

ACC-3AX-200 - Triaxial accelerometer 200Hz band with 4-20mA outputs (Rev.0 270121)



Description

ACC-3AX-200 triaxial accelerometers are low noise sensors, DC signal conditioned, packaged in a durable molded housing.

ACC-3AX-200 accelerometers are available in the measurement range $\pm 2g$ ($\pm 6g$ on request) with a nominal 0-200Hz bandwidth. Furthermore sensors are available both with two (x+y) and three axis (x+y+z).

The MEMS working principle with capacitive silicon provides an high resolution and long-term stability for applications of critical measurements such as the structural monitoring and the constant measurement acceleration.

The sensor is supplied in two models ACC-2AX-200 (2 axis) and ACC-3AX-200 (three axis) which provide a continuous measurement available respectively on two or three stabilized 4-20mA analog outputs and with very fast time response.

Main applications

- Structural monitoring
- Wind turbines
- Seismic monitoring
- Industrial safety applications

Specifications

Models	ACC-2AX-200-I (2 assi x, y) ACC-3AX-200-I (3 assi x, y, z)
Working principle	MEMS (micro-electro-meccanic system), type: capacitive, temperature compensated
Transducer	TE-4030-002-120 (triaxial) / TE-4020-002-120 (biaxial)
Transducer typical sensitivity	1000mV/g
Measurement range for all axis	$\pm 2g$
Thermal Zero Shift	$\pm 4\% \text{ FSO}^{(*)}$
Accuracy	$\pm 0.02\% \text{ FSO}@25^{\circ}\text{C}$
Non linearity	$\pm 1\% \text{ FSO}$
Frequency response	0...200Hz
Response time (63%)	10ms
Shock limit	2000g
Electronic management	Three stand-alone cpu @ 2MHz
Electrical output	n.3 linearized 4...20mA outputs (one for each X-Y-Z axis)
Acceleration output @ zero mA	12.00mA $\pm$ 0.05 mA for single axis
Measurement repeatability	$\pm 0.1\text{mA}$
Residual noise	0.125mA RMS
Long term shift	$\pm 0.1\text{mA}/\text{year}$
Conversion formula	$g = (((\text{ImA} - 4)/16) * 4) - 2$
Power	12...24Vdc (typ.12Vdc)
Consumption	<80mA@12Vdc
Load resistance	100Ohm@12Vdc (<600 Ohm@24Vdc)
Working conditions	-40...+85°C
Materials	Nylon and painted/anodized aluminum
Protection degree	Transducer: IP65 / Electronic interface: IP67
Overall dimensions and weight	Sensor body: 140 x 110 x 60mm, weight: 650g
Connector	8 pin M12, IP68 plug
Mounting	Fixing on wall or solid surfaces between dowels or screws
Ordinary maintenance in normal environment	Re-calibration / yearly advised control

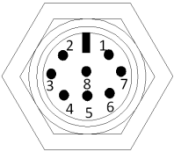
* FSO = full scale output

Accessories

Cable	Shielded for outdoor. Available lengths: 4, 12, 22m (others upon request)
Cod. CSxx (xx=meters of cable)	Sensor cable with IP68 connector (sensor side) and open wires (datalogger side)
Cod. CSDxx	Sensor- Geoves' datalogger cable with IP68 connector (sensor side) and terminal (datalogger side)

Electrical connection

Model	ACC-2AX-200, ACC-3AX-200 (Output in current)	
Output	4...20mA (where 4mA= -2g; 20mA= +2g)	
Load resistive shunt	25...440Ω (typ.100Ω)	
IP68 connector on the sensor	Pin1: Iout+ axis X Pin2: Iout- axis X Pin3: Iout+ axis Y Pin4: Iout- axis Y Pin5: Iout+ axis Z (just for ACC-3AX-200) Pin6: Iout- axis Z (just for ACC-3AX-200) Pin7: Gnd Pin8: +Vdc (12...24Vdc)	



Dimensions

