\pm 10g$ ,  $\pm 20g$ ,  $\pm 40g$  for 40g
- Frequency Range ( $\pm 10\%$ ): DC to 30 Hz
- Temperature Measurement



### Applications

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



### Software Features

- Display and Record: X, Y, Z Acceleration, Temperature
- Analyze: FFT, Downsample, Average
- Calibration: Linear Equation
- Export: .CSV, .MAT, .TXT and .PNG

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



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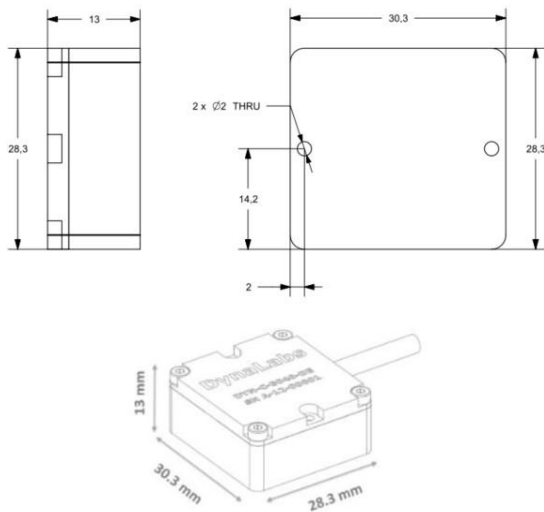
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# DynaLabs

## DIGITAL CAPACITIVE ACCELEROMETER

### RS232 INTERFACE

DYN-300000-RS

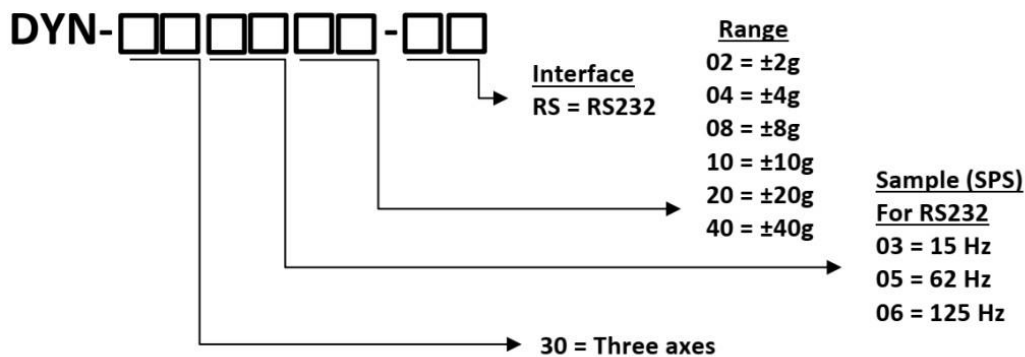


#### OPTIONS:

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

Sample per second (SPS)	Low-Pass Filter (Hz)
15	3.9
62	15.62
125	31.25

#### Marking:



**Example:** DYN-300640-RS: Triaxial, 125 SPS,  $\pm 40g$ , Capacitive Accelerometer with RS232 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 2 RXD Green Pin 3 TXD White Pin 5 GND Black Pin 9 5V Red	Adhesive or screw mount	Anodized Aluminum	80 g



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