

Uniaxial capacitive Low G Accelerometer

Model
1410B/GP
1410C/GP

- Range Types 2g and 10g
- Resolution 200µg
- Frequency Response 0...200 Hz (±3dB)
- Shock-proof up to 10,000g

Application

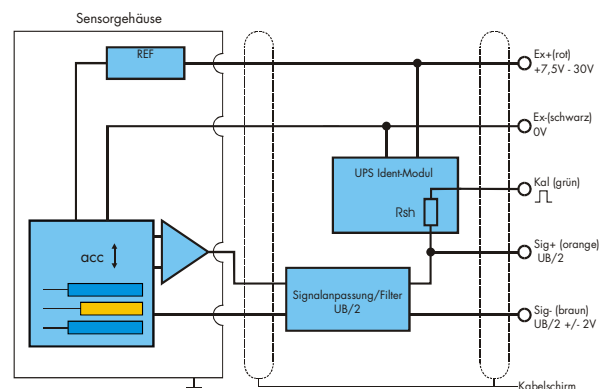
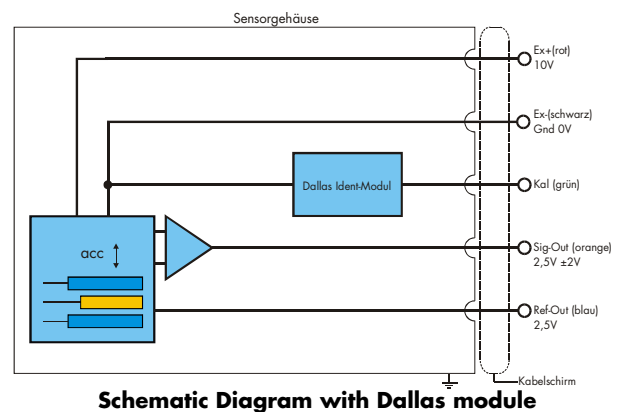
The uniaxial accelerometer Model 1410x/GP was developed for the measurement of vibrations at bridges, buildings and large component parts. It is mounted directly at the measuring location with a screw.

Outstanding features of the transducer are the great dynamic range, the good resolution (200µg) as well as its very good ZMO stability and its low non-linearity and sensitivity temperature drift.

Functional Concept

The model series 1410x/GP is based on a silicon sensor element. The acceleration, which impacts on the seismic mass, is measured exactly using a differential capacitive measurement method. The data are conditioned by an intelligent combinational logic (ASIC).

The model 1410C/GP has an additional electronic feature, including a stabilization of the bridge voltage and an amplifier unit. Thus the transducer tolerates fluctuations of the supply voltage in a range of 7.5 to 30V without impacting the sensitivity of the bridge.



Options

Customized cable lengths and connectors with specific customer pin assignment; MSC Identification Module (UPS or Dallas version) inside connector or cable housing; conversion to a transducer with digital interface using the Analog Input Module AIM.

Accessories

Mounting screw*)

For further details please see accessories catalog

*) contained in scope of delivery

Technical Data

All specifications are typical at 25° C and rated at 10V sensor supply voltage (5V for 1410C/GP), unless otherwise specified.

	Units	Value	Note
Measurement range	±g	2	optionally: 10g
Frequency response ±3dB limit, from DC up to	Hz (min.)	> 200	
Sensitivity at 80Hz ⁽¹⁾	mV/g (typ.)	1000	
Transverse sensitivity	±% (typ.)	< 1.5	
Non-linearity 0...2g ⁽²⁾	±% (typ.)	< 0.6	
Supply voltage	V DC	5 ±5% 7.5...30	Model 1410B/GP Model 1410C/GP
Zero point	V DC	2.5	
Resolution (Noise)	µg	200	
Transducer current consumption	mA	<1	
Zero Measurand Output ⁽³⁾	±V (typ.)	2.5	
Temperature drift - ZMO from 0°...70°C	±mg/K (max.)	0.4	2 at 10g
Temperature sensitivity	%/°C (max.)	0.04	
Insulation resistance ⁽⁴⁾	MOhm (min.)	90	
Max. shock resistance (pulse-width > 2 ms)	g (max.)	10,000	
Working temperature	°C	-30...+85	short-term +100°C
Transducer mounting screws		UNF 10-32	1 unit ⁽⁵⁾
Torque moment	Nm	3.5	
Identification modules		1	Dallas module (standard), other ident module types on request ⁽⁶⁾
Housing material		Al Alloy	
Transducer weight	Grams	25	without cable and connector
Dimensions	mm	32 x 32 x 19.5	

(1) Sensitivity at 80 Hz, at 50 m/s² of sine amplitude

(2) Values calculated with pendulum calibration up to 2g

(3) ZMO values are valid, when accelerometer is mounted

(4) All wires to screen (GND), measured with 10V (DC)

(5) Screw thread length inside the transducer: 4mm

(6) Ident module type "UPS" or "ID Module" or conversion to digital transducer with "AIM" module

Model/Option Code: Model 1410x/GP-RT-KT-MGT-(KT)-ST-ZT

1410x/GP: Basis article, version and application hint

-RT: Range type (measurement range): 002 = 2g, 010 = 10g

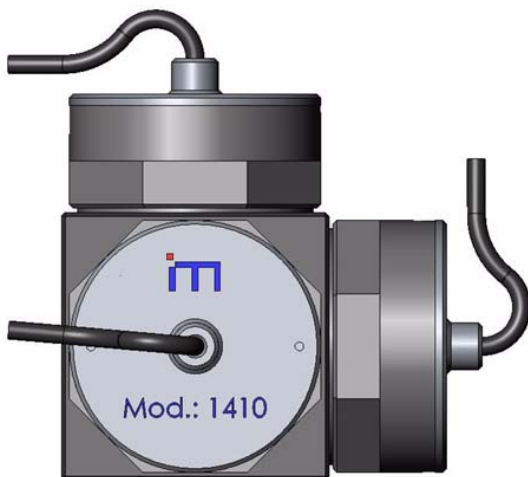
-KT: Cable type resp. cable length in cm

-MGT: D-Module type and housing

-ST: Connector type (Interface to channel collector or acquisition panel)

-ZT: Certification type (customized calibration, shock/sine calibration etc.)

Transducer mounting on triax block:



Dimensions in mm:

